



REGIONAL INTEGRATION AND ECONOMIC DEVELOPMENT IN SOUTH ASIA EDITED BY

Sultan Hafeez Rahman Sridhar Khatri Hans-Peter Brunner

Regional Integration and Economic Development in South Asia

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Foreword

Despite robust economic growth in recent years, South Asia accounts for only 3 percent of world's gross domestic product, and nearly 40 percent of its inhabitants live on less than \$1.25 per day. Daunting challenges from climate change, environmental degradation, and increasing inequalities pose serious threats to South Asia's growth and prosperity.

Regional cooperation and integration has vast potential for accelerating economic growth, reducing poverty and economic disparity within and across the countries involved, and addressing some of the challenges of managing regional public goods in South Asia. Yet, the region remains among the least integrated in the world. In recent years, South Asian countries have demonstrated greater commitment to moving forward the regional cooperation agenda. One of the most recent examples is the Bangladesh–India Memorandum of Understanding of 2010, which not only envisages greater trade between these two countries, but also provides a framework for the landlocked Bhutan and Nepal to benefit from understanding between Bhutan and Bangladesh and Nepal and Bangladesh to strengthen cooperation in transport and power. This has boosted the prospects for accelerating regional cooperation in South Asia to address the region's massive development challenges.

Recognizing the significance of regional cooperation in ushering prosperity in the Asia-Pacific region, Asian Development Bank's (ADB's) Strategy 2020 has committed significant resources to scale up its support for regional cooperation and integration. ADB's South Asia Regional Cooperation Strategy (2011–2015) – in addition to assisting project implementation – gives emphasis to capacity development, among other things, through dialogue between policy-makers and other key stakeholders including academics and intellectuals.

In this book, we are very pleased to present a selection of studies on the process of South Asian regional cooperation and integration. The book is a result of collaborative effort between ADB and two knowledge network partners – South Asia Center for Policy Studies (SACEPS) and South Asia Network of Economic Research Institutions (SANEI). Based on sound economic analysis and reasoning, the book presents ideas and findings in four parts, under the themes of: civil society's role in regional integration;

economic integration in industries; economic integration in trade and services; and regional public goods.

The chapter on civil society in regional cooperation concludes that there are past successes on which future cooperation and integration in South Asia can be built and where engagement with civil society would be productive. Success stories are sector specific in industry and trade where cross-border activities have been established; for instance, in the framework of a South Asia Free Trade Agreement. Vertical integration of industries and the development of regional trade corridors, liberalization of air services (both passenger and goods), and services integration across borders offer new vistas for economic growth, building on earlier successes of regional cooperation. Regional food security and climate change adaptation measures are some of the regional public goods that can be fostered by the region's governments and civil societies through resolute regional cooperation.

We hope that this book will be of use to policy-makers, civil society, academia and others interested in advancing regional cooperation and integration in South Asia.

Sultan Hafeez Rahman Director General South Asia Department Asian Development Bank

Preface: regional integration for shared prosperity in South Asia

When social and geographic distances between parts of a region are relatively large, transport costs sufficiently high, and connectivity between places thus relatively low, or institutional differences sufficiently strong, the different parts of a regional economy evolve fairly independently (Essletzichler and Rigby, 2010). Economic gaps between the parts are large and persistent, and may even grow if one or several of the parts of the region experience economic transformations, and become more integrated into the world economy. Economic integration has the highest transformative effect and thus economic impact in the lagging and peripheral areas of the region. When economic integration transforms the region and spreads new infrastructures, institutions and approaches that lower frictions, and alleviate coordination and information failures, the benefits from stronger regional cooperation and integration tend to be highest for the peripheral regions and in this case for the poor in South Asia. This book advances debates about why, how and when regional cooperation and integration efforts and measures are best undertaken.

This book is unusual because the chapters were started under the South Asian Association for Regional Cooperation (SAARC) 'Track Two' process, where civil society feeds back its insights into the SAARC government regional integration decisions (the government decision process is considered 'Track One'). The main contents of all chapters in this book were presented to a pre-summit SAARC audience in October 2011. It is expected that this dual track approach strengthens the regional cooperation and integration process with increased political will supported by civil society, and with better and more diverse policy options and more complete information flow between the two tracks. Civil society involvement and increasing buy-in very importantly can help overcome the very significant "trust deficit" among South Asian state actors. This book then actively contributes to the dialogue and flow of ideas and policy options between the two tracks, and the beginning of the book is devoted to the issue and how this can be done best and better.

According to Desai (2010), it is important and necessary, for regional cooperation and integration in order to strengthen and become more and

more successful, to address effectively two other deficits in the region: the "institutional capacity deficit" and the perceived "trade account deficit".

Infrastructure, institutional and "softer" aspects of regional cooperation and integration go hand in hand, in producing high levels of economic benefits across the region. Very often the institutional aspects are disregarded in favor of the infrastructure aspect in their role for successful regional economic integration. Building "functional" institutions and "facilitating" institutions aimed at key sector progress in South Asia is a priority (ADB, 2010). While there is one overarching institution leading South Asian regional economic integration, with mixed results as debated in this book, there are only two functional institutions (the Bay of Bengal Programme Inter-Governmental Organization and South Asia Cooperative Environment Programme). An example of a regional facilitating institution is the newly established South Asian Association for Regional Cooperation (SAARC) Development Fund. In the energy sector, an intergovernmental framework agreement on energy cooperation facilitates a phased development of a regional energy market. A South Asia Utility Forum and a South Asia Power Exchange could be established as functional and facilitating institutions in this respect.

To address the perceived trade account deficit especially in the smaller, less-developed country (LDC) economies in South Asia, it is very necessary to upgrade and diversify the supply and sector structures in these economies. The second and third parts of this book focus on this aspect. The global economy is composed of a relatively large number of supply capabilities, and most more sophisticated traded products and services require a relatively large number of capabilities, according to Hausmann and Hidalgo (2010). Regional economic integration can build capability platforms especially for the smaller economies in South Asia, and this will lead to greater trade diversity, and to greater intra-regional trade for the common benefit. Trade facilitation programs and policies on a regional platform can ease trade constraints, which expands opportunities and markets, essential elements for regionally more balanced growth and poverty reduction. Chapters in these parts of the book document the many barriers and impediments to doing business together and the costs to job creation and poverty reduction. The studies demonstrate the importance of greater trade facilitation efforts respecting both the goods and service sectors.

Under Track Two, civil society is heavily involved in debates about the distribution of benefits from trade integration under the South Asia Free Trade Area (SAFTA) agreement. A number of studies using different approaches and models have evaluated where the gains and losses from trade integration would occur. Most if not all serious studies support

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the proposition that regional trade integration benefits the region as a whole, and that all countries gain, although to different degrees. It is very clear that SAFTA is only a tepid beginning in broader economic integration among South Asian economies, and that most of the benefits from regional trade integration are still to be realized.

As illustrated by the SAFTA, regional cooperation and integration in South Asia continues to progress but it must be accelerated. Success stories at the sector level will serve as building blocks for further regional cooperation and integration. A virtuous circle should result, whereby success facilitates yet more success. Research and policy work in support of this must be deepened and expanded, and the institutional links between Track One and Track Two strengthened. Participation by civil society is vital, for ultimately it sets the pace at which the region can proceed with regional cooperation initiatives.

Regional public goods (climate change impact, food security, energy security and so on) require strong "regionalism". In the fourth part this book considers regional public goods, and how governments in the region can meet the challenge of taking the required collective action that leads to adequate or even optimal provisioning. One step among others in this direction is to forge agreements among the governments that specific regional public goods should be provided, and on how this will be done. Technical cooperation for specific regional public goods, is another step towards a more structured provision of regional public goods. For such an approach to regional economic integration to take root, it is important that regional economic integration is strengthened via the Track Two approach.

This book draws selectively from the range of papers which were supported with ADB's regional technical assistance in support of South Asian policy think-tanks. Those think-tanks, and their contributions on the key regional integration and cooperation topics, are central to the SAARC Track Two process functioning as intended. In selecting the chapters the editors rely on the peer review process under technical assistance, as it indicates quality of contribution and relevance to the regional integration process and to debates in South Asia. The technical assistance itself relied on a peer review process undertaken by an international economist plus an ADB economist, and two heads of think-tanks.

In sum, and as per the above overview, the book is organized into four parts. Part I features contributions that highlight the role of civil society in the regional cooperation and integration process, the strengths and weaknesses of civil society's involvement in the regional cooperation and integration process. Part II is about economic integration of industries. In the market, industries that produce across borders and the region do

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co-evolve along production chains. Part III deals with economic trade integration, and emphasizes the services sector by looking at regional energy markets, air services markets, and at trade facilitation including services more generally. A Pakistan country example highlights barriers to services trade in South Asia, and what primary policy conclusions can be drawn for the evolution of SAFTA. What countries and regions export, or are able to export in the future, matters a great deal for regional economic development and growth in income. Part IV looks at regional public goods as options and opportunities for cooperation, including climate change adaptation, food security and labor market integration. Benefits from such cooperation are estimated to be immense.

Greater regional cooperation and integration offers immense opportunities for SAARC member countries. Asia is experiencing a transformation in how business is conducted, resulting in increased specialization and cross-border production networks. Private sector interests are leading the way and the region needs to ensure that it has the appropriate infrastructure and policies that enable this transformation. Inclusive and sustainable rapid growth is conditional on continued reduction of impediments to doing business together.

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AASL	Airport and Aviation Services Ltd
ABC	atmospheric brown cloud
ADB	Asian Development Bank
AFTA	ASEAN Free Trade Area
AIOU	Allama Iqbal Open University
ALI	Air Liberalization Index
APEC	Asia-Pacific Economic Cooperation
APRN	Asia Pacific Research Network
APTA	Asia-Pacific Trade Agreement
AQL	accepted quality level
ARE	Application for Removal of Excisable Goods for
	Export
ASA	air services agreement
ASEAN	Association of Southeast Asian Nations
ATM	ASEAN Transport Ministers
ATNF	Apollo Telemedicine Networking Foundation
B2B	business-to-business
BASAs	bilateral air service agreements
BASIS	Bangladesh Association of Software and Information
	Services
BCC	Bangladesh Computer Council
BHUs	basic health units
BIAC	Brandix India Apparel City
BIMP-EAGA	Brunei, Indonesia, Malaysia and Philippines East
	ASEAN Growth Area
BIMSTEC	Bay of Bengal Initiative for Multi-Sectoral Technical
	and Economic Cooperation
BIPPA	Bilateral Investment Promotion and Protection
	Agreement
BISP	Benagir Income Support Programme
BITA	Bangladesh–India Trade Agreement
BJMA	Bangladesh Jute Mills Association
BOVs	battery-operated vehicles
BoP	balance of payments

BPO	business process outsourcing
CAGR	compound annual growth
CANSA	Climate Action Network South Asia
CARE	Customs Administration Reform
CASAC	Coalition for Action on South Asian Cooperation
CCSA	Citizens' Commission for South Asia
CDM	Clean Development Mechanism
CeCs	Community e-Centres
CEPA	Comprehensive Economic Partnership
	Agreement
CFL	compact fluorescent lamp
CFTRI	Central Food Technological Research Institute
CGGC	Center on Globalization, Governance and
	Competitiveness
CGSSAP	Coordinating Group for Studies on South Asian
	Perspectives
CHA	Customs house agent
CII	Confederation of Indian Industry
CIS countries	Commonwealth of Independent States
CLMV	Cambodia, Laos, Myanmar and Vietnam
CME	continuing medical education
CMM	Capability Maturity Model
CMMI	Capability Maturity Model Integration
COO	Certificate of Origin
COP	Committee of Participants
CPD	Centre for Policy Dialogue
CPP	calling party pays
CPR	Centre for Policy Research
CRM	customer relationship management
CSCD	Committee for Studies on Cooperation in
	Development
CSP	Child Support Program
CTMS	Container Terminal Management System
CUSDEC	Customs Declaration Form
DA	Development Alternatives
DAI	degree-awarding institute
DAP	diammonium phosphate
DHQs	District Headquarter Hospitals
DPT	diptheria, pertussis and tetanus
DRP	Duty Rebate Procedure
DRR	disaster risk reduction
EC	European Commission

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Abbreviations

ECJ	European Court of Justice
ECOWAS	Economic Community of West African States
ECSC	European Coal and Steel Community
ECSG	Electronic Commerce Steering Group
EDI	electronic data interchange
EEF	Equity Entrepreneurship Fund
EFTA	European Free Trade Association
EPZ	export processing zone
ERM	enterprise resource management
ERP	enterprise resource planning
ESCAP	Economic and Social Commission for Asia and the
	Pacific
EU	European Union
EWS	early warning system
FAB	Frequency Allocation Board
FI	frequency identification
FAO	Food and Agriculture Organization
FDI	foreign direct investment
FICCI	Federation of Indian Chambers of Commerce and
	Industry
FISSA	Fellowships in South Asian Alternatives
FNCCI	Federation of Nepalese Chamber of Commerce and
	Industry
FOSWAL	Foundation of SAARC Writers and Literature
FSCs	full-service carriers
FSI	food security index
FTA	free trade agreement
FTZs	free trade zones
GATS	General Agreement on Trade in Services
GBM basin	Ganges-Brahmaputra-Meghana basin
GCC	Gulf Cooperation Council
GCC	Group on Customs Cooperation
GDM	Global Delivery Model
GDN	Global Development Network
GDP	gross domestic product
GEP	Group of Eminent Persons
GHG	greenhouse gas
GHI	Global Hunger Index
GIS	geographic information system
G–L index	Grubel–Lloyd index
GMS	Greater Mekong Subregion
GPNs	global production networks

GSLI	Global Service Location Index
GSM	Global System for Mobile Communication
GSP +	Generalized System Preference Plus Scheme
GVC	global value chain
HE	higher education
HEC	Higher Education Commission
HEIs	higher education institutions
HIIT	horizontal intra-industry trade
HS	Harmonized Commodity Coding System
HRM	human resource management
IATA	International Air Transport Association
IBCC	Inter Board Committee of Chairmen
ICAO	International Civil Aviation Organization
ICRIER	Indian Council for Research on International
	Economic Relations
ICSAC	Indian Council for South Asian Cooperation
ICT	information and communication technology
ICT4D	ICT for development
ICTWG	ICT Working Group
ID	infectious disease
IDRC	International Development Research Centre
IFPRI	International Food Policy Research Institute
IGEE	Inter-Governmental Expert Group
IGG	Inter-Governmental Group
IGNOU	Indira Gandhi National Open University
IIDS	Institute for Integrated Development Studies
IIIT	Indian Institute of Information Technology
IIT	intra-industry trade
IIU	International Islamic University
IMF	International Monetary Fund
IPKF	Indian Peace Keeping Force
IPM	integrated pest management
IPR	intellectual property rights
IPS	Institute for Policy Studies
ISFTA	India–Sri Lanka Free Trade Agreement
ISI	Inter-Services Intelligence
ISO	International Organization for Standardization
ISP	internet service provider
IT	information technology
ITC	International Trade Centre
ITES	IT-enabled services
ITO	IT outsourcing

JIT	just-in-time
JV	joint venture
KICTL	Karachi International Container Terminal
KPO	knowledge process outsourcing
LAFTA	Latin American Free Trade Association
Lao PDR	Lao People's Democratic Republic
LCCs	low-cost carriers
LDCs	less-developed countries
LDI	long-distance international
LL	local loop
LPG	liquefied petroleum gas
LSCI	liner shipping connectivity index
LTTE	Liberation Tigers of Tamil Eelam
LUMS	Lahore University of Management Sciences
M&A	mergers and acquisitions
MA	management agent
MAG	Market Access Group
MDGs	Millennium Development Goals
MEA	Ministry of External Affairs
Mercosur	Southern Common Market
MFN	most-favored nation
MNCs	multinational corporations
MNEs	multinational enterprises
MOSICT	Ministry of Science and Information and
	Communication Technology
MoWCSI	Ministry of Women, Children and Social Welfare
MRAs	mutual recognition agreements
MRC	Mekong River Commission
NAFTA	North American Free Trade Agreement
NASSCOM	National Association of Software and Service
	Companies
NCC	National Coordination Committee
NCR	National Capital Region
NDR	national disaster response
NGO	non-governmental organization
NICCI	Nepal India Chamber of Commerce and Industry
NPQS	National Plant Quarantine Services
NTBs	non-trade barriers
NTC	National Trade Corridor
NUML	National University of Modern Languages
NWD	Nation Wide Dialing
OAA	Open Aviation Area

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OECD	Organisation for Economic Co-operation and
	Development
OLS	ordinary least squares
OSA	open skies agreement
PACCS	Pakistan Customs Computerized System
PAN	Pan Asia Networking
PCAI	per capita availability index
PCPI	per capita production index
PDS	public distribution system
PGs	public goods
PIA	Pakistan International Airways
PLHIV	people living with HIV
PMCL	Pakistan Mobile Communications Limited
PMDC	Pakistan Medical and Dental Council
PNAC	Pakistan National Accreditation Council
PPP	public-private partnership
PRC	People's Republic of China
PSFTA	Pakistan–Sri Lanka Free Trade Agreement
PTA	Pakistan Telecommunication Authority
PTC	Pakistan Telecommunication Corporation
PTCL	Pakistan Telecommunication Company Limited
QUASAR	Quantitative Air Services Agreement Review
R&D	research and development
RCA	regional cooperation arrangement
RCA	revealed comparative advantage
RCI	regional cooperation and integration
RCIS	Regional Cooperation and Integration Strategy
RCSS	Regional Centre for Strategic Studies
RETA	regional technical assistance
RHCs	rural health centres
RIO	Reference Interconnect Offer
RIS	Research and Information System for Developing
	Countries
RKC	Revised Kyoto Convention
RPGs	regional public goods
RPK	revenue passenger kilometres
SAARC	South Asian Association for Regional Cooperation
SACEPS	South Asia Center for Policy Studies
SaciWATERS	South Asia Consortium for Interdisciplinary Water
	Resources Studies
SACODiL	SAARC Consortium of Open Distance Learning
SACU	South African Customs Union

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SADC	South African Development Community
SADCC	Southern African Development Coordination
	Conference
SAFA	South Asian Federation of Accountants
SAFHR	South Asia Forum for Human Rights
SAFMA	South Asian Free Media Association
SAFTA	South Asian Free Trade Area
SAHRDC	South Asia Human Rights Documentation Centre
SANEI	South Asia Network of Economic Research Institutes
SAPANA	South Asian Policy Analysis (network)
SAPTA	South Asian Preferential Trade Agreement
SARC	South Asian Regional Cooperation
SAREC	South Asia Regional Energy Coalition
SBP	State Bank of Pakistan
SARI	South Asia Regional Initiative for Energy
SASEC	South Asia Sub-regional Economic Cooperation
SATIS	SAARC Agreement on Trade in Services
SCCI	SAARC Chamber of Commerce and Industry
SDF	SAARC Development Fund
SECP	Security and Exchange Commission of Pakistan
SECSCA	Subregional Economic Cooperation in South and
	Central Asia
SGS	Société Générale de Surveillance
SIPA	SAARC Integrated Programme of Action
SITC	Standard International Trade Classification
SLSI	Sri Lanka Standards Institute
SMEs	small and medium-sized enterprises
SMP	significant market power
SOEC	substantial ownership and effective control criterion
SRMTS	SAARC Regional Multimodal Transport Study
STD	sexually transmitted disease
STPs	software technology parks
STRI	Services Trade Restrictive Index
T&C sector	textiles and clothing sector
TA	Technical Assistance
TEU	twenty-foot equivalent unit
TFC	Trade Facilitation Committee
THQs	Tehsil Headquarter Hospitals
TIN	Taxpayer Identification Number
TNCs	transnational corporations
TRI	Total Restrictiveness Index
TTFP	Trade and Transport Facilitation Project
	-

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United Arab Emirates
University Grants Commission
United Kingdom
United Nations
United Nations Electronic Data Interchange for
Administration, Commerce and Transport
United Nations Commodity Trade Statistics Database
United Nations Conference on Trade and
Development
United Nations Environment Programme
United Nations Economic and Social Commission for
Asia and the Pacific
United Nations Office on Drugs and Crime
United States
value-added tax
Virtual University
World Air Services Agreements
World Customs Organization
Working Group on Internet Governance
World Health Organization
wireless local loop
World Summit on the Information Society
World Trade Organization

PART I

Civil Society in Regional Cooperation in South Asia

1. SAARC and beyond: civil society and regional integration in South Asia

Navnita Chadha Behera

INTRODUCTION

South Asia is at a turning point. Powered by the dynamic growth of the Indian economy, it is the fastest-growing region in the world. South Asia can be propelled faster to find its rightful place in the world if its member states develop as an integrated economy. This would make South Asia the second-largest economy in the world after the People's Republic of China (PRC), leaving behind even the United States.¹ The stakes for regional economic integration are clearly high, and its prospects are bright.

The idea of regional cooperation in South Asia has evolved in three broad phases. In 1978, the Committee for Studies on Cooperation in Development (CSCD), led by the erudite and visionary Tarlok Singh, first took this initiative.² Long before the proposition of creating a regional organization for South Asian countries was floated at the official level, the CSCD was involved in conceptualizing the idea of a South Asian community, as well as spelling out its actual economic possibilities. The inter-governmental body of the South Asian Association for Regional Cooperation (SAARC) was subsequently born in 1985.³ By "political choice", SAARC avoided cooperation in the core economic areas of money, finance, trade and manufacturing.⁴

The inaction of the governments led civil society in South Asia to take the lead during the second phase, in the 1990s. This period spawned a wide range of non-official dialogues involving intellectuals, journalists, parliamentarians, environmental activists, artists, writers, women and human rights groups.

The South Asian Free Trade Area (SAFTA) agreement in 2004 imparted a new momentum, heralding the third phase of SAARC's evolution when it first began to focus seriously on the goal of regional economic integration. Several developments brought about this change. There has been a resurgence of interest in SAARC among the South Asian states, especially by India. Civil society initiatives have acquired certain autonomy and a new dynamism. The private sector is emerging as an important stakeholder. Further, major powers including the PRC, the European Union (EU), Japan, South Korea and the United States (US), among others, are showing a keen participatory interest in the SAARC process. The convergence of these factors has opened a new window of opportunity which, if utilized, could catapult South Asia to become a key player in the world economy.

This chapter begins by briefly discussing the changing political, economic and social landscape of South Asia, which is transforming the state from within and without. It then analyzes various stakeholders and their interests, objectives and strategies for reinvigorating the official SAARC process to bring about regional integration. The chapter debates the value, efficacy and contribution of such efforts and concludes with a brief discussion on the lessons learnt and recommendations for various players.

CHANGING SOCIO-POLITICAL LANDSCAPE OF SOUTH ASIA

South Asian states are undergoing a fundamental transformation with ethno-political conflicts. At the core of ethno-political conflicts are issues about state power and the distribution of economic and other material resources. The settlement of these conflicts has entailed a political process of negotiating how to alter radically the way in which state power is organized and distributed which, in turn, is resulting in democratization of the political community, pluralization of the state and sharing of state sovereignty.⁵

This fundamental shift in the interface between state and society is resulting in a gradual, albeit inevitable, dispersal of state authority and growing assertions of civil society in matters of governance. The politics of the civil society in the region, therefore, involves the contestation of "subordination and conformity of citizens to the state's sovereignty", to seeking a "negotiated social contract" and "socializing the citizens towards democratic principles, means and solidarity for a peaceful transformation of the public space".⁶ In contrast to South Asia's ruling elites, who believe in national assertiveness, civil societies are fostering a regional consciousness and collective identity.

At the same time, the economies of the region are being transformed by the market-driven forces of globalization. While countries in the region seek economic integration of South Asia, their agenda is shaped more by the "pre-state needs for capital, labor, infrastructure development and transport and civilization imperatives than post-state democratic needs such as human security, environmental protection, social justice and peaceful resolution of conflict".⁷ This has spurred some sections of civil society to mobilize against their neo-liberal agenda and demand inclusive economic growth that benefits all sections of the society, and to ensure that the state does not abdicate its social responsibilities towards the people. The challenge for a new South Asia to emerge lies in transforming this contestation between the state, market and civil society into a partnership, so that they can work together for the common good of all its citizens.

STAKEHOLDERS

There are three primary stakeholders in this process: governments, civil society and the private sector.

Governments

SAARC is an intergovernmental body and, therefore, governments will remain the primary vehicle to bring about regional integration in South Asia. The key question is: what are their stakes? It evokes different answers from every South Asian government and a deeper inquiry into why they seek this goal and how they strategize to achieve it. These questions, in turn, raise further qualified responses that are important to understand.

As the largest country in South Asia that accounts for more than 80 percent of the region's gross domestic product (GDP), India is committed to making SAARC a success story. The change in its strategy is a product of greater confidence on account of its growing strategic importance and its vibrant and burgeoning economy. Indian leadership understands that India can no longer be held back, and the world will engage with India irrespective of its neighbors. This has become another reason for India to strengthen SAARC.⁸ India's contribution as an engine of growth in South Asia is also transforming its image from being that of a threat to that of an opportunity for its neighbors.⁹ There is a realization of the opportunities for India too, as India's Prime Minister, Dr Manmohan Singh, explains: "India cannot prosper and progress without its neighbouring countries also prospering, and progressing, in equal measure . . . [and] historically the South Asian region has flourished the most when it has been connected to itself, and to the rest of the world."¹⁰

India's credibility is also at stake. Free trade agreements are the new pillars of India's economic diplomacy. India has signed bilateral free

trade agreements with Sri Lanka (1999), Thailand (2004) and Singapore (2005). It is negotiating such agreements with the Association of Southeast Asian Nations (ASEAN), the Bay of Bengal Initiative for Multi-Sectoral and Technical Cooperation Free Trade Area (BIMSTEC), the Southern Common Market (Mercosur), the South African Customs Union (SACU) and the Gulf Cooperation Council (GCC). Joint study groups have also been set up with the PRC, Chile, Indonesia, Japan, Malaysia, South Korea and even the European Union and the United States to explore the feasibility of establishing a free trade area. The slow progress under SAFTA is being closely observed and may, in fact, have adverse implications for its regional trading engagements with the rest of the world.¹¹ It is therefore in India's interest to invigorate SAARC trade and accelerate the process of regional economic integration.

India's commitment to SAARC is borne out by its resolve to "contribute to regional prosperity in a non-reciprocal asymmetric manner".¹² India has opened its markets to its neighbors by providing zero duty access to the less-developed countries (LDCs) from 1 January 2008 and has unilaterally reduced its negative list to 500 with respect to exports from these countries. It has committed US\$100 million to the SAARC Development Fund's Social Window and has taken the lead in improving physical interconnectivity and forging transport integration in the region. It hosted the first SAARC Transport Ministers Meeting in August 2007, which deliberated on the SAARC Regional Multimodal Transport Study. India circulated a draft Motor Vehicles Agreement and a draft Railways Agreement among SAARC members before the Colombo summit in August 2008, to operationalize seamless travel between the member states. In the sociocultural domain, India's Prime Minister had announced during the 2007 SAARC summit in New Delhi the unilateral liberalization of Indian visas for students, teachers, journalists and patients from SAARC countries. India proposed and is now hosting the South Asian University, which has become operational since 2010. It started the tele-education project for linking the Indira Gandhi National open university to other open universities within the SAARC region. It also launched a tele-medicine project connecting super-specialty hospitals within SAARC member states, which has got under way with the commencement of the India-Bhutan and India-Sri Lanka linkages.

Pakistan and indeed every South Asian state – Bangladesh, Sri Lanka, Nepal, Bhutan, Maldives and now, Afghanistan – have a stake in the SAARC process, without which they would have to engage their largest and most powerful neighbor in an unequal, bilateral manner. At the same time, however, they tend to view their commitment to SAARC through the prism of their respective bilateral relations with India. They are, thus, caught in a dilemma. They support regional economic integration, seek access to the Indian market and would like to gain from India's dynamic economic growth but are also nervous of India's growing footprint in their own economies, lest it proves to be an overwhelming experience. As a result, they allow political fears to determine their economic choices and inevitably end up losing the dividends they would derive from integration of the region.

Pakistan's record on SAFTA illustrates the point. It did not want to be perceived in the eyes of the smaller neighbors as blocking SAFTA, especially when it was getting concerned at being bypassed through subregional cooperation initiatives such as BIMSTEC. So it signed SAFTA but, subsequently, refused to apply its provisions to India, thus excluding the largest segment of trade in the region (i.e. between India and Pakistan) from the SAFTA process. India and Pakistan together account for 90 percent of the GDP of the region, 85 percent of its population and 86 percent of its total exports. Pakistan's decision effectively rendered the regional economic integration *ab initio* a non-starter in South Asia.¹³

India's informal trade with Pakistan approximates \$2 billion and is almost ten times greater than that of their formal trade. Almost half of this trade is via third countries, including Dubai, Singapore, the CIS countries and Afghanistan; the remainder is through cross-border informal trade.¹⁴ A study by the Asian Development Bank in 2006 estimated that if a liberal trade regime were established between India and Pakistan the volume of trade would increase by as much as \$10 billion annually.¹⁵ Clearly, there is a strong logic for trade liberalization between the two countries as both would gain substantially.

Likewise, Bangladesh's decisions to deny transit facilities to India and, more recently, to reject Tata's investment proposal for \$3 billion to establish power, steel and fertilizer plants in Bangladesh were motivated by political factors. Notwithstanding the economic arguments of nonavailability of surplus natural gas and differences over its price determination as reasons given in public for indecision on or rejection of the offer, the real reason was that the government in power in Bangladesh did not want "to be seen to be coming too close to India in the economic field".¹⁶

Significantly, Sri Lanka, Bhutan and to some extent Nepal present the other side of the story. All three have free trade agreements with India and these have helped improve their own economic performance and growth. India has made huge investments in hydroelectrical projects in Bhutan and it is buying back the output. Bhutan is exporting 1500 MW power to India, resulting in a 17 percent increase in its GDP.¹⁷ India's free trade agreements with Sri Lanka and Nepal have been an incentive for Indian companies to invest in these countries. A large part of manufacturing

capacity in Nepal was created under the stimulus of free trade. Within a year of implementation of the India–Sri Lanka Free Trade Agreement (FTA), Sri Lanka had received Indian investments of about \$1 billion. The FTA led to reducing Sri Lanka's trade deficit with India from 11:1 in 1999 to 5:1 in 2002. Sri Lanka's exports to India accounted for 3.6 percent of its overall exports in 2002 in comparison to 1999 when these amounted to only 1 percent of overall exports.¹⁸ Sri Lanka is today India's largest trade partner in the SAARC region and the total volume of their trade was almost US\$3.3 billion in 2007. India is the third largest destination of Sri Lankan exports while India is the fourth largest investor in Sri Lanka. The challenge for South Asia, Indian Prime Minister Dr Singh rightly points out, is to "extrapolate this win–win economic relationship throughout the region".¹⁹

Civil Society

Unlike SAARC, civil society in South Asia is not a unified entity. It is an amalgam of stakeholders ranging from eminent South Asian intellectuals to think-tanks, research institutions, non-governmental organizations (NGOs), activist groups and grassroots networks. Their stakes and contribution for fostering a South Asian community vary accordingly. NGOs play an active role in civic mobilization and policy advocacy and are most effective in their chosen spheres of action such as human rights, ecology, rights of women and children and so on. The civil society networks provide an umbrella platform for many such NGOs, activist groups, social movements and peoples' organizations to come together and mobilize popular support for issues of common concern and public good. Research institutes and think-tanks are best placed to work out alternative policy options for their respective governments and various SAARC bodies.

South Asia has witnessed an exponential growth of civil society organizations, networks and social movements in the past two decades. By and large, these have been in response to the national and global crisis which can no longer be understood, explained or resolved within a state-centric paradigm. Critical inputs for a new understanding of such issues are indeed emerging from social movements that are often focused on local issues but sensitive to the wider picture. They raise fundamentally important issues concerning the possibilities of imagining an alternative political community and forging new solidarities, which act in ways that transcend the boundaries of states working to promote international collaboration irrespective of state policies. A large population of such social activists, highly educated and skilled, drawn from across the social spectrum and from across regional, linguistic, cultural and even national boundaries, have been active in peace and anti-nuclear armaments; in the environment movement; in the women's movements; in the movements for autonomy and self determination of cultural groups, minorities and tribes. What is different in the 21st century – the era of globalization – is a growing awareness among these intellectuals and activists about the vertical linkages between their life-situations and global economic power structures and the countries' elites. Their realization that the local power structures, which they are fighting in their respective areas, derive their power vertically from the macro structures of the prevalent national and international order, has increased their stakes to forge post-national regional constellations.

The intelligentsia in South Asia is also actively engaged in this process and non-official dialogues between intellectuals, journalists, research analysts and scholars have matured in the past two decades. This is evident from the incipient vet distinct shift from the traditional-style collaborative research projects between "national" research institutes giving way to the "regional ownership" of research organizations. The Regional Centre for Strategic Studies (RCSS), the South Asia Network of Economic Research Institutes (SANEI), and the South Asia Center for Policy Studies (SACEPS) are prominent examples of this phenomenon. Their regional character naturally determines their research agenda and activities, positioning them as the leading intellectual stakeholders for South Asia's regional integration. In addition, there is a rapid growth in the number of SAARC apex bodies that specialize in different spheres. These include the South Asia Chambers of Commerce and Industry (SCCI), South Asian Free Media Association (SAFMA), SAARC Law, South Asian Federation of Accountants (SAFA) and Foundation of SAARC Writers and Literature (FOSWAL). Characterized as Track One-and-Half, these are autonomous organizations and some also receive financial support from the SAARC Secretariat and directly service the official SAARC process.

In the wider arena of civil society, Peoples' SAARC is an important regional initiative. It aims to create a People's Union of South Asia, opening up new possibilities of an alternative political, socio-economic and cultural system in the region, and seeks to do away with discrimination of gender, caste, religion, ethnicity, and identity rivalries by creating a new identity of South Asia citizenship, free movement of people and a new mode of human engagement. It is indeed imperative to make the people of South Asia a primary stakeholder in the SAARC process because "regionalism can become self-sustaining only when it enjoys the support of the people, and they see benefit in it", and that is why "the feeling that regionalism is beneficial to all South Asian countries has to permeate to the grassroots level".²⁰

Private Sector

The private sector is emerging as an important stakeholder for regional economic integration. Conscious of the enormous potential of intraregional trade and the increasing importance of regional economic blocs in global trading, private enterprise and business associations are setting the pace in transforming regional relationships and establishing the institutional framework for regional cooperation and networks. SAARC is increasingly facing pressure from the private sector to remove barriers to allow market integration.

While the market is an important driver pushing for regional economic integration, it is not in the driver's seat. Notwithstanding the wellestablished practices of including representatives of the private sector in the official delegations of governments during crucial trade negotiations, they were conspicuously absent in the formal negotiations over SAFTA. Though every government had, no doubt, consulted the corporate leaders in devising their respective negative lists, the latter are yet to be accorded a seat at the negotiating table.

Meanwhile, official trade barriers are being circumvented by the rising volumes of informal trade. Total informal trade in the South Asian region was estimated (in 2008) at about US\$3 billion, which was almost double the formal trade in the region for corresponding years for which informal trade estimates are available.²¹ Much like India and Pakistan, India's informal trade with Nepal and Bangladesh is almost as large as formal trade; with Sri Lanka, it is almost one-third of formal trade; and with Bhutan it is three times as much as formal trade. Such informal trade is serviced by an increasingly efficient informal capital market, operating outside the purview of the monetary authorities, which finances \$2 to \$3 billion-worth of intra-regional transactions in goods and services. Along with this, the large-scale movements of people across borders in search of a better livelihood and the resultant integration of the labor markets of South Asia have undercut the barriers of national boundaries.

Like the civil society, the private sector is also a plural entity with diverse and, at times, even divergent interests. In the South Asian context, is important to understand certain special features of the private sector. First, the macro- and sectoral-level interests of the private sector are distinct. At the macro level, it is a natural votary for minimal state intervention in market forces, but in certain sectors such as the textiles, industrial houses seek state protection from global competition. Second, the private sector in India is, by and large, interested in exploring export opportunities in the EU and the US markets, though they are keen to boost intra-regional trade in particular sectors. In Pakistan too, the business community is divided on the issue of enhancing trade relations with India. Those who are in favor of trade include the large and mediumsized traders, young professionals and efficient industries. The traditional traders whose businesses will suffer from Indian competition and goods – such as the two-wheeler scooters, automobile tyres, industrial chemicals, textile and garments, small machinery and tools – are opposed to liberalizing trade.²² A third factor pertains to the private sector's choice of institutional mechanism for influencing their respective governments and the internal equations between different chambers of commerce within a country. The Federation of Indian Chambers of Commerce and Industry (FICCI) and the Confederation of Indian Industry (CII) are at loggerheads in India, while in Pakistan the Lahore Chamber of Commerce seems to be more open to trading with India while the Karachi Chamber of Commerce is less enthusiastic.

At the regional level, the SAARC Chamber of Commerce and Industry (SCCI) was founded by the region's respective business communities in 1992. With its permanent headquarters in Islamabad, it is officially recognized by all the governments as well as the SAARC Secretariat. The SAARC Chamber was established with a grand vision to promote trade and industry in the region and it has been arranging business meetings on many issues such as regional economic cooperation, the World Trade Organization (WTO) and its impact, cross-border movement of goods and people, the South Asian Free Trade Area and so on. Notwithstanding its excellent contributions, the SAARC Chamber - in its present form and structure – is unable to play this role effectively. It lacks the financial resources (being funded largely by a foreign donor foundation), corporate skills of negotiation, business outreach and requisite professional capacity to perform this role.²³ The SCCI meetings continue to be attended largely by academics, government officials and donor representatives, with little input from the real players - the corporate sector itself. Nor is it backed by all the national chambers of commerce in each South Asian country.

INSTRUMENTS AND STRATEGIES

Various institutions and players involved in this exercise seek to influence individual governments at different levels. A common binding factor pertains to the role of the intelligentsia in this endeavour. Three broad, albeit not mutually exclusive, strategies have been employed to achieve these objectives.

Intervening at the Top

The first school of thought advocates influencing the policy-making processes in SAARC and individual governments at the top level. This comes closest to the conceptual notion of Track Two diplomacy, which entails policy-related discussions that are non-governmental, informal and unofficial in nature but which are close to governmental agendas and may involve the participation of government officials in their private capacities, with the explicit intention of influencing or informing public policy. As a form of "shadow diplomacy", they seek to provide a second line of communication between different states and seek to bridge the gap between official government positions by serving as testing grounds for new policy initiatives. Most of such professionals, including retired bureaucrats, military officers and political leaders, have informal contacts with the policy-makers through personal connections. The rationale for involving such influential people lies in their easier access to higher echelons of policy-making circles; their better understanding of governments' working styles; and that their suggestions are not likely to be viewed an affront to government policies because of their eminent status and credibility. In short, they open the hallowed corridors of power for the voices of the intelligentsia to be heard.

This strategy has worked in cases involving an unusual and unprecedented movement of the Track Two participants to Track One of official dialogues, and vice versa. Dr Manmohan Singh was India's Finance Minister (1991–1996) and Mr I.K. Gujral was its Foreign Minister (1997– 1999). Both participated in various Track Two dialogues and returned to Track One to occupy the highest office of the land, that is, the Prime Minister's position. Mr Guiral continued to be a veteran Track Two participant even after his term as the Prime Minister ended in 1998. The Guiral doctrine's lasting contribution to the South Asian regional integration was to alter radically the region's political calculus. The doctrine transformed the negative perception of regional asymmetry, which aroused fears of Indian hegemony among its smaller neighbors, into a positive factor whereby India assumed asymmetric responsibilities and accepted the principle of non-reciprocity in its relationship with them. Other significant examples include that of Mr Ibrahim H. Zaki, who was the Secretary-General of SAARC and also the Co-Chair of the Coalition for Action on South Asian Cooperation (CASAC), a Track Two process. Later, he became the Tourism Minister of the Maldives and proved instrumental in shaping the official SAARC agenda at the Male Summit in 1997. He also initiated dialogue on the basis of "informal political consultation" at SAARC, which had till then consistently eschewed any discussions on political and contentious issues. Mr Farooq Sobhan, Bangladesh's Ambassador to India

(1992–1995), was also a core member of the CASAC dialogue process. On becoming the Foreign Secretary of Bangladesh, he pursued several ideas such as that of constituting an eminent persons group.

A significant breakthrough was achieved in 1997 when the SAARC summit decided to establish a Group of Eminent Persons, which was entrusted with the task of envisioning South Asian cooperation over the next two decades and laving out a roadmap to achieve this.²⁴ The GEP Report, "SAARC Vision: Beyond the Year 2000", envisaged South Asia moving towards a Free Trade Area by the year 2010, a Customs Union by 2015 and an Economic Union by 2020. Further, it spelt out the concrete measures that had to be taken at each stage for achieving these goals. Though a collective endeavor, Muchkund Dubey, the former Indian Foreign Secretary, and Rehman Sobhan, a well-renowned Bangladeshi scholar, were the principal architects of the GEP Report. Professor Sobhan's intellectual insights and years of activism in Bangladesh as well as South Asia, and Professor Dubey's deep understanding of the official processes, proved to be a unique combination that imparted a visionary yet eminently "do-able" character to the GEP Report. This will be discussed in detail in the following section; suffice it here to say that several ideas presented in the report have become SAARC policies from time to time.

The GEP Report also inspired setting up of a Citizens' Commission for South Asia (CCSA) by CASAC, in the Track Two domain. It included distinguished citizens such as Mr I.K. Gujral, Dr Manmohan Singh, Professor Amartya Sen, Hon. Sher Bahadur Deuba, Ms Asma Jahangir, Sartaz Aziz, Dr Muhammad Yunus and Dr Lal Javawardene. Invoking the South Asian tradition whereby its elder statesmen, scholars and public personalities can guide the citizens of South Asia to realize the full potential of the region, it was hoped that the moral weight and legitimacy of these eminent citizens would facilitate the work of the Citizens' Commission and also revive the intergovernmental process of SAARC - making it more resilient to the vicissitudes of the regional political environment. The CCSA held its first meeting in December 2000 and aimed at intensifying South Asian regional cooperation through increased public awareness and civil society participation in specific sectors such as investments and energy cooperation in South Asia, the region's common strategy at the multilateral fora such as the next round of WTO negotiations, and building a South Asian Free Trade Area. This forum, however, did not survive beyond its first meeting, mainly due to lack of financial support.

Overall, there are some pros and cons of pursuing this strategy. Persons interviewed in the preparation of this chapter underlined the personalized terrain of the policy-making apparatus in the South Asian region. Within a democratic government, the key players include the Prime Minister, the Foreign Minister, the Foreign Secretary and now the National Security Advisor. And in other instances key players are the Army Chief, the President, and others. Relations among these key players largely determines who sets the rules and who calls the shots. As confided by a senior government official, if you want to play the game according the rules set by the government the strategy should be to identify someone close to that particular political leader or bureaucrat, who could then become your conduit for input into the decision-making process.

On the flip side, this is an inherently sporadic, limited and short-term strategy of influencing the policy-making processes. In the partisan political world of South Asia, when a government loses power and changes, an entire constellation of positions for bureaucrats, ex-bureaucrats, power brokers and politicians also changes hands. Since many of these people are clearly perceived to be aligned with one political party, they become discredited in the eyes of other political parties. For example, an ex-military official pointed out that: "notwithstanding his vast knowledge, experience and acumen, it is inconceivable that the expertise of Brajesh Mishra, the ex-National Security Advisor in foreign affairs of the BJP-led NDA government will ever be used by the present Congress government in power". In one stroke, a carefully nurtured network is, thus, rendered irrelevant. A more long-lasting and perhaps more effective way out might, therefore, be first to create and institutionalize new mechanisms for interactions between the government and the influential sections of the civil society within each country - an issue I will revisit shortly.

A Bottoms-up Approach

The second school of thought advocates a bottoms-up approach. It involves the NGOs, people's organizations, activist groups and networks that explicitly function apart from or beyond governments, aiming to build new constituencies for regional integration, to reorder SAARC's priorities and to make it a more people-oriented enterprise. Accordingly, their objective is not only to promote regional economic cooperation but also to create a broader South Asian community. These rarely have direct access to the relevant foreign offices but instead aim to change public attitudes and mobilize public pressure on their respective governments for revitalizing the SAARC process. It is flawed in its present form because though the governments in theory represent the people, no questions have been raised as to precisely which constituency among South Asia's populace are SAARC's policies designed to benefit and how far it has remained accountable to the people for its successes and failures.
Such civil society organizations have used different instruments to achieve their objectives. Firstly, this involves sharing and learning from their experiential success stories at the grassroots level and feeding those inputs into the policy-making processes at the governmental level. In the domain of poverty alleviation, for instance, focus has gradually shifted from macro interventions to participatory micro-development organizations. All the micro-level success stories of poverty alleviation in South Asia (including the Rural Advancement Committee of Bangladesh, Aga Khan Rural Support Programme of Pakistan, Small Farmer Development Programme of Nepal, Self-Employed Women's Association of India, Janashakti Banku Sangam of Sri Lanka and Mongar District Health Project of Bhutan) have indicated that where "poor participate as subjects and not objects of the development process, it is possible to generate growth, human development and equity".²⁵ Most of the success stories are built upon participation and community effort. They are also "incremental in nature in the sense that they rely on societal experiences, memories and mobilization systems and outside resources are marginal. This is true of the Grameen Bank of Bangladesh and Pani Panchayats in India".²⁶ Likewise, whenever local communities have been involved in the control and management of their resources, it has been possible to protect the environment and regenerate its productivity. The NGOs across South Asia have repeatedly shown through their work that community selfgovernance has invariably led to an improved environment. Examples include the environmental project in Karachi in the urban context; the villages of Sukhomajri, Nada, Seed, Bhusadia and Ralegaon Siddhi in India; and the Grameen Bank in the flood-affected plains of Bangladesh. In Nepal, rural communities continue to manage their fragile Himalayan environment with great care and labor inputs. The enormous labor inputs of the poor in environmental management, such as those of the Himalayan farmers in terracing their agricultural fields, remain an invisible factor which often has a far greater impact than official expenditures, whether they result from national funds or foreign aid.²⁷

Secondly, civil society groups perform the role of a watchdog and closely scrutinize government policies. For example, as part of the SACEPS-led initiative for monitoring the implementation of the SAARC Social Charter, Pakistan's Citizens' Group has raised serious questions about the government's claims that poverty has declined from 34.5 percent of the population in 2001 to 23.9 percent in 2005. If factual, it would indicate a ten percentage point reduction in poverty and that one-third of Pakistan's poverty problem had been overcome within a period of four years. The Citizens' Group highlighted the methodological and definitional errors in the government's poverty data, pointing out the inconsistencies in

sources and patterns of economic growth and poverty reduction; the bias in the poverty reduction estimates due to the base year selection and inflation rates; and the bias in poverty estimates.²⁸ Akmal Hussain, a leading economist, stressed that:

poverty in Pakistan is rooted in an acutely unequal distribution of productive assets and an associated asymmetric structure of power that distorts state markets and state institutions in such a way that they systematically discriminate against the poor with respect to access over resources, public services and governance decisions, which affects their immediate existence.²⁹

For example, in rural Pakistan, it has been estimated that poor farmers are losing as much as one-third of their income due to asymmetric markets and local institutions of governance. As many as 57.4 percent of the extremely poor farmers who have taken a loan from the landlord, work on his farm without any wages at all, and 14 percent work at a wage that is less than half the market wage rate.³⁰ The Citizens' Group stressed the need to bring together a network of civil society organizations to carry out an independent survey of the extent of poverty nationwide, since the government of Pakistan's data lacked credibility.

Another instrument pertains to the collective mobilization of the NGOs, activist groups and people's organization through national, regional and global networks. These create long-term synergy between progressive intelligentsia and grassroots activists across the region, though their ability to influence government policies remains a matter of debate. Peoples' SAARC, as mentioned earlier, is one such important conglomeration of women, labour, peasants, urban and rural poor, cultural activists, trade unionists, students and youth along with the marginalized and excluded social groups and communities. At their last meeting held in Colombo, in July 2008, they debated the entire gamut of issues ranging from livelihoods and sovereignty over natural resources, food sovereignty, climate change and ecological justice, social exclusion, erosion of democracy and human rights, gendered violence, migration and free movement of labor, religious extremism and communalism, neo-liberal economic reforms, and media and the right to information. Peoples' SAARC aims to create a People's Union of South Asia that can transcend the reified notion of the post-colonial nation state and national sovereignty and allow free interactions among people in the region.³¹

While Peoples' SAARC is a general network involving people from all walks of life, other networks focus on specific issues. The following examples offer an illustrative, not exhaustive, list of such organizations and networks. The South Asia Human Rights Documentation Centre (SAHRDC) and South Asia Forum for Human Rights (SAFHR) are networks of individuals and organizations committed to promoting human rights. The former seeks to investigate, document and disseminate information about human rights violations and human rights treaties and conventions, while the latter promotes the interlinkages between human rights, peace and substantive democracy. It also aims at strengthening the peace-building capacities of two particular constituencies: women and the media. The South Asian Free Media Association hosts a portal, South Asian Media Net, an independent and comprehensive website providing in-depth news coverage from across the region. SAFMA holds conferences and journalists' summits regularly and has floated a virtual think-tank, the South Asian Policy Analysis (SAPANA) Network.

In ecology, the South Asia Consortium for Interdisciplinary Water Resources Studies, SaciWATERs, focuses on transforming water resources knowledge systems by using an interdisciplinary approach from a pro-poor, human development perspective. Its long-term goal is to establish a South Asian "virtual water university". The Duryog Nivaran network was established in 1995 to fill a void in cross-border dialogue and experience sharing among organizations. It promotes an alternate perspective towards disasters that views people affected by disasters as not just victims but also partners in their future development and well-being. Climate Action Network South Asia (CANSA) was established in 1991 by South Asian NGOs and scientists who were concerned about the adverse impact of global climate change on the poor and most vulnerable sections of the society.

The Foundation of SAARC Writers and Literature (FOSWAL) was set up in 2002, and five years later it became the SAARC Apex Body in the domain of culture. It has created a large fraternity of writers, poets, scholars, diplomats, academics and intellectuals through varied initiatives and provides an institutional forum for creating regional identities and forging regional integration. A quarterly SAARC Journal of creative ideas, literature and art titled *Beyond Borders* has been launched and a SAARC Information and Dissemination Centre for the promotion of art, literature and culture in the region is also being established. A much older and far more vibrant venture in this domain refers to *Himal*, the only South Asian magazine that follows issues and trends of the region from an extra-nationalist perspective and seeks to define functional concepts of South Asia from the SAARC model to the sub-national models. HIMAL has also proved to be a catalyst for other media-related initiatives, such as the promotion of documentary films and public radio.

South Asian NGOs are also members of global networks such as the Asia Pacific Research Network (APRN) that was established in 1998.

They have participated in their international programs on development finance and debt (Reality of Aid – Asia Pacific), agriculture and rural development (People's Coalition on Food Sovereignty) and water (Water for the People Network). The International Trade Union Confederation – Asia Pacific, founded in September 2007, represents 16.8 million members of 48 national trade union centers from 29 countries, and strives for social justice for the workers in this region. The International Dalit Solidarity Network, formed in March 2000, links grassroots priorities with international mechanisms and institutions to make an effective contribution to the liberation of those affected by discrimination based on work and descent.

Knowledge Creation

The third school of thought underlines the importance of knowledge creation as part of the process and product of civil society initiatives promoting the cause of regional integration. This is based on two varying sets of premises. The first believes that the real challenge lies in forging a South Asian consciousness, which is a long-term enterprise by its very nature. To this stream belongs the idea of creating a South Asian university, where the students and researchers would be "people of South Asia first and last", and would look into the issues from a "South Asian perspective, indeed, over and beyond the modern state to which they all belong". The idea is to "create a South Asian mind" which would look into the business of organizing cooperation in diverse fields within South Asia, not from the standpoint of nations and states but from the standpoint of people.³² A detailed discussion on this follows in the next section.

The second viewpoint is that there is a need to mobilize the rich intellectual resources of the region to develop a shared capacity to service the process of developing a South Asian community. The task, accordingly, is to create a body of knowledge regarding the cost-benefit analysis of bilateral and regional cooperation in order to help the policy-makers make better-informed decisions. To this genre belong the South Asian research institutes and networks such as the Committee for Studies on Cooperation in Development in South Asia (CSCD), Coalition for Action on South Asian Cooperation (CASAC), Indian Council for South Asian Cooperation (ICSAC), South Asia Center for Policy Studies (SACEPS) and South Asia Network of Economic Research Institutes (SANEI), which seek to facilitate interstate economic cooperation and strengthen the SAARC process through policy research, structured dialogue and interaction. CSCD was the first non-governmental network of scholars that brought together research institutions and scholars into a regional network in the late 1970s and early 1980s. The pioneering efforts and strong personal commitment of Tarlok Singh, as mentioned earlier, were critical to the success of this enterprise. Having a secretariat in the Marga Institute at Colombo and a full-time Secretary-General in the person of V. Kanesalingan was also important in sustaining this endeavor. The CSCD created an intellectual base for collaborative research through more than 40 in-depth studies, which provided valuable contributions to policy formulation at the regional level.³³ In his inaugural address to the ninth meeting of the CSCD in March 1984, the then Foreign Minister of India, Mr P.V. Narasimha Rao, recognized the active role of the CSCD in cementing the bonds of friendship through its creative research studies on common problems of the region.

Such programs picked up a momentum in the next decade. The Centre for Policy Research partnered with other organizations in the region and initiated the South Asia Dialogues in 1990.³⁴ Modelled after the Pugwash conferences, these dialogues involved nearly 100 leading personalities with the basic objective of influencing public opinion and policy for creating the necessary political and social milieu to forge a South Asian regional consciousness. Another initiative, born in 1991, was spear-headed by Friedrich-Ebert-Stiftung (FES), a German foundation, which set up a Coordinating Group for Studies on South Asian Perspectives (CGSSAP).³⁵ This group launched a multidisciplinary research program in 1991 and produced a series of research studies in the broad fields of socio-political development, socio-economic welfare, intra-regional and international economic relations, and the cost of non-cooperation among the South Asian states.³⁶

In May 1994, this initiative led to the creation of CASAC, an independent, non-profit, public policy network of South Asian opinion and policy-makers who were committed to the promotion of regional cooperation in South Asia. It organized three major conferences on Shaping South Asia's Future: Role of Regional Cooperation, and South Asia 2010: Challenges and Opportunities, followed by a meeting of an eminent group known as the Citizens' Commission for South Asia, discussed earlier. CASAC was able to provide regular policy inputs at the summit level throughout the 1990s partly because its Co-Convener, Kant Bhargava, the former Secretary-General of SAARC, brought with him an in-depth understanding of the official process and how to interface with both the regional and national systems effectively. Before SAARC created the Group of Eminent Persons (GEP), CASAC had devised such a group and many of these members were later included in the official group.³⁷ ICSAC, another such group, was put together by the then Foreign Minister of Bhutan in 1990. It worked as an informal forum of SAARC, consisting of serving and retired government officials together with a few academics, and focused on issues relating to poverty alleviation.³⁸ SAARC had discussed and accepted ICSAC's policy recommendations for establishment of a Poverty Alleviation Fund, a Regional Fund, a regional free trade zone (the South Asian Preferential Trade Agreement, SAPTA) and a Regional Food Security Reserve.³⁹ These initiatives, however, did not last. ICSAC faded, though it continues to publish a research journal, South Asian Survey, from New Delhi. Further, Friedrich-Ebert-Stiftung lost interest in CASAC, partly due to problems of the transition from two Co-Conveners of CASAC to a single Convener who could not sustain the momentum and leadership changes within the FES: perceptions of the lack of young blood in CASAC was another contributing factor. It continues, however, to promote the cause of regional cooperation in South Asia.40

Overall, the experience of the 1980s and 1990s showed that most such initiatives were short-lived entities whose life and tenure depended on the host institution's capacity, its institutional linkages across the region and donor commitments. While they helped to build a community of South Asian professionals and generated a body of useful ideas, many withered away once the funding dried up, thus leaving behind no institutional memory.

The driving force behind the creation of SACEPS in 1998 was, therefore, to institutionalize a South Asian think-tank which creates memory and serves to deliver its message to Track One. The success of the CSCD experience, with the Marga Institute operating effectively as a secretariat and a full-time Secretary-General, and the drawbacks of the loose working structure of CASAC that depended on the work of its Convener/ Co-Conveners, were particularly instructive in motivating SACEPS to establish a permanent institutional structure. SACEPS aimed at mobilizing South Asia's human resources to promote South Asian regional cooperation through research, policy studies and policy advocacy.⁴¹ It not only seeks to build business and professional networks within the region but also aims to draw together the initiatives of civil organizations, including NGOs, committed to a shared agenda for social transformation in the region. The South Asia Network of Economic Research Institutes (SANEI) was created around the same time and it seeks to foster networking amongst economic research institutions in South Asia. It acts as a nodal agency for dissemination of information on economic issues in the South Asian region through its links with 48 research institutes in the South Asia region.42

Born in the same year, 1998, SANEI and SACEPS share much common ground. Both stress the need for knowledge creation, especially on economic issues. A decade-long, mobile existence⁴³ has proven their institutional resilience and is cementing the principle of "regional ownership" of research institutions and networks in South Asia. At the same time, there are important differences in their structure, objectives, strategies and outreach. SANEI is a regional chapter of a global network, the Global Development Network (GDN), with its international Secretariat now located in New Delhi. SANEI is, thus, a research network whose primary mission is to support development research across South Asia and to promote research collaboration between institutes, where research on regional cooperation is just one of many possible themes. SACEPS, in contrast, focuses on issues topical to the SAARC process. That is probably why their modus operandi also differs. SANEI issues open calls for research proposals and employs rigorous academic scrutiny, and selects ideas supported by research grants. It emphasizes the policy relevance of proposed research work but does not necessarily follow it through to ensure that these inputs are fed into the policy-making processes. SACEPS, on the other hand, is primarily an advocacy-based institution, which uses research to support the advocacy process. It is part of the SACEPS institutional mission to ensure that its research inputs reach policy-makers and can be used to motivate civil society. Therefore its work is measured, to some extent, by how effectively it fulfills its advocacy mission. Accordingly, it liaises with the SAARC Secretariat and the South Asian governments individually as well as collectively. Since 2007, SACEPS has been presenting a concise set of recommendations to the SAARC Secretariat as well as to the individual governments before the annual summit meetings of SAARC.

This strategy has, by and large, proved to be effective in providing alternative policy options, backed by rigorous research that throws light on their feasibility as well as potential dividends for the governments and people of South Asia. In addition to the examples given above, many ideas produced by these research institutes have been adopted by the official SAARC process. The effectiveness of this strategy can also be gauged from the fact that the SAARC leadership has now started taking the initiative to commission research studies. For example, in pursuance of the 12th SAARC Summit's (2004) decision to strengthen transport, transit and communication links across the region, the SAARC Secretariat, with financial and technical support from the Asian Development Bank (ADB), initiated the SAARC Regional Multimodal Transport Study (SRMTS) for enhancing multimodal transport connectivity among SAARC member states. Likewise, after the 14th SAARC Summit (2007) Declaration that emphasized the importance of integrating trade in services in SAFTA, further discussions at the ministerial level resulted in the Research and Information System for Developing Countries (RIS) being asked to prepare a draft SAARC Framework Agreement on Trade in Services for consideration under the SAARC summit process. This facilitated interface between various research organizations and the official SAARC process. For instance, Dr M. Ramatullah, who led the ADB study on transport connectivity, is also an adviser to SACEPS; he has suggested follow-up measures on how the latter should support the SAARC connectivity attempts with supplementary initiatives. RIS is also a close partner of SACEPS. Though in an early stage, this phenomenon is undoubtedly a healthy portent for the future.

CRITICAL EVALUATION

The widely varying form, substance and objectives of civil society initiatives in South Asia make it difficult to come to any simple assessment of their overall value. They have certainly matured and broadened their base in the past two decades. The number of stakeholders in the SAARC process, within and outside the region, has steadily grown. Many research institutes and networks have acquired a distinct South Asian character and mandate. There is a vibrant community of NGOs, people's organizations and activist groups which have, through their work, touched the lives of thousands of people in the region. Alongside the civil society, the private sector has imparted a new, powerful stimulus for accelerating the process of regional economic integration. Outside the region, nine countries have observer status in SAARC and international institutions such as the Asian Development Bank and the World Bank are willing to commit more resources to further strengthen this process. Civil society initiatives have also become much more resilient over time. Unlike the Kargil conflict which derailed the official SAARC process for almost two years and caused a serious blow to the non-official dialogue process.⁴⁴ South Asian countries, especially India and Pakistan, have now by and large managed to avoid holding SAARC summit meetings ransom to their bilateral differences.

Critics, however, point out that the civil society initiatives have not produced any dramatic breakthroughs on contentious regional issues, nor have they brought any qualitative transformation in the calculus of regional cooperation. They have not had any kind of cumulative effect or achieved a systematic influence on governmental thinking and interactions. The channels of communication between Track One and Track Two continue to be informal, ad hoc and of a personalized nature. Track Two processes have almost never served as fora for surrogate or proxy negotiations occurring in concert with formal government negotiations as they have, for example, in the Middle East peace process. The next subsection analyzes some important constraints and obstacles as well as a few success stories of civil society initiatives in South Asia.

Constraints and Obstacles

Twenty-three years after the creation of SAARC, there are no clear or convincing answers to basic questions such as: have all South Asian governments genuinely embraced the goal of regional economic integration? If so, how much political capital are they willing to invest to realize that goal? As argued earlier, governments in South Asia have, at best, made a highly calibrated commitment, riddled with several "ifs and buts", regarding the SAARC process.

Neglecting the political dynamics

The principal reason is the 'trust deficit' among South Asian states, which is why most decisions taken in SAARC are in the nature of public relations exercises designed to impress domestic audiences and foreign powers. The institutions are created, and decisions, recommendations, declarations and even legal instruments are signed with the implicit understanding that none will be implemented effectively. Member states have "simply refused to play even the positive sum games, lest it benefits the other party".⁴⁵ This strategy by its very nature is futile and largely unproductive.

Inspired by the European experience, SAARC has, by and large, followed the functionalist paradigm of regional cooperation. Unfortunately this simply does not work in South Asia and will remain a non-starter for achieving the goal of regional integration. The functionalist paradigm is a poor fit with political realities in the region. Though South Asia is a well-defined geographical region with a shared social, cultural and civilizational past, its post-colonial history, mired in interstate conflicts, has deeply divided the region. The entire nation-building project sundered the integrated social, economic, political and foreign policy system of the Indian subcontinent, making South Asia a unique region that "entered the 20th century as a community and leaves this century as seven nation-states divided by their historical inheritance".⁴⁶ This history cannot be overcome without altering the foundational character of the nation state and its sovereign resolve to preserve it in the classical frame.

Significantly, the internal dynamic of the nation state, as explained

earlier, is undergoing a fundamental and perhaps irreversible transformation; nonetheless, South Asian states are still highly sensitive about preserving their sovereignty in the external domain. Smaller neighbours' inhibitions, in particular, relate to the apprehension that "a more integrated South Asia would expose them to domination by India which is already emerging as a global power".⁴⁷ Political parties in all South Asian states have made good use of these apprehensions to play the anti-Indian card or anti-Pakistan card as an instrument of electoral gain in domestic politics.

That is precisely why politics trumps economic logic in interstate relations and also acts as a roadblock in the march towards regional economic integration. So, Pakistan's refusal to operationalize SAFTA due to the unresolved conflict is jeopardizing the regional economic integration process, while Bangladesh's denial of transit facilities to India is blocking transport integration in South Asia. At the end of the day, regional economic integration in South Asia is a deeply political enterprise. SAARC will not succeed, nor are the civil society initiatives likely to make headway, without addressing the political dynamics of South Asia. The neglect of political factors has resulted in a twofold lacuna in their strategy. First, huge resources have been invested to generate new knowledge to service the SAARC process, but most of these studies offer a predominantly economic analysis of the problematiques which, in the absence of political insights, prove to be of limited value. They make good economic sense but are not pursued by governments for political reasons.

The World Bank's report on "Forging Sub-regional Links in Transportation and Logistics in South Asia in 2001", and before that the report on "Transport Linkages and Transit Facilities in SAARC Region", produced by the Kathmandu-based Institute of Sustainable Development, were never used by SAARC. The latter remained under the consideration of the Committee on Economic Cooperation for 14 years and nothing came out of it. More recently, a joint study by the Asian Development bank (ADB) and the United Nations Conference on Trade and Development (UNCTAD), quantified the benefits of SAFTA and its contribution to stronger economic growth in the region. However, the study rests on a critical assumption of SAFTA's full implementation within its stipulated time frame. In view of the present political dynamics between India and Pakistan, it is difficult to predict that Pakistan will apply SAFTA provisions to India, without which the entire agreement will remain a non-starter. Another case in point is SARI (South Asia Regional Initiative for Energy) sponsored by the South Asia Regional Energy Coalition (SAREC). SARI organized a business and media roundtable in Dhaka focusing on how Bangladesh could benefit from cross-border energy trade, such as Tata's proposed \$3 billion power project investment in Bangladesh that is modelled on SARI/Energy's Bangladesh–India power export study. However, the refusal of the Bangladesh government to provide a guaranteed supply of natural gas for the Tata project has resulted in the latter abandoning the business venture altogether

The second lacuna pertains to the missing leg of the stakeholders in the SAARC process. Civil society organizations and networks have mostly failed to mobilize the political leadership of South Asian countries for promoting the cause of regional integration. Some initiatives in the 1990s were spearheaded by the Association of SAARC Speakers and Parliamentarians, the International Centre for Peace Initiatives, CASAC and the Jang group of newspapers, which sought to involve the parliamentarians. None of these, however, have survived. In 2006, the South Asia Policy Analysis Network - a brainchild of SAFMA - revived the idea of creating a non-legislative, deliberative body of South Asian parliament, but no concrete follow-up measures have been undertaken in this direction. More importantly, no systematic attempts have been made to reach out to political parties - local, regional and national - in every South Asian country. Since they are posing critical hurdles in the process, as explained earlier, it is important to win them over. Besides, political parties have the wherewithal to mobilize the masses and generate political pressure on their respective governments to bring about regional integration.

Flawed policy-making processes

This set of constraints refers to the fragmented character of the decisionmaking structures, bureaucratic dominance and lengthy and cumbersome policy-making processes of South Asian governments, at the national as well as regional levels. The enormous gap between the declaratory commitments of the heads of government at the SAARC summits and implementation of these commitments reveal a disconnect between the political leadership and bureaucratic machineries of these governments. Over many years, SAARC has concluded a number of important conventions on the suppression of terrorism, narcotic drugs and psychotropic substances, and preventing and combating the trafficking of women and children for prostitution. None of these conventions, however, have produced the desired results. The SAARC Food Security Reserve, created in 1998, remained notional for 10 years before being renamed in 2007 as the Food Security Bank. No one knows of its locations and none has ever been utilized despite pressing demands in situations of disasters, such as the wheat crisis in Pakistan, cyclone-hit Orissa, floods in Bangladesh and tsunami-hit Sri Lanka. SAARC declarations to eradicate poverty in South Asia also remained on paper for 23 years.

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This is partly because changes in SAARC's organizational structure and its intergovernmental decision-making processes have not kept pace with the evolution of the organization. For example, the entire functioning of SAARC is spearheaded by a programing committee comprising the concerned joint secretaries of foreign ministries – a body which is not even mentioned in the SAARC Charter. On the other hand, new ideas pioneered by the political leadership at the summit level are often quietly scuttled by the bureaucracy through stonewalling, interminably prolonging the negotiating process or adding so many conditions that they lose meaning. In exceptional situations the heads of state have exercised their political authority to push through a particular initiative, but overall, bureaucratic dominance prevails.

There is lack of coordination at every step in the entire chain of command from the top, that is, various summit declarations made by the heads of state to the Council of Ministers and then foreign secretaries and technical committees. This has become a systemic feature of SAARC's decision-making apparatus. At times, there are too many layers of committees. The negotiation and implementation of the SAFTA process, for example, involved the Inter-Governmental Group (IGG), Inter-Governmental Expert Group (IGEG), Group on Customs Cooperation (GCC) and Committee of Participants (COP).⁴⁸ There are also serious problems of coordination between the national bureaucracies and the SAARC bureaucracy. For instance, frequent changes between National Focal Points and Sectoral Focal Points and lack of proper coordination between them have severely hampered the performance of SAARC's Integrated Programme of Action (SIPA), resulting in "disorientation, duplication and avoidable compartmentalization in various activities".49 The work of Technical Committees suffers from three major critical drawbacks: "resource crunch, lack of inter-sectoral coordination and nonimplementation of decisions taken", which have stunted the growth and effective performance of IPA activities.50

The stratified and complicated nature of such channels makes it difficult to overcome bureaucratic barriers at the national level as well. Officials of two ministries within the same government may adopt a differing policy stance. As a government official explained, the business community, the commerce and finance ministries may favor lowering barriers among the neighboring states by relaxing visa regimes, liberalizing trade and improving transport connectivity; but the security establishment of the home ministry may be wary of such proposals, especially in view of the growing terrorist threat in the region. Similarly, there may be differences between ministries looking after sectoral interests like textiles and those such as the commerce ministry, which stresses the importance of establishing new, sustainable value chains across the region even at the cost of short-term losses for national firms.

Governmental resistance

A third factor is the attitude of government officials towards non-official dialogue processes. Most, if not all, South Asian states are democracies with active and largely independent presses, but the barriers between officials and the public persist. These are mainly due to two structural problems. The first points to the legacy of the British tradition of civil service, that is, the absence of lateral entry into key bureaucratic positions. Secondly, those inside the establishment and those outside operate from fundamentally different information bases. There is no sharing of memory and no light is thrown on the decision-making processes. As a result, the government information base remains too narrow, while that of non-government sources is wide but not well informed. This often gives rise to mutual suspicion rather than mutual interaction.

There are no established institutional mechanisms for interaction between the governmental and the non-governmental sectors. The SAARC Secretariat does not provide for systematic inputs from the key stakeholders, including the NGOS, think-tanks and the private sector. For example, the Convention on Preventing and Combating Trafficking in Women and Children for Prostitution, signed in 2002, was in response to the widespread demands of the NGOs and the civil society. However, no effective roles were assigned to the voluntary and other non-governmental organizations for its implementation. In another context, there has been no representation of the private sector in the entire SAPTA–SAFTA negotiation and implementation process.

The SAARC process, including the bureaucracies of its member states, lacks the capacity to absorb new ideas presented to the regional body. This is demonstrated by SAARC's handling of the GEP Report. The Council of Ministers, on the recommendation of the Standing Committee, requested the SAARC Secretary General to identify points in the Report that could be considered for implementation. Members of the GEP were very unhappy since the Report was a package, not something to be implemented in pieces. Nevertheless, before the Council of Ministers Meeting in Nuwara Eliya, in Sri Lanka, the Standing Committee endorsed the Secretary General's recommendation and handed it to the Council of Ministers. The Council of Ministers, for the first time in its history, said that the recommendations were "inadequate" and asked the Standing Committee and Secretary General to reconsider them. The GEP Report, however, was set aside following the Kargil conflict and only lip service was paid to it during the 2001 SAARC Summit in Kathmandu.

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Divisions within the civil society

There are too many tracks operating in the non-governmental domain with little coordination. This often results in duplication and frittering away of limited resources and energies endeavoring to achieve the same goal. More importantly, there are divisions among their ranks. Professionals involved in policy advocacy at the top tend to look down on the NGOs and activists. A senior former bureaucrat described the latter as "an ineffective, jhola (khadi) wearing, slogan-shouting brigade with little results to show on the ground".⁵¹ This is matched by activists' disdain for the veterans of Track Two dialogues, who are often debunked as as living in ivory towers, totally divorced from social realities on the ground. They view Track Two essentially as a managerial approach, not a radical one that questions governmental assumptions and seeks to provide any meaningful alternatives. "The bureaucrats have played the game for so long that despite the RRS (Retired Radical Syndrome) factor, it is argued, they could only tell you how to play the game but would never question the rules of the game".⁵² The two live in their separate worlds and that is probably why there is no cohesive people's movement in South Asia.

Selective Success Stories

A turnaround is still possible, as shown by the following success stories. They are equally important for understanding both the do's and the don'ts of developing a durable and effective interface between governments and the regional civil society.

The GEP Report

The GEP Report was an important milestone for several reasons. It marked the first ever initiative by the SAARC leadership to reach out to the regional civil society by presenting a vision of SAARC. The political significance of mandating a group of eminent persons to undertake this task rather than their respective foreign ministers was not lost on their bureaucratic establishment as well as the civil society. The GEP Report, in turn, presented a grand vision of South Asia complete with a clear roadmap that has proved to be of lasting value. The governments as well as the intelligentsia in South Asia continue to draw upon the ideas presented in the GEP Report to push forward the processes of regional integration.

These include the commitment of SAARC to the following goals: endorsement of a South Asian Free Trade Area, followed by a Customs Union leading to a South Asian Economic Union; adoption of special measures for the LDCs; energy cooperation; strengthening transportation, transit and communication links across the region; harmonization of standards and simplification of customs procedures; public and private sector cooperation through joint ventures; setting up of a South Asian Development Bank; establishment of a South Asian Development Fund; cooperation among central banks; developing tourism in the region; South Asian Development Goals for Poverty Alleviation; strengthening the SAARC Secretariat; dealing with the threat posed by terrorism; and establishment of the South Asian University.⁵³

It is noteworthy, however, that the GEP Report has not been officially endorsed in its entirety and no adequate mechanisms have been established, thus far, to monitor its implementation.

The Social Charter

The SAARC Social Charter, and its complementary Citizens' Social Charter, is a remarkable initiative that has evolved through both governmental and non-governmental paths. Embraced by a variety of stakeholders ranging from governments, think-tanks and civil society organizations, the story of the Social Charter shows what can be done to reorient the SAARC agenda and how to achieve it; that is, through an inclusive and participatory dialogue process.

The need for a Social Charter for South Asia was first expressed in the GEP Report. The 10th SAARC Summit held in Colombo in 1998 accepted in principle that a Social Charter be formulated:

which would focus on drawing-up targets with a broad range, to be achieved across the region in the areas of poverty eradication, population stabilization, empowerment of women, youth mobilization, human resource development, promotion of health and nutrition, and the protection of children.

The intergovernmental process for preparing the SAARC Social Charter moved at its own pace with little involvement with or dissemination of information about it to civil society organizations. It failed to receive national and regional inputs because the SAARC Secretariat had not been mandated nor did it have enough resources to play a proactive role in mobilizing member states and civil society in the preparation of the Social Charter.⁵⁴

As the intergovernmental work on the SAARC Social Charter was in danger of becoming another declaratory document with a bureaucratic imprint which might never get implemented, SACEPS initiated a parallel exercise. SACEPS adopted a bottom-up approach by making it participatory in character and forming Citizens Groups in six SAARC countries. Through this approach, civil society organizations in each country had the opportunity to identify their own strategic issues and problems within their development context, and to design systems and strategies which could reduce the social insecurity of their vulnerable groups and thus draw up country-specific Citizens' Social Charters. Following a two-year long nationwide consultative process from 2002 to 2004, SACEPS formulated a citizens' regional social charter based on the citizens' national Social Charters. In order to maintain coherence and uniformity between the SAARC and the Citizens' Social Charter, SACEPS requested the same coordinator, Dr Godfrey Gunatilleke, who worked on the official document, to work on the latter also. This was also presented to the SAARC Secretariat as an input in the official deliberations and finalization of the SAARC Social Charter, which was adopted in the SAARC summit in Islamabad, in January 2004.

The implementation process of the SAARC Social Charter and the Citizens' Social Charter also took different paths. The SACEPS-led initiative was conceived and executed by the civil society organizations which had adopted a transparent, broad-based and participatory process for developing the Social Charter. In contrast, lack of civil society participation continued to dog the implementation of the inter-governmental process. Many National Coordination Committees (NCCs) established in the member states had no civil society presence. The nodal agency for implementing the Social Charter was also different in each country, making regional-level coordination and their comparative assessment a protracted, difficult and cumbersome affair. In Pakistan, the Planning Commission was responsible for the implementation of the Social Charter though its National Coordination Committee, which included representatives of federal ministries, provincial governments and some civil society organizations; the Committee developed the Pakistan Plan of Action for implementation of the Social Charter.⁵⁵ In Nepal, the government constituted a nine-member National Coordination Committee under the Ministry of Women, Children and Social Welfare (MoWCSW), which prepared a Five Year National Plan of Action. The NCC was responsible for coordinating the activities of the sectoral ministries and for carrying out periodic reviews. The sectoral ministries were made accountable for implementation and monitoring of the relevant subsectors of the Social Charter. Overall monitoring and evaluation of the activities was assigned to the National Planning Commission. In Sri Lanka, the Prime Minster's office was assigned responsibility for the coordination and monitoring of the Social Charter. A National Steering Committee involving representatives of the key ministries and civil society organizations that had actively participated in the preparatory stages of formulating the Charter was appointed to guide and monitor implementation of the Charter.⁵⁶ Finally,

the intergovernmental agreement on the SAARC Social Charter did not provide for a monitoring mechanism, whereas in the SACEPS-led initiative all stakeholders felt that mere formulation and adoption of the Social Charters would be of little use. The Citizens' Regional Social Charter spelt out the need for establishing a Citizens' National Forum in each country to monitor the Social Charter.

The Social Charter is the first document of its kind where citizens have a right under an international agreement to monitor the progress made by governments in their respective countries. In the changing state–society dynamic in South Asia, it has been instrumental in transforming the terms of the debate from the welfare-based notion of a state to a rights-based approach – critical for revalidating the legitimacy of the state. More specifically, the Social Charter has raised the levels of awareness among the intelligentsia and helped overcome their skepticism for the SAARC Social Charter. In Pakistan, the Citizens' Forum led by Shirkhat Gah mobilized the NGO community and made them acutely conscious of the importance of such an initiative. It then formed a committee with representatives from the four provinces, federal government officials, development activists and human rights activists to undertake a collective review of government's policies and commitment to implementing the Social Charter.

Governments have, thus, come under pressure to do more to fulfil their social responsibilities towards people. In India, for example, the Citizens' Social Charter drew upon Supreme Court judgments that made it the duty of the state to provide free and compulsory education to all children between the ages of 6-14 years and provide them with cooked meals (and not raw foodgrains) at the primary level. This had made both the Right to Education and the Right to Food for Children justiciable. Monitoring of the Social Charter in Bangladesh highlighted the gap between government claims and social realities. The Bangladesh monitoring report suggested that in the absence of a comprehensive development plan, strategies and public investment, the high level of poverty and social inequality would constrain the achievement of most of the key targets outlined by the government. In contrast to the government's goal of reducing the number of poor by half by 2010 and the complete eradication of poverty by 2015, the rate of poverty reduction in Bangladesh, according to official statistics, is only about 0.52 percent per year. At this rate, it would require 40 years to reduce poverty by half and 81 years for the complete eradication of poverty. The SAARC Social Charter indicated a target for the reduction of violence against women of 75 percent by 2015. On the contrary, violence against women significantly increased in Bangladesh. Further, against the government's claim of 100 percent primary and secondary enrolments, about 3.5 million children between six and ten years of age

were still to be enrolled in the primary education system and the net enrolment rate in the secondary level was only 4.5 percent in 2002–2003.⁵⁷ The overall analysis presented a disappointing picture of citizens' rights in Bangladesh where, in most of the cases, the present situation remains a far cry from expectations.

Nepal is also lagging behind in meeting the conditions outlined in its Citizens' Social Charter. The important issues revealed by its monitoring report showed: low sectoral performance; data inadequacies and discrepancies; and anomalies between the set targets and ground realities. This was mainly due to lack of an effective monitoring and evaluation system, which has always been the least-focused aspect of program implementation in Nepal.⁵⁸ There is a great deal of controversy about the reliability and accuracy of development statistics for Nepal, reflecting serious methodological problems. Citizens' Forum in Nepal and in Pakistan, as mentioned earlier, stressed the need for establishing a joint public–private network for data and information generating institutions to share and disseminate data.

The two parallel exercises also showed wide divergence in the perspectives of civil society and the governments on the need to implement the principles of the Social Charter. The Pakistan review revealed that the Pakistan Plan of Action, when compared with the SAARC Social Charter and the Citizens' Social Charter, had opted for a vertical rather than an integrated mainstreaming approach. It did not follow a holistic approach as mandated by the latter, nor did it address the gap between constitutional guarantees and existing legislation, policies and programs, with particular reference to women's basic human rights. Secondly, Ms Khawar Mumtaz pointed out that the most important gap between the two is that while the Citizens' Social Charter considers social exclusion as a principal challenge to achieving human well being and emphasizes the need to address structures of power and the governance system, the official Plan of Action does not. Thirdly, there is no mention of democracy and human rights in the government document, which makes it imperative for the civil society "to drag the government back to its fundamental responsibility to provide them with the correct data, and to involve its citizens in an honest dialogue on how to tackle the social ills, especially poverty and the absence of the rule of law".⁵⁹ Civil society organizations used the Pakistan Citizens' Social Charter as an advocacy document and its development represented their collective thinking. Overall, it established the watchdog and advocacy role of civil society vis-à-vis the SAARC Social Charter in general, and the Pakistan Plan of Action in particular. Interestingly, the Declaration of the 15th SAARC Summit made at Colombo in August 2008 reiterates the need for monitoring the SAARC Social Charter but,

as noted earlier, aside from national focal point institutions there is no provision in the Charter itself for monitoring progress. SACEPS, on the other hand, is continuing its monitoring efforts as part of its study on the SAARC Road Map.

South Asian University

The establishment of a South Asian University is a success story in the making. The agreement to establish this university was signed in 2007 with an objective to create a world-class institution of learning that will bring together the brightest and the most dedicated students from all countries of South Asia and impart them with a liberal and humane education. It is envisaged as a non-state, non-profit, self-governing international educational institution that will have a regional focus and full academic freedom for the attainment of its objectives.

A brainchild of South Asian intellectuals, this idea was a product of the Fellowships in South Asian Alternatives (FISSA), a Ford Foundationfunded project undertaken through networking among several nongovernmental institutions in 1996.⁶⁰ Interestingly, since then several parallel concepts of the South Asian University have been floated. India's former Prime Minister, I.K. Gujral, in his address at a CASAC meeting in Kathmandu, mentioned "the need to set up a South Asian University with schools in every country". Alternatively, he suggested that SACEPS could evolve into a South Asian University.⁶¹ Earlier, Dr Karan Singh had made a similar suggestion about a regional university. He also suggested key faculty members, including Raja Ramanna, M.S. Swaminathan, M.G.K. Menon and others. At that time, Gowher Rizvi, the then Ford Foundation representative, had taken a stand that "the two ideas are radically different [and] both are worth pursuing".⁶²

In August 2005, the SACEPS Board mandated Rizvi to prepare a proposal for the South Asian University, who took it to the UPA Chairperson, Sonia Gandhi. She apparently communicated this to Dr Manmohan Singh, who then formally mooted the proposal of a South Asian University at the Dhaka SAARC summit in 2006. Subsequently, the mandate for working out the proposal for the South Asian University was delegated to the Ministry of External Affairs (MEA), which is when Professor Rehman Sobhan intervened to apprise Dr Singh about Gowher Rizvi's work on the issue. Dr Singh took the initiative in suggesting to the MEA that Rizvi prepare the concept paper, which provided the basis for the official SAARC work on this idea and was later approved by the intergovernmental committee of experts of SAARC.

India is spearheading this initiative and has decided to finance the project for the first two years. It has allocated land for the university in New Delhi. The main campus of the university shall be located in India and it could establish campuses and centers elsewhere in the region. Professor G.K. Chadha has been appointed as the chief executive officer of this project and four task forces are looking into matters of governance and legal issues, academic ordinances and infrastructure, and a business plan based on the public–private partnership model has been constituted. The university has been functioning since 2010.

LESSONS LEARNT AND RECOMMENDATIONS

The idea of regional integration has captured the imagination of South Asians but the debates on identifying appropriate and effective strategies for securing this objective continue. While no single grand strategy is likely to work, it may be possible to identify certain key elements to put the SAARC process onto a fast track: to create strong and autonomous support structures in the governmental and the non-governmental domain; and to make it a broad-based, sustainable and people-oriented endeavor.

Learn the Political Rules of the Game

A functional approach to regional cooperation can only yield limited dividends. Economic integration of South Asia is a political affair and it will not succeed without squarely engaging with its political dynamics. Ideally, this should become part and parcel of the official intergovernmental process and non-official dialogues. However, the call for a radical transformation of the SAARC Charter is a tall order for its intergovernmental structure, which for the past 23 years has done little beyond paying it lip-service. The mantle of this responsibility, therefore, falls on non-governmental stakeholders. The think-tanks need to generate fresh and informed debate: on why regional economic integration makes political sense, especially for the smaller countries; on the interlinkages between the internal political dynamics in these countries and regional imperatives for economic integration; and the political viability of regional economic cooperation measures. Since the resistance to SAARC among the smaller neighbors is rooted in their fear of being economically overwhelmed by India, the challenge for intellectuals is to demonstrate in tangible ways in which India can be a resource for improving rather than threatening their livelihoods. If SAARC has to deliver, "politics" must no longer be eschewed as a dirty word by all the stakeholders in the SAARC process. This has been so, because SAARC has only experienced its negative impact

thus far; it is time to unleash the positive pull of political factors. Without creating political stakes for people, the agenda for economic integration in South Asia will sooner rather than later run into a roadblock. It is important, therefore, to mobilize the local, regional and national political parties in every country; they have the mechanisms – party organizations – resources, a social support base and understand the lingua franca of people. They must be mobilized to explain to people what SAARC means to them and how it can make a difference to their lives. On a tactical note, it is very important to adopt a bi-partisan approach in South Asia for mobilizing the support of the political class. Every initiative involving political leaders or the parliamentarians must also bring the opposition parties on board.

Create a Repository of Sectoral Success Stories

It is important to distinguish between the value, relevance and impact of pursuing a general approach to strengthen the SAARC process as compared to the sectoral approaches before choosing an appropriate strategy in a given context. For example, throughout the 1990s various Track Two initiatives made important contributions towards creating a South Asian consciousness and mobilizing public opinion to promote the cause of regional integration in South Asia. While these have paid dividends in the past, they are now yielding diminishing returns.

What is needed now is a string of success stories at the sectoral level that can serve as the building blocks for the larger goal of regional integration. That is because sectoral initiatives are more focused; they have a better understanding of the special dynamics of their situational context and a higher potential of yielding concrete results. This is especially true for the private sector. The South Asian countries still derive most of their foreign exchange earnings from production in a few sectors. These include the textiles and garments sector along with leather goods, rubber goods, timber products and products of the small-scale manufacturing sector. Exports from these sectors are facing stiff global competition. South Asian countries "can minimize their losses and maximize their advantages by careful identification, through research and study, of the lines of production in which vertical integration can take place and those in which horizontal specialization can be fully exploited".⁶³ The GEP had indeed suggested studies on vertical integration in selected sectors but this was not included in the SAFTA Agreement. A success story in the textiles sector, for example, is likely to have an exemplary effect on other sectors, stimulating the creation of more such new, sustainable value chains in agriculture, horticulture, the energy sector and so on.

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This is also true for the non-governmental domain. As explained earlier, NGOs in South Asia have recorded many success stories in micro-credit programs for poverty reduction and community management of water resources, which can inspire similar endeavors in other parts of the region.

Revamp the SAARC Organizational Structure

SAARC's organizational structure is dated and is in dire need of a complete overhaul. The role and functions of the SAARC Secretariat and the Secretary General, frozen in its 1986 Memorandum of Understanding, have singularly failed to keep pace with the rapidly changing global environment in which SAARC operates, and its expanding role within the region. Several measures to widen their mandate and scope of operations have been suggested. These include significantly augmenting their capacities in terms of finance and human resources, which in the past have severely hindered the implementation of projects and their monitoring.⁶⁴ The Secretariat needs to institutionalize an interface between its bureaucratic machinery and a permanent, albeit rotating body of independent experts and professionals. The Secretary General must have ample resources to hire experts when needed for specific projects and the freedom to choose directors out of a short list prepared by an expert-level selection committee, after which approval may be sought from the respective member states.⁶⁵ The program resources of SAARC committed by the member governments from time to time should also be paid into a fund within a stipulated time limit and put at the disposal of the Secretary General.

The rejuvenation of the SAARC process must permeate every level and institutional mechanism of the organization. Along with the annual summit meeting of the heads of state, they should hold more frequent business meetings without any frills. The objective of such meetings should be to impart a political momentum and set the highest standards of accountability by the heads of state. They should adopt a proactive approach to monitoring implementation of commitments made at the summit level and hold the bureaucratic machineries of their respective governments accountable for delivering results.

Enhance the Sustainability of Civil Society Initiatives

This has three dimensions. The first concerns the mode of funding civil society initiatives, especially at the grassroots levels, through international aid for development-related projects. Many of these projects by their very nature are unsustainable: they have a beginning and they come to

an end beyond which they do not last. Unlike projects, however, institutions when understood as basic social solidarities (not to be confused with organizations, which are a special subset) are long-lasting. "They cognise and strategise to forward their best interests: both their interest and their urge to protect it are intrinsic and longlasting, which is the basis of sustainability. Unfortunately, the aid industry has not tapped that institutional reservoir of 'sustainability'."66 This calls for, first and foremost, pluralizing the social terrain and creating a stable policy environment where three primary social solidarities – the hierarchic bureaucracy that is of a risk-managing nature, the individualist market that is risk-taking and the activist civil society that is risk-sensitizing – are in a constructive engagement. Sustainability in such a venture is probably best assured when the motivating factor between them is the same. So, instead of donor governments giving aid to recipient governments and expecting the latter to deliver sustainable development to its poor, it might make more sense to envisage cooperation between different countries' businesses, activists and regulatory bureaucracies. In that way, the innovative, critical or regulatory proclivities of each solidarity is matched with that of its counterpart. What such a shift implies is the need to move away from funding as the primary activity to one of finding the right partners that can sustain engagement across international divides through common interests.

The second dimension pertains to the long-term financial viability of research institutes and various other civil society organizations involved in Track Two processes. These must also evolve a strategy to reduce their dependence on project-specific funding procured from different donors and to try creating their corpus funds, which makes them sustainable and guarantees autonomy of their functioning in the long term. Finally, they need to focus on constantly rejuvenating their organizations by training and involving the younger generation of scholars and activists in this endeavor. Experience of the older generation and a certain exuberance of the youth to try new ideas and think "out of the box" can prove to be a very engaging and productive exercise and yields good results.

Institutionalize the Channels of Communication between Track Two and Track One

The effectiveness of the non-governmental players influencing the government policies critically depends on their channels of communication. Personal networks have been successful, albeit only in those situations where key personalities were able to traverse the path from Track One to Track Two and vice versa. Given the power structures and recruitment policies of governments in South Asia, this is not likely to happen very 38

often. More importantly, these do not guarantee a policy change which, as explained earlier, is a product of complex negotiations between different segments of the governmental system. It is important, therefore, to institutionalize linkages between the governmental and non-governmental sectors as these are more durable, structured and effective and they serve as shared repositories of institutional knowledge. The purpose of such forums should not only be to serve as testing grounds for new ideas, but also to provide for their monitoring, implementation and evaluation. In fact, there must be clear guidelines as to how their inputs would feed into the policy-making processes.

These can be achieved in different ways. The first option is to deploy the ASEAN model where government officials take part in Track Two initiatives in their individual capacity. A second option is to institute fellowships for government officials to take a sabbatical and associate themselves with a think-tank or a grassroots level NGO in the region for a short duration. The experience thus gained could then feed into the policy-making processes much more effectively. A third option is to create new, independent, national and regional-level forums linked to the SAARC Secretariat as explained above. A fourth option concerns the private sector: the SAARC Chamber of Commerce and Industry may take an initiative to organize an annual summit meeting involving top corporate leaders and government representatives for a high-level, structured and results-oriented dialogue process. Participation of large conglomerates and big industrialists would be critical for the success of such a venture because they best understand and command the market power without which the goal of regional economic integration will remain elusive.

The ultimate goal should be to establish an interface between the governments and civil society. Ideally, the SAARC leadership should take the lead to initiate the practice of involving eminent representatives of civil society and key professionals in their deliberations. This proposition was indeed discussed at the Male summit in 1997, which had suggested that the GEP Report would be presented directly by the Eminent Persons to the heads of state. It did not materialize. However, it is important to pursue this objective, which would set the precedent for the Council of Ministers' and the Foreign Secretaries' meetings as well. All these should be organized on the same principle that governmental negotiations need to be accompanied by parallel consultations with those from the non-governmental sector.

Actions Count, not Words

The single most important weakness of the SAARC process has not been in the domain of ideas but in their execution. There is no dearth of bright ideas but most of them are not pursued to their logical end. This is true for both governmental and non-governmental sectors. In the official SAARC process, non-implementation of decisions can be identified at three different levels: (1) the Technical Committees do not follow up the decisions, resulting in their repetitive reiteration year after year; (2) the findings and recommendations of workshops and seminars generally remain on paper; and (3) decisions taken by the First Special Session of the Standing Committee, and even the plans and projects specifically recommended by various specific ministerial groups, are not seriously implemented.⁶⁷ In view of the consistently poor record of SAARC in implementing its programs, every aspect of SAARC's work process requires proper monitoring, implementation and evaluation. This task could be given to an independent agency. Alternatively, the Secretariat should explore the possibility of setting up a Regional Ombudsman – a collective body of professionals – which should perform the role of a watchdog for the SAARC process. In fact, drawing from the experience of the Social Charter in South Asia, the non-governmental forums may also consider instituting an autonomous and independent Regional Ombudsman if this suggestion is not accepted by SAARC officials.

In this context, the non-governmental sector needs to draw two more lessons. First, the yardstick of success for their work must not only include adoption of their ideas by the official SAARC process but also its follow-up and implementation; the real battle lies beyond SAARC making a declaratory commitment to any issue. The glaring gap between SAARC's declarations and progress on the ground drives home the point that civil society must try creating independent mechanisms for monitoring the implementation of such ideas. Second, the think-tanks need to go beyond publication of their research work and undertake policy advocacy to ensure that their work bears fruit. This calls for forging new solidarities among different segments of the civil society so as to complement each other's strengths.

NOTES

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- The participating institutions included Bangladesh Institute of Development Studies, Pakistan Institute of Development Economics, Marga Institute, Indian Council of World Affairs and Nepal's Center for Economic Development and Administration.
- 3. At that time, it was called South Asian Regional Cooperation (SARC).
- 4. Muchkund Dubey, "SAARC and South Asian Regional Integration", *Economic and Political Weekly*, 7 April 2007, p. 1238.

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- 7. Ibid.

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- Saman Kelegama, "Traditional SAARC, Modern South Asia", *Himal*, 21 (8), August 2008.
- 10. Ibid.
- 11. Taneja and Sawhney, "Revitalizing SAARC Trade", p. 1082.
- 12. Dr Manmohan Singh's interview in Himal, 21 (8), August 2008.
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- 14. Nisha Taneja, "Informal Trade in the SAARC Region: Implications for FTAs", *Economic and Political Weekly*, 18 December 2004, pp. 53–68.
- 15. Asian Development Bank, South Asia Economic Report, October 2006, p. 13.
- 16. Muchkund Dubey, "Regional Economic Integration in South Asia".
- 17. Nagesh Kumar, "Prosper thy Neighbour in South Asia", *Financial Express*, 15 February 2005.
- 18. Saman Kelegama and Ratnakar Adikari, "Repositioning SAFTA in the Regionalism Debate", in Imtiaz Alam (ed.), *SAARC*, Islamabad: SAPANA, 2006, p. 91.
- 19. Dr Manmohan Singh's interview in Himal, 21 (8), August 2008.
- 20. Ibid.
- 21. Taneja, "Informal Trade in the SAARC Region", pp. 53-68.
- 22. Poonam Barua, "Testing Economic Diplomacy in South Asia: Redefining Priorities and Stakeholders in the New Economy", A Report prepared for School of Advanced Studies, Johns Hopkins University, 2005.
- 23. Ibid.
- 24. The Group consisted of 12 eminent persons from each of the member countries of the SAARC. These included Ibrahim Hussain Zaki (Chairman), Muchkund Dubey, Mangala Moonesinghe, V.A. Pai Panandiker, B.P. Shreshtha, Rehman Sobhan, Senake Bandaranayake, Mohammed Moshin, Niaz A. Naik, Ahamed Shaheed, Y.K. Silwal and Lhatu Wangchuk.
- Cited in Mahendra Lama, *Monitoring of SAARC Policies and Programmes*, SACEPS Paper No. 17, Kathmandu: SACEPS, May 2008, pp. 144–5.
- 26. Ibid.
- 27. Ibid.
- Khawar Mumtaz and Tahira Abdullah, Monitoring Implementation of the SAARC Social Charter in Pakistan, SACEPS Paper No. 12, Kathmandu: SACEPS, 2006, pp.9–10.
- 29. Ībid., p. 8.
- 30. Ibid.
- 31. Background Note, "Struggle for Freedom, Democracy and against Structurally Adjusted Destruction of Human Lives in South Asia", see, http://www.peoplespacesl. org/index.php.
- 32. Imtiaz Ahmed and Meghna Guhathakurta (eds), *SAARC: Beyond State-Centric Cooperation*, Dhaka: Centre for Social Studies, 1992.
- These included an introductory survey of the economy, resources and prospects of South Asia; national development strategies and complementarities; import–export

structure and trade expansion; development of Himalayan resources; payments arrangements and monetary cooperation; trade channels, systems and procedures; transport and communication linkages; and development of the resources of the sea. During the second phase, there were studies on three important themes: transport and communication linkages in South Asia; development of the Himalayan resources; and the development of the resources of the sea.

- 34. These were: Centre for Policy Dialogue, Dhaka; the Independent Planning Commission, Lahore; the International Centre for Ethnic Conflicts, Colombo; and the Nepal South Asia Centre, Kathmandu.
- 35. These were: the Administrative Staff College of India at Hyderabad; the Pakistan Institute of Development Economics, Islamabad; and the CSCD-Colombo.
- 36. The CGSAAP studies were on following themes: Payments and Monetary Cooperation in South Asia; Transport and Communications Linkage; Democratization and Regional Cooperation in South Asia, Promotion of Greater Understanding Among Governments, Institutions and People of South Asia; Role of Print and Electronic Media in Promoting SARC; Enhancing Collective Self-reliance and Negotiating Strength of the South Asian Countries with Respect to the Rest of the World; Employment Generation and Poverty Amelioration in South Asia; and Cooperation in Technical and Professional Education and Training.
- 37. Sridhar Khatri, "SAARC 2015: Expanding Horizons and Forging Cooperation In a Resurgent Asia", Paper presented at a conference on SAARC: 2015: Expanding Horizons and Forging Cooperation in a Resurgent Asia, organized by Friedrich Ebert Stiftung, March 2007.
- 38. Its members included M.S. Rasgotra, Ambassador Arshad of Bangladesh, Bhekh Thapa, Akmal Hussein, Vandana Shiva and Ibrahim Zaki.
- Navnita Chadha Behera, Paul M. Evans and Gowher Rizvi, Beyond Boundaries: A Report on the State of Non-Official Dialogues on Peace, Security and Cooperation in South Asia, Toronto: University of Toronto – York University, Joint Center for Asia-Pacific Studies, 1997, p. 75.
- 40. The FES supported the SACEPS program on labor migration in the region and has provided similar support to Institute for Policy Studies in Sri Lanka and also for activities in India such as the conference on SAARC: 2015: Expanding Horizons and Forging Cooperation in a Resurgent Asia, that was organized in March 2007 at New Delhi.
- 41. Its partner institutions are the Centre for Policy Dialogue (CPD) Bangladesh; Research and Information System for the Developing Countries (RIS); Centre for Policy Research (CPR) India; Institution for Integrated Development Studies (IIDS) Nepal; Lahore University of Management Sciences (LUMS) Pakistan; Institute for Policy Studies (IPS) Sri Lanka; and Marga Institute, Sri Lanka.
- 42. There are 11 research institutes from Bangladesh, 22 from India, 3 from Nepal, 7 from Pakistan and 5 from Sri Lanka.
- 43. SACEPS was originally hosted by Centre for Policy Research at New Delhi. It moved to Dhaka in 2002 and its host institution was the Centre for Policy Dialogue. In 2005, it established its permanent, independent headquarters in Kathmandu. SANEI was first hosted by the Indian Council for Research on International Economic Relations (ICRIER) in New Delhi and after five years, it moved to the Pakistan Institute of Development Economics in Islamabad.
- 44. Navnita Chadha Behera, "Forging New Solidarities: Non-Official Dialogues", in Monique Mekenkamp, Paul van Tongeran and Hans van de Veen (eds), Searching for Peace in Central and South Asia, Boulder, CO: Lynne Rienner, 2002, pp. 226–31.
- 45. Dubey, "Regional Economic Integration in South Asia", p. 10.
- Rehman Sobhan, Rediscovering a South Asian Community: Civil Society in Search of its Future, Colombo: International Centre for Ethnic Studies, 1998, p. 1.
- 47. Rehman Sobhan, "Bangladeshi Perspectives on South Asian Regional Integration", A paper presented at a conference on Does South Asia Exist: Prospects for Regionalism in South Asia, June 2008, p. 5.

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- 48. Ibid., p. 24.
- 49. Lama, Monitoring of SAARC Policies and Programmes, p. 5.
- 50. Ibid.
- 51. Navnita Chadha Behera, "Forging New Solidarities: Nonofficial Dialogues", p. 228.
- 52. Based on confidential interviews with senior bureaucrats in the Ministry of External Affairs, India, in 2007 and 2008.
- 53. Sridhar K. Khatri, "The Third Decade of SAARC", Forum, A Monthly Publication of Daily Star, 2 (4), May 2007.
- Shyam Prasad Adhikari and Unbodh Ushakar Rijal, Citizen's Social Charter in Nepal: Implementation Monitoring Report, SACEPS Paper No. 10, Kathmandu: SACEPS, June 2006.
- 55. Mumtaz and Abdullah, Monitoring Implementation of the SAARC Social Charter in Pakistan, p.4.
- 56. Marga Institute, *Monitoring the Implementation of the SAARC Social Charter in Sri* Lanka, SACEPS Paper No. 11, Kathmandu: SACEPS, September 2006.
- 57. Nijera Kori and Unnayan Onneshan, *National Citizen's Social Charter: A Reality Check*, SACEPS Paper No. 13, Kathmandu: SACEPS, September 2006, p. 82.
- 58. Adhikari and Rijal, Citizen's Social Charter in Nepal: Implementation Monitoring Report, p. 57.
- 59. Mumtaz and Abdullah, Monitoring Implementation of the SAARC Social Charter in Pakistan, p.4.
- 60. These included the Centre for Alternatives, Dhaka; Centre for Study of Developing Societies, New Delhi; Nepal Water Conservation Foundation, Kathmandu; Regional Centre for Strategic Studies, Colombo; and Sustainable Development Policy Institute, Islamabad.
- 61. In a conversation with the author, June 2001.
- 62. Navnita Chadha Behera, "Engaging Tomorrow: The Ford Foundation and Regional Security, Peace and Cooperation in South Asia", New Delhi, Unpublished Report, April 2002.
- 63. Dubey, "Regional Economic Integration in South Asia", p. 24.
- 64. Recommendations to the 15th SAARC Summit, Kathmandu: SACEPS, August 2008.
- 65. Ibid.
- Dipak Gyawali, "Development of Sustainability: International Cooperation in a Post-Foreign Aid Age", *Think Piece*, Institute for Environment and Development, 2004, pp. 1–3.
- 67. Lama, Monitoring of SAARC Policies and Programmes, p. 6.

PART II

Economic Integration: Industries

2. Vertical integration of industries in South Asia

Deshal de Mel and Suwendrani Jayaratne¹

INTRODUCTION

Intra-regional trade in South Asia has in the post-colonial era remained very low. Today intra-regional trade is around 5 per cent of total trade by South Asian countries, despite many efforts at regional economic liberalization since the South Asian Preferential Trade Agreement (SAPTA) in 1995. Furthermore, trade imbalances continue to be a feature in the region with many South Asian countries facing trade deficits with respect to India. Given the predictions of traditional trade theory (encapsulated in the Ricardian and Hecksher-Ohlin models), South Asian economies have limited scope for improving intra-regional trade given the fact that they have comparative advantages in the production of similar products (garments, light manufacturing and agricultural products). New Trade Theory, however, suggests greater scope for enhancing intra-regional trade in South Asia. One way to address both problems - that is, low intra-regional trade and persistent trade imbalances - is to invigorate the trade-investment nexus in the region. New Trade Theory draws on the relationship between trade theory and industrial organization to suggest theoretical possibilities of the interaction between trade liberalization and foreign direct investment (FDI).

The first possibility is that of trade and FDI becoming substitutes as trade liberalization leads to factor price equalization between countries; accordingly, liberalization of trade in goods can substitute for trade in factors of production, thereby negating the incentives for FDI. A second possibility is that through the increased incentive for vertical integration of production between firms in the different trading partners, trade liberalization can result in greater investment flows and vice versa. Given the limited empirical support for the factor price equalization theory, greater weight could be given to the study of the nexus between trade and FDI through vertical integration of production between firms. Evidence from other regional initiatives such as the European Common Market and the Association of Southeast Asian Nations (ASEAN) has shown that reduction of barriers and costs to trade, in conjunction with more conducive investment climates, can boost both intra-regional trade and investment as a result of firms forging backward and forward linkages. It is also important to take into account the nexus between trade liberalization and FDI through horizontal integration. Firms may invest in production of the same good in multiple countries to overcome the costs of exporting the product from one source to multiple destinations. However, with trade liberalization, the costs of exports fall, thereby reducing the incentive for horizontal FDI.

Given this background, in this chapter we examine the prospects for vertical integration of industries in South Asia. We begin with a literature review and an overview of existing intra-industry trade in South Asia. Based on the existing intra-industry trade we examine sectors where there has been some intra-industry trade in more detail, in the form of case studies. The two initial sectors are garments and textiles, and the automobiles sector. It was also found that there are relatively high levels of intra-industry trade between India and Sri Lanka, possibly due to the impacts of the bilateral free trade agreement that these countries are party to. These three case studies provide greater insights into the opportunities and challenges to industrial integration in South Asia. We then draw on lessons from other regional bodies that have seen greater success in invigorating the trade-investment nexus, with particular reference to ASEAN. Finally, the lessons from international experiences and experiences within South Asia will be combined to draw clear policy prescriptions that could be engaged in to enhance the trade-investment nexus in South Asia.

Literature Review

The theory of comparative advantage set out by David Ricardo (1817 [1951]) and the traditional Heckscher–Ohlin model (H–O model) formed the bedrock of standard theory explaining trade between different countries. According to Ricardo, inter-industry trade results due to differences among countries in terms of factor endowment, technology, climate and so on. The H–O model's main argument for trade is the differences in factor endowment between countries. According to these traditional trade theories, each country will export goods in industries that require intensive use of factors which are available in abundance, while importing goods in which the relevant factors are scarce and the country has no comparative advantage. This results in inter-industry trade, with each country specializing in a particular industry and trading with other countries specializing in different industries.

However, empirical investigations have not yielded substantial support for the Heckscher–Ohlin model (Trefler, 1995). It has instead been observed that a large number of countries simultaneously import and export goods in the same industry. For example, passenger cars are the number one export item as well as import item in the United Kingdom (UK), Germany and France. Therefore inter-industry trade does not dominate trade relations to the extent that is predicted in standard trade theory models. The prevalence of intra-industry trade warranted a review of the existing theoretical framework. As a result, a new body of literature termed "New Trade Theory" came into prominence in the late 1970s with 2008 Nobel laureate Paul Krugman's work (Krugman, 1980, 2001) being of particular importance. By relaxing the assumptions of traditional trade theory, new trade theory considered the possible implications of product differentiation and increasing returns to scale in explaining global trade.

The importance of intra-industry trade (IIT) has received greater attention in the ensuing years in both the theoretical and empirical literature. Theoretical literature on IIT makes the distinction between two types of IIT, horizontal and vertical IIT. Horizontal intra-industry trade (HIIT) refers to the trade of different varieties of a particular good within the same production stage and in the same quality and price range. This occurs due to product differentiation and the availability of different brands through trade that improve consumer utility through greater choice. Vertical intra-industry trade is used to describe two forms of trade: (1) trade in vertically differentiated products in terms of quality and price (where one country exports a lower-quality product and the other exports the higher-quality product); (2) vertical fragmentation and specialization resulting in trade of the same product at different stages of production.

Abd-el-Rahman (1991) and Greenaway et al. (1995) argue that making a distinction between these two types of IIT is important, as there are different forces at work in determining the two types of intra-industry trade. For example, vertical IIT is likely to be driven by differences in factor endowments between countries. Contrary to this, horizontal IIT usually takes place between countries which have only marginal differences in factor endowments. In this study we explore the second aspect of VIIT – that is, product fragmentation and trade in different stages of the value chain.

Increasing integration of world markets has led to a disaggregation in the vertically integrated mode of production. "Product fragmentation"² refers to cross-border dispersion of component production and assembly within vertically integrated processes, with each country specializing in a particular stage of the production sequence and trading the value-added components to result in a final product. Product fragmentation first started in the electronics and garment industries and has subsequently spread to many other industries (Sharpton, 1975; Feenstra, 1998). The process can now be seen in industries such as automobiles, electrical machinery, telecommunications and television production. Athukorala (2006a, 2006b) identifies rapid advancements in production technology, technological innovations in communication and transportation, and liberalized investment and trade reforms in both home and host countries as the three mutually reinforcing developments over the last few decades which have facilitated international product fragmentation. In the early stages (1960s), multinational enterprises were the key players in the process of product fragmentation so as to take advantage of cost differentials in different countries. Nevertheless, in recent years fragmentation practices have begun to spread beyond the domain of multinational enterprises (MNEs) (Athukorala and Yamashita, 2007).

The present chapter aims to assess the extent of production fragmentation and intra-industry trade in South Asia. Whilst regions such as ASEAN have taken full advantage of such new production methods (Athukorala and Yamashita, 2007), South Asia has been slow to do so. The first step of the study is to assess the extent of intra-industry trade and product fragmentation by constructing a Grubel–Lloyd index for South Asian trade. The Grubel–Lloyd index (GL index) is a widely used indicator that measures the share of intra-industry trade from a data set which includes both homogenous and differentiated goods. The GL index gives the ratio of intra-industry trade to total trade and can be written as shown in the following equation, where *i* is the product group and *r* is the trading partner. The index value will be $0 \le IIT_{i,r} \le 1$. While the index value of 1 shows pure intra-industry trade, the value of 0 depicts only inter-industry trade and no intra-industry trade:

$$IIT_{i,r} = 1 - \left(\frac{|Export_{i,r} - import_{i,r}|}{Export_{i,r} + import_{i,r}}\right)$$
(2.1)

Since intra-industry integration is an important component in industrial integration, the G–L index will be used in this study to see the extent to which intra-industry takes place in South Asia. Most empirical work on the areas of IIT uses the unadjusted G–L index (Grubel and Lloyd, 1975). Although variations of the G–L index can be found in the literature, the unadjusted G–L index will be used in the study to see the degree of IIT between the trading partners in South Asia.

Data and Analysis

In order to assess the nature of intra-industry trade that takes place in South Asia, analysis is done extracting Standard International Trade Classification, Revision 3 (SITC, Rev 3) data from the United Nations Commodity Trade Statistics Database (UN Comtrade). Data for the year 2005, the most recent year for which data are available for all reporting countries, are used in the study. The analyses cover Bangladesh, India, Nepal, Pakistan and Sri Lanka; it was not possible to include Afghanistan, Bhutan and the Maldives due to non-availability of data. Given the limited industrial trade integration of these latter three countries, their omission will not have a significant impact on the results. Data were collected at the SITC two-digit level for chapters 5 to 8, which covers all industrial trade for the five countries analysed. The Grubel-Lloyd index was then calculated between each bilateral pair of countries – making a total of ten bilateral pairs, covering the entirety of intra-regional trade between these five South Asian countries. However given the fact that in some cases a high Grubel-Lloyd index may be recorded without there being significant trade within that industry, a pure Grubel-Lloyd index may provide skewed results which are not reflective of the true extent of intra-industry trade. Therefore each industry was weighted so as to account for the significance of trade within that industry - for example for trade between Sri Lanka and India in industry x, the weight is as follows:

$\frac{SL \, exports \, (x) \, to \, India \, + \, SL \, imports \, (x) \, from \, India}{Total \, trade \, between \, Sri \, Lanka \, and \, India}$

The G–L index for each industry was then multiplied by the weight for that industry so as to provide a more accurate reflection of the intensity of existing intra-industry trade in the region.

Table 2.1 summarizes the results of the calculations. The weighted Grubel–Lloyd index for each bilateral pair of countries is shown for each industrial SITC chapter at the two-digit level. The index is shown to the nearest three decimal places. The higher the figure, the greater the intensity of intra-industry trade in that industry. A figure of 1 would indicate entirely intra-industry trade in a sector that makes up 100 per cent of bilateral trade between the two partners; 0 would indicate minimal intra-industry trade. As the index nears 1 it indicates greater intensity and significance of intra-industry trade between the bilateral pair in question. It should be emphasized that the weight given is based on the extent of bilateral trade between a particular bilateral pair, therefore the index indicates the intensity of intra-industry trade in terms of total bilateral

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	In-Bn	In-Pk	In-Np	In-SL	Pk-Bn	Pk-Np	Pk-SL	SL-Bn	SL-Np	Bn-Np
Chemicals and related products										
Organic chemicals	0	0.098	0.030	0.004	0	0	0.001	0.001	0	0
Inorganic chemicals	0.028	0	0	0.007	0	0	0	0	0	0
Dyeing, tanning and colouring materials	0	0	0.015	0.001	0	0.013	0.001	0	0	0
Medicinal and pharmaceutical products	0	0	0.017	0.030	0.006	0.013	0.001	0.019	0	0.001
Essential oils and resinoids, etc.	0.002	0	0.043	0.003	0.001	0	0.001	0	0	0
Fertilizers	0.001	0	0	0	0	0	0	0	0	0
Plastics in primary forms	0	0.003	0.014	0.001	0	0	0.010	0	0	0
Plastics in non-primary forms	0	0	0.012	0	0	0	0	0	0	0
Chemical materials and products, etc.	0	0	0.020	0.001	0	0	0.003	0	0	0
Manufactured goods classified chiefly by mat	erial									
Leather, leather manufactures, etc.	0.001	0.001	0	0.001	0.003	0.005	0	0	0	0
Rubber manufactures, etc.	0	0	0.001	0.005	0	0	0	0	0	0
Cork and wood manufactures (excluding furniture)	0	0	0.004	0.005	0	0	0	0	0	0
Paper, paperboard and articles of paper	0	0	0.006	0.005	0	0	0	0	0.001	0
pulp, of paper or of paperboard										
Textile yarn, fabrics, made-up articles, etc.	0.056	0.105	0.078	0.011	0.002	0.032	0.011	0.421	0	0
Non-metallic mineral manufactures, n.e.s.	0.001	0.002	0.002	0.023	0	0	0	0	0	0
Iron and steel	0	0	0.103	0.004	0	0	0	0.006	0	0
Non-ferrous metals	0.006	0.008	0.007	0.089	0	0	0.002	0	0	0
Manufactures of metals, etc.	0	0	0.026	0.032	0	0	0	0	0	0

Table 2.1 Weighted Grubel-Hovd index values for industries at the two-dioit level for South Asia

Machinery and transport equipment Power-generating machinery and	0	0.001	0	0	0	0	0	0	0	0
equipment	>)	>	`	>	>	`	>	>
Machinery specialized for particular industries	0	0	0.001	0.001	0.003	0	0.008	0.004	0	0
Metalworking machinery	0	0	0	0	0.001	0	0	0	0	0
General industrial machinery and	0.001	0	0.006	0.004	0.001	0	0	0.001	0	0
equipment, etc.										
Office machines, etc.	0.001	0	0	0.004	0	0	0	0	0	0
Electrical machinery, etc.	0.006	0	0.014	0.035	0.001	0	0.001	0	0	0
Road vehicles	0	0	0.002	0.002	0	0	0	0.001	0	0
Other transport equipment	0	0	0	0.001	0	0	0	0	0	0
Miscellaneous manufactured articles										
Prefabricated buildings, etc.	0	0	0	0	0	0	0	0.001	0	0
Furniture, etc.	0.001	0	0.001	0.001	0	0	0	0	0	0
Travel goods, handbags, etc.	0	0	0	0.001	0	0	0	0	0	0
Articles of apparel and clothing	0.002	0.001	0.008	0.004	0.005	0.002	0.001	0.017	0.001	0.005
accessories										
Footwear	0	0	0.003	0	0	0	0	0	0	0
Not given	0	0	0	0	0.001	0	0	0	0	0
Professional, scientific and controlling instruments etc	0	0.003	0	0.001	0	0.089	0	0	0	0
Photographic apparatus equipment etc	0	0	0	0	0	0	0	0	0	U
Miscellaneous manufactured articles, etc.	0.004	0.007	0.043	0.013	0.009	0.016	0.016	0.009	0.046	0.028

Source: Calculated using UN Comtrade SITC 2005 data set.
Manufactured goods classified chiefly by material	Singapore– Malaysia W.GLI	Singapore– Thailand W.GLI	Malaysia– Thailand W.GLI
Power-generating machinery and equipment	0.004	0.025	0.013
Machinery specialized for particular industries	0.009	0.007	0.010
Metalworking machinery	0.001	0.004	0.004
General industrial machinery, etc.	0.019	0.040	0.037
Office machines and automatic data-processing machines	0.102	0.171	0.174
Telecommunications and sound- recording, etc.	0.075	0.031	0.038
Electrical machinery, apparatus and appliances, etc.	0.424	0.189	0.196
Road vehicles (including air- cushion vehicles)	0.010	0.020	0.015
Other transport equipment	0.001	0.000	0.001

Table 2.2 Weighted G–L index for ASEAN industries at two-digit level

Source: Calculated using UN Comtrade SITC 2005 data set.

trade between each country pair. This enables us to capture occurrences of high-intensity intra-industry trade even between relatively small trading partners (say for instance Bangladesh and Sri Lanka in chapter 65).

Table 2.1 can be used to identify the sectors and industries in which intra-industry trade takes place in South Asia. Clearly, the indices shown in Table 2.1 are extremely low, indicating very limited intra-industry trade in South Asia even at the highest level of aggregation (two-digit level). When compared with similar calculations for three bilateral pairs in ASEAN (Table 2.2), it is clear that South Asia's intra-industry trade remains at a nascent stage.

Despite the low overall level of intra-industry trade in South Asia, the indices show that the highest level of intra-industry trade within the region takes place in the textile yarn, fabrics, made-up articles and related products category (chapter 65).³ The highest intensity of bilateral intra-industry trade also takes place within this category between Sri Lanka and Bangladesh: while Sri Lanka exported US\$5298956 worth of textile yarn, fabric, made-up articles and related products to Bangladesh in 2005, it also imported goods worth US\$4564944 of the same category from Bangladesh. Furthermore it can be seen that trade between Sri Lanka and India, and India and Nepal, includes higher degrees of intra-industry trade.

Based on these results, further disaggregation at the three-digit level was carried out for the textile sector (Table 2.3). There is relatively high intraindustry trade in the textile yarn sector, with the highest bilateral trade flows in this sector taking place between Sri Lanka and Bangladesh. In addition to intra-industry trade between Sri Lanka and Bangladesh, there is also significant intra-industry trade between the countries of India and Pakistan, and India and Nepal.

The next stage of analysis examines in greater detail the sectors in which some degree of intra-industry trade occurs within South Asia. This includes the textiles and garments sector, the automobiles sector and trade-investment linkages between India and Sri Lanka.

CASE STUDY: TEXTILES AND CLOTHING SECTOR

This section provides an overview of the textiles and apparel sector in South Asia, particularly with regard to intra-regional trade and investment in the sector. Production fragmentation in the textiles and clothing sector requires the smooth flow of goods and capital in a region. The process would entail a single firm investing in the production of each component of the final good in the country which has a comparative advantage in the production of that component. So a hypothetical example of a production line would be if a firm was to invest in a textile manufacturing plant in Pakistan, a stitching factory in Bangladesh, addition of accessories and design in Sri Lanka, and finally marketing and branding in India. This would ensure that each of the stages of production would occur where it is most cost-effective to do so, and the final product would be more competitive in terms of cost. Furthermore, with the element of specialization, it is expected that quality would improve as well. For such a production chain to become a reality, it is essential that the flow of capital and goods within the region faces as few barriers as possible. In this section we assess the extent to which the flows of goods and capital in the textiles and clothing value chain are integrated in South Asia.

Intra-regional Trade in the Textiles and Clothing Sector in South Asia

The textiles and clothing (T&C) sector is South Asia's largest manufacturing sector. It is also a major source of employment and foreign exchange, providing over 55 million direct employment opportunities and close to 90 million indirect employment opportunities to workers in the labourabundant region (Tewari, 2007). South Asia⁴ exported apparel and textiles worth over US\$38 billion in 2005 (3 per cent of total world exports

Table 2.3 Grubel–Lloy products, at	vd index va the three-a	ilues for S digit level	outh Asia	ı for texti.	le yarn, fa	brics, maa	le-up artic	cles et cete	era and re	lated
	In-Bn	In-Pk	In-Np	In-SL	Pk-Bn	Pk-Np	Pk-SL	SL-Bn	SL-Np	Bn-Np
Textile yarn	0.041	0.178	0.171	0.003	0.002	0.037	0.00	0.223	0	0
Cotton fabrics, woven	0.001	0.037	0	0.047	0	0	0	0.092	0	0
Fabrics, woven, of man-	0.001	0.011	0.041	0.002	0	0	0	0.007	0	0
made textile materials										
Other textile fabrics,	0.003	0	0.003	0	0	0	0	0	0	0
woven										
Knitted or crocheted	0.002	0	0.014	0.008	0	0	0	0.001	0	0
fabrics										
Tulles, lace, embroidery,	0.000	0	0.012	0.016	0	0	0	0	0	0
ribbons, trimmings										
and other smallwares										
Special yarns, special textile fabrics and	0.005	0.004	0.013	0.010	0	0	0	0.011	0	0
related products										
Made-up articles,	0.008	0.025	0.018	0	0.001	0	0.008	0.006	0	0
wholly or chiefly of										
textile materials, etc.										
Floor coverings, etc.	0	0	0.004	0	0	0	0	0	0	0

54

Source: Calculated using UN Comtrade SITC 2005 data set.

	Total exports	Total imports	Exp	orts	Imp	orts
	(US\$)	(US\$)	Share of apparel (%)	Share of textiles (%)	Share of apparel (%)	Share of textiles (%)
India	17708975765	2020585186	52	48	4	96
Pakistan	10721943589	496 575 548	34	66	5	95
Bangladesh	6892190595	1844145886	91	9	20	80
Sri Lanka	3 012 505 083	1655541436	95	5	6	94
Total	38 335 61 50 32	6016848056	57	43	9	91

Table 2.4Exports and imports of apparel and textiles by South Asia in2005

Note: Bangladesh data are for 2004.

Source: Based on Tewari (2007).

of textiles and apparel) and imported apparel and textiles worth US\$6 billion. With over half of its exports being apparel (see Table 2.4), a majority of its imports worth US\$6 billion consisted of textiles. It appears that there is a rather clear division of labour in terms of the region's sectoral composition and specialization in exports. While the apparel sector dominates the total apparel and textiles exports of Sri Lanka and Bangladesh, textiles account for a majority of Pakistan's exports. The share of apparel and textiles in the exports of India are almost equally distributed.

With net exports of US\$32 billion in the T&C sector, the import intensity of the South Asian region as a whole is low at 16 per cent, indicating that much of the textiles value chain is localized in the region (Tewari, 2007). In terms of developing intra-regional trade it is interesting to identify import intensities of each country in the region. As evident from Table 2.5, import intensity is highest in Sri Lanka which imports as much as 55 per cent of the value of its exports. Import intensity of Pakistan is the lowest, at 5 per cent. However, although import intensities of India and Bangladesh are much lower than that of Sri Lanka, in terms of value the amount India spends on textile imports is higher than that of Sri Lanka. This suggests that in terms of value, developing intra-industry trade in this sector may be more beneficial than it seems at the outset. From the import intensities, it can be further seen that Bangladesh has been more successful in generating extensive backward linkages than Sri Lanka.

The trade balances of the region's textiles and apparel sector reiterate the prior point of specialization and division of labour within the region (see Table 2.3). All four South Asian countries shown above are net exporters

	0/0
India	11
Pakistan	5
Bangladesh	27
Sri Lanka	55
Total	16

 Table 2.5
 Import intensities of South Asia's textiles and apparel exports in 2005

Note: Bangladesh figures are for 2004.

Source: Tewari (2007).

 Table 2.6
 Trade balance in South Asia's textiles and apparel sector in 2005 (US\$)

	Apparel	Textiles	Total
India	9154400443	6 533 990 136	15688390579
Pakistan	3607192910	6618175131	10 225 368 041
Bangladesh	5935592344	(887 547 635)	5048044709
Sri Lanka	2769262219	(1412298572)	1 356 963 647
Total	21466447916	10852319060	32 318 766 976

Note: Bangladesh figures are for 2004.

Source: Tewari (2007).

of apparel, while imports of apparel, both from within and outside the region, are comparatively low. Table 2.6 also shows that Bangladesh and Sri Lanka are net importers of textiles, whereas India and Pakistan are net exporters of textiles, raising the possibility of the important role that India and Pakistan can play in catering to the textiles needs of the Bangladesh and Sri Lankan apparel markets.

Furthermore, based on buyer surveys, Tewari (2007) postulates substantial differences between perceived strengths of South Asian exporters despite competition between South Asian countries for a higher global market share (see Table 2.7). According to leading buyers, each country in the region has a particular kind of product(s) in the T&C industry, for which they have a niche in production. Pakistan has a comparative advantage in producing bed linen, home furnishings, carpets and

	Comparative advantage from the perspective of global buyers	Share of top 5 items in total T&C exports* (%)
Pakistan	Mid-to-coarse gauge cotton yarn, bed linen, home furnishings, carpets, basic menswear and hosiery	54
Sri Lanka	Lingerie, swimwear of man-made fibres and cotton blends, formals	30
Bangladesh	Knit and woven menswear – sports and casual wear (shirts, trousers, T-shirts), pullovers	46
India**	Cotton knit and woven women's tops, blouses and skirts, embellished and embroidered, fine-gauge yarn	44

 Table 2.7
 Product-level specializations: comparative advantage of South

 Asia's leading players in the T&C sector

Note: * Export shares include shares to the US and EU markets only; ** share to the world market.

Source: Tewari (2007).

basic menswear, whereas Sri Lanka's forte is in lingerie, swimwear and formal wear. Buyers see that the comparative advantage for Bangladesh lies in cotton and man-made fibres, men's wear, sports and casual wear. There is also a high demand for knitted sportswear and active wear such as sweatshirts, trousers, spandex tops and bottoms. India is popular among buyers for women's tops, blouses, skirts, embellished and embroidered clothing and for men's underwear. The interviews have shown that technical textiles (geotextiles, medical textiles, space textiles and non-wovens) are an emerging area, which both private firms and the government have focused on in terms of investment and policy attention. This suggests that there is potential scope for investment in the region to specialize in different countries based on the comparative advantages of each country, within different subsectors of apparel products.

Despite the scope for intra-regional specialization in the T&C sector, intra-regional trade that takes place between countries in South Asia is very low. As shown in Table 2.8, intra-regional trade in the T&C sector was only 3.7 per cent of South Asia's total trade with the rest of the world. With the South Asian countries being net exporters of apparel, South Asia has accounted for only 0.6 per cent of the region's total trade in apparel in 2005. However, intra-regional trade in textiles has been relatively better:

1 able 2.0	Inira-Souin A.	sia" traae in text	nies ana app.	arei as a snar	e of South AS	ia s giopai 1 o	ec exports	
			2001	2002	2003	2004	2005	% change 2001–2005
Textiles 50–60, 63	Total	Intra-S. Asia*	295007	308754	708027	723 328	964884	2.3
50-60, 63	Total	World	5636250	6292394	14049427	14232609	16534190	1.9
Intra-South	I Asia as share of	world	5.2	4.9	5.0	5.1	5.8	
Apparel								
61 - 62	Total	Intra-S. Asia*	19852	34344	50802	49 585	64678	2.3
61 - 62	Total	World	7 398 709	7956566	15456210	15815275	11 644 532	0.6
Intra-South	I Asia as share of	world	0.3	0.4	0.3	0.3	0.6	
T&C total								
	Total	Intra-S. Asia*	314859	343098	758829	772913	1029562	2.3
	Total	World	13034959	14248960	29 505 637	30047884	28178722	1.2
Intra-South	ı Asia as share of	world	2.4	2.4	2.6	2.6	3.7	

a chara of Couth Acia's alobal T.R.C arnorts and an and and Table 2.8 Intra-Couth Asia* trade in textiles

Notes:

Calculated by author from PC-TAS UN Comtrade database; 2005 data exclude Bangladesh. Value in US\$'000; share in %. *South Asia here includes Pakistan, Bangladesh, India and Sri Lanka only.

Source: Tewari (2007).



Intra-South Asia share of textile trade as a percentage of each country's global textile exports (%)

Source: Tewari (2007).

Figure 2.1 Intra-South Asia trade in textiles as a share of South Asia's trade with the world (50–60, 63)

about 6 per cent of textiles produced in South Asia is traded within the region. Nevertheless, encouragingly, intra-regional trade in the T&C sector in South Asia has been growing: it increased from 2.4 per cent in 2001 to 3.7 per cent in 2005. And the increase of intra-regional trade in the period 2001–2005 has been faster than for the region's world exports.

Figures 2.1 and 2.2 provide a breakdown of intra-regional trade of textiles and apparel, country-wise. All countries increased their intra-regional shares of textile exports during the period 2001–2005. It is interesting to note that the intra-regional trade shares of Pakistan and India (the two countries that are leading in the region in terms of absolute textiles exports) did not change significantly over the period. In contrast, the share of Bangladesh increased sharply from 5 per cent in 2003 to 10 per cent in 2004, within a one-year period and Sri Lanka's increased from 3 per cent



Intra-South Asia share of apparel trade as a percentage of each country's global apparel exports (%)

Source: Tewari (2007).

Figure 2.2 Intra-South Asia trade in apparel as a share of South Asia's trade with the world (60–61)

in 2001 to 7 per cent in 2005. However, as mentioned earlier, intra-South Asia trade in apparel is very low with less than 0.5 per cent of total apparel exports to the world being traded within the region. The share of India is the highest (0.63 per cent) whereas the share of Sri Lanka is a mere 0.03 per cent.

Since 2005, however, there has been an increase in regional sourcing by Sri Lanka, in terms of both accessories and textiles (Figure 2.3). This is largely due to the regional cumulation facility in the GSP + scheme,⁵ which Sri Lanka has had access to since 2005. GSP + has enabled Sri Lanka to export to the European Union (EU) market at zero duty since 2005. Of concern, though, is the longevity of the scheme; if the concession is removed for Sri Lanka, industry sources suggest that it is likely that sourcing from South Asia will diminish.

60



Source: Joint Apparel Association Forum, Sri Lanka.

Figure 2.3 Regional sourcing of textiles and accessories by Sri Lanka

Constraints to Intra-regional Sourcing in the Textile and Garment Sector

India and Pakistan being the major producers of fabric and yarn, and Bangladesh and Sri Lanka being the users of textiles, creates substantial potential for vertical trade to take place between countries in the region. However, several constraints have led Sri Lankan and Bangladeshi apparel exporters to source the majority of textiles and other inputs from East Asia and the People's Republic of China (PRC). Only 17 per cent of Bangladesh's textiles needs were sourced from South Asia in 2004. And this has not changed from 1990. In contrast, textiles imports from PRC have grown from about 3 per cent in 1990 to 37 per cent in 2004. The dominance of East Asia as a key import destination of garment-related inputs can be observed in the case of Sri Lanka as well. Although Sri Lanka's sourcing from the region increased from 8 per cent in 1990 to 14 per cent in 2005, its imports from Hong Kong, China and the PRC as a whole rose from 29 per cent in 1990 to 41 per cent in 2005.⁶ Bangladesh sources 75 per cent of its textiles requirements from East Asia, including the PRC, and imports just 18 per cent of its requirements from South Asia. Similarly, in 2005 Sri Lanka imported 68 per cent of its fabric and varn requirements from East Asia (see Table 2.9).

Entrenched sourcing relations and buyer preferences is one of the reasons for Bangladesh and Sri Lanka to source their imports in East Asia. Both countries have a long tradition of working with East Asian suppliers. With regard to Sri Lanka, investments in the country by quotahopping manufacturers from East Asia helped to establish long-term

Source	Share in total (%)
1990	
East Asia*	86
South Asia**	6
US, UK, Germany, Italy	6
	97
2001	
East Asia*	75
South Asia**	9
US, UK, Germany, Italy	12
	96
2005	
East Asia*	68
South Asia**	13
US, UK, Germany, Italy	13
	94

Table 2.9 Sources of Sri Lanka's textiles imports, 1990–2005

Note: *East Asia: PRC; Hong Kong, China; Republic of Korea; Japan; Taipei, China; **South Asia: Bangladesh; India; Pakistan.

Source: Tewari (2007).

linkages, which still persist. The fact that issues in the processes have been resolved makes dependency on East Asian markets more attractive. This dependency is further intensified by preferences of the buyers, who tend to determine from which country the raw materials should be procured.

Pricing has also been a key determinant in preferring East Asia, where prices are relatively lower than in South Asia. Absolute cost is over-ridden by bureaucratic red tape, and energy and transportation costs in the South Asian region. Energy costs are substantial and reliability of energy is low. Furthermore, different types of tariffs (including para-tariffs and nontariff barriers), gaps in infrastructure and a complex political economy add to the cost of sourcing fabric from South Asia. As a result, it is more efficient and cheaper to rely on countries like the PRC.

Despite the fact that both Pakistan and India are the leading textiles manufacturers in the region, neither country produces the type of fabric required by apparel-manufacturing countries. For instance Sri Lanka, which specializes in the production of lingerie, swimwear and non-cotton outerwear, is not able to rely on Pakistan or India as these countries are better known for their cotton base fibres, whereas Sri Lanka's requirement is for synthetic fibre yarn and fabric. The opening-up of trade in one aspect of the manufacturing process has helped facilitate the broadening of linkages in other spheres of the process (that is, from fabric and accessories to transfer of knowledge and technology). This bundling of services makes East Asian countries more appealing. Also, approximately 40 per cent of foreign investment in the Sri Lankan textiles industry is from East Asia, directly impacting upon the importation of machines and accessories from the same region. In contrast, investment in the sector by South Asian countries is less than 2 per cent of total FDI in textiles and apparel in the region.

Transportation bottlenecks including port inefficiencies and shipping times in the Indian subcontinent are substantially higher than that in other regions. This raises inventory costs and increases lead times. Shipping times have increased due to varying duty levels and rules-of-origin criteria. Customs delays also occur due to mismatches between regional and local regulations. For example, six-digit Harmonized Commodity Coding System (HS) categories are standardized globally whereas the eight- and ten-digit HS categories are specific to each country thereby leading to mismatches and delays where the country-specific categories differ from each other.

Intra-regional Investment in Textiles and Apparel in South Asia

Despite the potential for intra-regional product fragmentation, intraregional investment in this sector has been very limited (Table 2.10). The largest South Asian investment in the region has been by Brandix, a large Sri Lankan apparel exporter: a 1000 acre park was set up in India in 2005 with an investment of US\$750 million which is expected to grow to US\$3 billion in five years. This factory will supply fabric to Brandix's plants in Sri Lanka, and Brandix hopes to use the large and fast-growing Indian market to attain economies of scale and new markets (Box 2.1).

Two main reasons for low investments in the South Asian region by Indian and Pakistani textile manufacturers can be identified. One is the security situation in Sri Lanka and Pakistan. Although the East Asian countries which have invested heavily in these countries have not been deterred by the uncertainties stemming from civil conflict and other security concerns, these seem to have been a disincentive for South Asian investors. Nevertheless, with the end of the three-decade-long war in Sri Lanka, the future flow of foreign investment to the country should improve. Another underlying reason for low investment in the region, especially by India, has been the difficulty it has had in entering other South Asian markets due to the threat its neighbours perceive from its size, dominance and political tensions. Several Indian firms have faced opposition to potential investments in Bangladesh based on these factors. The

(a) In Sri Lanka			
Name	Ownership structure	Product	Employment
Jay Jay Mills (Pvt) Ltd (India)	Joint venture FDI: Sri Lankan Rs 42 Mn	Manufacture of textiles and fabric	47
Victory Enterprises (Pvt) Ltd	Local Investment: Rs 40 Mn 100% foreign owned Rs 10 Mn	Bed linen	Not disclosed
(India) Hitex International (Pvt) Ltd (Pakistan)	100% foreign owned Rs 14.775 Mn	Bed linen	Not disclosed

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Table 2.10 South Asian investment in t

Source: Board of Investment, Sri Lanka, August 2007.

(b) In Bangladesh			
Name	Ownership structure	Product	Employment
Arvind Mills (India)	Under negotiation FDI· Not available	Manufacture of textiles and fabric	Not available
Prime Textiles	Not available	Bed linen and fabric	Not disclosed
(Pakistan)	FDI: Not available		
Bexim Co.	Not available	Bed linen and textile fabric	Not disclosed
(Pakistan)	FDI: Not available		
Source: Board of Investmer	ıt, Bangladesh, August 2007.		
(c) In India			
Name	Ownership structure	Product	Employment
Brandix	100% foreign owned	Apparel park	Not available
(Sri Lanka)	FDI: US\$750 million	Including facilities to manufacture fabric	

Source: Tewari (2007).

BOX 2.1 BRANDIX INDIA APPAREL CITY

The Brandix India Apparel City (BIAC) located in the port city of Visakhapatnam, in the eastern state of Andhra Pradesh, India, is an integrated apparel supply chain city, managed by Brandix Lanka Ltd, Sri Lanka's largest apparel exporter. According to Brandix, BIAC is spread over 1000 acres of land, brings alive the "Fibre to Store" concept and is expected to be a "fully integrated one-stop-shop" including spinning, fabric, accessories and apparel manufacturing. It would draw together world-class apparel supply chain players with the view of complete vertical integration. BIAC has already been successful in attracting investors. Smooth-flowing vertical integration is expected to be the most critical competitive factor.

To leverage India's immense potential for economies of scale and other robust business fundamentals. Brandix has invited experts in the industry to join its value chain to enjoy mutual benefits of investment. BIAC has been built on the premise that the apparel sector demands speed to market, least cost, flexibility and the assurance of compliance. Investments have been based on financial and operational incentives, which have been heightened by the duty-free status of BIAC. Furthermore, the greater efficiency in distribution and front-end costs resulting from the single location of all value chain partners, a centralized logistics unit and a just-in-time process, is expected to ensure optimum returns. The main strength is in the pool of resources, such as labour, that are available in bulk in India at a relatively low cost. and also access to the promising emerging Indian market. BIAC hosts knit fabric mills, accessory producers such as button and elastic manufacturers, printing lamination, et cetera, with the headquarters in Sri Lanka focusing more on front-end activities.

situation, however, is different for Sri Lanka, whose relationships with its neighbours have been less strained.

With regard to production fragmentation, it is often third-party investment (for instance Japanese investment in ASEAN) which drives the regional production network. Therefore bilateral mistrust should not be a major deterrent. As will be clear from later sections, what is more important is for a simplified investment environment with low bureaucratic barriers and ease of capital flows across borders. The general impediments to investment are quite similar across the region, with common themes being weakness in infrastructure (particularly energy and transport), limitations in access to high-quality human resources (variations between countries in this case), bureaucratic red tape, conflict (Nepal, Pakistan and Sri Lanka in particular), and complexities in tax structures.

Given the potential benefits of production fragmentation in textiles and clothing, the South Asian countries should strive towards greater cooperation, making use of their complementary competitive advantages and their shared geography. Strategic utilization of the unique strengths of each South Asian country will improve the clothing and textiles sector in the entire region. The institutional framework required to support this includes a regional investment protocol or agreement, along with the need for improved trade facilitation, infrastructure development and tariff reductions through further improvement in the South Asian Free Trade Area (SAFTA).

THE AUTOMOBILE INDUSTRY IN SOUTH ASIA

The automobile industry in South Asia has boomed in recent years, along with the expansion of global economic activity between 2000 and 2007. This has been driven by both foreign investment and, in India, local automobile and component manufacturers. India and Pakistan have the most substantial automobile manufacturing sectors in South Asia. India is the major automobile producer in the region and is an emerging global participant. Sri Lanka has a nascent automobile sector which comprises largely of assembly of imported parts and components.

Automobile Industry in India

India has attracted significant levels of foreign investment in its automobile industry. This has been prompted by the existence of a large market, availability of material inputs, and skilled and unskilled manpower. The passenger cars segment is dominated by foreign companies, such as Maruti Suzuki, Hyundai, Honda and General Motors. These account for over 83 per cent of production. A major share (over 46.5 per cent) is accounted for by Maruti Suzuki which, owing to the devolution of the stake by the government of India, became a foreign company with Suzuki's majority stake. Besides Maruti Suzuki, Hyundai accounts for a major share (25 per cent) of the overall production of passenger cars. Indian manufacturers have a share of nearly 17 per cent, dominated by Tata Motors with a share of close to 16 per cent. Hindustan Motors, the other main Indian manufacturer, is also producing vehicles for Mitsubishi's Lancer. In the case of two-wheelers, Indian enterprises account for close to 90 per cent of the market, led by Hero Honda, Bajaj and TVS Motors.

The Indian auto components industry has grown exponentially, along with the growth of the automobile industry in the country. The sector has developed the capability to manufacture a whole array of components needed in the production of vehicles. This has reduced India's dependence on imported inputs for automobile manufacturing. The range of auto components manufactured in India include engine parts, drive and transmission parts, suspension and braking parts, electronics, body and chassis, and equipment. The shares of these components in the overall output of the auto components industry are approximately as follows:

• Engine parts 31 per cent.

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- Drive and transmission parts 19 per cent.
- Suspension and braking parts 12 per cent.
- Electronics 9 per cent.
- Body and chassis 12 per cent.
- Equipment 10 per cent.

The Indian auto component industry has also emerged as a prominent supplier to some global companies which have set up their manufacturing units in the country. The industry's maturity in quality and technology is evident from the fact that over 60 per cent of exports find their way to the highly developed markets of Europe and the USA (Society of Automobile Manufacturers, 2006).

Indian exports of automobiles and components have grown rapidly in recent years. With regard to intra-regional trade, major importers of motorcycles in South Asian Association for Regional Cooperation (SAARC) countries were Sri Lanka (25 per cent), Bangladesh (9 per cent) and Nepal (5 per cent). With regard to export of auto components in 2005, Bangladesh (9 per cent) and Nepal (5 per cent) were the prominent South Asian importers. Major global auto companies are increasingly sourcing components and vehicles from India. Besides components, services like engineering design and other business processes are also to be outsourced from India (Mohnot, 2007).

Automobile Industry in Pakistan

Pakistan ranks second in terms of the size of the automobile industry in South Asia. There are around 25 manufacturers and assemblers in Pakistan, some having technical collaboration with major global auto producers, like Suzuki, Honda, Toyota, Mazda, Hero and Hyundai. However, 90 per cent of the market is dominated by Japanese and the Korean products (Mohnot, 2007). It is understood that at least three major Indian companies had made proposals for investment in Pakistan. Two of these were from the automobiles industry, namely, Tata Motors and Bajaj Auto. But these proposals have not found favour with the host government. The auto industry in Pakistan attracted FDI of US\$112.5 million for the period 2001 to mid-2007 (Mohnot, 2007).

Major impediments for the growth of the automobile industry in Pakistan include its narrow customer base, high import duties, overdependence on expensive raw materials, slow progress in technology development, infrastructural bottlenecks (particularly power and transport) and limited skilled labour (Mohnot, 2007).

Automobile Industry in Bangladesh

Bangladesh is by and large dependent on the import of vehicles. There is a preference for Japanese cars. Used cars are preferred for reasons of low cost. The market is very limited and there are no mentionable manufacturing facilities. The country has a large population (150 million) and as it grows as an exporter of other goods, it will catch up with modern trends in transportation (Ministry of Finance, 2007). So far, it has remained dependent on the public transport system. There is, therefore, considerable potential for growth in demand in the country for passenger cars.

Automobile Industry in Nepal

Nepal has one utility vehicle assembly unit and two motorcycle assembly units. The country is dependent on imports and India is the major supplier, with imports from it accounting for nearly 68 per cent of the total demand (Mathur, 2007). It has a good supply of tyres (produced by Gorkhali Tyre, owned by the Nepalese government). Tata Motors has launched its popular mini-truck, Tata Ace, in Nepal. Tata Motors has tied up with Nepal's Sipradi Trading to distribute and market the trucks in the country. Nepal's auto industry is estimated at NRs5 billion a year (Mohnot, 2007). A Nepali manufacturer has emerged, offering a made-in-Nepal brand of utility vehicle. Some auto players (like Hyundai and Yamaha) are present, with their supply chains organized locally. Given the significance of revenue collection from motor vehicle imports, tariffs on motor vehicles and components have not been revised downwards to the same extent as many other Nepalese imports.

Automobile Industry in Sri Lanka

The auto industry in Sri Lanka is also basically import-oriented except for some small-scale local producers with external collaborations. One such example is the Micro car, which was designed, developed and prototyped to be manufactured in the country with 60 per cent local content. The body of the vehicle and components such as tyres and glass parts are manufactured in Sri Lanka. Only the four-stroke engines and gearboxes are imported from global manufacturers. A number of foreign establishments and joint ventures have in the recent past commenced vehicle manufacturing and assembly operations in Sri Lanka. These include: Dutch Lanka Trailers, which supplies to global markets, including India; Korean producer Ssangyong; Chongqing of the PRC in partnership with Wasana Trading of Sri Lanka (the same firm has operations in Pakistan as well); and Hero Motors of India, which has shifted some of its two-wheeler manufacturing to Sri Lanka in collaboration with Abans Trandex of Sri Lanka, targeting export markets in both India and other global partners.

Potential for Enhancing Production Fragmentation in the Automobile Sector

South Asia is a promising economic environment in which almost all countries of the region are recording fairly high rates of growth in terms of gross domestic product (GDP), expansion of their industrial and services sectors, and in trade and investment. Industrial countries have tended to relocate their trading and manufacturing enterprises in developing countries, including in the South Asian region due to the very low manpower costs and the large potential market; environmental problems in the home countries have been an additional factor in some cases. Another FDI attraction has been improving managerial capabilities in the region: top-class managers from the region are now manning leading enterprises within the region and in the industrial countries. The increasing capacity of enterprises in the region to acquire companies around the world is yet another positive factor for attracting FDI to the region.

India has a comparative advantage in producing automobile components, reflecting advantages such as low labour costs, availability of skilled labour and a systemic vendor development. Hence, Indian prices of automobile components are 10 per cent to 25 per cent lower than global prices. This has led not only to the growth of the industry domestically but also to the rapid growth of exports. During 2003–2004, exports of auto components were more than US\$1 billion, having recorded a healthy growth of 25 per cent. The exports in the succeeding year expanded to a level of US\$1.4 billion. In 2005–2006 exports rose by 28 per cent to US\$1.8 billion. The USA and Europe, with high AQL (accepted quality level), absorb over 60 per cent of India's exports of automobile components.

Pakistan's automotive industry has been import-driven and depends largely on imports from Japan, the Republic of Korea, the PRC, the US and even India. It is tilted towards assembly rather than manufacturing. The inadequacy of the supply chain, in terms of the availability of goodquality components at competitive prices, limits the competitive strength and healthy and efficient development of the industry. If Pakistan were to import more components from India, at a much cheaper price than from Japan, Korea, the PRC and the US, the cost of assembling and repairing automobiles would be much less. Similarly, other South Asian countries which import large amounts of components from outside the region could also shift to India as a supplier, drawing on India's large volumes of exports of automobile components. It is important to take advantage of India's strength as a regional giant in the automobile sector.

The major constraint to this, however, is the high levels of tariffs in the region on motor vehicles and parts. Examples of these high tariffs include the following: bumpers and parts thereof (HS 870810); parts and other accessories of bodies for motor vehicles excluding bumpers and safety belts (HS 870829); radiators (HS 870891); and road wheels and parts and accessories thereof (HS 870870). Bangladesh and Nepal maintain a 12 per cent and 15 per cent average tariff on all of these components on all South Asian imports. Pakistan maintains a 35 per cent average tariff on all of these components on all South Asian countries except Sri Lanka (11.5–23.1 per cent), due to the Pakistan–Sri Lanka Free Trade Agreement (PSFTA). Sri Lanka maintains a 20 per cent tariff on imports from India and Pakistan and an 8.4 per cent tariff for imports from Bangladesh and Nepal. Encouragingly, India maintains the lowest tariffs on imported parts and components, with 0 per cent duty on all four tariff lines for all South Asian countries except Pakistan, which is charged at the most-favoured nation (MFN) rate of 10 per cent.⁷

In the short term, given India's comparative strength in parts and components production, it is most practical for South Asian countries to source these from India. However the relatively high tariffs undermine this possibility. In the longer term, however, as factor costs increase in India, production fragmentation in automobile production in South Asia will become increasingly attractive. Given India's comparative strength in production of higher-technology motor vehicles and final assembly, it would make sense for the lower-technology components to be produced in other South Asian countries and exported to India. Natural resource availability in individual countries could also help determine production; for instance Sri Lanka's access to natural rubber makes it an excellent candidate for tyre production. This is already happening to an extent, with the joint venture between India's CEAT and Sri Lanka's Kelani, which produces tyres in Sri Lanka for export to South American and Indian markets. For the success of such a situation, it is essential that other countries in the region ease tariffs on trade in parts and components. However, this will be a challenge for some countries given the importance of tariffs on motor vehicle and parts as a source of revenue for the governments. Another major challenge has been political constraints to economic integration, with potential investments (particularly between India and Pakistan) being blocked. The security situation in Sri Lanka also made investors reluctant to commit to large-scale capital intensive investments that characterize the automobile sector. However, the recent improvement in the security situation in the country could change this.

TRADE AND INVESTMENT BETWEEN INDIA AND SRI LANKA

Trade between India and Sri Lanka has changed dramatically since 2000 when a free trade agreement (the India–Sri Lanka Free Trade Agreement – ISLFTA) was implemented between the two countries (Table 2.11).

Sri Lanka's exports to India increased tenfold and Indian exports to Sri Lanka increased fivefold between 2000 and 2008. India is now the third-largest destination for Sri Lankan exports. India had been an important source of imports since the 1990s but, following the FTA, imports increased even more rapidly. As a result, India has become further established as Sri Lanka's main source of imports. Exports between the two

Year	Sri Lankan exports to India (US\$ mn)	Sri Lankan imports from India US\$ (mn)
1995–1999 Average	39	509
2000	54	568
2001	69	577
2002	169	835
2003	241	1076
2004	385	1358
2005	559	1440
2006	494	1822
2007	516	2785
2008	418	2838

Table 2.11 Indo-Lanka trade before and after ISLFTA

Source: De Mel (2008).

Product	Value in SL RS. Mn.	%
Copper and copper products	15 590	27.74
Vegetable fats and oil – vanaspati	12321	21.92
Aluminium products	4534	8.07
Electrical machinery and parts	2304	4.10
Antibiotics	2279	4.06
Cloves	1659	2.95
Iron and steel products	1511	2.69
Pepper	1088	1.94
Pulp	1077	1.92
Fibre board of wood etc.	1034	1.84

Table 2.12 Major Sri Lankan exports to India 2005

Source: De Mel (2008).

countries have become increasingly diversified since the agreement came into operation. The number of products exported from Sri Lanka to India increased from 505 in 1999 to 1062 in 2005. Similarly India's exports to Sri Lanka became increasingly diversified with items such as pharmaceutical products, transport equipment and light engineering products gaining a foothold in the Sri Lankan market (De Mel, 2008).

At the same time, investment from India to Sri Lanka has increased substantially. In 1998, cumulative investment from India was just Sri Lankan rupees (LKR)165 million; by 2007 it had reached LKR28 billion. Furthermore, many firms which established in Sri Lanka were involved in exporting back to India, an example of the trade–investment nexus. Exports from Indian firms based in Sri Lanka increased from LKR632 million in 1995 to LKR25 358 million in 2005. Therefore at the aggregate level it appears that the trade–investment nexus between Sri Lanka and India has been well exploited, as both trade and investment have expanded substantially since the implementation of the free trade agreement.

However, at a more disaggregated level, the extent of significant tradeinvestment linkage and industrial integration is limited. A major reason for this is that most Indian firms that have invested in Sri Lanka and export back to India have been engaged in the production of goods based on short-term tariff arbitrage, with limited value addition and limited positive impact on Sri Lanka's industrial capacity. Major products in this category are vanaspati (a type of vegetable oil derived from palm oil) and copper products (Table 2.12). The export of these products peaked in 2005 (when Sri Lanka's total exports to India peaked) and since then exports have declined in tandem with reductions in tariff differentials, diminishing the prospects for tariff arbitrage.

Products	Country	No. in operation
Copper and copper-based products	India/UAE	10
Vanaspati (vegetable oil)	Singapore/Malaysia/Sri Lanka	9
Electrical and electronic products	India/USA	7
Lead and lead-based products	India	2
Zinc oxide	India	1
Other chemicals and chemical-based products	India/USA/Sri Lanka	3
Marble products	India	3
Pine resins	India	2
Rubber-based sports goods	India	1
Ghee from milk cream	India	1
Diamond cutting tips	India	1
Total		40

 Table 2.13
 Indian manufacturing projects in Sri Lanka related to the ISFTA

Source: Kelegama and Mukherji (2007).

Articles 15 (vegetable fats and oils) and 74 (copper and articles) contribute just under 50 per cent of Sri Lanka's exports to India. Excluding these items, Sri Lanka's total exports to India increased from US\$51 million in 2000 to just US\$278 million in 2006, a fivefold increase. (As noted earlier, if vanaspati and copper are included, exports increased tenfold to US\$494 million.) In March 2008 the government of India slashed MFN import duties on crude palm oil and crude palm olein from 45 per cent to 20 per cent. Since this is the major imported input in vanaspati production, the tariff reduction makes vanaspati producers based in India more competitive with respect to vanaspati exports from Sri Lanka, threatening the continued existence of some of the vanaspati-based investment that entered the country purely to take advantage of India's high tariffs on crude palm oil imports. The impact was quick and severe: vanaspati exports accounted for 30 per cent of Sri Lanka's exports to India in 2007, but just 10 per cent of exports to India in 2008. Investment by Indian firms taking advantage of the India-Sri Lanka Free Trade Agreement (ISFTA) was also dominated by vanaspati and copper-related projects (Table 2.13).

Furthermore, 63 per cent of Indian investment in Sri Lanka has been in the services sector, unrelated to the FTA and the trade–investment nexus. Clearly, the bulk of Indian investment in Sri Lanka was not based on long-term industrial restructuring. However, there has been some degree of industrial integration, such as in the automobiles sector, with Indian firms such as CEAT investing in Sri Lanka to take advantage of the availability of natural rubber to produce tyres for export to India and other countries.

EMERGENCE OF PRODUCT FRAGMENTATION IN ASEAN: LESSONS FOR SOUTH ASIA

Regional integration in ASEAN was a result of the governments identifying the region's diversity and proceeding down a path of "industrial upgrading" carried out by multinationals. Industrial upgrading was not the primary objective of foreign multinationals, but rather to exploit the locational advantages and regional differences; governments, foreign multinationals and domestic firms seemingly acted strategically.

The governments' economic policies outlined in the previous sections have had tremendous impact on trade and investment patterns. Currencies have been devalued (except in Singapore), monetary policy has been conservative, fiscal management has avoided large accumulations of debt (except in the Philippines), and inflation has been moderate. Incoming firms benefited from the macroeconomic stability, together with a conducive investment environment which added to the locational advantages. The proactive roles of the governments, especially in the case of Singapore, in being able constantly to reinvent themselves created a dynamic comparative advantage that reoriented the structure towards more advanced manufacturing – high-value segments.

Upgrading to high-value segments was the firms' response to the evolving locational characteristics in the respective country. Table 2.14 illustrates the relationship between governments pursuing industrial upgrading and the multinational firms' allocation of product chain segments.

Singapore developed a strong role in supplying and distributing regional production, especially in the electronics industry; it is a management hub for a wider range of industries as well. Positive spillover benefits accrued to ASEAN countries and the Asian Free Trade Area agreement simply added to the attractive locational features that the region was beginning to offer. Large production clusters (Dobson, 1997) developed around certain products, such as disk drives, semiconductors and appliances.

Local and regional suppliers started to develop high enough standards and adequate capacity to supply the foreign firms setting up – and at a cost advantage without sacrificing quality. These added to the locational

Firm's value-added activity						
Low	Medium	High				
		Singapore (moving towards this bracket)				
	Malaysia	Singapore				
Indonesia Philippines	Thailand	·				
	Low Indonesia Philippines	Low Medium Malaysia Indonesia Thailand Philippines				

 Table 2.14
 Host economies and the allocation of segments

Source: Dobson and Yue (1997).

advantages of the region and helped ASEAN replace the Asian Tigers as regional suppliers. Governments supported the growth of the local supply network with policy measures and fiscal incentives; one such success was the firm Creative in Singapore, which managed to establish itself as the global leading sound card supplier.

This was important as multinational firms in assembly-based activities looked to distribute their production networks globally and partake in a global division of labour in order to reduce transaction costs. This global division of labour or product fragmentation is acutely sensitive to price changes, and multinationals and other participating firms are highly selective, choosing the best possible region or location. The ASEAN experience supports the view that MNEs and their affiliates become increasingly embedded in host countries the longer they are present there and the more conducive the overall investment climate of the host country becomes. This counters the view of sceptics who believed countries were misled in their beliefs about the export associated with product fragmentation; they believed that the process would eventually fade out due to rapid automation in developed countries. Instead, however, they evolved through a process of industrial upgrading and higher-value segments, passing on the baton to a new generation of regional manufacturers. This was inevitable as economies developed and matured; relative production costs rose and pushed out low-value segments, as seen in Singapore.

Global firms are capable of integrating and managing their activities across borders, linking operations in countries with differing locational advantages. Global firms organize affiliates to carry out a wide range of value-added activities in various locations, so as to preserve or enhance their competitive edge. The role of the multinational is central to the success of ASEAN's export growth and production networks. Only firms of such magnitude are able to link, locate and coordinate the segments; timing is crucial to competitiveness. It was the firm's competitive behaviour that motivated the FDI and trade links at the firm level. In light of this, firm–government cooperation to reduce costs and risks is vital, in order to maintain a dynamic comparative advantage and thereby secure export growth.

Such strategies accomplished what an era of import substitution was meant to do: develop local industries to become globally competitive. The multinational firm–government relationship helped develop the local industries; the engine of success was the multinationals' drive to remain competitive. Sourcing locally as opposed to importing inputs would have sharply reduced costs but multinationals were not willing to compromise on quality.

Policies that allowed or enhanced regional cooperation (such as AFTA) further enabled multinationals to implement a regional division of production and achieve greater economies of scale. Such policies allowed firms to exploit the diversity of the region more efficiently and cost-effectively. For example, accelerated preferential trading agreements among ASEAN members under AFTA, moving to a complete eradication of tariffs, would stimulate the sourcing of materials and components within members. However, to sustain such a strategy governments must ensure that their economies are able to facilitate movement up the value-added chain, making way for a new generation of suppliers.

To conclude, it is in governments' interests to facilitate the market forces leading to regional integration by removing obstacles to intraregional trade, allowing for greater participation in the division of labour and providing favourable conditions for investment. The interests of multinationals are directly related to areas that have successfully integrated into the global production chain. A region's rapid growth and integration is not just a result of close proximity to diverse economies, but also of the cooperation between firms and governments. It is in the interests of both entities to establish self-sustaining growth, which in turn is critically dependent on sustained productivity growth.

Based on the factors that contributed to the growth of production fragmentation in ASEAN, it is useful to consider South Asia's performance in these areas.

Macroeconomic Stability

Price stability in South Asia is considerably weaker than that in ASEAN countries, particularly when considering the key ASEAN countries



Source: IMF Global Financial Statistics 2008.

Figure 2.4 Inflation in South Asia, 2000–2007

involved in product fragmentation. Figure 2.4 suggests that inflation in South Asia was relatively high between 2000 and 2007. This was particularly so for Sri Lanka, Bangladesh and Pakistan.

As shown in Figure 2.5, ASEAN countries managed to maintain a greater degree of price stability, except for Indonesia, which has not been a preferred location for production fragmentation.

While inflation rates in South Asia were between 5 and 10 per cent between 1985 and 1990, in ASEAN countries they were between 0 and 5 per cent in most years (Figure 2.6). Furthermore, if we consider the period in the late 1980s when product fragmentation was taking off in Southeast Asia, price stability was better in Southeast Asia than in South Asia.

Given that production fragmentation entails a sliced-up value chain, a degree of predictability is required in terms of costs at each step in the value chain. Therefore, if one or two countries in the production chain experience high levels of price instability, the requisite predictability will not exist. Volatility in prices of different components will influence price levels or margins in the final product, deterring investment in this type of production. Three of the key economies in South Asia – Sri Lanka, Pakistan and Bangladesh – have weak records in maintaining price stability.

The other key macroeconomic factor fundamental to production fragmentation is the exchange rate (Figures 2.7 and 2.8). Exchange rate stability is important for production fragmentation since the process involves constant movement of parts and components between borders. Volatility in the exchange rate will affect the price of components and the final



Source: IMF Global Financial Statistics 2008.

Figure 2.5 Inflation in ASEAN countries, 2000–2007



Source: IMF Global Financial Statistics 1992.

Figure 2.6 Inflation in ASEAN countries, 1985–1990

product, undermining the predictability that is important for production fragmentation. The governments' exchange rate policy in Malaysia and Thailand ensured stability of the exchange rate so as to facilitate trade and investment.













However, a fixed exchange rate policy was not sustainable in the context of an open capital market vulnerable to outflows of capital when the Southeast Asian asset bubble burst in 1997. Therefore, while the fixed exchange rate policies adopted by many ASEAN countries were supportive of production fragmentation, they contributed to adverse economic shocks in countries with relatively unsophisticated financial markets.

Considering Figures 2.7 and 2.8, it is clear that South Asian countries have experienced far greater currency fluctuations than ASEAN countries. While exchange rate stability is an advantage for production fragmentation, the potential costs of it, as demonstrated during the 1997 Asian financial crisis, are sufficient cause for developing countries to be cautious when considering such an approach. This is particularly the case when the countries in question experience high levels of inflation and balance-of-payments crises. As discussed above, many South Asian countries, Sri Lanka and Pakistan being recent examples, are prone to such conditions.

In sum, macroeconomic stability has not been a strong point for key South Asian economies. Both Sri Lanka and Pakistan had to resort to International Monetary Fund (IMF) loans in 2008 and 2009. While these were related to the global economic crisis at the time, more fundamentally they reflected weaknesses in domestic economic management. In Sri Lanka, loose monetary policy between 2004 and 2007, combined with spiralling global commodity prices, resulted in inflation peaking at 28 per cent in June 2008; the soft-pegged (to the US dollar) Sri Lankan rupee lost 11 per cent of its value between October 2008 and April 2009. Pakistan faced a similar situation with inflation reaching 25 per cent in mid-2008 following expanding fiscal deficits financed through monetary expansion by the central bank. The fiscal situation in both countries has not fully stabilized and therefore long-term price stability remains in doubt.

Barriers to Trade: Tariffs

Production fragmentation requires constant movement of parts and components between borders, and therefore barriers to trade, both in terms of costs and in terms of logistical impediments, undermine the feasibility of production fragmentation. In the section on automobiles it was clear that South Asia has high tariffs on automobile parts and components, which is a barrier to production fragmentation in the region. We looked at barriers to trade in a few other sectors and compared these with barriers to trade in ASEAN countries. The results are presented in Table 2.15 and all figures refer to percentage applied tariff.

It is clear from the data in Table 2.15 that South Asian countries have far higher tariffs on parts and components of the selected products than

HS 850300 - F	Parts of mo	tors and gene	erators			
HS 850300	MFN	Sri Lanka	India	Pakistan	Bangladesh	Nepal
Sri Lanka ¹	2.5	_	0	1	0.75	0.75
India	7.5	0	_	6.5	0	0
Pakistan	5-15	1.65-4.95	5-15	_	5-15	5-15
Bangladesh	5	5	5	5	5	5
Nepal	5	5	5	5	5	5
HS 850300	MFN	Thailand	Malaysia	Philippines		Singapore
Thailand	12	_	1		1	1
Malaysia	5	0	_		0	0
Philippines	1	0	0		_	0
Singapore	0	0	0	0		—
HS 854290 – I	ntegrated c	circuit parts				
HS 854290	MFN	Sri Lanka	India	Pakistan	Bangladesh	Nepal
Sri Lanka	2.5	_	0	1	0.75	0.75
India	0	0	_	0	0	0
Pakistan	5	1.65	5	-	5	5
Bangladesh	12	12	12	12	_	12
Nepal	0	0	0	0	0	_
HS 854290	MFN	Thailand	Malaysia	Philippines		Singapore
Thailand	0	_	0	0		0
Malaysia	0	0	_	0		0
Philippines	0	0	0	-		0
Singapore	0	0	0	0		-
HS 841590 - F	Parts of air	conditioning	machines			
HS 841590	MFN	Sri Lanka	India	Pakistan	Bangladesh	Nepal
Sri Lanka	15	_	0	6	4.5	4.5
India	10	0	_	5	5	0
Pakistan	15	15	15	-	15	15
Bangladesh	25	25	25	25	_	25
Nepal	30	30	30	30	30	_
HS 841590	MFN	Thailand	Malaysia	Philippines		Singapore
Thailand	10	_	10	10		10
Malaysia	30	0	_		0	0
Philippines	10	5	5		_	5
Singapore	0	0	0		0	_

Table 2.15Applied tariffs on parts and components in selected South
Asian and ASEAN countries 2009

(other than ae	rials)					
HS 852990	MFN	Sri Lanka	India	Pakistan	Bangladesh	Nepal
Sri Lanka	15	_	0	6	4.5	4.5
India	03	0	_	0	0	0
Pakistan	204	20	20	_	125	126
Bangladesh	12	12	12	12	_	12
Nepal	0	0	0	0	0	_
HS 852990	MFN	Thailand	Malaysia	Philippines		Singapore
Thailand	17	_	1	1		1
Malaysia	08	0	_	0		0
Philippines	1	0	0	_		0
Singapore	0	0	0	0		-
HS 854890 - H	Electric par	ts of machine	ery NES			
HS 854890	MFN	Sri Lanka	India	Pakistan	Bangladesh	Nepal
Sri Lanka	15	_	0	6	4.5	4.5
India	10	0	_	9	0	0
Pakistan	25	5	5	_	5	5
Bangladesh	25	23.75	23.75	23.75	_	23.75
Nepal	15	12.5	12.5	12.5	12.5	_
HS 854890	MFN	Thailand	Malaysia	Philippines		Singapore
Thailand	109	_	10	10		10
Malaysia	0	0	_	0		0
Philippines	5	5	5		_	5
Singapore	0	0	0	0		_

Table 2.15 (continued)

HS 852990 - Parts of transmission apparatus, radar apparatus or television receivers

Notes:

1. Except HS85030010 which relates to fan motors in vehicles and is taxed at 28% MFN, 11.2% for PSFTA, 0% for ISFTA and 8.4% SAFTA LDC.

2. Except HS 850300A MFN 10%.

- Except HS \$30500A MFN 10%.
 Except for HS85299010C and HS85299020C 7.5%.
 Except TV tuners (HS 85299020 MFN 5%, SL 1.65%).
 Except converter box 5%.
 Except converter box 5%.

7. Except HS 8529902 MFN 10%.

8. Except HS 85200935A MFN 5%.

9. Except HS 854890B MFN 1%.

Source: All calculations based on MacMap data (www.macmap.org).

do ASEAN countries. While it is encouraging to note that SAFTA tariff reductions have had an impact on applied tariffs in some of these products, the tariff liberalization programme of SAFTA allows tariffs to remain up to 5 per cent. Compared to the tariff levels in ASEAN countries, this is an excessive level when considering tariffs on parts and components and is likely to be an impediment to production fragmentation.

Trade Transaction Costs

Physical, logistical and bureaucratic barriers to trade are also very important. South Asia is often perceived to have poor external supply chains. Although trade facilitation has improved, with major improvements in some countries in South Asia, others countries are lagging behind (World Bank, 2008). Table 2.16 provides selected indicators of trade facilitation in South Asia and ASEAN. Singapore, with its developed logistics and infrastructure, performs the best in many trade facilitation indicators, not only by regional standards but also by world standards. South Asian countries lag behind in many indicators compared to Singapore, Malaysia and Thailand. India and Sri Lanka perform the best in the region for the majority of selected indicators. It is evident that considerable improvement in trade facilitation is required in South Asia, particularly in the case of landlocked countries. However, the requisite measures may not be achievable unilaterally.

South Asia also performs poorly in terms of trading across borders indicators of the World Bank's report "Doing Business", which assesses the costs, procedures and time taken to trade (see Table 2.17 and Figure 2.9). Documentation needed to trade is significantly lower in Singapore, Thailand and Indonesia compared to South Asia. This can be largely attributed to the automated trading systems (that is, automation of the customs) that are in place in these countries. While all governments in South Asia have started customs reform and streamlining, including computerized customs clearance, these have been implemented only partially. This is also reflected in the time taken to export and import, with the average time taken to trade with South Asia exceeding by more than nine days the time for ASEAN countries. ASEAN's free trade zones (FTZs) and lower bureaucratic requirements for the export and import of products resulted in a more streamlined approach to production.

The importance of efficient trade arrangements across borders is paramount in terms of production fragmentation. Delay in the transfer of a single unit in the supply chain can disrupt the entire production structure and thus affect the viability of the system. It is clear that South Asia lags behind in this regard and trade facilitation enhancement measures have
	Mean	Bangladesh	India	Nepal	Pakistan	Sri Lanka	Cambodia	Indonesia	Malaysia	Philippines	Singapore	Thailand	Vietnam
Hidden barriers to trade (1)*	4.5	3.8	4.7	na na	3.8	4.9	na	4.1	4.5	3.2	6.3	4.0	3.1
Burden of customs procedure (2)	3.9	2.4	3.7	2.8	3.5	3.7	2.8	3.3	4.8	2.9	6.5	4.1	3.3
Overall infrastructure quality (3)	3.8	2.2	2.9) 1.9	3.1	3.8	3.1	2.8	5.6	2.9	6.7	4.8	2.7
Transparency of government policy-making (4)	4.2	3.5	4.2	2 3.2	3.4	3.8	4.0	3.2	5.0	3.8	6.3	4.2	4.2
Global Com- petitiveness Index (rank)		111	50	126	101	77	109	55	21	71	5	34	70

Table 2.16 Selected indicators of trade facilitation in South Asia and ASEAN

Notes: * Data are based on The Global Competitiveness Report 2004–2005 and The Global Competitiveness Report 2008-2009.

(1) 1 = important problem, 7 = not an important problem.

(2) 1 = extremely slow and cumbersome, 7 = rapid and efficient.

(3) 1 = underdeveloped, 7 = as extensive and efficient as the world's best.
(4) 1 = never informed, 7 = always informed.

Source: Porter et al. (2005); Porter and Schwab (2009).

become critically important, not just for intra-regional trade but also for overall trade. According to the World Bank (2008), intra-regional trade within South Asia would increase by almost 60 per cent and trade with the rest of the world by more than 30 per cent if projected levels of trade facilitation efficiency were attained (Table 2.18).

Although under the South Asia Free Trade Area (SAFTA) agreement the member countries have agreed to enhancing trade facilitation in South Asia, including through harmonization of standards, simplification and harmonization of procedures and transit facilities, none of these measures are binding. The approach to trade facilitation under SAFTA must be reassessed and measures taken to prioritize the requirements for trade facilitation in the region (possibly through an extensive bottom up

	Documents to	Documents to	Time to export	Time to import
	export (number)	import (number)	(days)	(days)
South Asia	8.5	9.0	31.5	31.1
ASEAN	6.7	7.8	22.0	21.7

 Table 2.17
 Average number of documents needed and time taken to trade in South Asia and ASEAN

Note: While the calculations for South Asia includes all 8 SAARC countries, ASEAN includes Brunei, Cambodia, Indonesia, Laos, Malaysia, Philippines, Singapore, Thailand and Vietnam.

Source: World Bank, "Doing Business 2009".



Source: World Bank, "Doing Business 2009".

stakeholder survey and value chain analyses). Recommended measures should then be implemented in a binding manner under SAFTA.

Human Resource Capacity

Another important feature of ASEAN economies for being successful in production fragmentation was the emphasis on education and human

Figure 2.9 Trading across borders

	Port efficiency	Customs environment	Regulatory environment	Service sector infrastructure	Total gains
Intra-regional	712	429	278	1224	2644
Inter-regional	8421	3881	3809	15452	27 560

 Table 2.18
 Trade gains from improved trade facilitation (US\$ millions)

Source: Wilson et al. (2004).



Source: Data from Porter and Schwab (2009).

Figure 2.10 Human resource capacity in ASEAN and South Asia countries

resource development. The nature of production fragmentation is such that it is most viable in relatively high-technology production, such as consumer electronics and automobiles. Therefore countries engaged in slicing up the value chain need to have the required human resource skills to work in such sectors. Countries such as Singapore and Malaysia emphasized education, particularly in science and technology and mathematics. A comparison of technological capability amongst human resources in South Asia and ASEAN demonstrates that ASEAN countries are ahead of South Asia.

However it is also clear from Figure 2.10 that India is on a par with or



Source: Global Competitiveness Report data.

Figure 2.11 Quality of electricity supply in ASEAN and South Asia countries

in fact ahead of most ASEAN nations (other than Singapore) in terms of access to high-quality human capital. This suggests that India will need to be the location of more sophisticated production or research and development (R&D) while neighbouring countries could contribute in less sophisticated segments of the value chain. Given the technologies in question, there will need to be a critical mass of skilled workers in each country in order to make production fragmentation viable. In light of the human resources situation in South Asia, it is questionable as to whether all the countries in the region could effectively contribute to such a production framework.

Infrastructure Quality

While the infrastructure requirements for trading across borders have been discussed, the costs and reliability of infrastructure within individual countries are also important for production fragmentation. Costly internal transport networks and weaknesses in telecommunications and energy infrastructure undermine the predictability of production and could disrupt supply linkages along the value chain. Accordingly, production fragmentation requires reliable networks of energy, telecommunications and transport. In terms of the quality of electricity supply, South Asia substantially lags behind ASEAN countries, as seen in Figure 2.11.

Transport

Transport bottlenecks both within and between countries are a major problem in South Asia, affecting trade and trade competitiveness due to increased delivery costs, transit times, and the poor reliability and predictability of delivery. For cost-effective production fragmentation, it is essential that transaction costs are minimized. Given the interdependence of different components, delays should ideally be non-existent as they can lead to production delays and disruptions across the entire value chain. Therefore, developments in intra-regional transport networks (highways, air transport, ports and shipping services) are a priority in this regard.

Trucking has become the dominant mode of freight in South Asia. In terms of costs for bulk cargo, road freight rates in India and Pakistan are probably the lowest in the world (World Bank, 2008). However, service levels are perceived to be low, with long and unpredictable transit times, no cargo insurance and other constraints. South Asia is now beginning to build high-quality highways that are needed for high-quality trucking services. In terms of road quality, all South Asian countries fall below the world average (see Table 2.19). As most intra-regional trade is trucked, it is essential that the road quality is improved if intra-regional trade is to be developed.

South Asia relies heavily on shipping to trade with the rest of the world. While production fragmentation relies on efficient movement of goods across intra-regional borders, the final product is usually exported outside the region and hence logistical connectivity to the rest of the world is important as well. The annual composite index of liner shipping connectivity compiled by the United Nations Conference on Trade and Development (UNCTAD) for some South Asian and ASEAN countries is shown in Table 2.20. The index is based on five components: (1) number of ships; (2) the container carrying capacity in twenty-foot equivalent units (TEUs) of those ships; (3) the number of companies; (4) the number of services; and (5) the maximum ship size, always referring to the ships that are deployed to provide liner shipping services to a country's port(s). Although far below Singapore and Malaysia, Sri Lanka and India are within the top 20 best-performing countries.

In terms of rail transport, railways in Sri Lanka, Bangladesh and Pakistan carry very little freight and focus largely on passenger transport. The exception may be India, where freight traffic has grown over the years. Little investment has been made in many South Asian countries to develop the railway freight businesses. Air freight is used in South Asia primarily when sea transport is not an option, depending on the type of good and time factor. Currently, annual international air freight amounts to about 1.2 million tons. The air freight market is competitive, with rates reflecting demand and supply conditions (World Bank, 2008).

	Mean	Bangladesh	India	Nepal	Pakistan	Sri Lanka	Cambodia	Indonesia	Malaysia	Philippines	Singapore	Thailand	Vietnam
Road quality (1)	3.8	2.8	2.9	1.9	3.5	3.6	3.1	2.5	5.7	2.8	6.6	5.0	2.6
Railroad infrastructure quality (2)	3.0	2.3	4.4	1.3	3.0	3.2	1.6	2.8	5.0	1.8	5.6	3.1	2.4
Port infrastructure quality (3)	4.1	2.6	3.3	2.9	3.7	4.5	3.4	3.0	5.7	3.2	6.8	4.4	2.8
Air transport infrastructure quality (4)	4.7	3.4	4.7	3.5	4.2	4.8	4.2	4.4	6.0	4.1	6.9	5.8	3.9

Table 2.19 Transport indicators in South Asia and ASEAN countries

Notes:

(1) 1 = underdeveloped, 7 = extensive and efficient by international standards.

(2) 1 = underdeveloped, 7 = as extensive and efficient as the world's best.

(3) 1 = underdeveloped, 7 = as developed as the world's best.

(4) 1 = infrequent, limited, and efficient, 7 = as frequent, extensive, and efficient as the world's best.

Source: Data from Porter and Schwab (2009).

Country	LSCI	Rank (from 163 countries)
Singapore	94.47	3
Malaysia	77.6	9
Sri Lanka	46.08	19
India	42.18	20
Thailand	36.48	22
Philippines	30.26	31
Pakistan	24.61	41

Table 2.20Liner shipping connectivity index (LSCI), 2008 (maximum
score in 2008 = 137.38)

Source: Data from UNCTAD Transport Newsletter, No. 40, Third Quarter, 2008.



Notes:

- 1. Extent of business internet use (1 = companies in the region do not use the internet extensively for buying and selling goods and for interacting with customers and suppliers; 7 = uses extensively).
- 2. Internet bandwith hard data: (mB/s) per 10000 population.

Source: Using data from the World Economic Forum, "The Global Information Technology Report 2008–2009".

Figure 2.12 Internet facilities in South Asia and ASEAN

Communication Costs and Facilities

Given the extent of coordination required, communications infrastructure is also important for production fragmentation to be successful. Figure 2.12 provides an overview of the internet facilities available and the extent to which internet is used in South Asia and ASEAN. It is clear that internet quality is far higher in ASEAN and penetration of the internet in commercial activity is superior compared to South Asia. Mobile phone penetration is also far higher in ASEAN (62.02 per 100 population) than in South Asia (27.06 per 100 population).

CONCLUSIONS

Several important policy implications can be drawn from this study, based on experiences in both South Asia and ASEAN. Given the constraints faced in industrial integration and trade in the automobiles and garments and textiles sector, key policy implications include the following. Tariffs in the South Asia region remain relatively high. In terms of product fragmentation, where the slightest margins become critical in terms of ensuring competitiveness of the flow of parts and components between borders, high tariff levels undermine the prospects for slicing the value chain. The US maintained a tariff policy to encourage product fragmentation, which allowed a component of production to be exported and re-imported and tariffs would only be paid on the value addition abroad, not on the value of the entire re-imported product. There are implications for SAFTA, which remains protracted and protective, with 53 per cent of trade value being on the negative list and thereby not receiving any preferences under the Free Trade Agreement (Weerakoon and Thennakoon, 2008). Furthermore, SAFTA allows tariffs to remain between 0 and 5 per cent even for items not on the negative list. Compared to ASEAN, even a 5 per cent tariff is far higher than the levels of tariffs on parts and components.

Transport bottlenecks both within and between countries are a major problem in South Asia, in terms of adding transaction costs to production and undermining the reliability and predictability of delivery. For cost-effective product fragmentation, it is essential that transaction costs are minimalized. Given the extent of cross-border transfers required to manufacture a single product, and given the interdependence of different components, delays in transfer cannot be afforded. Development of intraregional transport networks (highways, air transport and shipping) are a priority in this regard.

Trade facilitation measures are a related issue, particularly in terms of minimizing delays in port and customs clearance. Trade facilitation is addressed in SAFTA but there needs to be some form of prioritization and binding commitments in the implementation of such commitments.

High energy costs have been cited as a concern in many South Asian countries. This is despite the fact that countries such as Bhutan and Nepal have extensive (often untapped) energy resources in hydropower. Greater economic cooperation and trade in energy in the region is essential to reduce the cost and improve the reliability of energy supply.

The evolution of product fragmentation in ASEAN has been dealt with in considerable depth in this chapter, providing important implications for policy-makers in South Asia. The key implications are summarized as follows.

ASEAN's experience suggests that the emergence of production fragmentation was largely due to multinational firms taking advantage of sound domestic policies of individual countries in Southeast Asia, in combination with locational advantages and good infrastructure. Regional policies such as the ASEAN FTA (AFTA) and the growth triangles were secondary factors that helped spur continued progress in intra-regional trade and intra-industry trade in the region. This suggests that for South Asia it is essential that individual countries get their trade and investment policies in order, along with infrastructure and macroeconomic stability, as prerequisites for intra-industry trade to take off. Regional cooperation measures are unlikely to have much effect without these domestic policies being in place.

The importance of investment, and export processing zones (EPZs) in particular, is highlighted in the ASEAN case. When factor costs in Japan and other East Asian countries became uncompetitive, these countries shifted production to ASEAN countries and continued to export to final markets in the West via Singapore. It is the large multinationals that have the scale to be able to effectively engage in and organize production fragmentation. The importance of a transparent and conducive investment policy environment is therefore emphasized. The role of EPZs that link countries in the region is also very important, not just in terms of providing access to subsidized infrastructure, duty-free inputs and fiscal incentives, but most importantly in terms of providing relatively smooth bureaucratic processes. This becomes essential in industries and production processes that are highly time-sensitive. The EPZs provided the ideal environment for agglomeration and benefits of increasing returns to scale, and the shared infrastructure that was a common requirement of several firms engaged in the same or similar stages of the value chain.

While fiscal incentives and subsidized inputs are attractive to investors, their role has been downplayed in recent years. In the short term, these may prove to be carrots that attract investors. However, since these incentives can easily be imitated, in the medium to long term what is more important is the quality of human resources, macroeconomic stability and quality of infrastructure. Macroeconomic stability is of particular importance since fluctuations in exchange rates and inflation undermine competitiveness when components cross borders several times in a short period before final assembly and export. While ASEAN countries maintained a high level of macroeconomic stability, South Asia has fared relatively poorly in this regard. Greater discipline in macroeconomic management, particularly in Pakistan, Sri Lanka and Bangladesh, is important for trade and general economic development.

The measures adopted by Singapore and Malaysia to integrate local SMEs into larger global supply chains provide important lessons for South Asia, since the bulk of production in South Asia occurs through SMEs. The Singaporean firm Creative is a good example in this regard. The role of government includes linking up SMEs through provision of

information on possible avenues of collaboration with larger global firms and in supporting the supply capacity of the SMEs.

Diversity, particularly in the quality of factors of production, was important in the success of product fragmentation in ASEAN. The shift in production through various "generations" of comparative advantage is illustrative of this. South Asia has the potential to benefit through this process, given the varying levels of economic maturity in the region. India will need to take the lead in this regard, given that it is a few steps ahead of its neighbours in terms of economic development and sophistication. More technologically advanced production and R&D will need to be conducted in India, and to an extent in Pakistan. Sri Lanka has comparative advantages in logistical and transport services, making it a suitable location for linkage with final consumers. Other countries in the region have abundant labour supplies but the constraint is their skill levels. If minimum skill levels in technical competence are not reached, it is possible that the bulk of the labour resources of these countries will not be able to participate in production fragmentation. Singapore in particular made a special effort to ensure that labour skills were constantly upgraded (National Productivity Board, Vocational and Industrial Training Board); Singapore would always struggle to compete on cost and therefore had to compete on expertise instead.

Along with shortages of requisite skill levels in labour markets of some of the South Asian countries, connectivity is another constraint. Countries such as Nepal and Bhutan are both landlocked and hemmed in by challenging terrain. Such conditions are less than ideal for effective participation in production fragmentation – particularly in sectors which are time-sensitive.

In conclusion, it is clear that South Asian countries lag behind in almost all aspects that made production fragmentation and intra-industry trade a success in ASEAN. However, judging by sectors such as garments and textiles and automobiles, there is potential for South Asia to enjoy similar successes in industrial restructuring. There are, though, significant policy reforms that will be required for this to be a reality, some of which have been highlighted in this chapter. Expectations need to be realistic since many of the requirements are long term in nature, such as human resource development and transport infrastructure development, which will not produce results in the short run. Furthermore, political barriers to investment liberalization will need to be overcome for South Asia to be a seamless dynamic economy capable of complex production processes such as production fragmentation.

NOTES

- 1. The authors acknowledge the excellent research assistance of Kyu Han Hwang, Dharshani Premaratne and Thareef Marzook in producing this chapter. The usual disclaimer applies.
- Also referred to as "slicing the value chain" (Krugman, 1996), "delocalization" (Leamer, 1996) and "intra-mediate trade" (Antweiler and Trefler, 1997).
- 3. This will be referred to as the textile industry or sector in this chapter.
- 4. The South Asia region in this section refers to the countries Bangladesh, India, Pakistan and Sri Lanka.
- 5. GSP +, the Generalized System Preference Plus Scheme, refers to the special incentive arrangement for sustainable development and good governance, which offers additional tariff reductions to support vulnerable developing countries.
- 6. Source for all values in this section is Tewari (2007).
- 7. All figures based on MacMap data, www.macmap.org.

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3. Integration of ICT industries and its impact on market access and trade: the case of Bangladesh and India

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INTRODUCTION

It is generally recognized that South Asian countries have excellent prospects for the development of information and communication technology (ICT) and other knowledge-intensive industries. South Asian countries have a significant human capital base, a prerequisite for development of the ICT industry. India is a clear case in point. The ICT industry in India accounts for around 6 percent of its GDP. In Bangladesh, as in other South Asian countries, the ICT sector makes only a negligible contribution to gross domestic product (GDP) (less than 1 percent). Nonetheless, the sector is gradually developing with various government policy supports. However, progress is slow when compared to India. India's success in the ICT industry has made it a global leader. What has prevented this success from spilling over to other South Asian countries? By analyzing firm-level data from both India and Bangladesh, this chapter attempts to understand the dynamics of the ICT industry in the region and, within this context, tries to provide policy recommendations helpful for both industry leaders and policy-makers. Comparison of the ICT sectors in India and Bangladesh could be instructive in determining whether successful ICT business models in India can be applied to other South Asian countries. Therefore, by analyzing the cases of the leader (India) and the follower (Bangladesh), this study is expected to provide ICT-related recommendations for regional cooperation relevant to the South Asian Association for Regional Cooperation (SAARC) Track 1 process.

The ICT industry is global and its dynamics are complex. In search of economies of scale and efficiencies, firms began offshore and outsourcing operations of a variety of activities, particularly since the early 1990s. To gain the benefits of lower costs and greater access to talent, firms looked

beyond the boundaries of developed countries. This has provided important opportunities for growth and employment in the developing world. However, the market is highly concentrated and only a few developing countries, including India, have emerged as attractive destinations for offshore operations. Firms are attracted to developing countries having low human resource costs, technological skills, language proficiency, similar time zones, and geographic and cultural proximity to major markets. Therefore, one of the objectives of this study is to analyze the global value chain of ICTs, thereby providing policy-makers with information critical to decision-making and market entry.

Another important aspect of the ICT industry is its spatial agglomeration. Following the emergence of the internet in the early 1990s, it was suggested that the internet would free the economy from the constraints of geography. The internet was perceived to be "everywhere, yet nowhere in particular" (Economist, August 2001). Since ICT products are "disrespectful of physical distance and geographical barriers", the digital revolution could bring about the "death of distance", as "weightless" goods such as software, databases, electronic libraries and new media can be transported at no cost (Quah, 2000). Moreover, as ICTs enable workers to work anywhere, the digital economy could promote development opportunities in more remote and economically disadvantaged areas. The impact would not only be felt in new industries, but also in those traditional industries that would benefit from improved access to world markets. The lower cost of computing and the internet lead to ICT clustering in different areas, where world-class ICT and high-tech industries tend to concentrate in specific areas. Examples include Silicon Valley of the US and the Bangalore IT Park in India. This aspect of the industry has inspired policy-makers around the world to try to imitate the success of Silicon Valley, offering tax breaks, infrastructure and regulatory relief to high-tech firms in specific locations (Kolko, 2001).

Another interesting aspect of this industry is that of networking or strategic alliances. There is strong evidence that forming alliances, clustering and networking help small firms to compete, grow and cooperate with large firms. By working together, firms can gain the benefits of collective efficiency, enabling them to link with larger producers and gain footholds in national and global markets. The key to success seems to be a customeroriented focus (supply chain), a mutually supportive approach, and a cumulative effort to ensure continuous improvements. Therefore, by surveying ICT clusters in both India and Bangladesh, this chapter also aims to assess different types of integration or linkages in ICT and their impact on firms' output.

This chapter is organized as follows. After the introductory remarks, it provides a literature review on ICTs in the context of South Asia and

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the global market. Next, it provides global value chain analysis for both Bangladeshi and Indian ICT firms, then analyzes the spatial integration in Bangladesh and India by applying spatial econometric methods. Finally, the chapter concludes with some recommendations. The specific objectives of this study are to:

- 1. analyze global value chains of ICT firms in Bangladesh and India;
- 2. assess different types of linkages in ICT industries and their impact on output and market access;
- 3. assess prospects of further integration of ICT firms locally or regionally;
- 4. draw policy recommendations for individual government as well as for regional cooperation under the SAARC Track 1 process.

Methodology and Data

Data

The analysis in this study is based on surveys of firms in both Dhaka and Delhi. In addition, focus group discussions and case studies were done to expand on and deepen the analysis. The surveys were done through a structured questionnaire.

Questionnaire design

In line with the underlying scope of the survey, the questionnaire includes a wide range of questions covering the following areas:

- information on integration (horizontal and/or vertical);
- factors prompting investment across the industries;
- sources of marketing information;
- positive and negative causes to enter the market;
- site selection;
- availability of infrastructure;
- skill requirements and availability of workers;
- competition and competitiveness;
- type of management;
- profitability (or value-added).

Surveys in Dhaka and Delhi

A total of 160 firms (100 firms in Dhaka, Bangladesh and 60 firms in Delhi, India) were surveyed in order to analyze the global value chain of the ICT industry and the related market niches, as well as to assess the impact of different types of integration or linkages that exist in the industry. Data collection in Dhaka started in June 2010 and was completed by the first week of August 2010. Data collection was conducted in the Noida and Gurgaon areas of Delhi in two phases and was completed by the end of October 2010. The data collection was guided by experienced researchers.

After completion of the data collection, data entry was done by using database/statistical software such as SPSS/MsExcel. The data were cleaned by the researchers and data entry operators in order to ensure the quality of data.

Focus group discussions

Several focus group discussions were conducted. These were done through a series of meetings with different stakeholders of the ICT sector in Dhaka, Bangalore and Delhi. The list of meetings is summarized in the Appendix. Case studies for selected large IT firms were conducted in Dhaka, Delhi and Bangalore.

Methodology

The analysis involved global value chain (GVC) analysis and spatial econometric analysis. The global value chain analysis involved an analytical framework for identifying industry drivers, relations between clients and suppliers, and the power of lead firms to influence market demand. The GVC framework uses firm-level analysis to determine the different stages of software products or services and the value level of each component.

To capture the impact of integration on ICT firms' output, we have applied the spatial econometric models (see Anselin, 1988). The rationale behind the application of spatial models is as follows. Over time, an ICT firm learns more about the business system, gains access to markets through networking and strategic alliances, and so its profitability and output may in part depend on past performance. However, this aspect cannot be captured from a snapshot survey. A firm's profitability and output may also be affected by communicating with or influence by other firms in the same cluster or different clusters. For example, since software industries are mainly driven by the global supply chain, any shock to the global market may influence ICT industries in both Bangladesh and India; their networking channels may be the same because of the same region and distance factor. The recent global financial crisis likely impacted ICT firms of both countries. Another possibility is that if clusters (in both Bangladesh and India) are integrated to some extent, any shock to one cluster may influence others because of similar workforce, infrastructure and cost of labor. This phenomenon of the exchange of information and experiences with other firms provides the scope for an econometric application of the spatial regression model to ICT clusters.

LITERATURE REVIEW

ICT Sector in South Asia

With the exception of India, the ICT sector has not developed strongly in South Asia. South Asia's share of global trade in services is only about 3 percent (in 2008), of which India has the largest share (about 2.7 percent). ICTs constitute a major portion of India's service trade (43 percent). India already accounts for a significant world market share of the ICT sector (service trade), while Bangladesh and other South Asian countries are trying to gradually increase their share through development of the ICT sector.

The importance of ICTs in South Asia has become more prominent with the rapid rise of telecom industries, particularly with high mobile phone penetration. Pakistan is in a leading position in terms of teledensity (60.6 percent in 2008) followed by India (47.9 percent). Internet use still remains very expensive in South Asia compared to East Asia and other emerging regions. According to an estimate in 2006, Bangladesh ranked the lowest in terms of internet users per 100 people, while Pakistan ranked top (data for India were not available). In terms of international bandwidth bits per person, Bangladesh and Nepal are in the lowest position, while in terms of bandwidth speed in Mbps, Sri Lanka, Nepal and Bhutan are at the lowest level (Table 3.1).

Table 3.2 provides basic facts about the ICT sector in South Asia. In addition to India, Sri Lanka and Pakistan are performing comparatively well in terms of export earnings from this sector. Most South Asian countries have basic infrastructure suitable for the development of ICTs. Needed, however, are proper policies to harness the potential of ICT sector development, such as development of human capital and specialized ICT infrastructure, including ICT parks.

Over the past decade, India's ICT sector has become the country's premier growth engine, achieving significant milestones in terms of revenue growth, employment generation and value creation, in addition to becoming a global brand ambassador for India. ICT sector revenues have grown from 1.2 percent of national GDP in FY1998 to an estimated 6.1 percent in FY2010 (Figure 3.1).

ICTs share of India's total exports (merchandise plus services) increased from less than 4 percent in FY1998 to almost 26 percent in FY2010. The industry is estimated to have had aggregate revenues of US\$73.1 billion in FY2010. Direct employment in the sector is expected to be nearly 2.3 million, while indirect job creation is estimated at 8.2 million (NASSCOM, 2010). Export revenues are estimated to have been US\$50.1

Series name	Bangladesh	Bhutan	India	Maldives	Nepal	Pakistan	Sri Lanka
Internet users	556000.0	45000.0	1 750 000.0	71 738.0	499 000.0	8 500 000.0	1 163 494.0
Internet users (per 100	0.3	9.9	4.5	23.5	1.7	11.1	5.8
people)							
Secure Internet servers	0.2	4.3	1.6	32.3	1.1	0.6	3.5
(per 1 million people)							
Telephone mainlines	0.8	4.0	3.3	15.4	2.8	2.7	17.1
(per 100 people)							
Trade in services	7.2	I	13.8	83.4	12.5	8.3	12.3
(% of GDP)							
International Internet	4.1	9.99	31.8	2171.5	4.9	43.5	118.5
bandwidth (bits per							
person)							
International Internet	642.0	45.0	35747.0	653.0	139.3	7070.0	2371.0
bandwidth (Mbps)							

Table 3.1 ICT indicators, 2008

Note: – Indicates data are not available.

Source: World Development Indicators, World Bank.

	I anistall	Bangladesh ²	Sri Lanka ³	Nepal ⁴	lndia	$Bhutan^{\circ}$
Total number of registered IT companies	1190	500	450	200	4000 + (2008 - 09)	72
IT companies in main cities	Karachi Islamabad/ Rawalpindi, Lahore Others	Dhaka Chittagong Others	Colombo Kandy	Kathmandu	Bangalore, Chennai, Hyderabad, Mumbai, Pune, NCR	Thimpu
Number of CMMI- assessed companies	One CMM Level 5 company, three CMMI Level 3	6 CMMI Level 3	12 CMMI Level 3	I	82 SEI CMM Level 5 (Dec. 2005)	1
Number of IT graduates produced ner year	companies 20000	5 000	5 500	I	50000	I
Number of universities/ colleges offering IT/CS	110	70	19	4	300+	ç
programs Number of IT profes- sionals engaged in IT sector	More than 15000	12 000	12000	1200	2.23 million (2008–09)	1
Total space utilized in IT & Software Technology Parks	Nine IT parks	Two IT parks	One IT park	One IT park	At least 7 ICT clusters/parks	I
Export	\$169 million (2009)	\$35 million (2009)	\$213 million (2007)	I	US\$47.3 billion (2008–09)	I

Notex: Sources of information are country software associations: 1. PSEB; 2. BASIS; 3. SALLECOM; 4. Nepal Telecom Authority; 5. NASSCOM; 6. IT Association of Bhutan.

Table 3.2 ICT sector in South Asia



Source: NASSCOM (2010).

Figure 3.1 Contribution of IT/ITES to India's GDP



Source: NASSCOM (2010).

Figure 3.2 India's revenues from export of IT/ITES (in billion USD)

billion in FY2010, growing by 5.8 percent from FY2009, and contributing 69 percent of total ICT revenues (Figure 3.2). However, the ICT share in total exports still remains negligible in the case of other South Asian countries.

India's success has not been translated effectively to its other neighboring countries. For example, Bangladesh earned US\$35 million by exporting software in 2009. However, software exports accounted for only 0.2 percent of the country's total exports. The ICT sector is mainly concentrated in Bangladesh's capital, Dhaka. A government-supported ICT incubator was established in November 2002, where some 50 ICT firms are doing business. Although the contribution of this sector to the overall economy is not significant for Bangladesh, the industry is growing annually by about 40 percent (BASIS, 2010). This growth rate is expected to continue. This rapid growth is supported by strong software export trends and strong domestic demand for information technology (IT) automation services. The IT market, excluding telecoms, in Bangladesh is estimated at about \$300 million in total. The major export market is North America but recently many IT companies have started exporting to the European Union and East Asian countries, especially Japan. The European Union has ranked Bangladesh as one of the top 20 outsourcing destinations in the world.

Why is India so successful while its neighboring countries are lagging behind? This is a big question and the answer requires understanding of the dynamics of India's IT sector. Because of agglomeration economies, software industry development around the world is characterized by a strong tendency towards clustering. In India, the software industry developed initially in Mumbai. Later, especially after the entry of Texas Instruments in the mid-1980s, Bangalore emerged as a centre of software industry development (Kumar, 2005; Parthasarathy and Aoyama, 2006). There are many other reasons for Bangalore to become a software hub. These include the availability of a pool of trained technical manpower, combined with the existence of the Indian Institute of Science, the Indian Institute of Management, and a number of high-technology public and private industrial complexes, such as Bharat Electronics, Hindustan Aeronautics and Bharat Heavy Electricals. These big electronic and electrical industries worked as a centre for acquiring a large pool of engineers, which worked as a catalyst for producing more engineers in this region. Subsequently, the growing numbers of skilled manpower in this region drew the attention of Indian Diaspora and multinational corporations (MNCs) to develop the software industry. Economic liberalization by the Karnataka State Government in the 1990s and other favorable government policies, the development of infrastructure under the aegis of software technology parks (STPs) and subsequently private IT parks, helped promote and facilitate agglomeration of the industry in Bangalore.¹ Following Bangalore, some other Indian states have established ICT parks.

Delhi and its suburbs, namely Noida and Gurgaon (together called NCR – National Capital Region), has emerged as the third most popular concentration of software firms following Bangalore and Mumbai. Also, Hyderabad and Chennai have started to provide alternative locations in the South, after the saturation of Bangalore in terms of available infrastructure and space.

Development of the software industry in India is, therefore, largely concentrated in selected major urban centers and their suburbs. As noted earlier, this pattern of concentration reflects the clustering tendencies of knowledge-based industries because of the high economies of agglomeration. The phenomenal growth of ICT firms in India is consolidated by their participation in the global value chain (GVC), competitiveness, strong networks and alliances with customers through horizontal and vertical integration. This supply-side phenomenon appears to have been difficult for other South Asian firms to achieve in the short run. Although India's phenomenal success in outsourcing industry was due in its early stages to abundant human capital, growth was sustained by improved productivity. The particular strength of Indian firms has been their ability to assemble teams of talented engineers and deliver technical, outsourced services to exacting and different customers anywhere in the world.

ICT policies in India and Bangladesh

In addition to its large and well-educated labor force, policy initiatives have contributed to the development of the ICT industry in India. As Artheye (2005) has pointed out, the evolution of India's software industry can be divided into four phases:

- 1. Pre-1984 was characterized by the government policy of achieving self-reliance in hardware capability; the most significant event for the fledging software industry was the dramatic exit of IBM, in protest against the Foreign Exchange Regulation Act.
- The period 1985–1991 included a crash in hardware prices and deregulation of import licensing policy in India; these developments coincided with an accelerated demand for software services, as large multinational firms moved from mainframe to client-server systems.
- 3. During 1992–1999 India experienced full financial liberalization, large-scale entry by multinational firms and phenomenal growth in demand for software services. In the policy arena, innovative attempts were made to develop the telecommunications infrastructure and to broaden low-cost access to the internet through the establishment of STPs.
- 4. Since 2000 there has been a slowdown in the software industry, forcing firms to upgrade their value chain through productivity enhancement and to undertake some consolidation.

In Bangladesh, on the other hand, the ICT industry started growing slowly from the beginning of the 2000s, with the benefit of some favorable government policies (Table 3.3). Although trade liberalization and

Bangladesh	Policy
Allowed private companies to act as ISPs in 1997	The internet came late in Bangladesh, with UUCP e-mail beginning in 1993 and IP connectivity in 1996. By July 1997 there were 5500 IP and UUCP accounts as estimates. In June 1996, the government decided to allow private companies to act as Internet Services Providers (ISPs) using VSATs.
A committee was formed in 1997 to look into the problems and pros- pects of software industry in 1997	The Committee submitted its report in September 1973. The government decided in June 1998 to withdraw all import duties and VAT from all computer hardware and software firms. This reduced the prices of computers down to a level affordable by middle-income households.
National ICT policy, 2002	The national ICT policy was drafted in 2002.
ICT incubation center established in 2002	An ICT incubator was established in 2002 in the BSRS building in Dhaka with a view to providing infrastructure support, such as uninterrupted electricity, better bandwidth, subsidized office space, etc. Around 50 firms are now housed there.
Bangladesh was connected with its lone submarine cable network in 2006	Bangladesh was late in connecting with the submarine cable network South East Asia-Middle East-West Europe-4 (SEA-ME-WE-4) and hence late in entering the information superhighway. Bangladesh Submarine Cable Company (BSCCL), a state-owned company, currently handles Bangladesh's lone submarine cable called the SEA-ME-WE-4 submarine cable and participates in the SMW-4 international cable consortium. By providing submarine cable bandwidth through the SEA-ME-WE-4 cable system, BSCCL is contributing to the revenue earning of the Government of Bangladesh
ICT Act 2006	To provide the legal framework and infrastructure to secure e-transactions, electronic data transfer, maintain the latest technology by freeing it from nuisance punitive provisions, publishing obscene or defamatory information in electronic form etc.
Income tax exemption for software and ITES services	The government has given a waiver of income tax for software and ITES firms for the period 2008–2011. All software for import and export are exempted from all duties and taxes.
Intellectual Property Rights Law, 2009	A copyright Act was enacted in 2009, namely the Trademark Law to ensure intellectual property rights.

 Table 3.3
 ICT policy changes in Bangladesh

Bangladesh	Policy
ICT Policy 2009	The government finally approved the ICT Policy in 2009, which was initially drafted in 2002.
Foreign exchange regulation relaxed, September 2010	IT/Software exporting firms can remit up to US\$10000 in a calendar year for international alliance/software registration fee, domain registration/hosting fee, server maintenance fee, account verification/remittance test fee, etc. from the Export Retention Quota account of the applicant without prior approval of Bangladesh Bank.
Government approved second ICT park at Janata Tower, Dhaka 2010	In 2010 the government has allocated space for an ICT park in a building (Janata Tower) in Dhaka. This will be the second of its kind.
Proposed Hi- Tech Park at Gazipur, Dhaka	A Hi-Tech Park is proposed to be established at Kaliakoir, Gazipur (20 miles away from Dhaka) on 247 acres of land with high speed internet connection and uninterrupted power supply to make the country one of the global outsourcing destinies.

Table 3.3 (continued)

Source: BASIS, Newspaper reports, ICT policy draft, 2009.

financial liberalization policies were undertaken in the 1990s, and there was an abundant supply of talented labor, multinational ICT companies did not find Bangladesh an attractive destination until recently. One of the main reasons was the weakness in infrastructure, particularly in telecommunications. Bangladesh was connected to its lone submarine cable network in 2006 and it has not yet been able to establish a fully fledged software technology park (STP). One submarine cable may not be sufficient for attracting investments from overseas as well as offshore software business. Therefore, the Bangladesh government is trying to promote another submarine cable through a public-private partnership. Bangladesh has decided to sign a submarine cable agreement with 12 countries to open a high-speed, low-priced internet and telecommunications gateway for the country. If this happens, Bangladesh will have 10 gigabyte data transfer capacity per second, which will be 68 times more than the current capacity. Sharing submarine cable networks is one of the areas in which SAARC countries can join hands for further cooperation.

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Regional cooperation in ICTs and the SAARC²

SAARC started building development cooperation in the ICT sector during the 9th SAARC Summit held in May 1997 in Male, Maldives. The 9th SAARC Summit also identified the inadequate and poor communication infrastructure in member countries as one of the hindrances for cooperation across the region. Following the Male Summit, the First SAARC Communications Ministers' Conference was held in Colombo in May 1998. During the conference, ministers outlined a Plan of Action on Telecommunications to give impetus to the sector. The Plan of Action, which was adopted during the Second Meeting of the Communications Ministers held in Islamabad in June 2004, has the following goals and objectives:

- 1. to promote cooperation in the enhancement of telecommunication links and utilization of information technologies within the region;
- 2. to minimize disparities within and among member states in the telecommunications field;
- to harness telecommunication technology for the social and economic uplift of the region through infrastructure development by optimal sharing of available resources and enhanced cooperation in technology transfer, standardization and human resource development; and
- 4. to evolve a coordinated approach on issues of common concern in international telecommunications forum.

The Second Conference also adopted a common position on issues of concern to the region in the telecommunications sector, which were presented at the World Summit on the Information Society (WSIS) in Tunis in November 2005. The conference ministers recognized the need to develop a framework of knowledge sharing on ICT development across the region. The Working Group on Telecommunications and ICT was given the responsibility of developing ICT performance indicators. SAARC identified the need to partner with two institutions – the SAARC Human Resource Development Centre, Islamabad and the Asia Pacific Tele community – to implement the proposed Plan of Action.

SAARC has expressed support in principle for a funding mechanism to support the development of ICT in low-income countries and the conduct of internet governance in a more democratic way. It affirmed the role of governments in internet governance and, in this context, has reviewed the report of the Working Group on Internet Governance (WGIG).

SAARC has also affirmed support for the development of action plans giving special attention to issues common in the region, and to ICT networks in rural areas to reinforce the process of economic cooperation.

Regional projects	Countries involved	Objectives	Implemen- tation period	Funding source
SASEC (South Asia Sub-regional Economic Cooperation)	Bangladesh, Bhutan, India (i.e. the eastern states of India), and Nepal	SASEC Information Highway Project includes three components: SASEC regional network, SASEC Village Network, SASEC regional research and training network	2000–2010	Asian Development Bank (ADB)
PAN Localization: Building Local Language Computing Capacity in Asia Project	The project involves six South Asian countries, namely, Afghanistan, Bangladesh, Bhutan, Nepal, Pakistan, and Sri Lanka.	To generate tools to translate Internet content into local languages, build capacity for local language computing, and advance policy for local language content creation and access across Asia.	2006–2011	The Pan Asia Networking (PAN) Program of the International Development Research Center (IDRC) of Canada

Table 3.4Selective regional projects for the development of the ICT
sector

Source: ADB and IDRC.

Specific mechanisms mentioned were building and expanding communitybased multipurpose ICT centers and providing support for public service broadcasting.

In that pursuit, the South Asia Sub-regional Economic Cooperation (SASEC) projects were undertaken, which provide a forum for participating countries to discuss, identify, prioritize and implement sub-regional cooperation projects in six priority sectors, including ICT (Table 3.4). The ICT Working Group (ICTWG) composed of secretaries and/or joint secretaries from finance ministries and the ICT ministries of the SASEC countries, and representatives of development partners, is responsible for the identification and implementation of country and regional projects in the ICT sector. Such projects are in line with an ICT Master Plan formulated by the ICTWG.

Also in line with the ICT Master Plan, the ICTWG has implemented the Community e-Centres (CeCs) project, which aims to bridge the digital divide between rural and urban communities by establishing telecentres in rural villages in SASEC participating countries. The project has received support from the Asian Development Bank (ADB) and the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP).

Given the importance of the ICT sector for development in poor countries, a concerted effort by the SAARC forum is necessary to strengthen the sector. How can SAARC facilitate cooperation amongst the member countries for strengthening the ICT sector so as to accelerate regional economic and social development?

Finding precise answers to this question is not easy. Generally, regional cooperation on ICT infrastructure (energy cooperation and internet connectivity) is necessary. Implementation of the above projects is necessary. Development of human capital through exchange of education programs, trainees and trainers could be an effective means for ICT sector development. More specific policy recommendations can be made based on our results in the following sections.

ICT Industry in the Global Context

The information and communication technology (ICT) service sector³ has been growing rapidly, at an average rate of nearly 7 percent (NASSCOM, 2010). This rapid growth is reflected in the reduction in telecommunication costs over the past decade. The majority of IT services, such as software development and testing and IT-enabled services (ITES), call center services and data entry, can now be delivered from a remote location without an onsite physical presence. This has led to the emergence of outsourcing and the offshore service industry. The size of the offshore service industry on a global basis ranged between US\$101 and US\$157 billion in 2008 (CGGC, 2010).

The size of the offshore services market is expected to have reached \$252 billion in 2010 (OECD, 2008). The Organisation for Economic Co-operation and Development (OECD) study projected that the global demand for business process outsourcing (BPO) services, particularly call centers and financial services, would triple between 2005 and 2010 (Table 3.5). IT outsourcing (ITO) services are also expected to continue growing at a similar pace. The knowledge process outsourcing (KPO) segment and industry-specific advanced activities are expected to reach \$31 billion by

Sources	Market			R	evenues ir	billion U	5\$		Services/Activities
		I	2005	2006	2007	2008	2009	2010	I
OECD (2008)	Global		81.4	100.8	125.6	157.4	198.6	252.4	Includes ITO, BPO, KPO
	offshore service								and some industry-specific
NASSCOM	Global		44.25	59	78.3	101	117.5		Includes ITO, BPO, KPO
(2009)	offshore service								and some industry-specific
	market								advanced activities
BCG (2007)	Global	ITO	19.2	22.7	26.9	31.9	37.3	43.2	Includes BPO, KPO and
	outsourcing	BPO	27.4	42.3	65.1	100.3	154.5	238.1	some industry-specific
	and offshore	Total	46.6	65.0	92.0	132.2	191.8	281.3	activities
	service market								
GARTNER	Global	ITO					268		Includes BPO, KPO and
(2009)	outsourcing	BPO					156		some industry-specific
	and offshore	Total					424		activities
	service market								

Table 3.5 Global demand for offshore services by activity

Source: CGGC (2010) and OECD (2008).

2010. The estimated compound annual growth rate for KPO is 58 percent between 2005 and 2010, which is much higher than those of the BPO (25 percent) and ITO (26 percent) segments. However, the global economic crisis in 2007–2008 has slowed growth of the industry. With recovery from the global recession, the industry is expected to resume rapid growth.

Demand in the ICT offshoring/outsourcing industry continues to be driven by the United States and Canada (51.1 percent), followed by Europe (30.6 percent) and Asia (16.2 percent) (Datamonitor, 2009). The financial services industry and the manufacturing sector lead the demand for offshore services, representing 32 percent and 20 percent respectively. These are followed by telecom (12 percent) and energy (11 percent).

Although MNCs and large firms account for the largest share of ICT business services, participation in offshore services by small and mediumsized enterprises (SMEs) is gradually increasing. In 2006, small firms contributed to about 30 percent of outsourcing processes, compared to only about 10 percent in 2000 (Duke Offshoring Research Network and Booz & Co., 2006). The opportunity for ICT SMEs in offshore services is increasing over time as venture capital firms are increasingly initiating offshore investments in their business models.

Moreover, large ICT firms are now forming alliances and networks with small firms in different locations around the world to minimize cost and to attract more clients and expertise. Small firms are thus able to find providers in locations that are convenient for their businesses. These firms make up the largest share of clients for higher value-added services, as 24 percent of the services they outsource are for new product development, compared with 16 percent for large corporations (Lewin and Cuoto, 2007). Small and medium-sized firms tend to be more flexible than large firms and can make the most of new technologies being developed by offshore providers; they are not hindered by large legacy systems as are many MNCs.

From the supply side, offshore services are highly concentrated as large firms capture most of the businesses. The top five firms are IBM, Accenture, EDS (at present HP Enterprise services), Computer Science Corporation and Capgemini. Lead firms tend to operate in all segments of IT and ITES, such as ITO, BPO and KPO services. Supply firms in all segments of the value chain operate at a global scale with a similar business model, commonly referred to as the Global Delivery Model (Sako, 2009; Tata Consultancy Services, 2009). The model includes a global network of customer support offices, delivery centers in low-cost countries and headquarters. Following this model, large ICT firms can understand client needs and undertake multidimensional projects by hiring experts from developing countries with low wages that substantially reduce their costs and increase their profit margins.

India, the People's Republic of China (PRC) and Malaysia continue to be the lead offshore destinations because of a unique combination of availability of highly skilled manpower, favorable business environments and relatively low wage rates. In particular, India has remained at the forefront of the outsourcing industry and has become an enabler for industry growth through expansion of Indian offshore service firms in other countries (Global Service Location Index – GSLI, A.T. Kearney, 2009). Aside from India, amongst other South Asian countries, only Sri Lanka and Pakistan were ranked in the top 30 GSLI countries. Recently, Gartner has ranked Bangladesh in the top 30 outsourcing destinations. The Middle East and North Africa are emerging as popular outsourcing destinations.

The phenomenal growth of the ICT industry and its likely potential socio-economic impact in developed and developing countries has attracted the attention of both academics and policy-makers around the world. In this area, developing countries can play a significant role in the international division of labor as they can supply a low-wage yet talented workforce to provide offshore services to customers in developed countries. By developing the ICT industry, these countries can increase their employment and also their overall socio-economic condition.

THE GLOBAL VALUE CHAIN AND THE ICT SECTOR IN SOUTH ASIA

India's remarkable progress in the ICT sector is instructive for other South Asian developing countries with adequate infrastructure and human capital. However, in order to capture significant gains from the worldwide growth of the ICT industry, policy-makers and firms both need to have a clear understanding of its dynamics. The industry is global and the nature of the activities is complex. Thus, for a better understanding of the industry dynamics we need an analytical framework that can identify industry drivers, relations between clients and suppliers and the power of leading firms to influence market demand. This can be done by global value chain (GVC) analysis, which uses firm-level analysis to determine the different stages of software products or services and the value level of each component. In this way, GVC analysis can provide decision-makers with an instrument or means for determining where they may best enter the value chain in order to achieve their desired outcomes.

Based on surveys, this section analyzes value chains of Indian and Bangladeshi ICT firms for both domestic and global markets. The analysis includes both supply and demand factors in the context of geography, firm

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type and industry. The analysis of the following factors is important for better understanding the global value chain of the ICT industry:

- Value chains (horizontal and vertical) and market access.
- Skill level and competitive edge.
- Role of ICT cluster or park.
- Alliance, networking, quality and standards.

Thus, the GVC for Bangladeshi and Indian ICT firms in light of the above factors is analyzed.

Bangladesh

This section provides global value chain analysis for ICT firms in Dhaka, Bangladesh. The analysis identifies the horizontal and vertical activities in the value chains, the characteristics of firms in the value chain, and the different types of networking, alliances or partnerships that help firms operate in the GVC.

Value chains and market access

The value chains for software services in Bangladesh incorporate software and IT-enabled services. We have analyzed value chains for both exportoriented (46 percent of sampled firms) and non-exporting software firms (54 percent of sampled firms). Figure 3.3 shows the value chain for the export-oriented software firms while Figure 3.4 shows the value chain based on local demand for software. For export-oriented firms, at the higher end of the value chain are services in ERP (enterprise resource planning), followed by geographic information system (GIS) and digital content, graphics, e-commerce, website development and BPO (business process outsourcing) services. In terms of the vertical chain, demand for software mainly comes from the financial sector, followed by the medical and health sector, data entry and processing, pharmaceuticals, GIS, telecommunication and so on. Manufacturing remains in the lowest segment of the vertical chain in Bangladesh. The local value chain is led by e-governance software services followed by graphics, e-commerce, ERP, BPO, GIS and website services. Local demand is driven mainly by the banking and financial service sector, followed by media and entertainment, telecommunications, pharmaceuticals and so on.

To understand the global value chain, demand in the industry is analyzed at three levels: geographic, firm type and industry. Geographically, demand continues to be led by the United States and Canada, which together account for 39 percent of industry demand, followed by Europe



Figure 3.3 Value chain of the export-oriented software firms in Dhaka, Bangladesh

(28 percent), Asia (18 percent), Australia (8 percent) and the Middle East (7 percent). At firm level, large firms receive the largest proportion of business services, particularly in the upper segments of the value chain. At industry level, the financial, medical and health sectors are the main users of outsourcing services, followed by data entry, GIS and the telecom sector.

The global financial crisis in 2007–2008 affected the growth of sales of software firms. Figure 3.5 and Figure 3.6 demonstrate the average growth of sales of software services before and during the global crisis. The growth of sales was very volatile during the period 2005–2007. Generally, the



Figure 3.4 Value chain of the non-exporting software firms in Dhaka, Bangladesh

higher growth of sales of software services originated from e-governance, e-commerce, GIS and BPO services. The growth of sales of ERP and website services declined dramatically during the global crisis period.

Skill Level and Competitive Edge of Firms

It can be observed from Table 3.6 that the higher segments of the value chain for offshore/outsource service activities require higher levels of education than in case of the local value chain. It shows that e-commerce,



Figure 3.5 Average growth of sales of software firms by major activities, 2004–2005



Figure 3.6 Average growth of sales of software firms by major activities, 2007–2008

e-governance and ERP require higher levels of skill while other segments such as GIS, BPO, data entry and graphics are possible with lower levels of skill.

The educational background of the owner of the firm appears to play a role in determining the degree of integration in global value chains. Our focus group discussions with firm managers revealed that those who had graduated from foreign universities, particularly from US universities, appear to be more successful in getting outsourcing business. These graduates were

Software	Skill	Education level
E-commerce	BASIC, C++, JAVA, /Net, HTML, ASP, PHP, Database software, MS/SQL, MS	BSc/BSc Engineer or com. Science/Diploma
E-governance	BASIC, C++, JAVA, /Net, HTML, ASP, PHP, Database software, MS/SQL, MS Access, Oracle, UNIX/LINUS, XML, UML	BSc/BSc Engineer or com. Science/Diploma
ERP	BASIC, C++, JAVA, /Net, HTML, ASP, PHP, Database software, MS/SQL, MS Access/FoxPro, Oracle, Ms NT, XML, UML	BSc/BSc Engineer or com. Science/Diploma
GIS	JAVA, PHP, Database software, MS/SQL, Ms Access, Oracle	HSC/Diploma
BPO	JAVA, .Net, PHP, Database software, MS/ SOL, XML	HSC/Diploma
Data entry Website	BASIC, Database, Oracle, JAVA BASIC, JAVA, .Net, HTML, Ms Access, Database, Oracle	HSC/Diploma HSC/Diploma
Graphic	BASIC, HTML, ASP, PHP	HSC/Diploma

Table 3.6 Skill level by activity

Note: Based on 10% or more responses.

able to create networks with IT firms in the US while working there, and used such networks to establish IT firms or call centers in Bangladesh.

Two issues have emerged as the source of competition in the case of ICT firms in Bangladesh: price and quality. About 75 percent of firms replied that they compete on quality and about 50 percent mentioned that pricing is one of the important sources of competition (Figure 3.7).

The wage structure of ICT professionals in 2009 is shown in Table 3.7. The average monthly salary of a senior or mid-level manager and highly experienced manager ranges between US\$500 and US\$600. Less experienced engineers receive a monthly salary of around US\$350. Computer operators receive on average US\$150 per month.

The Role of ICT Cluster or Park

Until recently, Bangladesh had only one ICT cluster, namely the ICT Incubator (see Box 3.1). A total of 18 firms from the ICT Incubator were surveyed. In terms of profit as a percentage of revenue and export performance, incubator firms are performing better than non-incubator firms. Export of software services as a percentage of revenue increased



Source: Authors' calculations.

Figure 3.7 Sources of competition among the ICT firms

	Monthly average salary in 2009 (Tk)	Monthly average salary, 2009 (in US\$) \$1= Tk 68
Senior/mid-level manager	38 000	559
Experienced engineer	35000	515
(5 years or more)		
Engineer	25000	368
Operator	10000	147

Table 3.7 Wage structure of IT professionals, 2009

dramatically in 2009 among incubator firms. Gross profit as a percentage of revenue ranges between 20 to 25 percent, which is somewhat better than the non-incubator firms (Figure 3.8).

Major activities among Incubator firms include GIS and e-governance, while ERP and e-commerce constitute the major part of activities among non-Incubator firms (Figure 3.9). This indicates that incubator firms operate at the lower segment of the global value chain.

The strong performance of firms in the cluster is due to the availability of infrastructure, government support, the availability of a skilled work-force and sharing of human resources and, more importantly, the big attraction for potential customers and buyers (Table 3.8).
BOX 3.1 THE ICT INCUBATOR IN DHAKA

The Ministry of Science and Information and Communication Technology (MOSICT) set up an ICT Incubator in Dhaka in 2002 for development of the ICT sector in Bangladesh. The ICT Incubator at present houses 46 software and ITES companies. About 1700 persons, mostly software professionals, serve the Incubator companies. The Bangladesh Association of Software and Information Services (BASIS) is the management agent (MA) of the ICT Incubator.

Software and ITES companies are eligible to apply for space at the ICT Incubator. The applicant company must have a proven record in doing business in the software and IT-enabled service sector and must have at least five full-time programmers or IT professionals. The company must be registered in Bangladesh and the majority of the shares must be owned by Bangladeshi citizens.

The Incubator companies enjoy subsidized rental price and uninterrupted electricity supply with better bandwidth support. The tenants of the ICT Incubator pay Tk22 per square foot per month (compared to approximately Tk40 per sq. ft. at market rate) to the Bangladesh Computer Council (BCC). Generally, lease agreements with tenants are made for a two-year period and a security deposit equivalent to two months' rental charges is paid at the time of signing the agreement. The companies are expected to graduate and leave the Incubator after two years. However, our survey results show that the average time of companies at the Incubator is about ten years; most are small and medium-sized enterprises. Due to lack of strict enforcement on exit policy, firms continue to do business with favorable conditions, which makes it the only ICT cluster in Bangladesh. The companies in the Incubator are involved in all types of industry activities; however, the majority of activities are at the lower segment of the value chain.

Source: BASIS and our survey results.

Partnership, alliance, networking and quality standards

The global value chain term essentially implies that production, supply and service value chains span multiple locations at a global scale. Being a partner of one of the global IT leaders such as Microsoft or IBM makes it easier for firms to enter into the global value chain (Table 3.9).



Figure 3.8 Gross profit as % of revenue



Figure 3.9 A snapshot of sales revenue from major activities of firms, 2009

Microsoft partner

Microsoft started its operation in Bangladesh in 2004. Until now, nine IT firms have received its Gold Certified Partnership (Level 1), six have received Certified Partnership (Level 2) and around 100 firms are registered partners (Level 3) of Microsoft. Level 1 recognizes that the firm has the highest level of expertise in Microsoft technologies, enabling members at this level to establish the closest working relationship with Microsoft and to receive the program's top benefits. Level 2 indicates that the firm

	%
Availability of skilled workforce	50.32
Availability of facility (infra)	83.66
Availability of supply chain	17
Attraction for customers and buyers	34.65
Sharing human resources	39.87
Government support	63.4

Table 3.8 Advantages of clustering

has a high level of expertise in Microsoft technologies and is entitled to participate in several events, to have access to resources, tools, software and first-class benefits in order to expand their business. Level 3 is for organizations with less expertise in Microsoft technologies; members have access to resources that help their business stay up to date with the latest Microsoft technologies, enabling them to serve their clients better and to grow their market potential.

IBM Partner

IBM Partner World is the IBM business partner program designed to help SMEs succeed in the market place and to strengthen their relationship with IBM. There are three tiers of membership: Member level, Advanced level and Premier level. Member level is the lowest level and the Premier level is the highest level, based on members' level of investment in IBM products. Premier level of partnership consists of certifications, solutions, revenue achievement, high customer satisfaction and joint marketing plans. Participation in the GVC helps companies as well as IBM to attain the common goals of any well-functioning enterprise, such as coordinating business functions across the supply chain, developing mutually beneficial ways to strengthen the supply chain relationship, synchronizing supply and demand through planning and forecasting and so on. The Partner World program benefits can be shown schematically as follows:

 $\begin{array}{c} Marketing \longrightarrow Selling \longrightarrow Technical \longrightarrow Training \longrightarrow \\ Collaboration \end{array}$

CMMI certification

The Capability Maturity Model (CMM) certification was created in 1989 with the purpose of developing and refining software development processes. However, CMM were replaced by CMMI (Capability Maturity Model Integration) in 2007. Software development companies throughout

	aover in Profit as % 2009 of revenue ion Tk) (2009)	- 20	25 20	90 20	2000 10	300 23	I
	Employees Turr 2 (mill	75	95	75	170 2	279	140
	IBM partner				×		
	CMMI level 3		×	×		×	×
ſ ſ	Microsoft Gold Certified Partner	X		×	×		X
J _	Year of Est.	1992	1992	1995	1998	1998	1996
	Company name (business lines)	Dohatec New Media (application integration, mobility and web development)	Leads Corporation Limited (custom application software development, network infrastructure building, servers, POS, and ATMs)	Spectrum Engineering Consortium Ltd (identity and security, midmarket solution provider, server platform)	Thakral Information Systems Pvt Ltd (midmarket solution provider, volume licensing)	Datasoft (custom software, IT consultancy, business solution)	SouthTech (business intelligence, data platform enterprise, resource

Table 3.9 Profile of companies that are partners of Microsoft and IBM and/or obtained CMMI certification

Notes: X indicates partner. - indicates unwillingness of firms to provide necessary information.

Source: Our survey data and company websites.

the world adopted CMM as a quality certification. Alternatively, CMMI is a process improvement approach that aims to increase efficiency and quality of processes and functions applied to any sector, as opposed to just software (Software Engineering Institute, 2009). At least six IT firms in Bangladesh have so far received CMMI Level 3. A domestic-market oriented firm, DataSoft has also obtained CMMI Level 3 as recognition of its excellent performance in providing IT services (Box 3.2).

Having membership with Microsoft or IBM has been instrumental in enabling firms to access regional growth opportunities and therefore to become more integrated in the GVC. For example, the Microsoft Bangladesh office supports Nepal and handles the marketing and promotion of Microsoft products and solutions in Nepal. Microsoft Bangladesh has appointed several Bangladeshi and Indian firms as distributors in Nepal. For example, Ingram Micro (India) Exports Pvt. Ltd., Multimode Ltd. and Thakral Information Systems are engaged as Microsoft distributors in Nepal. From interviews it was also evident that a relationship with Microsoft or IBM and CMMI Level 3 certification provides firms with a certain level of prestige and opportunities. These firms can easily establish relationships with other transnational corporations (TNCs). Firms suggest that standard certification (e.g. CMMI) is important not just as a stamp, but also as an intrinsic set of values and a management approach that is based on quality and performance.

Networking, dynamics of cooperation, intellectual property and competencies

Networking and alliances play an important role in gaining market share in the ICT industry. It is evident from Table 3.10 that about 30 percent of firms collaborate with local firms and about 13 percent of firms collaborate with foreign firms. Firms collaborate with other local firms in the areas of software coding (47 percent), software development (30 percent) and website development and analytics (27 percent). Firms collaborate with foreign firms mainly for networking (31 percent), to overcome the lacking of expertise (27 percent) and for financial support (31 percent). Such horizontal collaboration increases profit and provides greater access to markets, particularly by collaborating with foreign firms. A few firms highlighted that collaboration is not always beneficial, and sometimes it even creates problems in project management. It may also lead to being dependent on other firms.

Interestingly, the basis for collaboration is mainly related to product specialization. Other issues, such as goodwill, short distance and clustering, are not so important for horizontal collaboration in the software industry (Figure 3.10).

BOX 3.2 CASE EXAMPLE OF DATASOFT SYSTEMS BANGLADESH LTD

DataSoft Systems Bangladesh Limited is a CMMI Level 3 and ISO 9001:2000 certified leading software company in Bangladesh. Founded in 1998, DataSoft has a successful track record for delivering services to customers in both the commercial and government sectors. Since its inception back in 1998, it stepped into the core field of ICT to cater to the needs of enterprise, government and the economy more generally. DataSoft has adopted several approaches towards continuous training and development of human resources to adapt to national and international market demands.

2009

CMMI

Level 3

2010: Dhaka &

Chittagong

custom house

automation

DataSoft undertook the automation of the Chittagong Custom and Dhaka Custom House on a public–private partnership (PPP) basis. Recently, DataSoft has signed the largest ICT project ever in Bangladesh, the CTMS (Container Terminal Management System) project with the Chittagong Port Authority. This is a combined initiative between ST Electronics (Info-Software Systems) Singapore, NAVIS (USA) and DataSoft. The company has formed alliances with international firms located in the USA, Europe and in other countries. Securing alliances with international IT firms helps to expand in new industries, regions and market niches.

About 75 percent of DataSoft's revenue comes from the local market and 25 percent from exports. Gross profit has averaged about 25 percent of revenue in recent years. The firm has established expertise in financial service software, including for Microfinance Institutions. The firm exports its software to Japan, USA and Switzerland.

Source: http://www.datasoft-bd.com/.

1998

established

Types of collaboration	% of firms	Areas of collaboration	Merits of collaboration	Demerits of collaboration	
Domestic	30	Software coding (47%) Software development (30%) Website (27 %)	Increase profit (63%) Greater market access (33%) Employee and cost sharing (20%)	Project management problem (17%) Increase dependency on other firm (10%) Misunderstanding about customer preference (20%)	
Overseas	13	Lack of expertise (27%)	Increase profit (62%)	Business security decrease (7%)	
		Networking (31%) Financial support (31%)	Greater market access (77%)	Visa problem (7%) Cultural difference (7%)	
25					
30 -					
25					
20					
15					
10					
5]				
Shor	ť	Product Co	mmon pool Goo	odwill Clustering	
distan	ce	specialization of	f resources		

Table 3.10Status of networking and collaboration in the ICT industry in
Bangladesh

Figure 3.10 Modalities for horizontal collaboration

Of note between 2008 and 2009, revenues have increased significantly as a result of closer collaboration among software firms. The growth is very high for collaboration in the areas of software development and BPO activities, implying that more firms are now involved in horizontal collaboration (Figure 3.11).

The strength of ICT firms lies in their labor skills. All firms interviewed confirmed that the lack of qualified and skilled human resources, as well as the mobility of skilled workers, poses a threat to their firm's



Figure 3.11 Growth of revenue from different types of horizontal collaboration

position in the market niche. Graduates from academic institutions do not have skills appropriate to the ICT industry. As a result, every firm has to provide on-the-job training. However, after completion of the training most trained employees tend to switch to other firms with better salaries and remuneration packages. Another threat for the firms is the lack of enforcement of intellectual property rights (IPR). Although the Bangladesh government enacted an IPR Act in 2009 (Trademark Act, 2009), lack of implementation and enforcement has become a big threat for ICT companies. Because of this, Microsoft in Bangladesh decided to work with the government on IPR from the very beginning of its involvement in the country.

India

India is the leading global participant in the ICT offshore service industry. The ICT industry has developed very rapidly in India and many states of India have provided infrastructure facilities to facilitate growth of the industry. Followed by Bangalore, the oldest ICT cluster in India, some other cities such as Delhi, Hyderabad, Mumbai and Pune have emerged as ICT clusters. One of the objectives of this study is to examine the value chain of ICT services in India as well as to see how firms in different clusters interact with each other. The findings on Indian ICT firms can then be examined in order to understand whether the Indian model could be applicable to other South Asian countries.



Figure 3.12 Profit of ICT firms in Delhi by product (profit as % of revenue)

Value chain of Delhi cluster: horizontal and vertical chains and market access

In the Delhi cluster, about 40 percent of the firms export their software services. The profit before tax (gross profit) of firms has shown an increasing trend from 2006, with a slight decrease in 2009. On average, gross profit is estimated to be about 21 percent but it is slightly higher among the exportoriented firms. The global recession impacted profits of software firms in Delhi, and profit on almost all products decreased in 2009 (Figure 3.12).

The value chain for software services in India incorporates all services including IT and ITES. Our value chain analysis is based on both quantitative and qualitative analysis. The quantitative analysis is based on the data collected from the Delhi cluster by surveying 60 ICT firms. The qualitative analysis is based on focus group discussions and surveys of selected firms in Bangalore. Some 80 percent of sales relate to the Indian domestic market, and the value chain is biased towards the domestic market. Thus we have analyzed the value chain for all surveyed firms without differentiating between the value chain for domestic and export-oriented firms.

Figure 3.13 shows the value chain for the software firms in the Delhi region, particularly those located in the Noida and Gurgaon regions. At the higher end of the value chain for ICT firms are services in software (application, development, solution and services) followed by ERP (enterprise resource planning), website development, IT consultancy, BPO (customer relationship, enterprise resource and human resource management: CRM, ERM and HRM, respectively), e-commerce, data entry and processing, and GIS. In terms of the vertical value chain, demand for software mainly comes from the manufacturing industry followed by media and entertainment, public services, banking and financial institutions, telecommunication, medical and health, and construction services.



Figure 3.13 Value chain of the software firms in Delhi, India

Due to high integration of firms and their presence in the GVC, they were affected by the global financial crisis in 2008–2009. Almost all software firms experienced a drop in their sales in the domestic market as well as in the US market (Table 3.11).

Role of ICT cluster

Most software firms in the Delhi region responded positively on the issue of location or cluster advantage. All firms mentioned that an ICT cluster brings benefits in time and cost and also provides easy access to a skilled

Impact of global crisis	% of firms affected	Responses
Drop of sales in India	100	 Reduce employee (50%) Reduce cost (50%)
Drop of sales in the US	31.67	 Reduce employee (53%) Reduce cost (47%)

Table 3.11 Impact of global crisis and response

Table 3.12	Advantages	of ICT	cluster,	Delhi
------------	------------	--------	----------	-------

	No. of firms responded	%
Time and cost advantage	60	100
Access to technology	17	28.33
Access to market	11	18.33
Support from industry association	17	28.33
Support from local govt.	34	56.67
Access to FIs	34	56.67
Access to skilled workforce	60	100

workforce. Moreover, through the ICT cluster (or park), firms receive various supports from the government and get easier access to financial institutions (Table 3.12 and Figure 3.5). These supports are critical for firms at the initial stages of businesses. However, a cluster does not provide access to market and technology, which is important for moving up the value chain during later stages of development.

Competitive edge of Indian software firms

The average age of firms in the Noida and Gurgaon areas is 13 years. More than 80 percent of firms compete primarily on the basis of costs, quality and risk. Lower costs and high quality, along with risk-averse positions, fuelled the demand for software products (Figure 3.14). The findings imply that software firms in the Delhi cluster are still unable to differentiate their products and hence they largely compete on costs and quality.

The low-labour-cost advantage of Indian software firms still remains an important factor for growth of the ICT industry in India. Table 3.13 indicates that the monthly salary of a senior manager was about US\$1000 in 2009, compared to about US\$672 in 2005. The monthly salary of midlevel managers, engineers and system analysts is somewhat lower than for senior managers. The compound annual growth (CAGR) of salaries



Figure 3.14 Sources of competition among IT firms, Delhi

Table 3.13 Wage structure of software firms, Delhi

Category	Monthly average salary in 2009 (rupees)	Monthly average salary in 2005 (rupees)	Monthly average salary in 2009 (US\$)	Monthly average salary in 2005 (US\$)	CAGR (%) (rupees)
Senior manager	46780	29424	1072	672	9.7
Mid-level manager	41 898	24780	916	566	11.1
Engineer	25983	16000	568	365	10.2
Systems analyst	17 500	12000	383	274	7.84
			Ex. Rate: 45.75	Ex. Rate: 43.80	

is around 10 percent, which is almost at par with the annual inflation rate. Therefore, the salaries of software professionals, in real terms, have not increased much relative to the 2005 level, which maintains the cost advantage for Indian software firms.

Networking, alliances and dynamic cooperation

Networking among software firms in the same cluster as well as other clusters can generate several types of benefits for firms, especially small and medium-sized firms. Networking helps SMEs to grow through cost savings, risk-sharing and greater access to markets. Our survey results suggest that almost all firms in the Delhi cluster maintain some sort of networking with firms located in the same cluster as well as other clusters. These firms are highly integrated locally and regionally, and they have networks with overseas firms (Box 3.3). Table 3.14 shows that profit is

BOX 3.3 INTERRAIT'S GLOBAL DELIVERY MODEL (GDM)

InterralT's GDM enables its customers to leverage various locations around the world, thereby providing optimized value for every component of delivery. The model is customized for every project, where the objectives include determination of project costs and level of expertise. Based on these considerations and factors, InterralT evaluates a client's location (onsite). It then determines which of its development centers in Noida and Kolkata (Offshore) would provide the best value in terms of cost, skill availability, service coverage, efficiency and quality of deliverables. On this determination, delivery center is established in the location that provides the best fit.

For development projects, the GDM has been very successful in executing 72 percent of the project offshore, including detailed design, code development, unit and integration testing and packaging of the software. The delivery activities that are performed at the onsite area are definition, analysis and high-level design. Implementation is done at onsite with continuous support from offshore. This is a model that is used for the majority of projects where the required skills are available offshore. If it is hard to find the skills at offshore, the model is altered to leverage the skills onsite, that is, most of the project delivery is moved to onsite with support from offshore.



In testing engagements, the ease of setting up the local testing environment drives the decision of selecting a suitable delivery model. InterraIT's GDM provides the customer with access to a dedicated testing team which tests software onsite as well as offshore.

The GDM has its obvious benefits that account for its increasing success and popularity. Some of the benefits include reduced cost of ownership, availability of resources and flexibility of deployment, risk reduction for critical operations and services, and leverage to world-class quality.

These business imperatives act as drivers for leveraging the GDM, making it a strategic tool for gaining competitive advantage for corporations worldwide. The competitive edge provided by the "onsite-offshore" model is very high, as is evident from the fact that over 79 percent of all Fortune 500 companies have a global delivery strategy in place.

Source: http://www.interrait.com/.

Networking with clusters	No. of firms (N)	Profit (as % of revenue)	t-value
Hyderabad	17	21.4	1.78*
Pune	29		
Bangalore	60		
Delhi	60		
Mumbai	27		
Chennai	24		
Overseas	22	21.8	

Table 3.14 Networking with other firms and profitability

Note: * Significant at 10% level.

significantly higher for firms in overseas networks than those solely in domestic networks.

As mentioned earlier, firms that are the members of various global IT leaders can improve their performance and find a place in the global value chain. Table 3.15 lists selected firms that have partnerships with Microsoft as well as other global IT leaders, such as IBM, Oracle and Google. Partnership with these global IT leaders enables these firms to get access to their production networks, which ultimately helps these firms to operate

		,				
Firm (business lines)	Year established	Location	Membership/Partner	CMMI level	Profit as % of sales revenue	Total number of employees
Path Infotech Limited (consulting, data analytics, IT services, ITMS)	1995	Noida	Microsoft Gold Certified partner; ISO certified; Oracle Platinum partner		22	23
InterralT Software India	1996	Noida	IBM partner	Level 5	21	36
Wildnet Technologies	2005	Noida	Microsoft Gold Certified partner; ISO certified;		22	34
			Google certified partner			
ISHIR Infotech	2000	Noida	Microsoft Gold Certified partner; ISO certified;	Level 3	22	70
Adapt Software IAP India	2002	Gurgaon	Microsoft Gold Certified partner; ISO certified;		20	37
Eon Technologies	1999	Gurgaon	Microsoft Gold Certified partner; ISO certified; Sun and Oracle partner		23	78
Globrin Systems and Solutions	1999	Gurgaon	Microsoft Gold Certified partner; ISO certified		21	53

Table 3.15 Selected firms having partnerships with Global IT leaders

Source: Interviews and firms' websites.

in the GVC. However, no cross-border software production and distribution networks exist between India and other SAARC countries (Box 3.4).

Moving Up the Value Chain: Entrepreneurship Development

The improvement of performance of firms participating in a GVC requires changes in the nature and mix of activities carried out in each link in the chain and the relationships among firms. To consolidate gains in the ICT industry, firms need to move up the value chain through process, product, functional and chain upgrading.

Process upgrading

Process upgrading is necessary to increase the efficiency of internal processes. It includes both processes within individual links in the chain and between the links in the chain (e.g. more frequent, smaller and ontime deliveries). Empirical evidence shows a variety of relevant learning processes among suppliers in GVCs. For example, the adoption of business concepts and standards, such as CMMI certificates, International Organization for Standardization (ISO) certificate and partnership with global IT leaders such as Microsoft, IBM, Oracle and Google helps firms in moving up in GVCs by a combination of pressure and support from the lead firms. Successful adoption of such standards is an important means of industrial upgrading, one that in part protects firms from lower-cost competitors who are not able to comply with these standards.

Product upgrading

Product upgrading refers to the ability to produce new or more competitive products. Most firms in Delhi and Dhaka compete on low costs and are not able to differentiate their products. Globally, KPO and BPO remain in the upper segment of the value chain, for which companies need to upgrade their products, especially by investment in research and development (R&D). Distributional and after-sales services are among the activities most frequently transferred within GVCs. Outsourcing these activities implies considerable advantages for downstream partners, mainly because they can rapidly cover extensive markets while minimizing risks and investment in distribution channels. The local distributor thus benefits from the use of an established brand name, a proven business concept and the transfer of knowledge from the brand owner. This greatly reduces the risk of failure for the local firms, particularly SMEs. Product standards are also more often enforced through value chain relations, given that the final producer or distributor of the product is held accountable for compliance and thus takes a strong interest in assuring compliance at previous stages of the value-added process.

BOX 3.4 CROSS-BORDER SOFTWARE PRODUCTION NETWORKS IN SOUTH ASIA

Global restructuring of the ICT sector is reflected in the growing share of top 250 ICT firms accounted for by those in Asia and emerging countries; previously, this sector was dominated by firms located in OECD countries (OECD, 2008). Among Asian countries, PRC; India; Taipei, China; Indonesia; Korea; and Malaysia are notable examples. However, with the exception of India, none of the firms located in SAARC countries are in the top 250 list. Moreover, our analysis indicates that no cross-border software production and distribution networks exist between India and other SAARC countries. India's large IT firms are increasingly expanding their business delivery centers in many other countries, except SAARC countries. For example, Tata Consultancy Services has 142 delivery centers or subsidiaries in 42 countries, but it does not have any delivery centers in SAARC countries.

It is apparent from various OECD Reports on Information and Communication Outlook that multinational IT companies are opening up their delivery centers in countries which have production bases in electronics, hardware and telecommunication equipment. On the other hand, Indian IT companies are opening up delivery centers or subsidiaries in countries where domestic demand for software services is strong. They consider locations that are convenient to clients and that can provide the best value in terms of cost, skill availability, service coverage and quality of deliverables. Indian IT firms establish production networks largely with IT firms in other parts in India, but not - except for a few examples - with IT firms in other SAARC countries. NIIT, a leading IT training institute in India, has established centers in Bangladesh, Sri Lanka and Nepal; however, this is not a software producing firm. Bangladeshi IT firms also appear to be reluctant to establish production network with Indian firms, mainly from the fear of leakage of business secrecy and the inability of establishing fruitful collaboration (see Table 3.10).

In interviews with IT business people, it became clear that SAARC governments can only succeed in promoting the ICT industry in their respective countries if they are able to attract big IT MNCs to establish subsidiaries in their countries.

Source: Various firms' websites.

Functional upgrading

Functional upgrading seeks to increase the value added by changing the mix of activities conducted within the firm (e.g. taking responsibility for outsourcing accounting, logistics and quality functions) or moving the locus of activities to different links in the value chain (e.g. from software development to IT consultancy). Original brand manufacturers in the area of IT and electronics in a number of developing countries have been able to perform complex functions in GVCs because of the critical mass of skilled enterprises and human resources in these countries. For instance, General Motors, HP, Compaq, Nortel and Sony have outsourced IT services to Wipro in India. Some SMEs became global suppliers or even TNCs in their own right through functional upgrading in a GVC.

Chain upgrading

Chain upgrading creates opportunities for suppliers that have developed competencies and skills to move to a new value chain. For example, firms operate in the lower segment of the value chain, such as website or BPO services in Dhaka, or data processing or GIS in Delhi, can gradually move to the upper segment of the value chain by hiring the required level of skilled labor force, adopting the Global Delivery Model and establishing networks with vertical chains.

Conclusion

This section has analyzed the value chains of software firms located in Delhi and Dhaka. The value chain is quite different in the two locations. While Bangladeshi software firms mainly develop customized software and provide ITES according to client needs, Indian software firms can develop standard software that can be replicated for general purposes. Industry demand is mainly driven by the manufacturing sector in the case of Delhi firms, while it is the financial institutions that drive most of the software demand in Bangladesh. Demand from the manufacturing industry is the lowest in Bangladesh. In Bangladesh, the value-added services for non-exporting firms are those related to e-governance, which are mainly due to increased e-governance projects undertaken recently by the public sector. Geographically, for export-oriented firms in both India and Bangladesh the demand for software services continues to be led by the US and Canada.

Only large firms in Bangladesh are found to be active in the global value chain through their partnership with Microsoft, IBM, Oracle and so on, and by acquiring CMMI certification Level 3. On the other hand, in Delhi, SMEs are active in the value chain through their networks with firms in other clusters as well as having partnerships with global IT giants with higher levels of CMMI certificates (most of the CMMI 4 and 5 rankings are awarded to Indian firms). In Bangladesh, networking with other firms is relatively weak, which indicates that the ICT industry in Bangladesh is still at its nascent stage. Since in Bangladesh, larger firms seem to control the business, more government support for SMEs is required, particularly by providing infrastructure and financial support through establishment of ICT parks. Moreover, IT SMEs should endeavor to tie up with IT giants like Microsoft, IBM, Google and Oracle. Using this type of collaboration with larger firms, SMEs can gain the benefits of collective efficiency and larger production and distribution networks, which ultimately help them gain footholds in national and global markets.

In India, the Global Delivery Model (GDM) works as a catalyst for entering into the GVCs. Almost all software firms follow a similar GDM, as described in Box 3.3. To develop such a GDM, firms need to be equipped with the proper infrastructure, networking policies and human resources, which were the key success factors for India. The pool of qualified human resources is still inadequate in Bangladesh and other SAARC countries to meet the growing demand of firms, which is one of the factors hindering attraction of more foreign direct investment (FDI) into this sector. SAARC member states should formulate policies toward attracting more FDI, which must include significantly improved physical and telecommunication infrastructure.

Developing a firm's dynamic capabilities is another concern for development of the ICT industry. The adoption of various business models by Indian firms over time could be instructive for other countries. The competitive pressure exerted by various heterogeneous new entrants compelled the Indian software industry to build up both a general capability (for outsourced service delivery) and various firm-specific capabilities (particularly software process management) for productivity enhancement. Indian software firms undertook various strategies to be competitive, one of which was to acquire quality certification, such as the CMMI Levels 4 or 5. Another strategy was product specialization. For example, TCS and Infosys largely concentrate on finance and insurance-related software, Pentafour concentrates on digital assets in animation, Satyam on automated systems for transport manufacturing and Wipro on telecommunications and R&D. Another important aspect of Indian software firms is that they leverage their capabilities for maximum economic value through the adaptation and perfection of new business models. One of the outsourcing models is commonly known as offshoring, which has been applied to areas such as call centers, financial services and content management services of large firms that can be done remotely.

The escalation of wage rates of senior managers or engineers in India could open up possibilities for attracting Indian IT companies to establish delivery centers in other SAARC countries. Our analysis shows that wage rates in Bangladesh are almost half the rates in India. In this respect, global IT firms can consider Bangladesh (or other SAARC countries) for their offshore services or for starting delivery centers. In this way, collaboration amongst SAARC countries based on cost advantages can be mutually beneficial.

SPATIAL INTEGRATION OF ICT FIRMS IN BANGLADESH AND INDIA

Introduction

An interesting quote from a website is as follows: "Silicon Valley is the only place on Earth not trying to figure out how to become Silicon Valley."⁴ That is, the better-performing firms usually do not try to copy other firms in other clusters or locations but copy among the better performing firms. ICT integration can be viewed from this perspective: firms in a cluster or location always try to improve their performance by copying their neighbors' policies that are making those neighbors successful. Each firm, in this case, wants to propel its performance to a level that is cherished by everyone and one way to achieve this is by way of adopting policies that are seen to be successful elsewhere.

When a firm attempts to imitate other successful firms, a degree of spatial dependence evolves. Insofar as location and distance (physical, economic or otherwise) are critical factors, the notion of spatial interaction and diffusion, hierarchies of location, and spillover effects become matters of importance. Based on these issues the spatial dependence may be conceived in two different ways: spatial error and spatial dependence (Figure 3.15).

In these archetype model realizations, i and j are neighbors and their effects are transmitted concurrently, that is, without any lags, a reasonable supposition given the cross-section. The term "neighbor" as used in this context does not necessarily mean a geographic neighbor; rather, it can be generalized to any network structure. Defining neighbors has always proved difficult and, as pointed out by Anselin (2002), Sole Olle (2003) and others, a common procedure for specifying these interactions uses geographic proximity criteria. However, other distance metrics could be used. The fact that the performance of neighboring firms has an impact on the performance of firm i does not imply that all neighbors have equal



Figure 3.15 Archetypes of spatial error and spatial dependence

influence. Firm j's impact on firm i's performance depends on the complementarity of their respective operations.

The performance of 100 ICT firms in Bangladesh and 60 ICT firms in India was analyzed from the viewpoint of spatial integration. However, due to practical difficulties, spatial integration is conducted separately for each country. Even though there are different indicators of the performance of a firm, sales revenue is used as an important proxy in this analysis.

Econometric Model

Following the above discussion of the possible presence of a spatial effect, we posit a general model in which firm *i*'s performance (y_i) depends on the performance of neighboring firms and a set of firm-specific variables:

$$y_i = \rho y_i + x'_i \beta + u_i; i = 1, ..., N; j = 1, ..., N;$$
 (3.1)

With multiple neighbors, y_j in equation (3.1) is replaced with $\sum_{j\neq i}^N \omega_{ij} y_j$ where $\omega_{ij} = 1$ if firm *j* is a neighbor of firm *i* and $\omega_{ij} = 0$ if firm *j* is not a neighbor of firm *i*. Besides, $\omega_{ii} = 0$ for an obvious reason. Vector ω_{ij} indicates the relative importance of each firm to firm *i*. Additionally, ρ is a scalar parameter measuring the slope of the reaction function; $\mathbf{x}_i (k \times 1)$ is a vector of firm-specific characteristics, and β is the corresponding vector of coefficients on the conditioning variables. The first element of \mathbf{x}_i is unity to allow for the intercept. We assume that the parameters ρ and β are constant across space. The system of equations for all firms is written in the following matrix form:

$$y = \rho W_1 y + X\beta + u = y = (I_N - \rho W_1)^{-1} X\beta + (I_N - \rho W_1)^{-1} u \quad (3.2)$$

where: $y = (y_1, ..., y_N)'$ is the $(N \times 1)$ vector of firm performance;

- W_1 is an ($N \times N$) matrix of spatial weights;
- X is an $N \times K$ matrix with rows given by the set of vectors x'_{I} and
- *u* is the corresponding $(N \times 1)$ error term vector.

Notwithstanding interaction through the dependent variable, neighbors could still be subject to correlated random shocks and the presence of such shocks produces a correlation between firms' levels of performance that could result in the presence of causal influences that are actually not there. To correct for this potential correlation among the firms, errors of neighbors is allowed in the following way:

$$u_i = \lambda \sum_{j \neq i}^N \omega_{ij} u_j + \varepsilon_{ij} \Rightarrow u = (I - \lambda W_2) \varepsilon i = 1, \dots, N; j = 1, \dots, N$$
(3.3)

where ε is an idiosyncratic error that is uncorrelated between firms: $E(\varepsilon_i\varepsilon_j) = 0$ for $i \neq j$. In this study there is potential for dependence on neighbors through performance (y), as well as through errors (u), and to mimic each other. If spatial correlation in the error terms is not corrected for, it would not affect the consistency of the β parameters, but it would reduce its efficiency. However, ignoring the spatial lag term when ρ is nonzero would be more serious as it will yield inconsistent estimates of the β parameters. When the errors in equation (3.2) are correlated with the right-hand-side variables, ordinary least squares (OLS) will lead to inconsistent estimates. To remove the dependent variable from the right-hand side, we can invert it to the following reduced form:

$$y = (I_N - \rho W_1)^{-1} \beta X + (I_N - \rho W_1)^{-1} (I_N - \lambda W_2)^{-1} u \qquad (3.4)$$

Where I_N is the identity matrix of size N and which gives the solution of the Nash game equilibrium solution. Given that the error term is $u = \lambda W_2 u + \varepsilon$, equation (3.4) now incorporates the potential correlation between errors of neighbors and performance and is now written as a non-linear function of exogenous variables, X. With this correlation, estimating using OLS would lead to inconsistent parameters. Maximum likelihood estimation is complicated when one accounts for spatial correlation in the error term by possible identification problems (Anselin, 1988). In this application, the instrumental variables approach is followed

Bangladesh					
Weight Matrix =>	WQ11	WQ62a	WQ63a	WQ64	WQ64b
Moran's I	0.002**	0.106***	-0.015	-0.003	0.009***
	(1.957)	(8.768)	(-0.455)	(0.896)	(4.468)
Geary's C	0.992	0.832***	1.012	1.058	0.955
	(-0.146)	(-5.163)	(0.232)	(1.045)	(-0.880)
Getis and Ord's G	0.709**	0.510***	0.574	0.647*	0.762***
	(1.944)	(-3.410)	(-0.612)	(1.507)	(-2.672)
India					
Weight Matrix =>	WQ413	WQ414	WQ417	WQ418	WQ420
Moran's I	-0.029	-0.024	-0.835	-0.028	0.022**
	(-0.731)	(-0.278)	(-0.577)	(-0.486)	(1.902)
Geary's C	0.966	1.009	1.017	0.971	0.988
•	(-0.372)	(0.357)	(0.466)	(-0.521)	(-0.174)
Getis and Ord's G	0.587	0.492	0.496	0.510	0.520**
	(-0.070)	(-0.835)	(-0.528)	(-0.609)	(-1.811)

Table 3.16Global spatial autocorrelation statistics of revenue:Bangladesh and India

Notes: Figures in the parentheses are 'z' statistics. WQ11 is a binary weight matrix if the firm is located in a cluster. WQ62a is a binary weight matrix if the firm hires IT expert from abroad. WQ63a is a binary weight matrix if the firm has undertaken any collaborative project with another domestic firm. WQ64 is a binary weight matrix if the collaboration is with another firm in the same cluster. WQ64b is a binary weight matrix if the firm collaborates with a foreign firm outside the country. WQ413 is a binary weight matrix if the firm interacts with firms in Hyderabad. WQ414 is a binary weight matrix if the firm interacts with firms in Pune. WQ417 is a binary weight matrix if the firm interacts with firms in Chennai. WQ420 is a binary weight matrix if the firm interacts with firms in Chennai.

as it avoids this issue, it is computationally easier to implement, and it does not require distributional assumptions on the error term ε .

Empirical Analyses

Spatial dependence

As a first step toward spatial analysis, global spatial autocorrelation was estimated for revenues in both Bangladesh and India, based on as many as five spatial weight matrices. Three alternative measures – Moran's I (Cliff and Ord, 1981), Geary's C (Geary, 1954) and Getis and Ord's G (Getis and Ord, 1992) statistics – were used to assess the global spatial correlation of sales revenue. The results are presented in Table 3.16.

The sales revenue data for Bangladesh (Table 3.16, upper panel) show a degree of spatial correlation in sales revenue, except when the weight matrix relates to collaboration with another domestic firm. However, the diagnostics of OLS results reveal spatiality with this weight matrix (WQ63a). In contrast, Indian ICT firms show little spatiality, as none of the measures of global spatial correlation reveal evidence of spatial association except when an interaction of firms with foreign entities is considered (Table 3.16, lower panel). Since the performance of firms is affected by both spatial factors (neighbors) as well as firm-specific factors, it is expedient to explore the presence or absence of such an association from a regression perspective.

Accordingly, separate OLS regressions were estimated for both Bangladesh and India.⁵ Residuals from OLS regressions were used with each of the five weight matrices for diagnostic analyses. Five diagnostic tests were performed to assess for the missing spatially lagged dependent variable and the error terms. The robust form of the Lagrange multiplier (LM) (lag) tests for spatial lagged dependence in the possible presence of error dependence in the model. Similar explanation applies for the robust form of the LM (error) test. The results are presented in Table 3.17.

The regression diagnostics also corroborate presence of spatiality, albeit the evidence is tenuous. It should be noted that these statistics are sensitive to the selection of the weight matrix. Since the true weight matrix is not known and in the absence of strong theoretical underpinnings, these results should not be taken too seriously. However, one should proceed to examination of spatial dependence through both the dependent variable and the error term before making any final judgment. This is accomplished by the spatial regression analysis that follows. The regression models for both Bangladesh and India implicitly assume revenue-maximizing behavior of the firms, following the neoclassical theory of production. Accordingly, sales revenues are dependent on the basic inputs - capital and labor - as well as on firm characteristics. For Bangladesh, firm characteristics include age of the firm as measured by the number of years the firm has been in operation, frequency of in-house skill development programs for employees, share of local market sales by the firm, experience of the entrepreneur, relative size of the firm, whether or not the firm faced any difficulty during last five years, whether the firm adopted promotional activities to gain market share, and the legal status of the company. For India, firm characteristics include basic inputs, legal status, experience, educational attainment of the entrepreneur, and age of the firm. Choice of explanatory variables other than the basic inputs was dictated by the availability of data.

The spatial dependence regression results for Bangladesh and India

Bangladesh					
Weight Matrix =>	WQ11	WQ62a	WQ63a	WQ64	WQ64b
Spatial error					
Moran's I	2.217*	-0.496	1.524	0.327	-0.139
	[0.079]	[1.380]	[0.127]	[0.743]	[1.110]
Lagrange	0.225	2.765**	0.180	0.077	0.376
multiplier	[0.635]	[0.038]	[0.672]	[0.781]	[0.540]
Robust Lagrange	1.263	1.106	2.264*	2.1878*	2.089*
multiplier	[0.261]	[0.293]	[0.101]	[0.109]	[0.102]
Spatial lag					
Lagrange	0.448	2.133*	1.478	0.653	0.531
multiplier	[0.503]	[0.071]	[0.224]	[0.419]	[0.466]
Robust Lagrange	2.487**	0.474	3.462*	2.663*	1.243
multiplier	[0.022]	[0.491]	[0.063]	[0.103]	[0.265]
India					
Weight Matrix =>	WQ413	WQ414	WQ417	WQ418	WQ420
Spatial error					
Moran's I	-0.220	0.270*	-0.438	-0.532	-0.648
	[1.174]	[0.078]	[1.339]	[1.405]	[1.483]
Lagrange	0.472	0.086*	0.640	0.753	0.928
multiplier	[0.492]	[0.076]	[0.424]	[0.386]	[0.335]
Robust Lagrange	1.073	0.905	0.098	1.645*	2.002*
multiplier	[0.300]	[0.342]	[0.754]	[0.104]	[0.103]
Spatial lag					
Lagrange	2.791**	2.697**	1.937*	0.137	0.004
multiplier	[0.018]	[0.044]	[0.103]	[0.711]	[0.949]
Robust Lagrange	2.392*	1.716*	0.395	0.029	0.078
multiplier	[0.102]	[0.064]	[0.530]	[0.864]	[0.779]

 Table 3.17
 Tests for spatial dependence in the OLS residuals: Bangladesh and India

Notes: Figures in the brackets are p-values. For definitions of variables, see Table 3.16.

are given in Table 3.18 and Table 3.19, respectively. First, let us focus on the spatial coefficients. It was found that spatial integration of ICT firms in Bangladesh was evident only in the case of firms with collaborative projects with other domestic firms. In the other four cases, no evidence of spatial integration through the dependent variable was revealed. Thus,

	WQ11	WQ62a	WQ63a	WQ64	WQ64b
Labour	1.341***	1.335***	1.282***	1.330***	1.339***
	(0.149)	(0.151)	(0.143)	(0.150)	(0.149)
Capital	0.086	0.088	0.107*	0.093	0.086
1	(0.061)	(0.061)	(0.057)	(0.060)	(0.061)
Age of the firm	0.048***	0.046***	0.048***	0.048***	0.046***
0	(0.017)	(0.017)	(0.016)	(0.017)	(0.017)
If the firm has in-	0.302**	0.284*	0.249*	0.308**	0.284*
house skill	(0.146)	(0.151)	(0.139)	(0.146)	(0.147)
development program					
Share of local sales	-0.004**	-0.005**	-0.004**	-0.004**	-0.004**
of the firm	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Dummy for small	0.719***	0.697***	0.649***	0.697***	0.703***
firm	(0.246)	(0.249)	(0.233)	(0.246)	(0.246)
Experience in the	0.014**	0.013*	0.011*	0.013*	0.014*
firm (years)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
If the firm faced	-0.188	-0.200	-0.065	-0.185	-0.206
difficulty in the	(0.161)	(0.159)	(0.158)	(0.161)	(0.157)
last five years					
If the firm has	0.225	0.231	0.214	0.222	0.234
promotional activities to increase sales	(0.159)	(0.160)	(0.151)	(0.159)	(0.160)
Dummy for	0.546	0.546	0.662	0.569	0.489
partnership company firm	(0.556)	(0.557)	(0.527)	(0.556)	(0.564)
Dummy for private limited company	0.342	0.332	0.396	0.331	0.309
Firm	(0.488)	(0.488)	(0.462)	(0.487)	(0.488)
Dummy for sole	0.330	0.332	0.341	0.326	0.325
proprietorship firm	(0.512)	(0.512)	(0.484)	(0.511)	(0.512)
Constant	6.728	8.446***	43.189***	5.859	7.242**
	(4.413)	(2.531)	(12.639)	(5.136)	(3.225)
Spatial lag (p)	0.151	0.053	-0.154***	0.202	0.126
	(0.257)	(0.153)	(0.076)	(0.300)	(0.192)
Sigma	0.621***	0.622***	0.588***	0.621***	0.621***
	(0.044)	(0.044)	(0.042)	(0.044)	(0.044)

Table 3.18 Results of spatial dependence model: Bangladesh

	WQ413	WQ414	WQ417	WQ418	WQ420
Labour	0.024	0.015	0.012	0.018	0.018
	(0.021)	(0.024)	(0.024)	(0.024)	(0.024)
Capital	0.777***	0.859***	0.846***	0.851***	0.854***
	(0.040)	(0.031)	(0.030)	(0.031)	(0.031)
Dummy for	0.009	0.028	0.026	0.028	0.030
partnership firm	(0.058)	(0.063)	(0.062)	(0.063)	(0.065)
Experience in the	-0.002	-0.002	-0.002	-0.002	-0.002
firm (years)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
If the proprietor	0.070**	0.071*	0.071**	0.072*	0.071*
has an MBA/	(0.033)	(0.037)	(0.036)	(0.037)	(0.037)
M. Tech Degree					
Age of the firm	-0.014***	-0.014***	-0.013***	-0.014***	-0.014***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Constant	13.754***	-0.023	3.232*	1.384	0.774
	(5.073)	(1.202)	(1.917)	(1.546)	(0.520)
Spatial lag (p)	-0.481**	-0.159**	-0.469**	-0.111	0.370**
	(0.157)	(0.072)	(0.179)	(0.296)	(0.105)
Sigma	0.110***	0.122***	0.120***	0.122***	0.122***
	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)

Table 3.19 Results of spatial dependence model: India

a firm located within the same cluster is not affected by the behavior of other firms (WQ11), nor is it affected if another firm hires an IT expert from abroad (WQ62a), or has collaboration with another firm in the same cluster (WQ64) or a foreign firm (WQ64b). The negative coefficient implies that a 10 percent increase in the sales revenue of the other firms leads to a 1.5 percent decrease in the sales revenue of the firm.

There is evidence of spatial dependence between firms in Noida and Gurgaon and those in Hyderabad, Pune, Mumbai and outside India. In contrast, there is no evidence of spatial integration through the dependent variable between these firms and those in Chennai. While interaction with other domestic firms leads to a drop in sales revenue, interaction with foreign firms boosts sales revenue. While a 10 percent increase in the neighbors' sales revenue leads to a 1.5 to 5 percent drop in the sales revenue of the firm, interaction with foreign firms increases it by about 4 percent.

It may be noted that spatial dependence also permeates through the error term. Table 3.20 and Table 3.21 present the results of the spatial

	WQ11	WQ62a	WQ63a	WQ64	WQ64b
Labour	1.380***	1.391***	1.342***	1.361***	1.393***
	(0.158)	(0.137)	(0.148)	(0.160)	(0.157)
Capital	0.111*	0.110**	0.096	0.088	0.114*
1	(0.063)	(0.055)	(0.061)	(0.061)	(0.062)
Age of the firm	0.042**	0.053***	0.048***	0.046***	0.056***
0	(0.018)	(0.017)	(0.017)	(0.017)	(0.017)
If the firm has in-	0.272*	0.356***	0.288**	0.286*	0.354**
house skill	(0.151)	(0.122)	(0.146)	(0.150)	(0.143)
development program				. ,	
Share of local sales	-0.006***	-0.004**	-0.005**	-0.005**	-0.005***
of the firm	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
If the firm is small	0.657**	0.790***	0.704***	0.726***	0.765***
	(0.255)	(0.229)	(0.245)	(0.252)	(0.253)
Experience in the	0.010	0.016**	0.013*	0.014*	0.012*
company (years)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
If the firm faced	-0.337	-0.277*	-0.168	-0.233	-0.199
difficulty in the	(0.211)	(0.150)	(0.175)	(0.176)	(0.160)
If the firm has	0.233	0.190	0.224	0.231	0.210
nromotional	(0.163)	(0.150)	(0.159)	(0.251)	(0.161)
activities to increase sales	(0.105)	(0.152)	(0.155)	(0.101)	(0.101)
Dummy for	0.613	0.573	0.596	0.532	0.898*
partnership company firm	(0.562)	(0.550)	(0.561)	(0.562)	(0.539)
Dummy for private	0.256	0.291	0.358	0.327	0.419
limited company					
Firm	(0.495)	(0.491)	(0.489)	(0.490)	(0.484)
Dummy for sole	0.358	0.279	0.345	0.342	0.383
proprietorship firm	(0.516)	(0.513)	(0.510)	(0.515)	(0.510)
Constant	9.168***	8.636***	9.094***	9.234***	8.469***
	(1.112)	(0.930)	(1.134)	(1.108)	(1.092)
Spatial error (λ)	-0.393	-0.350***	0.232	-0.261***	-0.925
• • • • • •	(0.855)	(0.131)	(0.444)	(0.079)	(0.705)
Sigma	0.605***	0.346***	0.622***	0.622***	0.595***
C	(0.064)	(0.060)	(0.044)	(0.044)	(0.050)

 Table 3.20
 Results for spatial error model: Bangladesh

	WQ413	WQ414	WQ417	WQ418	WQ420
Labour	0.034	0.020	0.067***	0.027	0.027
	(0.023)	(0.025)	(0.013)	(0.024)	(0.024)
Capital	0.828***	0.854***	0.810***	0.859***	0.869***
	(0.030)	(0.030)	(0.025)	(0.031)	(0.017)
Dummy for	0.075	0.030	0.053	0.015	0.017
partnership firm	(0.061)	(0.064)	(0.066)	(0.065)	(0.052)
Experience in the	-0.001	-0.002	-0.002	-0.003	-0.001
firm (years)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
If the proprietor	0.058*	0.072*	0.068*	0.078**	0.066*
has an MBA/	(0.034)	(0.037)	(0.039)	(0.038)	(0.037)
M. Tech Degree					
Age of the firm	-0.016^{***}	-0.014***	-0.017***	-0.016^{***}	-0.017***
	(0.005)	(0.004)	(0.005)	(0.005)	(0.005)
Constant	0.858***	0.808***	0.883***	0.795***	0.721***
	(0.148)	(0.141)	(0.141)	(0.142)	(0.075)
Spatial error (λ)	-0.349	-0.239	-0.652**	-0.732**	-0.834**
	(0.729)	(0.702)	(0.168)	(0.257)	(0.311)
Sigma	0.107***	0.122***	0.076***	0.109***	0.088***
	(0.014)	(0.011)	(0.023)	(0.015)	(0.016)

Table 3.21 Results for spatial error model: India

error dependence model for Bangladesh and India. Through the errors, spatial integration of ICT firms in Bangladesh was evident when firms hire an IT expert from abroad or collaborate with other firms in the same cluster. In the other three cases, no evidence of spatial integration through the error term was revealed. Thus, a firm located within the same cluster is not affected by the random shocks to other firms, nor is it affected even if it undertakes collaborative projects with other firms in the same cluster or a foreign firm. The negative coefficient implies that a 10 percent increase in the shocks to other firms leads to a 2.6–3.5 percent decrease in the sales revenue of the firm.

In India, there is evidence of spatial error dependence between firms in Noida and Gurgaon and those in Mumbai, Chennai and outside India and there is no evidence of spatial integration through the error terms between the sample firms and those in Hyderabad and Pune. In all the cases where integration was evident, shocks to firms located in those regions lead to drops in sales revenue of the sample firms. A 10 percent increase in the shocks to the neighbors leads to a 6.5 to 8.3 percent drop in the sales revenue of the sample firms. This is true irrespective of whether the neighbors are within the country or outside the country.

Explanatory variables

A number of control variables were included in the regression analysis to explain the sales revenue and other performance variables. We will not discuss the influence of all of the variables included in the regression. Instead, the discussion focuses on the common set of control variables. These include the basic inputs of a neoclassical revenue-maximizing firm: labor and capital together with the age of the firm and experience of the entrepreneur.

It was found that labor is an important factor for boosting sales revenue in Bangladesh. Elasticity of sales revenue with respect to labor was greater than unity, irrespective of type of weight matrix used; a 10 percent increase in labor leads to more than a 13 percent increase in sales revenue. In contrast, the coefficient of capital is not statistically significant with any of the weight matrices, in either the spatial dependence or the spatial error model. A diametrically opposite situation seems to prevail in India: capital is the dominant factor in increasing sales revenue, the labor coefficient is statistically insignificant, and the elasticity of sales revenue with respect to capital is less than unity. A 10 percent increase in capital will lead to an 8–9 percent increase in sales revenue.

It was found that the age of the firm has a positive impact in increasing sales revenue in Bangladesh. A ten-year-old firm earns about 0.5 percent more sales revenue than counterparts which have just started business. In contrast, age of the firm has a negative impact in increasing sales revenue in India. A ten-year old firm earns about 0.1 percent less sales revenue than counterparts which have just started business. Similarly, while experience of the entrepreneur in the firm in Bangladesh has a positive and statistically significant pay-off in sales revenue, the situation seems to be diametrically opposite in India.

Concluding Remarks

ICT firms in both Bangladesh and India were found to be spatially integrated. But the integration was rather tenuous in both countries. While ICT firms in Bangladesh are dependent on labor for increasing their sales revenue, those in India depend on capital. While age of the firm and experience of the entrepreneur matter in Bangladesh, these factors do not seem to have any tangible influence in India.

CONCLUSIONS AND POLICY RECOMMENDATIONS

There have been many studies conducted on the ICT sector in India. However, this study is the first of its kind which combines findings based on firm-level data from both India and Bangladesh aimed at deriving a set of conclusions on the prospects of development of the ICT industry in South Asia. Conclusions from this study can be generalized to other SAARC countries whose ICT sectors resemble the current situation in Bangladesh.

Several issues have emerged from the analysis pertinent to policymaking for further development of the industry. The issues are: product specialization, market access, human resources and infrastructure. The results suggest that the ICT industry in Dhaka and Delhi differ with respect to both quantity and quality. In Bangladesh, currently there are over 500 registered software and IT-enabled service companies, while in the Delhi region alone more than 4000 firms are operating. Indian firms are more mature than Bangladeshi firms. In terms of product, while Indian firms focus on sophisticated products such as software, Bangladeshi firms mainly deal with ITES such as ERP, business process and so on. Such differences in product specialization are largely due to differences in the human capital base. Although human resources in Bangladesh are abundant, skilled workers are very limited. Bangladesh's ICT industry earned only US\$30 million in 2009, while India's ICT industry earned more than US\$50 billion. The number of ICT graduates in Bangladesh every year is insufficient for welcoming big IT TNCs or attracting more FDI.

The ICT industry in Bangladesh is still in its nascent stage, while the ICT industry in India has already entered into a mature stage, following growth in productivity. For ICT companies to be globally competitive, it is crucial to have a skilled workforce and a strong base of contracts generated from the domestic market. The recent initiatives of the Bangladesh government to undertake more e-government projects are expected to generate opportunities for the local ICT industry, as is evident from the value chain of non-exporting firms in Bangladesh. Analysis of Indian ICT firms also shows that most of the sampled firms have domestic projects with quality products. With the escalation of wage rates, Indian software firms will need to be competitive through their dynamic capabilities, including establishing production facilities in low-cost locations. Other SAARC countries can be destinations for Indian ICT firms that are looking to relocate business segments due to cost escalation.

Although cross-border production and distribution networks between Bangladesh and India, and between India and other SAARC countries, are almost non-existent, horizontal integration such as networking with other IT firms, forming alliances with big IT firms and clustering within the country are found to be very important for greater market access as well as for increased profitability. While such horizontal integration is very strong in India, it is weak in Bangladesh. Clustering or establishing ICT parks could be the first step to help ICT firms to be integrated horizontally. For India, the most significant policy for the development of the ICT industry was the establishment of Software Technology Parks (STPs) in 1988; in addition to tax benefits, office space and satellite uplinks, this provided support for related items such as import certifications and market analysis. In Bangladesh, there is only one small ICT incubator, which cannot provide ICT SMEs with the necessary infrastructure support.

At the firm level, maturity, awareness and management readiness of the organization are key elements for demand generation. An e-initiative at the government level (e.g., the "Digital Bangladesh" slogan) can be important for creating demand for ICT services. Leadership and policy support (budgetary and visionary) at both the central as well as ministerial and departmental levels are key success factors. For international market access for export-oriented software and ITES companies, linkage is a critical factor. It has been found that non-residents play a significant role in creating linkages between countries. In the majority of cases of successful exports to key markets, particularly to the USA, Canada, Japan and Australia, non-resident entrepreneurs have played the main role in creating market access. Targeted market linkage – business-to-business (B2B) linkage program – activities can also be helpful for greater market access. A B2B program with the assistance of the Danish government worked well in expanding software exports from Bangladesh to Denmark.

For further development of the industry as well as to provide more value-added services, firms in the region could follow the Global Delivery Models (GDMs) of Indian firms. In turn, Indian IT firms can focus on Bangladesh and other SAARC countries to open up delivery centers and subsidiaries to take the advantage of the availability of low-cost ICT professionals.

General Policies for Development of the ICT Industry in South Asia

Based on our analysis, the following broad policies are necessary to foster and support the ICT industry:

• Policies to upgrade the capacity of education and training institutes to produce more ICT graduates, in order to meet the growing need for highly skilled workers and the different mix of skills in the industry.

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- Policies towards improvement of connectivity to the information superhighway so as to provide the required physical facility for high-speed data transmission. This will need to be supported by uninterrupted supplies of electricity.
- Innovation policies to help increase the level of knowledge and technology embodied in production and exports.
- Policies to foster entrepreneurship and new areas of economic activity to stimulate creation of new firms and entrepreneurship, and to stimulate innovation and technology in new areas.
- Clustering policies and efforts at the local and regional level to capitalize on local and regional strengths.
- Policies to promote proper branding of the ICT potential of the country, such as the availability of talented ICT graduates, low cost advantage, favorable government policies and so on, so as to attract foreign direct investment and foster new areas of economic activity.
- Intellectual property rights (IPR)-related policies are also important. Striking an appropriate balance between diffusion of technology and providing incentives to innovate remains an important consideration.

Country-specific Policies for South Asian Countries

Whether the Indian model can be replicated in other South Asian countries is a big question. Other SAARC countries can at least strive to undertake basic policies that the Indian government undertook in the early stages of its IT industry. Based on analysis of ICT firms in both India and Bangladesh, and in light of the broad policy initiatives noted above, some specific recommendations are made below for further development of the ICT industry in SAARC countries – including for Bangladesh and India's lagging states:

- 1. Establish more software technology parks (STPs) in capital cities and other big cities to provide ICT SMEs with the necessary infrastructure support such as uninterrupted electricity, satellite uplinks, high broadband width, training facilities and so on. Such STPs could be established by the government or with donor assistance; alternatively, they could be completely under private ownership, such as the Bangalore Whitefield IT Park developed by the Singapore company Ascendas. Public–private partnerships can also be sought.
- Special incentive packages could be designed for attracting nonresident investments into local ICT companies and STPs, with longterm equity financing.

- 3. The government could consider providing special incentives for foreign companies, particularly large Indian companies, to partner with local companies to facilitate technology transfer.
- 4. In addition to market linkage initiatives funded by non-residents and donor agencies, small successes could come through government-supported marketing activities, such as overseas fair participation and organizing the SoftExpo exhibition.
- 5. Increase the pool of ICT skilled workers and ensure they meet high global standards. More industry–academy linkages are necessary for ensuring quality of graduates. Graduates also need to be trained by the industry or government agencies. This can be done by establishing Institutes of Information Technology through private–public partnerships. The model of the Indian Institute of Information Technology, Bangalore (IIIT,B) could be followed: it was established on a public–private partnership basis to provide demand-driven IT training. Also, SAARC governments could follow the policy of the Karnataka State Government to include ICT competitions at the school and college level, to motivate students to study ICT courses, which was an important factor behind the success of ICT in Bangalore.
- 6. Scope of financing needs to be broadened for ICT SMEs. Currently, the majority of investments in the software and ITES companies come from the sponsors' own sources. Some venture capital funds and corporate venture funds could be created to solve financing constraints of the ICT SMEs. Although a venture capital fund has been established in Bangladesh, namely the Equity Entrepreneurship Fund (EEF), access to this fund could be made easier with provisions for collateral-free funding for ICT firms. Specific work orders from clients could be a form of collateral.
- 7. To have greater market access, SAARC countries need to create the right brand and arrange market-specific business linkage programs. The potential for Bangladesh and other SAARC countries is high because of cost escalation in other major outsourcing destinations (India and the PRC). Also, Bangladesh has the demographic and functional advantage of having a large pool of educated youth who, if trained properly, can offer the unique combination of ICT and English language skills at a very competitive cost. A specific goal must be to ensure that Bangladesh as well as other SAARC countries are ranked properly in the global outsourcing rankings published by firms like AT Kearney, McKinsey, Accenture, Global Media and Gartner.
- 8. Help local companies reach global standards. The government should consider having preferential treatment for the government sector's IT procurement to encourage development of the domestic

industry. Automation of different government institutions can be helpful in this regard. It is important to equip all schools, including primary schools, with computer and internet facilities. The cost of internet services needs to be reduced.

- 9. Proper implementation of the Intellectual Property Rights (IPR) Act is important for the development of the ICT industry. A proper regulatory framework for ensuring cyber security, transparency in data transfer, relaxing foreign exchange regulation and so on is very important for the development of the sector.
- 10. The existing single submarine cable connection to the information superhighway is grossly inadequate and unreliable. The connection often gets broken due to subversive activities. Bangladesh and other SAARC countries need faster access to the information superhighway and should strive to forge greater connectivity with the IT backbone in India; this would also facilitate closer interaction with Indian IT firms as well as enabling cost-effective access to the information superhighway.

SAARC Policy

As a regional body, SAARC can undertake policies that can facilitate the development of the ICT industry in the region as a whole. It has been widely acknowledged that South Asia has tremendous prospects for development of the ICT industry because of the availability of talented youth, good English language proficiency and relatively low wage rates. However, except India, none of the South Asian countries have succeeded in their efforts. Cooperation among countries, with the help of India's experience, could facilitate growth of the sector. The following broad areas of cooperation could be sought under the umbrella of SAARC: (1) establish the SAARC information infrastructure; (2) strengthen human capacity building; (3) promote and facilitate the growth of e-commerce in SAARC countries; (4) liberalize and facilitate trade in ICT products, services and investments; (5) promote investments in the production of ICT products and the provision of ICT services; (6) strengthen capacity building to reduce the digital divide within and amongst SAARC member states; and (7) use ICT applications in the delivery of government services. These recommendations are elaborated upon below.

SAARC information infrastructure

ICT infrastructure is the fundamental condition for building an information society, an important means to promote economic growth and to improve people's livelihood. Given the fact that ICT has developed rather unevenly in the region, it is critical to push forward cooperation in this area. It is necessary to strengthen cooperation on ICT infrastructure construction, including fixed, mobile and satellite networks as well as the internet. SAARC countries could form a consortium to be connected with more submarine cables. As well, SAARC could develop a framework to share neighboring countries' cable and satellite networks in case of any disruption of a country's own networks. Discussions should be held about the feasibility of building a SAARC–ASEAN–PRC or SAARC–PRC information superhighway, in a bid to promote information flows among countries with low cost and the improvement of ICT in the region.

Human capacity building

Human capacity building is a key factor for developing the ICT sector in the SAARC region. SAARC could initiate a process of training 1000 mid- and senior-level ICT professionals, managers and technicians from SAARC countries each year. Since India has the capacity to provide such training to ICT professionals, it is important to seek India's support in this regard. Such support could also be sought from the PRC, as the PRC offers training to ICT professionals from Association of Southeast Asian Nations (ASEAN) states. SAARC could further improve cooperation regarding ICT human resources by allowing free (or easy) mobility of ICT professionals among SAARC countries, through relaxing visa requirements and providing work permits. Like SAARC University, a SAARC Institute of Information Technology should be established separately or at the SAARC University in a bid to strengthen the human resource base. SAARC could build a network of ICT-related centers and agencies to promote collaboration amongst them to harness the benefits of ICT applications.

For strengthening information and resource sharing among countries in the region, SAARC should promote participation of government, businesses and educational institutions, either through face-to-face discussions or through e-learning.

Network and information security

Network and information security is an important component of the information society and a precondition for fostering public confidence in using ICT. It is commonly recognized that network and information security in the region is seriously inadequate. Communications and cooperation in the field of network and information security must be strengthened, including through the possible establishment of a SAARC Coordination Framework for Network and Information Security Emergency Responses. To develop a common cyber security framework,
SAARC should coordinate the exchange of information, establishment of standards and cooperation among enforcement agencies.

Trade and investment facilitation

Trade and investment facilitation is also important. SAARC should strengthen exchanges and cooperation among member countries in areas of e-commerce and e-governance and promote mutual recognition arrangements for ICT expertise and telecom equipment certification.

Intergovernmental dialogue and exchanges

As information and communication technologies and services rapidly advance, SAARC countries are facing many new problems in their ICT development strategies, policies and regulations, requiring more dialogue and exchanges at the governmental level. While taking into account the actual conditions and characteristics of each country's economic and social development, SAARC should foster exchanges of ICT development strategies and policies and explore an effective market regulation model. The SAARC Secretariat could explore the establishment of a suitable mechanism for this, and deepen cooperation at various levels. This requires strengthening the process of consultation and coordination within relevant international organizations in an active and pragmatic manner.

Intellectual property rights (IPR)

During focus group discussions organized under this research, ICT industry stakeholders placed great importance on IPR issues. SAARC could formulate a common position for its member nations on the intellectual property rights related to ICT products and services. In the case of information and communication technology (ICT), it is difficult to develop technical standards without implicating patents. Therefore, it is important to find the right balance between the interests of all relevant stakeholders, including patent holders, implementers of the standard and end-users, while seeking to enable solutions to market-driven needs on a global basis. A common policy would provide reassurance to the industry that its interests are protected when sharing intellectual property with implementers of standards. To formulate a common position on ICT patents, SAARC could organize dialogue, including with representatives of the public sector on issues currently being debated. It should also discuss the role of government in providing input on patent policy approaches being considered or adopted by standards-setting organizations.

Capacity building of SAARC

Although the issue of capacity building of SAARC is not a focus of this study, it is clearly necessary to build the implementation capacities of SAARC. In this context, it is important to follow up and monitor the implementation of policies and plans adopted during SAARC summits. SAARC should follow through on its position paper at the World Summit on the Information Society (WSIS) Summit, particularly its statement about developing a regional policy on ICT for development in South Asia.

SAARC could also consider forming an effective technical committee and/or regional center for ICT sector development in South Asia. This should work in tandem with other SAARC regional centers on infrastructure and human resource development. Separately or in tandem with SASEC, SAARC could develop an ICT Master Plan or Strategy. The strategy should include cooperation on sharing human resources and infrastructure on telecommunication, as well as branding SAARC as a region of huge ICT potential.

SAARC could explore setting up a fund for ICT development in South Asia, along the lines of the funding mechanism created by ASEAN after its 7th ASEAN Telecommunications and IT ministers' meeting. The ASEAN ICT Fund has been supported by a US\$100000 annual contribution by each member country over a period of five years, ending in 2010. For 2007–2008, US\$45000 was allocated to each of 11 ICT projects proposed by various ASEAN working groups. Similarly, SAARC should be able to work with international donors and agencies to put in place a funding mechanism for ICTs and ICT for development (ICT4D) in South Asia.

A South Asian Software Association could be formed to facilitate and brand the potential of the ICT sector in South Asia; the Association could act as a lobbyist for implementing SAARC ICT policies.

NOTES

- 1. This information was gathered during interviews of academia, bureaucrats and professionals in Bangalore by two researchers of the project from 27 June 2010 to 3 July 2010. These findings are consistent with Kumar (2001) and Lateef (1997).
- 2. This subsection has been extracted from various websites.
- 3. The definition of ICT given in OECD (2000, p. 7) comprises segments of both manufacturing and services industries. In manufacturing, to be included, the industry must either perform information processing and communications or use electronic processing to measure or control a physical process. In services, the industry must enable information processing and communications by electronic means. The definition includes six ISIC four-digit codes for manufacturing and four ISIC four-digit codes for services. Notable among these is ISIC 3000 (office, accounting, and computing machinery) from

manufacturing and ISIC 6420 (telecommunications) from services, as well as TV and radio equipment and receivers and computer and related activities across a range of ISIC codes. However, in this study, we restrict ourselves only to software industries.

- 4. Robert Mecalfe at http://www.netvalley.com/svhistory.html.
- 5. The results of the OLS regression are not reported as these estimates are biased and inconsistent.

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APPENDIX: FOCUS GROUP DISCUSSIONS

- 1. Bangalore: Persons interviewed:
 - a. Dr Bala Subrahmanya, Professor, Department of Management Studies, Indian Institute of Science.
 - b. Mr T.S. Sampath Kumar, Secretary General, Bangalore Chamber of Industry and Commerce.
 - c. Mr Vivek Kulkarni, Chairman and CEO, Brickwork India, former IT secretary, Karnataka State Government.
 - d. Mr Anirban Choudhury, Assistant Vice-President, Ascendas India, International Tech Park, Bangalore.
 - e. Dr S. Rajagopalan, Professor, Indian Institute of Information Technology (IIIT), Electronic City, Bangalore.
 - f. Dr Balaji Parthasarathi, Professor, IIIT, Bangalore.
 - Firms interviewed: Wipro, InfoSys, Brickwork in Bangalore, India.
- 2. Delhi: Persons interviewed:
 - a. Dr Kaushalesh Lal, Senior Researcher, United Nations University-MERIT (currently based in Delhi).
 - b. Dr Vinay D. Lall, Director General, Society for Development Studies.
 - c. Ms Shampa Paul, Institute of Economic Growth, Delhi University.

Firms visited: NetEdge and InfoTech.

- 3. Dhaka: Persons interviewed:
 - a. Mr Mahboob Zaman, President, Bangladesh Association of Software and Information Services (BASIS).
 - b. Mr Fahim Mashroor, Vice-President, BASIS.
 - c. Mr Hashim, Secretary, BASIS.
 - d. Mr Doha, Chief Executive Officer, DohaTech Limited.

PART III

Economic Integration: Trade and Trade in Services

4. Trade facilitation issues in South Asia

Deshal de Mel, Suwendrani Jayaratne and Dharshani Premaratne

BACKGROUND

Increased trade flows, developments in transportation and sophisticated information technology have changed the environment in which economies and businesses operate in the modern world. As tariffs across the globe have been reduced due to unilateral, plurilateral and multilateral trade liberalization, global competition in trade has increased substantially. In this context, inefficiencies in placing orders, delivering goods and making payments for internationally traded goods seriously undermine the competitiveness of businesses and overall economies, with adverse impacts extending to consumers and governments as well. Furthermore, delays at border crossings, harbours and docks caused by cumbersome procedures and excessive paperwork constitute an additional burden for businesses, particularly in light of global trends towards production fragmentation and the increased importance of maintaining low lead times. The hidden costs for trade are high; studies reviewed by the Organisation for Economic Co-operation and Development (OECD) in 2002 indicated that trade transactions costs amount to as much as 2 to 15 per cent of the value of goods traded globally (Wilson, 2006).

In this context, the role of trade facilitation in increasing and maximizing the benefits of trade has been widely acknowledged.¹ Indeed, trade facilitation has become a crucial element of the current trade and development agenda. Improved trade facilitation measures can contribute to the creation of a consistent, transparent and predicable environment for moving goods across borders smoothly. Further, well-targeted trade facilitation measures bring significant benefits to governments, businesses and consumers. Governments benefit from enhanced revenue collection and administration, while businesses benefit from faster customs clearance and lower costs of doing business. Ultimately, consumers benefit from goods that are relatively cheaper and are of better quality. Studies indicate that even modest reductions in trade transactions costs translate into significantly increased trade. A study carried out by Djankov et al. (2010) estimates that a 10 per cent reduction in delays in exports increases exports by about 4 per cent. Using a global gravity model, Wilson et al. (2004) estimate that enhanced facilitation would increase trade volumes by an amount equivalent to 9.7 per cent of total world trade or US\$377 billion. Several other papers estimate the effects of trade facilitation on welfare and predict a boost in world income (Walkenhorst, 2004).

With a majority of South Asian countries being trade dependent, trade facilitation can be used to promote trade and investment. It can also be a tool to achieve inclusive and sustainable economic and social development in the long run. From a regional perspective, trade facilitation can be a catalyst for regional cooperation and improving intra-regional trade, which has remained exceptionally low at around 5 per cent of South Asia's total trade. A significant factor that has contributed to low levels of trade in the region is the high transaction costs between countries (and within countries), despite geographic proximity. Furthermore, trade facilitation measures become vital with South Asian countries engaging in product fragmentation and entering niche markets. Trade and transport facilitation becomes vital in maintaining a smooth production cycle and in catering to shorter delivery cycles.

The South Asian region scores poorly in surveys such as "Doing Business", in which "trading across border" indicators quantify the necessary documents, time and costs of trading. A World Bank Report (2008) states that major improvements have been made and are being made in some countries of the region, while others lag behind. There are also substantial discrepancies in the success of trade facilitation efforts among different sectors. The utilization of information technology (IT) in trade facilitation, that is, electronic data interchange (EDI), also varies among countries in the region.

Trade facilitation is particularly important for small and medium-sized enterprises (SMEs) with limited experience in international trade, as they are most affected by these transaction costs. SMEs, which comprise the backbone of economies of the South Asian region, are burdened by complex and opaque trading procedures. Not only are the livelihoods of small and medium-sized traders adversely affected by high transaction costs; poor trade facilitation also increases the costs of production inputs (including raw materials).

From a country perspective, the role trade and transport facilitation plays in enhancing export competitiveness is vital. Improved trade logistics and facilitation can significantly impact upon trade competitiveness by: (1) increasing profitability of existing exports and encouraging expansion in production; (2) reducing delivery time and cost of imports, benefiting both domestic and export sectors; (3) allowing manufacturers to enter higher-value market segments, such as premium garments, which require shorter delivery cycles; and (4) opening up new markets such as high-value horticulture, flowers, fruits, and so on (World Bank, 2008). These factors also create favourable conditions for attracting foreign investment to a country or region.

Increased recognition of the importance and benefits of trade facilitation is reflected in many regional trading arrangements (e.g., Association of Southeast Asian Nations – ASEAN; Asia-Pacific Economic Cooperation – APEC). In the South Asian Association for Regional Cooperation (SAARC), trade facilitation was addressed under both the South Asian Preferential Trading Arrangement (SAPTA) and the South Asian Free Trade Area (SAFTA) agreement. Under Article 6 (Additional Measures) of SAPTA, the contracting parties agreed to consider trade facilitation measures to support and complement the reduction of tariffs, para-tariffs and liberalization of trade. In SAFTA, the member states agree to consider trade facilitation measures outlined under Article 8. Although trade facilitation is not addressed in a binding form, the intention of the countries to harmonize and simplify standards, customs procedures, business visa procedures and so on is highlighted.

TRADE FACILITATION IN SOUTH ASIA: CURRENT STATUS

Regional Performance

South Asia is often perceived to have poor external supply chains. Although trade facilitation has progressed over time, with major improvements having been made in some countries, others have lagged behind (World Bank, 2008). Nonetheless, the region as a whole markedly improved during 2006–2009 by reducing the time necessary to complete export procedures by 20 per cent and the time required to complete import procedures by 30 per cent (ADB, 2009).

Table 4.1 illustrates a few selected indicators of trade facilitation in South Asia from the Global Competitiveness Report. Indicator values close to 7 denote a better performance while values close to 0 denote poor performance. For example, if a country scores close to 7 in the category of "burden of customs procedure", it indicates that customs procedures are

Country	Mean	Singapore	Bangladesh	India	Pakistan	Sri Lanka	Nepal
Hidden barriers to trade (1)*	4.5	6.3	3.8	4.7	3.8	4.9	NA
Burden of customs procedure (2)	4.1	6.4	2.8	3.9	3.6	3.7	3.1
Overall infrastructure quality (3)	4.1	6.7	2.5	3.2	3.2	4.1	2.2
Transparency of government policy-making (4)	4.3	6.3	3.5	4.6	3.7	3.7	3.5
Irregular payments in exports and imports (5)*	4.9	6.5	2.5	4.0	3.1	3.8	NA
Global Competitive- ness Index (Rank)	_	3	106	49	101	79	125

Table 4.1Selected indicators of trade facilitation in Singapore and South
Asian countries, 2009–10

Notes: NA = not available.

* Data based on the 2004–2005 Report.

(1) 1 = important problem, 7 = not an important problem.

(2) $1 = \text{extremely slow and cumbersome}, \hat{7} = \text{rapid and efficient}.$

(3) 1 = underdeveloped, 7 = as extensive and efficient as the world's best.

(4) 1 = never informed, 7 = always informed.

(5) 1 = common, 7 = never occurs.

Source: WEF, Global Competitiveness Report, 2009-2010.

rapid and efficient, while if the score is close to 0 it denotes an extremely slow and cumbersome system. The notes below the table provide a guide in understanding the numbers.

Values for Singapore are included in Table 4.1 for comparison purposes, as it is considered to be a model of implementing trade-facilitating initiatives. With its highly developed logistics and infrastructure, Singapore performs the best in many trade facilitation indicators, not only by regional standards but also by world standards. Compared to Singapore, as well as other countries in Asia such as Malaysia and Thailand, South Asian countries lag way behind in many of the indicators. However, within the region, India and Sri Lanka perform the best in a majority of the selected



Source: World Bank (2010).

Figure 4.1 Trading across borders: values across regions

indicators. This seems to be reflected in their competitiveness in global markets. Country analysis shows that landlocked countries have a special need to initiate trade facilitation programmes. However, these may not be achievable by unilateral efforts alone.

Figure 4.1 shows that South Asia ranks poorly when compared to other regions in terms of indicators of "trading across borders". As before, the indicators reflect the costs, procedures and time taken to trade. South Asia demands the highest number of documents when trading: an average of 8.5 documents to export and nine documents to import. These numbers are significantly higher than for OECD high-income countries, whose trade facilitation indicators are the best. OECD countries require just 4.3 and 4.9 documents for exports and imports, respectively. Furthermore, compared to other Asian countries such as Singapore, Thailand and Indonesia, the number of documents required in South Asia is high.

In terms of individual countries in the region, Bangladesh requires the lowest number of documents to export and Sri Lanka the lowest number to import (six documents in both cases). Nepal, India and Pakistan require the highest number of documents in the import–export process of the region (see Table 4.2). In terms of the time taken to export or import, it is estimated that South Asia needs 32.4 days to export and 32.2 days to import. This includes time taken for document preparation, customs clearance, ports and terminal handling, inland transport and handling. Although the performance of South Asia in

Country	# Documents for export	# Documents for import
Sri Lanka	8	6
India	8	9
Bangladesh	6	8
Pakistan	9	8
Nepal	9	10

Table 4.2 Number of documents to export/import

Source: World Bank (2010).

this category is relatively better than that of sub-Saharan Africa, it is far behind that of the OECD countries which require only 10.5 days to export and 4.9 days to import. The average time taken to export and import in South Asia exceeds that of OECD countries by 22 days and 27 days, respectively.

With regard to the cost of trading, the Doing Business Report estimates that shipping costs per container in South Asia are approximately US\$1364 for exports and US\$1509 for imports. The costs of exporting/ importing in South Asia are relatively better than for Eastern Europe and Central Asia but higher than for other regions. Pakistan is shown to have the lowest costs for both exports and imports while Sri Lanka, India, Bangladesh and Nepal follow in ascending order. Being a landlocked country, the costs for Nepal's exports and imports are significantly higher than for other countries in the region. Challenges at borders, especially for landlocked countries in the region, have made crossing borders a costly affair. For example, at the Bangladesh-India and Pakistan-India borders, goods are required to be transshipped, as direct through-road transport movement across the border is not allowed. Since a large amount of South Asia's merchandise trade is carried out via overland transportation, transshipment at border crossings and other impediments has created major bottlenecks. De (2009) notes that border delays in terms of time for India's exports to Bangladesh have not decreased but, rather, increased from 2.5 days to 3.9 days during 1998-2005. Complex procedures have led to the rise in transaction costs and rent-seeking. The costs of transactions at the borders are estimated to have increased from 10.4 per cent in 2002 to 16.8 per cent in 2005. De and Ghosh (2008) highlight the cumbersome procedures at the borders: Indian exports to Bangladesh require about 330 signatures on 17 documents at different stages. De et al. (2008) estimate that if these transaction costs could be reduced by 10 per cent, the country's exports could increase by 3 per cent.

	Port efficiency	Customs environment	Regulatory environment	Service sector infrastructure	Total gains
Intra-regional	712	429	278	1224	2644
Inter-regional	8421	3881	3809	15452	27 560

Table 4.3 Trade gains from improved trade facilitation (US\$ millions)

Source: World Bank (2008).

South Asia does not have any regional transit arrangements, although there are limited bilateral transit arrangements for some landlocked countries, including Afghanistan, Bhutan and Nepal. Therefore, transportation costs and time delays at borders are a big impediment to trade in South Asia.

As noted earlier, because South Asia seriously lags the levels of achievement in trade facilitation in developed ASEAN or OECD countries, it is imperative that South Asia undertakes substantial measures to facilitate trade. The importance of trade facilitation to the region has been underscored by many studies, with simulations showing large gains for the region. According to the World Bank (2008), intra-regional trade within South Asia would rise by almost 60 per cent and trade with the rest of the world by more than 30 per cent if projected levels of trade facilitation efficiency were attained. See Table 4.3 for estimated gains in the areas of port efficiency, customs and regulatory environments and service sector infrastructure. Although some of these estimations may be based on dated information, the benefits of trade facilitation have been widely accepted and measures should be taken both unilaterally and at the regional level to facilitate trade in the region.

A study by Hertel and Mirza (2009) investigates the role of trade facilitation in achieving greater regional integration in South Asia. Their analysis shows that trade facilitation reforms would have a sizable impact on intra-regional trade, increasing it by US\$5.8 billion or 75 per cent. Inter-regional trade too is estimated to increase by US\$30.8 billion or 22 per cent. Using a partial equilibrium model, the authors also analyse the effects enhanced trade facilitation would have on trade by sector (see Tables 4.4 and 4.5). The results suggest large increases would occur in exports of textiles and clothing, automobiles and parts, and other manufacturing goods. Similarly, the impact on imports of agriculture and mining would be large. It should be noted that the estimated impact on agricultural exports and mining is zero, as the coefficient estimates in the Hertel–Mirza study of improving an exporter's trade facilitation for these products had been statistically insignificant.

Sector	Bangladesh	India	Pakistan	Sri Lanka	Rest of South Asia
Agriculture	0	0	0	0	0
Extraction and mining	0	0	0	0	0
Textiles and clothing	33	12	31	34	39
Automobiles and parts	54	19	50	55	64
Other manufacturing	52	19	48	54	62

Table 4.4Impact of trade facilitation reforms on changes in exports in
South Asia (%)

Source: Hertel and Mirza (2009).

Table 4.5Impact of trade facilitation reforms on changes in imports in
South Asia (%)

Sector	Bangladesh	India	Pakistan	Sri Lanka	Rest of South Asia
Agriculture	46	17	43	48	55
Extraction and mining	53	19	49	55	63
Textiles and clothing	36	14	34	38	43
Automobiles and parts	5	2	5	5	6
Other manufacturing	23	9	21	23	27

Source: Hertel and Mirza (2009).

METHODOLOGY

A key component of this study in identifying the major trade facilitation related issues affecting intra-regional trade was a survey across the region. The survey was confined to five countries in the region: India, Pakistan, Sri Lanka, Bangladesh and Nepal. The top 20 exports and imports to South Asia for each country were identified using UN Comtrade statistics for 2007 (the latest available year for all the countries). This was adjusted to include at least one export and one import from each of the other four countries in the list. Consultants from within the region were identified to conduct the surveys: Pakistan – Dr Safdar Sohail of the Pakistan Institute of Trade and Development; India – Dr Prabir De, Fellow of Research and Information System for Developing Countries (RIS); Bangladesh – Syed Saifuddin Hossain, Senior Research Associate, Centre for Policy Dialogue (CPD); Nepal – Institute for

Country		Exports			Imports	
	Large	SME	Total	Large	SME	Total
Bangladesh	8	1	9	4	1	5
India	9	9	18	3	1	4
Nepal	6	4	10	3	7	10
Pakistan	1	5	6	3	6	9
Sri Lanka	4	6	10	4	6	10
Total	28	25	53	17	21	38

Table 4.6 Number of respondents from each country

Source: Survey results.

Integrated Development Studies (IIDS). The Institute of Policy Studies carried out the survey in Sri Lanka.

The survey required at least 15 interviews to be carried out covering the identified exports and imports, and consultants were requested to make best efforts to ensure that the interviews covered trade with all four other countries. The questionnaires were prepared by IPS and shared with the consultants along with the list of export/import products to be covered for each country. The survey was carried out mainly through telephone interviews and face-to-face interviews. Response modes also included faxes and e-mail. In Sri Lanka, the entire survey was carried out through face-to-face interviews; in Pakistan, 90 per cent of the interviews were carried out via the phone and 10 per cent through face-to-face interviews; while in Bangladesh the survey was conducted through a combination of face-to-face interviews, telephone interviews, e-mail and faxes.

The study succeeded in surveying 53 exporting companies and 38 importing companies in the region. The country breakdown of this group of 91 companies is given in Table 4.6. Despite efforts to get companies to provide information to all the questions, not all respondents were forthcoming. As a result, responses for some questions are not available, as noted in the relevant tables.

SURVEY FINDINGS

Export Process

Documentation

It was possible to identify about 11 documents, on average, that are required for each consignment of goods exported by countries in the

region. According to the survey findings, the common documents needed from point-of-order of shipment were as follows:

- proforma invoice
- invoice
- letter of credit or evidence of advance payment
- purchase bill
- consignment note
- bill of lading if goods are shipped, air way bill if goods are exported through an airline, truck receipts and so on
- customs declaration form
- packing list
- Certificate of Origin
- commercial invoice
- insurance
- delivery order.

In addition to these documents, which are similar across the five countries, there were country-specific and product-specific required documents (see Table 4.7). It should be noted that the documents differ based on the product, and sometimes based on the country to which the product is being exported. Table 4.7 provides a sense of the different documentation requirements in each country.

Apart from the above, the SAFTA certificate has to be provided so as to benefit from the tariff concessions offered under the agreement.

Agencies to visit

Exporters in all surveyed countries have to visit about six agencies to complete the export process: Customs, bank, insurance company, shipping line or airline, Department of Commerce or Chamber of Commerce, and ports authority (if sea freight).

In addition to these agencies, exporters have to visit other agencies in their respective countries, depending on the product and the destination country (see Table 4.8).

Time taken to export

Tables 4.9–4.11 provide the number of days taken by the interviewed exporters to acquire, prepare and submit export-related documents. The time taken to acquire documents ranges from one hour to 60 days, while it takes a minimum of ten minutes and a maximum of 48 days to prepare them. The time taken to submit documents ranges from two hours to 14 days. The large variations in terms of the minimum and maximum times

Table 4.7	Country- and product-specific documents: exports	
Country	Documents	
	Country-specific	Product-specific (export product)
Nepal	 Foreign Currency Declaration Form, Firm Registration Certificate and the PAN/VAT Registration Certificate Documents required for export to third country by sea/land. 	 Quota certificate (vegetable fat to India) Pass Book, Value Addition Certificate, Lab Test Certificate, Quarantine Certificate (cardamom export)
	 Transport manifesto, one copy per truck Custom transit declarations (for seacargo) 	 Import Code Number (for jute bag exports to India from the Reserve Bank of India)
	 Transit declaration invoice for goods in transit via India/ Bangladesh to third country destination (for sea cargo) 	• Export Permit (from the Department of Commerce to export animal hide)
Pakistan	1	 Certificate of Quality (animal hide) No Objection Certificate from Ministry of Health (to export
		pharmaceutical products)
Bangladesh	I	 Utilization Declaration (ready-made garments)
		• Export Licence – Form 10A (pharmaceutical products)
		• BUMA CELIMARY, UN CONTENT CELIMICARY, FIJYIO CELIMICARY, Sales Contract (jute goods)
		• VAT, TIN – Taxpayer Identification Number (crust and
India	 Certificate from Agricultural and Processed Food Products 	
****	Export Development Authority of India	Pre-shipment Inspection Certificate (onion)
		Phytosanitary Certificate (onion)
Sri Lanka	1	 Pre-shipment Quality Inspection Certificate (rubber gloves) Onaranime Certificate (strawherries)
		 Forest Department Permit (furniture)
		• Blend Sheet and Fumigation Certificate (tea)

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Source: Survey results.

Country	Product	Agencies
Bangladesh	Pharmaceutical products Jute/jute goods	Drug Administration Bangladesh Jute Mills Association, Phyto Office, Government Quality Testing Lab
	Crust and finished leather	Testing Institute, Inspection Agent Central Veterinary Hospital
India	IT Exports, all varieties of products as per the clients' requirements like vegetables, clothes, animal feed, rice, spices, etc.	Phytosanitary Certificate from Customs at the Border
	Exports of all components of batteries	Manufacturer, respective testing laboratories
	Onions	APPEDA, Bhava Atomic Research Centre at Salt Lake
	Tea leaf	Tea Board, Bhava Atomic Research Centre at Salt Lake
Nepal	Iron/steel	Federation of Nepalese Chamber of Commerce and Industry (FNCCI), Ministry of Industry
	Vegetable fats	Federation of Nepalese Chamber of Commerce and Industry (FNCCI), Ministry of Industry, Ministry of Commerce and Supply, Laboratory, Nepal India Chamber of Commerce & Industry (when exporting to India)
	Black tea, Cardamom	Plant Quarantine Office
Sri Lanka	Animal hide Tea	Department of Commerce Tea Board
511 Lanka	Wood products – furniture Strawberries	Forest Department National Plant Quarantine Department at Katunayaka

Table 4.8Other agencies in the region that need to be visited by the
exporters (based on product)

Source: Survey interviews.

recorded in a country can be explained mainly by the nature of goods that are being exported. In Nepal, for example, 60 days are taken in collecting the documents for the export of animal hide (leather), due to the nature of the product.

In acquiring documents, some of the impediments identified during the

Country	Time range	
	Minimum	Maximum
Bangladesh	1 day	15 days
India	1 day	2 days
Nepal	7 days	60 days
Pakistan	1 hour	30 days
Sri Lanka	2 days	5 days

Table 4.9Time taken to acquire documents necessary for export
clearance

Source: Interviews.

Table 4.10Time taken to prepare documents necessary for export
clearance

Country	Time range				
	Minimum	Maximum			
Bangladesh	1 day	48 days			
India	1 day	21 days			
Nepal	2 hours	15 days			
Pakistan	2 hours – 3 days	3 days			
Sri Lanka	10 minutes	1.5 days			

Source: Survey interviews.

Country	Time range			
	Minimum	Maximum		
Bangladesh	1 day	2 days		
India	1 day	1 day		
Nepal	2 days	14 days		
Pakistan	2 hours	2 days		
Sri Lanka	1 day	2.5 days		

 Table 4.11
 Time taken to submit documents necessary for export clearance

Source: Survey interviews.

Country	Cost range
Bangladesh	\$3.5-\$70.5
India	\$4.6-\$576
Nepal	\$30.7-\$322.2
Sri Lanka	\$33-\$50

 Table 4.12
 Cost of acquiring documents necessary for export clearance

Note: This information is available only for 4 countries.

Source: Survey interviews.

surveys were holidays on weekends and Fridays in some countries, the need to pay unofficial payments to obtain certificates, and the necessity physically to visit many agencies to collect the necessary documentation. Acquiring the necessary certification also involves considerable time. For example, an exporter of pharmaceuticals stated that, in some instances, the letter of credit expires by the time the required 'No Objection Certificate' is issued by the authorities. It is the standard practice in world trade in pharmaceutical products that they have 100 per cent of their shelf life remaining when the goods are exported. However, by the time the certificate is obtained the shelf life is reduced to less than 70 per cent and the consignments cannot be exported; authorities in the intended receiving country refuse to clear them due to the reduced shelf life. In preparing documents, one of the major bottlenecks was getting attestations from the Customs, which takes a long time. It was also mentioned that when using the manual system to submit documents to Customs, getting documents stamped and approved takes at least two days in some countries.

Costs associated with exporting: acquiring documents

Tables 4.12 to 4.15 illustrate the costs for exporters to acquire, prepare and submit the relevant export-related documents. Some of the specific costs involved in acquiring documents in India and Nepal are shown in Table 4.13.

This information provides a snapshot of the documentation needs as well as the time and costs involved in the region of exporting goods. While about 11 documents that are common to all countries in the region can be identified, exporters also have to comply with numerous country- and product-specific documentation requirements. Furthermore, exporters have to visit about six agencies in order to complete the export process. Although the study has attempted to average the number of relevant documents and the agencies that have to be visited, the exact number is largely

Country	Type of cost	Value in US\$
India	Phyto Sanitary Certificate costs	8.72
	Radio Active Test Certificate	43.63
	Total unofficial costs	20-50
	Transport cost	196.36
	Clearing agents	98.18
	SGS Certificate	120
	Tax invoice form	2.23
	ARE -1 cost	2.40
	APPEDA Certificate	54.54
	Pre-shipment certificate from SGS	109.09
Nepal	Customs Service Charges	9.22
	Bank Advising Charges	20.41
	Fee for Export Permission	6.80
	Renewal fee	17.07
	Fee for Quarantine Certificate	6.80-20.41
	Fee for Lab Test	285.73-306.14
	Fee for quality Test	61.23
	Fee for recommendation letter from NICCI	0.17

 Table 4.13
 Cost in India and Nepal of acquiring some specific documents necessary for export clearance

Source: Survey interviews.

 Table 4.14
 Cost of preparing documents necessary for export clearance

Country	Cost range
Nepal	\$3.4-\$16.3
Sri Lanka	\$5-\$10

Note: This information is available only for 2 countries.

Source: Survey interviews.

dependent on the type and nature of the product that is being exported. Consequently, this affects the costs incurred and explains the wide range of reported costs.

Import Process

The number and type of common documents needed for imports are similar to those required in the export process. According to the survey

Country	Cost range
Bangladesh	\$42.3–\$62.5
Sri Lanka	\$2.5–\$3.75

Table 4.15 Cost of submitting documents necessary for export clearance

Note: This information is available only for 2 countries.

Source: Survey interviews.

findings, there are about ten documents that are generally required in importing a consignment of goods:

- customs declaration form
- packing list
- proforma invoice
- bill of lading if goods are shipped or an airway bill if imported through an airline, truck receipts, railway receipts and so on
- commercial invoice
- letter of credit or evidence of advanced payment
- purchase bill
- consignment note
- Certificate of Origin
- insurance.

In addition to these common import documents, Table 4.16 lists documents that were found as being country-specific or product-specific.

Agencies to visit

From the survey, it was found that the common agencies across the countries that need to be visited when importing are: Customs, bank, ports (if goods imported by way of shipping), shipping line or airline and insurance company.

Apart from the common agencies, the country-specific and product-specific agencies that have to be visited are given in Tables 4.17 and 4.18.

Time taken to import

This subsection illustrates the time taken to acquire, prepare and submit documents related to the import processes in the five countries studied (Tables 4.19 and 4.20). The time differs from country to country and product to product, as well as according to factors such as the number

Country	Documents needed	
	Country-specific	Product-specific (import product)
Nepal	 Business Registration Certificate, PAN/VAT registration certificate, Letter of Authority to Clearing Agent, Foreign Exchange Declaration Form Following additional documents are required to import from third country by sea: Customs transit declaration Transit declaration invoice for goods in transit in India/Bandadesh for import from third country 	Recommendation Letter from Department of Drug Administration (DDA), WHO certificate (Pharmaceutical Products) Lab Test Certificates (Milk Powder, Chocolate, Mustard and Rice) Registration Certificate of the District Chamber of Commerce and Industries, Indian Excise DRP Copy (Cement) ISO certificate sent by exnorter (Surgical Instruments)
Pakistan		 Utilization Declaration (fabrics and cotton fabrics) VAT certificate, and Taxpayer identification number (Passenger cars, commercial vehicles and Parts from India and Pakistan) Credit report (Importers of food grain – Rice, Wheat, and Lentil)
India		No objection certificate
Bangladesh	• Import Registration Certificate	1

Table 4.16 Country- and product-specific documents – imports

Country	Agencies
Bangladesh	Chamber of Commerce
India	Sales Tax
Nepal	Inland Revenue Office, Company Registration Office
Sri Lanka	Chamber of Commerce, Board of Investment

Table 4.17 Agencies to be visited in importing goods

 Table 4.18
 Agencies that need to be visited in importing: product-specific goods

Country	Products	Agencies
Bangladesh	Passenger cars, commercial vehicles, Parts	Pre-shipment Inspection Agency
India	Complete batteries	Ministry of Environment, importer
Nepal	Pharmaceutical products	Department of Drug Administration
-	Motor Cycles	Department of Road, Department of Transport Management
	Cement	District Chamber of Commerce and Industry, Ministry of Industry, Municipality, Department of Commerce
Sri Lanka	Chocolate, Mustard and Rice Steel	Laboratory Sri Lanka Standards Institution

Source: Interviews.

Table 4.19 Time taken to acquire import documents in each country

Country	Time range	Average	
Bangladesh	2–12 5 days	5 5 days	
India	1 day	1 day	
Nepal	7–21 days	10.2 days	
Pakistan	1–7 days	4 days	
Sri Lanka	0.5 days	0.5 days	

Source: Survey interviews.

of documents involved, the number of agencies that have to be visited and the importer's level of experience. Other trade facilitation-related factors affecting the time taken to import are discussed in the later sections.

Country	Time range	Average	
Bangladesh	1–4.5 days	1.9 days	
India	1 day	1 day	
Nepal	1–2 days	1.8 days	
Pakistan	1 day	1 day	
Sri Lanka	1.5 days	1.5 days	

Table 4.20 Time taken to prepare import documents in each country

Source: Survey interviews.

 Table 4.21
 Time taken to submit documents necessary for import clearance

Country	Time range	Average	
Bangladesh	1–2.5 days	1.3 days	
India	1 day	1 day	
Nepal	2–3 days	2.5 days	
Pakistan	1 day	1 day	
Sri Lanka	2 days	2 days	

Source: Survey interviews.

 Table 4.22
 Cost of acquiring documents necessary for import clearance (in US\$)

Country	Cost range	Average
Bangladesh Nepal	7.05–10.56 10.73–73.25	8.80 28.92
Sri Lanka	5.00-25.00	20.00

Note: This information is available only for 3 countries.

Costs of importing

The costs of acquiring, preparing and submitting documents related to the import process are given in Tables 4.22–4.24. The costs may again differ based on the certification, the number of documents involved in the process, the country from where the goods are being imported and other factors.

Importers in Nepal noted some specific costs they incur when importing from South Asian countries:

Country	Cost range	Average
Nepal	6.58–32.91	14.01
Sri Lanka	5.00–10.00	7.00

 Table 4.23
 Cost of preparing documents necessary for import clearance

Note: This information is available only for 2 countries.

 Table 4.24
 Cost of acquiring documents necessary for export clearance

Country	Cost range	Average
Bangladesh	42.30	42.30
Nepal	2.63-26.32	14.47
Sri Lanka	2.50-3.75	2.50

Note: This information is available only for 3 countries.

- Customs service charge: \$7.44 per consignment.
- Fee for quality test: \$17.11.
- Fee for draft: \$2.63.
- Road tax: \$65.81.
- Fee for quality test in import border customs: \$9.21.
- Other expenses: range from \$6.58 to \$19.74.

In summary, the above section draws on the responses of the interviewed importers. About ten common documents required for importing goods were identified. In addition, a number of product- and countryspecific documents are required to complete the import process. It can take as much as 21 days to acquire the import documents, 4.5 days to prepare documents and three days to submit documents. In acquiring documents, one of the key problems is the arrival of the shipment (due to the proximity of countries) prior to the arrival of the documents from the exporting countries. This is a result of the non-automation of systems, with documents still having to be sent in the form of hardcopies and via mail or courier. Respondents from both Pakistan and Sri Lanka mentioned that shipments from India arrive within 36-48 hours, while it takes about 6-8 days for the documentation to reach the importing country. This delays the clearance process. While there were no significant challenges in preparing documents, in submitting documents the necessity for the importer or Customs house agent to be physically present was

identified to be a bottleneck. Furthermore, in some cases the lack of harmonization among authorities creates unprecedented delay in clearing goods. For example, in the case of Bangladeshi fabric importers, if the utilization declaration certificate from Chambers does not reach the land port authorities within due time, it creates additional delays for the importer.

IDENTIFIED BOTTLENECKS AND PRIORITY AREAS OF TRADE FACILITATION

This section identifies and discusses several key areas of trade facilitation that need priority attention in the region.

Delays in Acquiring the Necessary Documents

As evident from the number of days taken to acquire documents, one of the major bottlenecks that traders in the region face are the delays and difficulties in obtaining trade-related documents. A fully automated trading process would reduce such delays. However, due to the only partial automation of systems, many South Asian countries have to submit manual copies of documents; they are able, though, to lodge the Customs Declaration Form (CUSDEC) electronically. Many of the respondents highlighted the need to automate the trade process fully, thereby nullifying the need to visit the relevant agencies physically. Automating the system would also reduce other related barriers. For example, one of the major constraints that many Sri Lankan exporters/importers identified when trading with India is the Certificate of Origin (COO). The COO from Sri Lanka is issued by the Department of Commerce of Sri Lanka only after the shipment has been effected; shipments from Sri Lanka usually arrive in India within a period of 24 hours, which means the goods arrive prior to the documents. Without the essential COO, the goods cannot be cleared, resulting in delays. Due to these delays there have been instances where demurrages have to be paid and additional costs are incurred. One of the major bottlenecks identified by Pakistani respondents was in obtaining the No Objection Certificate from the Ministry of Health: the respondents stated that it can take up to one month to obtain this certificate. On such occasions, the benefits of the free trade agreement between the countries are nullified.

Obtaining the required standard certificates is also a bottleneck faced by traders in South Asia. For example, traders find cumbersome the process of the Sri Lanka Standards Institute (SLSI) certification for

importing some products. The certification process takes 1.5–3 months. Furthermore, in order to obtain the Quarantine Certificate for fruit exports such as strawberries, a punnet of fruit has to be submitted prior to each shipment, which is very time-consuming and costly. One strawberry exporter noted that removing additional declarations requested in the Plant Quarantine Certificate process would facilitate the shipment going directly to the Quarantine Office, with the Phytosanitary Certificate being simultaneously obtained; this is the process for all strawberry exports to Europe.

Demand for Additional Certification and Checks

Non-harmonization of standards between countries has created bottlenecks in exporting. The survey respondents cited instances where authorities in some South Asian countries order various additional checks and certifications of the goods although they have been previously tested and certified by the relevant authorities in their respective countries. This results in delays and additional costs.

Ambiguity in Terms of Related Procedures and Corruption

The survey respondents stated that trading procedures are not transparent and that there is "total ambiguity" in the procedures, which invites corruption. The need to make unofficial payments to officials was identified as a major bottleneck, especially in submitting documents. Furthermore, approvals are not time-bound in the case of some government agencies, which creates uncertainty and hinders trade.

Non-availability of Testing Services in Proximity to the Main Ports

Another impediment to trade is having testing services at a considerable distance from ports; this poses particular problems in checking perishable produce. For example, imports arriving at Chennai are sent to the Central Food Technological Research Institute (CFTRI) in Mysore (Mysore is about 470 km away from Chennai); imports arriving at Mumbai are sent to the CFTRI in Pune. The distance to these labs creates a substantial delay, with highly perishable goods suffering the most. It is also necessary to visit departments in different locations, and this was considered to be a bottleneck by some traders interviewed during the study. Some traders in the region also face the difficulty of not having the necessary testing facilities in their countries, as required by the importing countries.

Cumbersome Procedures in Obtaining Business Visas

The survey respondents identified the ease of obtaining visas for businessmen as essential for facilitating trade. Obtaining business visas for countries was identified as difficult and cumbersome. Multiple visas are not provided by some countries. Exporters and importers view visa facilitation for businessmen as a key aspect in developing trade, especially between countries in the region.

Necessary Technological Requirements

Lack of modern communication technology creates delays. Failure by some agencies to use modern methods of communication, such as relying on registered post to communicate, leads to substantial delays. Exporters of perishable produce such as vegetables and fruits may face difficulties at the local airport when exporting. For security clearance as well as for verification purposes, the officers at the airport can request all cargo to be offloaded, examined and reloaded. Since the necessary X-ray machines are not available at the airport, this is carried out manually at the airport. This is a cumbersome and time-consuming process, hence some exporters send up to ten people to facilitate the unloading and reloading of goods at the airport. Highly perishable produce such as strawberries requiring an uninterrupted cold chain from farm to fork have to be offloaded from the cold-trucks. Further, the produce must be at the airport some eight hours prior to the flight, posing yet another challenge for highly perishable food items. An exporter stated that in preparing documentation for his exports, a request has to be made to the National Plant Quarantine Services (NPQS) by fax. In the event of the only fax line available at the NPOS being out of order, the request has to be hand delivered. Once the NPOS does the test and the report is ready, it has to be faxed (as this document is not handed over to the freight forwarder) to the Airport Quarantine Office. Here again, if the NPOS fax line does not work and the Airport Quarantine Office does not receive the approved certificate, yet more delays are incurred in shipping the goods. This can cause highly perishable goods to lose all value.

Lack of a Nodal Point

The lack of an agency or committee working on trade facilitation in some of the countries was seen as hampering the process of trade facilitation reforms. The desirability of having a "one-stop shop" where all the

relevant agencies are in one physical place was also highlighted by the respondents. This would reduce the time that exporters and importers have to spend visiting different agencies.

Land Border Issues

Afghanistan, Bhutan and Nepal are landlocked countries and depend heavily on transit through neighbouring countries. They are confronted with a variety of constraints that increase the logistical costs of their international trade. Landlocked developing countries, as a group, are among the poorest of developing countries, with limited capacities and dependence on a limited number of commodities for their export earnings. Due to several bottlenecks, including those visible at border crossing corridors and transit ports, Afghanistan, Bhutan and Nepal face substantial trade costs, which otherwise could be avoided if a regional transit trade system was established in South Asia. The very high transport costs constrain export development since they limit the range of potential exports and markets in which goods can be competitively and profitably traded. Prices of imports are also increased because of high transit transit transportation costs.

One particular bottleneck cited by all companies in the survey conducted in Nepal was the need to pay an additional 500–7000 rupees for each consignment at land borders. Moreover, the long times taken in transit were seen as bottlenecks when trading with other countries. The importance of land border issues is underscored by the observation that all companies except one² included in the survey traded with India, Pakistan and Bangladesh.

The need for bilateral transit treaties, especially between Nepal and Bangladesh and between Nepal and India, was also highlighted. The respondents were of the view that this would reduce the currently cumbersome procedures prevalent when trading goods such as pharmaceuticals (Box 4.1 examines in detail the issues Pakistan traders have to face when exporting to India via the Wagah border).

One exporter to Bangladesh also highlighted how differences in holidays affect trade negatively. He noted that goods frequently have to be held in Bangladesh Customs for days at a time because of differences in weekend holidays between Bangladesh and India. While Friday is a holiday in Bangladesh and Saturday is half day for India, Sunday is an off day. If a consignment is not checked and cleared by the Customs in Bangladesh by Thursday, it is held for three days. This highlights an instance where countries need to work together in order to facilitate trade between countries, given the inadequacy of unilateral measures.

BOX 4.1 CASE STUDY: TRANSPORT AND TRANSIT ISSUES PAKISTAN TRADERS FACE WHEN EXPORTING TO INDIA VIA THE WAGAH BORDER

In order to understand transport and transit issues when trading with India, 15 Customs and Ministry of Commerce officials of Pakistan were interviewed, plus a number of exporters and importers trading through the Wagah border with India. When asked as to what extent poor road conditions restricted trade, 50 per cent of the respondents rated it as a factor that is fairly restrictive, while the other 50 per cent rated it as low on the restrictiveness scale. Lack of bilateral transport and multilateral transit agreements was rated by 70 per cent of respondents as a major restrictive factor when engaging in trade between the two countries. Security and political uncertainty in the South Asian region was rated high on the restrictiveness scale, as all respondents were of the view that the cumbersome procedures at border posts and lack of investment in road infrastructure in the region are a direct consequence of the security situation. Transshipment of cargo at the border was rated high in the restrictiveness index by 80 per cent of respondents, with 50 per cent rating it as completely restrictive. Inefficient Immigration and Custom offices at border posts were rated as fairly restrictive by 70 per cent of the respondents. A mixed response was noted for the existence of a single gate for goods and customers at Wagah, with 40 per cent of respondents saying that it was fairly restrictive and 20 per cent rating it as completely restrictive. Limitation on the number of trucks that could go across each day at Wagah was rated as fairly restrictive by 80 per cent of respondents. Absence of computerization/EDI IT at border posts was also rated as fairly restrictive by almost 80 per cent of respondents. Rated low on the restrictiveness scale were the lack of baggage scanning facilities at border posts and the poor condition of vehicles.

Lack of Sufficient Port Facilities

Limitations of ports in both the home country and other countries were cited as another bottleneck in the import–export process. According to traders and the Port Authority in Pakistan, Pakistani ports do not have the capacity to handle large vessels. Therefore, large vessels do not visit the ports, only small ships known as "feeder vessels". In addition, the ports are operating at near maximum capacity. With regard to other bottlenecks, one trader stated that when jute is imported in bulk frm from Chittagong, Bangladesh, there is no problem as the cargo arrives directly in Karachi in about 12 days. However, a problem arises when jute is imported in containers. In such cases, the shipment goes from Chittagong to Colombo which takes four days. From Colombo, for transshipment, the containers have to be offloaded and then shipped to Karachi. At Colombo, this process takes a very long time; according to the respondents, it is not possible to obtain the information as to when the containers would be loaded for shipment to Karachi. This highlights the need for proper coordination, the need to improve the flow of information, and also the need to automate systems as it would help to track the consignments.

The consignment cannot leave the port until the charges of the freight forwarders and shipping lines are cleared. These agents levy certain unnecessary charges which have to be paid by importers to avoid the payment of demurrage to port authorities. Ideally, clearing respecting freight forwarders' and shipping lines agents should not take more than five minutes, but these agents prolong the process unnecessarily for 2–5 days.

ROAD MAP FOR SOUTH ASIA

The survey results show that trade processes in the region are cumbersome, with transit issues, documentation needs, corruption and long waiting times as major bottlenecks to intra-regional trade. Although large companies with specialized freight forwarders and Customs house agents (CHAs) seem to be acclimatized to the processes, they concur that costs arising from these bottlenecks increase production costs and hamper firms' competitiveness in markets. Inefficiencies in trade processes in South Asian countries and the complexities that transpire out of them have prevented some SMEs, as well as some large-scale companies, from entering these markets. Some traders expressed their preference for trading with countries outside the region, where they deem non-tariff barriers to be low as well as the demand for their goods to be relatively high. For some, the effort of trading with countries in the region is not worth the hassle.

It is evident that trade facilitation reforms play an essential role in stimulating trade between countries in South Asia. To date, intraregional trade has been dismally low. In this context, it is vital that countries in the region undertake trade facilitation reforms both unilaterally and multilaterally. Unilateral reforms may be closely linked to a country's domestic governance agenda (that is, Customs reforms). However, if South Asia is to move ahead as a region, a more collective effort is required from the initial stages to facilitate the efforts and harmonize country trade facilitation systems. Embarking on trade facilitation reforms can be more difficult than undertaking tariff reforms, as they may require substantial resources and the creation of a supporting legal environment. Hence, there is a noteworthy role for SAARC in coordinating trade facilitation reforms so as to build a more coherent system at the regional level.

The following road map for SAARC has been drawn up based on regional experiences and identified best practices. While the first part provides a general framework for SAARC to initiate and carry out trade facilitation reforms, the second part describes some priority areas that SAARC should focus on.

(a) Set Up a SAARC Regional Trade Facilitation Committee (SAARC-TFC)

This committee could consist of high-ranking government officials who directly report to the country's respective minister (that is, the minister in charge of trade). These officials should ideally be the head, or at least a member, of the country's trade facilitation committee. The SAARC-TFC work could be supported by several subcommittees, as required.

(b) Assess the Current Status of Trade Facilitation in the Region and Develop Trade Facilitation Targets for SAARC

The SAARC-TFC should assess each member country's status in trade facilitation and develop trade facilitation targets for the region. The report and the targets should be approved by the heads of the member countries.

(c) Develop a Framework and Schedule to Achieve SAARC Trade Facilitation Targets

The SAARC-TFC should develop, and a group of senior officials from member countries should agree on the framework and a schedule for implementation. This should be reported to the ministers in charge, so as to meet the trade facilitation targets approved by the leaders of the SAARC countries.

(d) Identifying Concrete Actions and Measures to Reach Identified Targets

SAARC member countries should identify specific actions to be taken at the national level in order to reach identified targets. These actions and measures should be undertaken in identified, common categories agreed upon by the countries, that is, movement of goods, standards, business mobility and e-commerce. SAARC should have subcommittees, made up of experts on the identified areas. These committees should assist countries in identifying national-level reforms, which are also in line with the regional agenda. It is important that this is a widely consultative process that includes the private sector. Each country should report the actions and measures that will be implemented.

(e) Reviewing

There should be constant reviews of the implementation of actions by countries. Members should report on the status of implementation, progress made and problems they faced in the process. APEC members for example, have a system whereby each member country records its actions that help realize the APEC goal, set down in Bogor, of free and open trade and investment. These reports, called the Individual Action Plans, are updated every year by the members. SAARC can initiate such a system so as to monitor the progress, encourage countries to undertake trade facilitation initiatives, and keep the public informed about the initiatives and their progress. Reviewing should also lead to a process where experts can provide assistance in different areas, such as technical difficulties and funding requirements.

The following are some of the key reform areas that SAARC should address.

Computerization and Automation of Systems

Most of the survey respondents for this study felt that computerization and automation of systems would simplify many of the procedures, bringing down the costs and time associated with trade. Those who utilize the partially automated systems in countries noted that they acquire certain benefits (that is, less queues, reduction in waiting time and lower travel costs), even though automation of processes was still at the initial stages. However, at the same time, there were some respondents who were discouraged from using the partial systems as they felt that the benefits do not outweigh the costs. Nevertheless, they all opined that full automation would make the system more efficient. The need to make informal payments was identified by the respondents to be a major hindrance in trading. Automation would reduce face-to-face contact with officials and hence reduce unofficial payments that have to be made at different points. With ASEAN and APEC displaying the benefits of moving towards a regional single window system, South Asian countries also need to focus on a single window system for trade facilitation.

Automation of systems, however, is costly and may require extensive technical support. Still, with many regions adopting automation, South Asia has the advantage of learning from international experience. Regional cooperation at the SAARC level is needed to take the initiative forward, to assess the possibility of having a regional fund and providing assistance in technical capacity building.

APEC countries have used international standards such as the United Nations Electronic Data Interchange for Administration, Commerce and Transport (UN/EDIFACT) and World Customs Organization (WCO) Data Model in developing a single window system for sharing information. Similarly, countries in South Asia should work with the objective of achieving an integrated system. This requires the following steps:

- 1. A committee to be established at the regional level to coordinate and assist countries in dealing with the technicalities (this could be a subcommittee of the SAARC-TFC discussed above). This committee could be similar to the Electronic Commerce Steering Group (ECSG) of APEC. It would first need to do an assessment of the current status of automation (of systems) in South Asian countries and produce a report similar to APEC's Single Window Development Report.
- 2. While assessing the systems already in place, the committee should develop a framework for a regional single window system and also provide guidelines to individual countries. The regional and individual country frameworks can be developed by studying and drawing lessons from case studies in other regions. The committee should study how electronic commerce activities could be undertaken by SMEs.
- 3. Individual countries' trade facilitation and electronic commerce committees to coordinate and develop individual country-level action plans with practical timelines and cost estimates.
- Supporting changes will have to be undertaken in relevant areas to:

 (a) create the necessary supporting legal, regulatory and policy environments in countries; and (b) build technical capacity in the member countries.

Outlining the Trade Procedures and Prompt Publication of Laws

It is necessary for countries in the region to lay down the trading procedures clearly in writing, so as to make the process more transparent and predictable. The information also needs be presented in a user-friendly format to the general public. The prompt publication of laws and regulations will prevent procedures being introduced in an ad hoc manner. Moreover, the document and certificate requirements can be reassessed and measures can be taken to reduce those that are deemed unessential. If SAARC can initiate the publishing of a handbook or develop a website which provides information on trade processes, documentation needs, and so on, this would benefit traders in the region. Website updates should be carried out constantly, as and when changes and amendments are made in the relative areas. SMEs, in particular, find it difficult to obtain information on products that are eligible for concessions under SAFTA and other related information.

Harmonization of Standards, Reciprocal Recognition of Tests and Accreditation of Testing Laboratories

Despite this being listed as an Additional Measure in SAFTA, its nonimplementation has acted as a barrier and is one area that needs a binding commitment with a time line. Even for traders in countries in the region that have free trade agreements (e.g., the India–Sri Lanka FTA), the demand for additional certificates and checks in the destination country is one of the main concerns.

Delays that occur as a result of having to test products and produce in locations far from the port can be avoided if the requisite checks can be carried out at the port of entry and within a specified period of time. This is an essential requirement for perishable items. However, even more beneficial would be to check the goods by authorized designated labs or bodies in the exporting countries prior to shipment. Other regional arrangements provide a framework for concluding mutual recognition agreements (MRAs) so as to prevent duplicate testing and certification of products. Adopting such MRAs at the regional level, while taking off ad hoc requirements of this nature, would also reduce the uncertainties and encourage intra-regional trade.

Nepal, for instance, does not have the relevant laboratory facilities. SAARC could look into setting up regionally financed laboratories in close proximity to several South Asian countries in order to carry out the necessary testing and provide certification.
Regional Transit Agreements

Trade for landlocked countries in the region – Afghanistan, Bhutan and Nepal – is dependent on transit through their neighbouring countries. Their trade costs are substantial due to bottlenecks at border crossings and transit ports. Studies (e.g. UNCTAD, 2004) as well as traders show that these costs can be reduced if a regional transit trade regime is in place. With the current transit arrangements being bilateral rather than regional, it is imperative that SAARC reaches a regional transit agreement. This will increase the regional trade volume and make the corridors more efficient. SAARC should also take measures to improve the efficiency at major border crossings, given the poor infrastructural and trade facilitation software in the Customs stations.

Public-Private Partnerships in Developing Infrastructure at Borders

Inadequate infrastructure at border crossings is another major hindrance to trade and is another area where SAARC should take collective action. There can be common financing to increase infrastructure at key border points, to increase storage capacity and facilities that meet market needs. For example, some goods, such as perishables and pharmaceuticals, require cold storage facilities. SAARC should encourage public–private partnerships to boost infrastructure at border crossings.

Implementation of Accepted Risk Management Practices

Streamlining security clearance for proven exporters with a clean track record will encourage traders to increase trading with other South Asian countries. Measures can be taken to fast-track their consignments based on accepted risk management practices. Furthermore, capacity at inspection points can be developed in order to improve efficiency and to minimize damage caused to goods which undergo physical inspection.

Improving Mobility of Businessmen

If trade relationships are to develop between countries, it is necessary to build relationships between the business communities of those countries. Promotional activities should be encouraged and facilitated. Furthermore, countries in the region have to take measures to ease the process of obtaining business visas, which businessmen currently find to be quite cumbersome when travelling to certain countries in the region. Non-issuance of

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multiple entry visas in some countries has discouraged businessmen from exploring new trade and investment opportunities.

South Asian countries should initiate a system like the APEC Business Travel Card, which provides pre-approved visa clearance and expedited airport processing to businessmen; this would help boost trade and investment flows between countries in South Asia. SAARC should set up a group to facilitate the mobility of businessmen and investment. Ideally, the group should include government representatives from member countries who handle immigration and consular affairs. Regular meetings would help member countries solve quickly and efficiently complexities that arise. Having such a unit would also enable member countries to coordinate measures taken to counter illegal migration and terrorism, and enhance security. It would also help develop and implement standards in major areas of immigration activity so as to enhance transparency and service. This would encourage businessmen to travel in the region, thereby boosting trade and investment in South Asia. SAARC should publish online up-todate information on countries' business travel visa and entry arrangements.

Clearance of SAARC Cargo during Holidays

Different weekly holidays in South Asian countries have created problems for traders, with goods being held for days in transit in some countries. Measures should be taken to facilitate the clearance of SAARC cargo during holidays.

NOTES

- 1. Trade facilitation has been defined by the World Trade Organization (WTO) as: "the simplification and harmonisation of international trade procedures", where trade procedures are the "activities, practices and formalities involved in collecting, presenting, communicating and processing data required for the movement of goods in international trade".
- 2. The other company engaged in importing from Sri Lanka.

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5. Liberalization of air services in South Asia: prospects and challenges

Anushka Wijesinha and Deshal de Mel

BACKGROUND AND OBJECTIVES

The mutual interdependence between regional economic integration and transport connectivity are clear. Transport connectivity is necessary for facilitating both the exchange of goods and services and people-topeople connections to stimulate investment and business transactions. At the same time, transport linkages will not materialize in a substantial manner unless there is a degree of existing regional integration. Therefore these two factors are interdependent and mutually reinforcing. It has long been recognized that South Asia is one of the least economically integrated regions in the world, with intra-regional trade stagnating at around 5 percent of total trade for the region. At the same time, transport connectivity in the region is also weak, characterized by a lack of direct capital to capital connectivity in many cases (e.g., Sri Lanka-Bangladesh, Sri Lanka-Nepal, Pakistan-Sri Lanka, among others). Accordingly, in order to travel between these cities it is necessary to transit in the Middle East (usually Dubai or Doha) or Southeast Asia (Singapore or Thailand), increasing both the cost and time for travel. These limitations in intra-regional connectivity undermine the potential for interaction among traders and investors to engage in business transactions.

In this context, it is important to identify the factors that contribute to limiting connectivity in the region – particularly air connectivity. Air services globally are among the most restricted and regulated sectors of international exchange. This is influenced by the fact that the beneficiaries of liberalization are numerous and fragmented and receive relatively small marginal benefits, while the losers are large, usually politically influential industries such as entrenched domestic airline monopolies. International air services have long been governed by a complex matrix of bilateral air services agreements (BASAs), which specify limitations on air traffic rights, number of airlines allowed to operate, methods on setting capacity on a route, tariffs and destinations that can be operated on flights between two countries. ASAs are notoriously opaque, with many provisions not open for public review due to confidentiality clauses.

As a result of bilateral negotiations in recent years, ASAs globally have become more flexible and liberal. OECD countries have made substantial headway over the last two decades in liberalizing market access and ownership. Examples include the pioneering US domestic deregulation of 1978, the Australia–New Zealand Single Aviation Market Arrangement of 1996, and the European Single Aviation Market completed in 1997. Moreover, during the past two decades more than 85 "open skies" BASAs have been completed by around 70 countries, providing full market access without restrictions on designation, traffic rights, capacity, frequency, tariffs or code sharing (Findlay and Goldstein, 2004). In South Asia, however, ASAs remain relatively restrictive. The key objective of this study is to identify the factors which inhibit air connectivity in South Asia and to suggest policy measures that could lead to greater air connectivity.

This study first provides a review of the literature on air services liberalization, followed an overview of the economic benefits of air services liberalization. It then examines the broader context of growth in global and regional air services, on the basis of which South Asia can leverage its air services industry. It describes the framework of air services regulations, and follows with an overview of their current status globally. It examines the extent of restrictiveness of the regulatory apparatus in effect in South Asia – that is, the available information on BASAs in the region. The next section outlines the current degree of connectivity in the region by mapping the existing flight route operations in South Asia and identifying poorly serviced routes. An important component of the research involved consultations with key airlines that operate in the region, so as to capture their perspectives on the factors inhibiting connectivity in the region. These perspectives are discussed. As the region is yet to embark on a comprehensive air services liberalization programme, it reviews the experiences of other regions - the Association of Southeast Asian Nations (ASEAN) and European Union (EU) - that have embarked on liberalization of air services, and draws lessons for South Asia. The penultimate section outlines a possible policy roadmap that could be adopted consistent with the stated South Asian Association for Regional Cooperation (SAARC) goals of increased connectivity in the region. The final section provides conclusions.

LITERATURE REVIEW

It may not be immediately convincing that liberation of aviation services should be considered a key policy issue for developing countries, particularly for those in the low-income group. As noted by Li (1998): "the traditional wisdom that air transport is a luxury transport mode is still common in much of Asia" (p. 140). However, this industry is essential for developing economies in Asia so as to gain more from globalization and international trade.

Findlay and Goldstein (2004) note that it: "reduces the costs of trade, especially in high-value added supply chains such as electronics, perishable food, or cut flowers; attracts privatization-related investment; supports tourism; and more generally weaves together a modern society" (p. 38). Although it can be argued that the growth of civil aviation within a region is to a great extent contingent on the level of income, a dynamic civil aviation system can reduce transaction costs, facilitate access to global markets and integration with global and regional supply chains, and encourage foreign investment inflows.

Studies on the impact of air services liberalization examine the impact of air service regulations on airfares and passenger flows. Gonenc and Nicoletti (2000) examine the effects of bilateral air service agreements on prices of air passenger transport in 13 OECD countries, using a statistical index of bilateral air service liberalization. This methodology was extended by Doove et al. (2001) to cover 35 countries. This research finds a direct and significant effect of restrictiveness of airfares, with larger effects for developing countries compared to developed countries.

Micco and Serebrisky (2006) draw similar conclusions on the differentiated impact of air service liberalization for developed and developing nations, but with a reversed outcome. Examining the US open skies agreements (OSAs), they investigated the impact of these agreements on airfares and on the share of US imports arriving by air. The study finds that for developed and upper-middle-income countries, signing OSAs on average reduces airfares by 9 percent and increases the share of imports arriving by air by 7 percent, three years after the OSA is signed. Interestingly, they do not find significant effects of OSAs for low-income countries.

The most comprehensive study on the impact of liberalization on passenger flows is that conducted by Inter*VISTAS-ga* (2006). The study covers 1400 country pairs worldwide and uses a gravity-type approach to explain passenger traffic. The impact of specific air service agreements provisions is estimated using regressions analyzing the impacts based on whether the agreement provides 5th freedom rights, price controls, capacity constraints and designation requirements. Recently a study conducted on intra-APEC (Asia-Pacific Economic Cooperation) passenger traffic (Geloso Grosso, 2008) provides some but not robust evidence that air service liberalization has increased traffic in the region. This study relies on the index built by the World Trade Organization (WTO) (2006).

Piermartini and Rousova (2008), using a gravity model, estimate the impact of liberalizing air transport services on air passenger flows for a sample of 184 countries. In order to assess the effective degree of liberalization of the aviation market introduced by bilateral air service agreements, this study uses the index built by the WTO Secretariat. They find robust evidence of a direct and significant relationship between the volumes of traffic and the degree of liberalization of the aviation market. An increase in the degree of liberalization from the 25th percentile to the 75th percentile increases traffic volumes between countries linked by a direct air service by approximately 30 percent. The study finds that the most traffic-enhancing provisions of air service agreements are removal of restrictions on the determination of prices and capacity, cabotage rights and the possibility for airlines other than the flag carrier of the foreign country to operate a service. The results are robust regarding both different measures of the degree of liberalization and the use of different estimation techniques.

Morrell (1998) looks at air transport liberalization in Europe and the progress so far. The study finds that some of the expectations following the introduction of EU liberalization have not been met: there have been few serious challenges to the flag carrier duopolies; there has been a consolidation of the major airlines in their home markets; and business and fully flexible fares have continued to climb. In fact, for many airlines their strategic changes were more in response to developments in global rather than regional markets. However, consumers have benefited from greater competition in promotional fares. More dynamic pricing tactics overall have led to higher intra-EU traffic growth in the early 1990s than would have been the case without liberalization. There was also a substantial growth in the number of EU cities served by non-stop services and some encouraging trends as a result of new entrant airlines in some countries.

The report on the "Economic Impacts Of An Open Aviation Area Between the EU and the US", prepared for the Directorate General for Energy and Transport of the European Commission (Booz Allen Hamilton, 2007), provides quantitative analysis of the economic benefits that were expected to accrue from the concept. The results of the study indicate that the potential benefits of an Open Aviation Area (OAA) are considerable, both in terms of additional traffic and through the multiplier effect of aviation on new employment opportunities. The consumer surplus resulting from the increased passenger volume is estimated to be in the region of ϵ 6 to ϵ 12 billion over five years (due to the removal of bilateral restrictions), with an additional ϵ 4 billion across all markets due to the increased competitiveness of firms. The increased level of traffic could result in the creation of around 70000 new jobs (at current levels of productivity), with a further 1800–10000 new jobs created due to pricing efficiencies.

Geloso Grosso (2008) looked at liberalizing air transport services in the Asia Pacific region under the APEC agreement. The detailed analysis of bilateral air service agreements concluded by APEC economies reveals that, although some progress has been made, key restrictions on market access and on ownership links remain largely in place. Estimates using the gravity equation find a direct and statistically significant relationship between relaxing bilateral air services restrictions and air passenger traffic.

Ehmer (2001) argues that minimum government intervention and virtues of competition in the air transport market will lead to an optimum allocation of factors of production, consumer sovereignty and technical progress. Air transport liberalization is considered to benefit consumers in two ways. First, competition due to deregulation forces airlines to operate at lower costs. Part of this efficiency gain can be transferred to consumers in the form of lower prices. Secondly, more flexible route selection enjoyed by airlines as a result of relaxation of ASA provisions gives consumers a broader set of choices. In a liberalized environment, airlines will have greater discretion in choosing the number of weekly frequencies, aircraft type and convenient routing based on market conditions. Thus consumers will benefit since airlines will compete to provide services tailored to the specific needs of their customers.

Liberalization of certain provisions of ASAs can also result in greater flexibility for airlines to form networks and alliances. Restrictive regulatory environments prevent airlines from building optimal networks. Wiseman (1990) states that the cost savings resulting from optimal use of networks results in greater economies of scope – that is, the cost savings due to joint production of two or more products in one firm rather than producing them separately. In the air transport context, airlines have to sometimes serve multiple destinations to minimize cost in particular route operations. Accordingly, in a liberalized environment, airlines enjoy the freedom of choosing and building cost efficient networks to remain competitive.

Inter*VISTAS-ga* (2006) found extensive and significant evidence that supports the generally accepted conventional wisdom that liberalization of air services between countries generates significant additional opportunities for consumers, shippers, and the numerous direct and indirect entities and individuals affected by such liberalization. Conversely, it has shown that restrictive bilateral air services agreements between countries stifle air travel, tourism and business and, consequently, economic growth and job creation. This study found that traffic growth subsequent to liberalization of air services agreements between countries typically averaged between 12 percent and 35 percent, significantly greater than during years preceding liberalization. In a number of situations, growth exceeded 50 percent and in some cases reached almost 100 percent of the pre-liberalization rates.

Piermartini and Rousova (2008) emphasized that increases in international air passenger transport are positively correlated with developments in trade as well as the growth of tourism. Grancay (2009) further notes that removal of air services restrictions opens up new destinations and creates more frequencies and better flight connections, resulting in new markets for international businesses.

Studies have also considered regional aspects of air services liberalization. Com Mark Trust (2006), in its study on the "Importance of Air Transport Liberalization for Shared Economic Growth in South Africa", show that if air transport in the South African Development Community (SADC) is liberalized the entire region will reap the benefits of increased economic growth and employment opportunities. The study involved 12 SADC member states. The impact of liberalization of air fares on 56 routes in SADC was analyzed. The results show that air fares are 18 percent lower on liberalized routes which, according to the available literature, could have increased passenger volumes by 14–32 percent. The analysis also shows that the presence of a low-cost airline on a given route has reduced prices by an average of 40 percent, which could have increased passenger volumes by 32–72 percent.

Forsyth (2001) has analyzed the options for ASEAN following its open skies commitment within the region. The paper has recognized the wide diversity among member countries in many aspects, such as in terms of their gross domestic product (GDP) per capita, their size, aviation policies and the strength of their aviation industries – much like SAARC countries. The study has looked as several options for greater convergences, including taking an economic approach to aviation negotiations, liberalizing within sub-regional groupings, a staged framework of liberalization, and increasing the scope for low-cost carriers to compete, possibly through development of secondary markets. It will also be necessary to consider complementary issues such as competition and subsidy policies and ownership. We draw on this study in later stages of the chapter. 206 Regional integration and economic development in South Asia

ECONOMIC BENEFITS OF AIR SERVICES LIBERALIZATION

The economic impact of the aviation sector, in general, is strong and pervasive. Directly, aviation is a strong economic sector in its own right. Indirectly, it contributes to the US\$700 billion global tourism industry and contributes to the logistics industry. The industry also has a catalytic economic impact as improved aviation connectivity contributes to national productivity by enhancing access to markets, enhancing communications and interactions between and within firms, and by providing access to a larger labor and talent pool (Tretheway, 2010). In a panel regression study covering 48 countries over nine years, Tretheway (2010) finds that a 10 percent increase in aviation connectivity (as per the aviation connectivity index supplied by IATA) per \$1billion of GDP increases labor productivity by 0.07 percent.¹

Recent history has shown that the economic benefits of liberalized regional air service agreements are substantial and compelling (see Table 5.1). It is no coincidence that the most developed economic

Event	Outcomes
US deregulation 1978	Advent of hub and spoke systems, emergence of low-cost carriers with nationwide routing and integrated cargo carriers.
UK liberalization of secondary airports	Growth of international traffic to destinations such as Manchester, Glasgow and Birmingham.
Open Skies in the United Arab Emirates	Emergence of Dubai as a major international hub.
Domestic deregulation in India	Emergence of low cost carriers which later evolved into international fully fledged carriers.
UK–India bilateral	Growth of capacity, new gateways and additional carriers.
Domestic deregulation in Brazil	Emergence of low cost carriers.
Single European Market	Low cost carriers with new gateways, capacity and routing throughout Europe.
India–Sri Lanka bilateral liberalization	Increased capacity allowance for Sri Lankan airlines, Sri Lankan airlines emerges as gateway to India, connecting numerous Indian cities. Growth in demand for India-SL air services spurred by increased bilateral trade and tourism.

Table 5.1Overview of international experience in air servicesliberalization and snapshot of outcomes

Source: Inter*VISTAS-ga* (2006) and key interviews with Sri Lankan airlines (for India-SL case).

regions in the world enjoy liberal air services markets. Nations have long recognized that restrictive BASAs stifle regional progress and hence they steadily push for those agreements to be replaced by more liberal multilateral agreements. The United States (US) was the first to initiate liberalization of air travel, closely followed by the EU. In 1997, ASEAN nations, inspired by success in the US and EU, took significant steps to liberalize regional air travel (Tham, 2008). In terms of air services, the South Asian region considerably lags behind the aforementioned trade areas.

It may be argued that the rapid worldwide growth in air traffic over the last few decades is owing to the removal of air service restrictions within economic regions. Accelerated development in air services (through the removal of restrictions) was prompted by the growing development in global and regional production networks and the advent of just-in-time (JIT) logistics (Tham, 2008). These networks and processes required strong support services, such as air travel. Further, the growth in tourism and trade in newly industrialized and emerging markets necessitated speedy civil aviation transport services.

We now consider the different benefits that emerge from the relaxation of air service regulations from a South Asian perspective. Four key areas for discussion have been identified: creation of jobs in aviation; trade and economic growth; impact on air cargo; and tourism.

Creation of Aviation Industry Jobs

As stated previously, the liberalization of air services stimulates growth in air traffic, which subsequently creates more jobs in the industry. This, in turn, has a catalytic effect on the economy as a whole (discussed later). The expansionary effect of liberalization of air services is best illustrated through a graphical presentation (Figure 5.1) by Button & Drexler (adapted by Grancay, 2009). In his illustration, Grancay compares the effects of liberalisation on supply and demand within the air services market, both, at present and in the future.

In the diagram, demand and supply under a restrictive air services market are denoted by the curves D_1 and S_1 , respectively; n_r represents the maximum capacity allowed under restricted bilateral agreements. As can be seen from the graph, the restrictions through capacity controls prevent supply from increasing, even though demand far exceeds supply at this point. However, removal of these barriers creates a new equilibrium at n_1^* , with a significant increase in supply. Eventually, liberalization allows markets to expand and new airlines create new services, schedules and routes all of which will contribute to attracting greater traffic, naturally



Source: Grancay (2009).

Figure 5.1 Economic impact of air transport liberalization

increasing demand (D_2) and supply (S_2) . The equilibrium point under such conditions is shown as n_2 .

This theory can be substantiated with real figures. According to Balaz and Williams (2006), the overall number of employees in civil aviation in the EU following liberalization of air services increased from 435000 to 489700 between 1988 and 1996. Liberalization results in the creation of new airlines, branch offices and airports. The new jobs created necessarily include flight crews, administrative staff and ground handling staff. The easing of the restrictive Bermuda II Agreement between the UK and the USA resulted in the creation by 2004 of over 25000 jobs in the USA and the UK (Inter*VISTAS-ga*, 2006).

Special note must be made of ground handling, because this is one component of air services which can be outsourced to third parties. Liberal air services agreements often include provisions for unrestricted ground handling, which has a significant bearing on the number of participants in ground operations. Prior to the removal of restrictions, European airlines had a virtual monopoly in ground handling ("Ground Handling Operations; A Technical Perspective", n.d). However, once third-party contractors were allowed into the market, the labor force in ground handling increased. Apart from the entry of third-party service providers, it must also be noted that airlines themselves scale up ground operations to



Source: Inter VISTAS-ga (2006, p. 11) (cited in Grancay, 2009).

Figure 5.2 Impact chain of aviation liberalization

accommodate increased air traffic. Due to these factors, employment in air services will increase catalytically in the post liberalization era.

Trade and Economic Growth

Prior to explaining the catalytic effect of liberalizing air services, we return to Grancay's (2009) graphical presentation (see Figure 5.1). As stated previously, n_r represents the maximum passenger capacity possible under restricted bilateral regimes. The excess demand caused by the shortage in capacity drives prices up to P_1 . Excess demand also allows airlines to compromise quality and efficiency. Such a situation undoubtedly stifles growth and increases both public and consumer expenditure.

However, removal of these barriers allows for market mechanisms to operate and creates a new equilibrium at n_1^* . It should be noted that travel costs at this equilibrium point (P_1^*) are significantly lower than the prices quoted under restricted conditions.

In the long term, liberalization will have a catalytic effect (discussed below), creating more trade and jobs; which results in economies of scale. These economies of scale will create a new price at the predicted equilibrium point (P_2). This phenomenon can also be illustrated as a chain of events, as presented in Figure 5.2.

Catalytic changes to the economic landscape caused by liberalization can be separated into demand-side factors and supply-side factors (Grancay, 2009). Demand-side factors refer to the growth initiated by end consumers, while supply-side factors refer to infrastructural changes. These are discussed individually below.

Demand-side Factors

Removal of air services restrictions opens up new destinations and creates more frequencies and better flight connections, which result in new markets for international businesses (Grancay, 2009). Piermartini and Rousova (2008) also identified that developments in trade are positively correlated to increases in international air passenger transport. They state that passenger transport is important for trade because travel is necessary to set up and maintain long-distance business relationships. Relaxation of restrictions and falling costs encourage travel, which expedites business negotiations and stimulates investment and commercial transactions in the long run. Ease of travel encourages greater people-to-people connectivity, with indirect implications for stimulating regional cooperation and commerce. All these factors are of particular significance in the SAARC region.

Additionally, more comprehensive and cost-efficient air connectivity complements and catalyses global and region value chain development. Global value chains have transformed international production fragmentation and firms are increasingly adopting new strategies of vertical integration and specialization. Better air services connectivity intra-regionally, as well as with other regions, would help South Asian firms better integrate into global production networks.

Supply-side Factors

As supply-side factors involve infrastructural aspects, it is important to understand the conditions needed for investors to be attracted to a particular market. Large multinational corporations treat proximity to airports as an important criterion in deciding where to invest (Grancay, 2009). It is also understood that along with close proximity to airports, multinationals must consider the flight routes and flight costs to and from a particular territory. Liberalization of air travel will increase flight frequencies and will give consumers greater choice in flight routes and travel packages, thereby encouraging multinational firms to invest in the region.

The benefits should not be looked at simply from an investment point of view. As far as productivity is concerned, air transport enables businesses to achieve higher efficiency through exploiting economies of scale (Grancay, 2009). Developments in air travel help strengthen destination networks, which in turn facilitate JIT processes and lower warehousing costs. Further, ease of travel allows for freer transfer of labor across the region, thus helping companies gain access to a larger and better-qualified pool of labor.

Finally, liberalization of air services paves the way for changes in market structures (Grancay, 2009). Producers and buyers get access to foreign markets, transport becomes more cost-efficient and administrative processing is minimized, and the participating countries become more competitive.

Air Cargo

Global status of air cargo liberalization

Progress in liberalization of air cargo services has been far greater than that for air passenger services. The reason for this is that the transport of cargo involves less national sensitivity than the transport of passengers. This is particularly the case in South Asia. However, in most cases liberalization of air cargo services falls short of open skies. This inhibits cargo carriers from having the flexibility to respond effectively to markets.

Liberalization of air cargo services creates a number of opportunities for nations participating in multilateral agreements. Cargo can be collected at hubs for more efficient and cost-effective shipping, and can then be routed through the most commercially viable pathways (ICAO, 2003b).

However, as discussed at the Worldwide Air Transport Conference (ICAO, 2003b), the benefits of liberalization of air cargo services can be realized only if certain factors are present. These are: (1) 5th and 7th freedoms; (2) full change of gauge rights; (3) co-terminalization; and (4) combination of flight numbers as a single aircraft operation.

Impact of air cargo

It has been estimated that nearly 35 percent of international trade is carried by air (IATA, 2006). As such, civil aviation liberalization will have a significant indirect impact on international commerce, via its impact on air cargo (see Box 5.1). Further, statistics show that the importance of air cargo services in global trade will continue to increase. Kasarda et al. (2006) state that, over the 1995–2005 period, air cargo increased by around 80 percent despite recessions and other setbacks to air transport. McKinsey Consulting (cited in Kasarda et al., 2006) estimate that the proportion of manufactured goods that are traded internationally will rise to 80 percent by 2020. This has implications for the continuing rapid growth of the air cargo industry which is projected at an annual rate of about 6 percent for the next 20 years (according to industry estimates; Boeing, 2007).

Growth in air services helps to trigger substantial growth in trade, thus reinforcing the importance of liberalization of air services. It is also noteworthy that close to 50 percent of air cargo is transported on passenger flights as opposed to designated cargo flights. Therefore, growth in passenger flights will have automatic spillover benefits for cargo transport.

Gelosso Grosso and Shepherd (2009) find strong evidence that a more liberal air services regime, and thus freer air cargo services, is positively, significantly and robustly associated with greater bilateral goods trade. They find that the impact is greater for country pairs that have a direct

BOX 5.1 INTERNATIONAL EXPERIENCE ON THE IMPACT ON AIR CARGO SERVICES RESULTING FROM AIR SERVICES LIBERALIZATION

The US air cargo deregulation of 1977, which served as a model for passenger deregulation in the US, liberalized licensing of air cargo carriers and opened domestic routes to full competition. The European common aviation area, finalized in 1997, allowed any EU carrier to operate in any routes in the EU (including domestic routes of any other Member States), granted them operational flexibility and ended regulatory discrimination between scheduled and non-scheduled services. These events have contributed to the broader liberalization brought about by open skies agreements and by regional initiatives, including in APEC. Open skies typically provide additional access and trading opportunities for cargo services.

These reforms had a considerable impact on the air cargo industry. In the US, new carriers and forwarders entered the industry, a large number of new routes were opened and, most notably, the reforms led to the emergence of integrated express carriers. In the EU, although the direct effects were less significant since air cargo in the internal market plays a limited role compared to rail and road modes of transport, the reforms set the stage for broader air transport liberalization. Open skies agreements fostered air cargo services in bilateral routes and facilitated international hub-and-spoke operations.

air transport link, but it is also significant for country pairs that rely on transit through third countries. Their study further shows that liberalized air services impact particularly positively on manufactured goods, time-sensitive products, and parts and components.

Kasarda et al. (2006) find a statistically significant relationship between air services liberalization in 63 countries and the volume of air cargo. Achard (2009),² who employs a more specific and robust methodology, finds that air transport liberalization is associated with larger bilateral cargo flows.

Further, alliances play a big role in air cargo services today. Alliances allow airlines to venture into new markets, offer a greater variety of services and reduce costs. The nature and equity share holding of mergers and alliances will depend largely on the state of air service agreements operational between territories; the more liberal the agreements, the greater the freedom to form commercially beneficial alliances for the transport of cargo.

Aside from the restrictions set out in the BASAs, air cargo services growth is also impeded by domestic rules affecting airline operations, such as restricted market entry in ground-handling services.

In the course of stakeholder surveys, important cargo operators in the region were consulted.³ During the interviews it was pointed out that air cargo operations between most South Asian countries occur in a more liberalized regime than passenger operations. However, key impediments to increasing intra-regional air cargo operations are holding back the full utilization of this. Airport infrastructure is an important constraint. For instance, in many airports in the region security checks still occur manually. resulting in excess time and damage of goods. Furthermore, inland transport (from consumer or warehouse to the airport) networks are in many cases weak, resulting in longer delivery times. These factors make it difficult to export perishable items in a competitive manner. Another issue is that in some airports in the region, such as in Sri Lanka, ground handling and other airport services are handled on a monopoly basis. The lack of competition has undermined quality of service delivery and increased costs, which again undermines the commercial viability of air cargo transport.

Clearing of goods through airports is also cumbersome in many cases in South Asian airports. One operator pointed out that while in Singapore goods can be cleared within three hours, it can take up to 12 hours in airports such as Chennai due to a multitude of regulations and processes that need to be adhered to. It is necessary to invest in infrastructure facilities such as temperature-controlled storage facilities to facilitate trade in perishable items. Most airports in South Asia lack these facilities, making it unviable for cargo operators to set up dedicated operations.

While the scope of this chapter only allows for a brief overview of airport infrastructure constraints, closer investigation would no doubt better inform the air services liberalization process. A more in-depth analysis, with expert background papers from individual South Asian countries, needs to be conducted to identify the nature and extent of infrastructure constraints in key South Asian airports and the measures required to improve the situation.

Tourism

Tourism in an economic driver for many developing regions and South Asia is no exception. Tourism makes a significant contribution to the South Asian economy and is one of the top foreign exchange earners for smaller nations in the region. The tourism industry is entirely dependent on the discretionary spending of consumers and, therefore, ease of travel will factor heavily in the traveler's decision on whether to patronize a particular tourist destination. This relationship between tourism and development of air services was recognized and established by Piermartini and Rousova (2008) using a gravity-type model. They believe that development of air services is essential for the tourism sector, especially for remote locations. South Asia would benefit by promoting tourism in a regional manner, drawing on the vast diversity of attractions in the region and enabling the promotion of a unique product with several complementary facades. However, to make such options a reality, it is essential that travel within the region can occur in a simple, timely and cost-effective manner. This is far from the case today. It should be noted that tourism was a key reason why ASEAN nations in 1997 included air services as an area for development in the Action Plan for Transport and Communication.

PREPARING FOR FUTURE GROWTH: SOUTH ASIAN AIR SERVICES INDUSTRY IN GLOBAL PERSPECTIVE

Although the current level of air transport activity in South Asia is only a fraction of that in other regions such as the EU and ASEAN, the prospects for future growth are strong. Recovering from the impact of the global economic crisis, world airline traffic grew in 2010. More noteworthy, however, is that while in the US and Europe revenue passenger kilometers (RPKs) increased by 2.3 percent and 0.6 percent, respectively, in the Asia-Pacific region, they increased by 11.9 percent. According to IATA,⁴ air passenger traffic is set to increase by more than 800 million between 2011–12 and 2013–14 and 45 percent of this traffic will be on Asia-Pacific region, which currently accounts for 32 percent of global travel volumes, is forecast to account for 41 percent by 2028. It is estimated that this will produce an average annual growth rate of about 6.5–6.8 percent during the next 20 years.

In this context, air travel in the South Asian region is also forecast to grow rapidly, estimated as high as 8.7 percent annually. It is reported that South Asian airlines (both full-cost and low-cost carriers) will take delivery of nearly 1200 aircraft by 2028. During this period, sales volume of passenger traffic in the region (measured by RPK) is likely to grow by 7.5 percent annually. According to industry analysis, traffic within the region



Source: Gelosso Grosso and Shepherd (2009).

Figure 5.3 Percentage of cargo traffic by region

will grow faster than traffic to and from other regions, with sustained economic development and the increasing accessibility of air transport services. Shorter-haul flying, including domestic travel and international travel within the region, is forecast to grow by 7.1 percent annually.

A key factor driving this growth is the rapid expansion of India's middle class (expected to expand to 600 million by 2025), coupled with significant increases in disposable income and the proportion of consumption allocated to travel and leisure. Additionally, the end of the conflict in Sri Lanka and associated political stability, development and heightened tourism attractiveness will lend itself to strong growth in traffic to and from the country.⁶ Sri Lanka was listed by IATA⁷ as one of five of the fastest-growing markets for international passenger traffic over the three years to 2014.⁸ As indicated earlier in the chapter, air travel volumes between India and Sri Lanka have risen rapidly not only due to tourist travel but also due to greater commercial and investment integration.

Air cargo traffic in the Asia-Pacific region forecast to grow at around 6.8 percent annually during the next 20 years. The Asia-Pacific region now accounts for almost 40 percent of world cargo traffic (Figure 5.3).

The Asia-Pacific region depends heavily on air cargo to transport goods over difficult terrain and vast stretches of ocean. Given the sophisticated production chains of the Southeast Asian region, the world's largest and most efficient cargo operators compete to transport high-value and timesensitive exports to markets outside the region.

Within the APEC and ASEAN regional groupings there has been a remarkable increase in the importance of transnational production networks, characterized by vertical fragmentation, lean inventories and justin-time production systems. Air cargo liberalization has helped facilitate these developments.

South Asia needs to evaluate its own air cargo industry and the potential to leverage on global trends. With rapid economic growth in South Asia and greater intra-industry production linkages in the region, the demand for air cargo services will increase substantially. Networked, regionally integrated production needs fast, affordable and reliable international transportation links, and air transport is especially critical for this. Many studies have emphasized the strong role played by air cargo services in the growth of the electronics and other knowledge-intensive industries like the electronics industry in Southeast Asia. Air cargo services enable countries in the region to integrate with global production networks (GPNs).⁹ Leinbach and Bowen (2004) have particularly noted the extent to which air cargo usage is associated with the degree to which firms in Southeast Asia have been able to internationalize not only their production sites and final markets but also cost-effective material procurement.

South Asia does not yet host an air cargo services hub (that is, an air freight hub). An area for future research is to evaluate the potential for such a hub in South Asia and its possible location. Useful lessons can be drawn from Dubai, Singapore and Hong Kong, China; the key factors that contributed to their international air cargo hub status need to be determined.¹⁰

BACKGROUND TO AIR SERVICES REGULATIONS

Given the technical nature of the subject, it is useful to provide background to the nature of regulation of the global air services industry. Civil aviation services for passenger and goods transport has always constituted a *sui generis* market, possibly with the exception of its pioneering days when entry to global air services was essentially unrestricted. Some core characteristics distinguish the civil aviation market from others, including the following (adapted from Findlay and Goldstein, 2004):

- Dominance of state-ownership of airlines, except in the US and UK.
- High degree of immunity from competition laws, partly on grounds of national security and national pride.

- Rigid controls on market entry, capacity, and tariffs on the grounds of size of investment needed and the presence of network externalities.
- Existence of an international regime with specific international organizations and institutions.
- High degree of vertical integration, with *de jure* or *de facto* control and ownership links between physical infrastructure and air and ground-handling services.

As mentioned in the introduction, global air services are regulated by a mesh of bilateral ASAs between individual countries. These ASAs detail regulatory provisions governing a number of issues: grant of rights, capacity, tariff approval, withholding, designation, cooperative agreements and exchange of statistics. A complete exposition of these is provided in Appendix Table A5.1 (Features of ASAs that restrict air services).

Among the most important of these regulations is the grant of rights. There are various degrees of rights which determine the openness of the ASA in question. The grant of rights 1 to 4 are standard in any ASA, but the extent of provision of rights from the 5th freedom and beyond are what influence the extent of liberalization in an ASA. Appendix Figure A5.1 ('Definitions of the freedoms of the air') provides a full definition and graphical presentation of these types of freedoms.

OVERVIEW OF FEATURES OF CURRENTLY OPERATIONAL ASAS WORLDWIDE

The WTO has developed a quantitative approach to analyze the market access features of BASAs, known as the Quantitative Air Services Agreement Review (QUASAR). The analysis is based on the World Air Services Agreements (WASA) database. The QUASAR provides a useful analysis of ASAs in practice globally today.

Grant of Rights

5th freedom traffic rights are granted in two-thirds of all agreements, which in turn cover close to 80 percent of global traffic. The actual share of 5th freedom traffic in total traffic is much lower because not all rights are used. 5th freedom traffic rights are really needed only by a handful of contracting states – due either to their geographic situation or an insufficient hinterland; carriers may need to serve intermediary or beyond destinations to operate economically viable services. For other carriers, 5th freedom

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rights may be of marginal importance and be used only to generate additional revenue. In most instances, carriers prefer to serve distant markets either directly, if it makes commercial sense, or otherwise via code-shares and alliances.

The granting of cabotage is an extremely rare feature. It appears in only two agreements, that is, People's Republic of China–Albania and New Zealand–Brunei Darussalam, which cover very little traffic.

Designation

Multiple designation appears in 1063 agreements (54 percent of QUASAR agreements) covering 80 percent of WASA traffic.

Ownership

The substantial ownership and effective control criterion (SOEC) remains dominant, representing about 90 percent of total traffic. Principal place of business accounts for less than 8 percent of traffic and the community of interest criterion covers less than 2 percent of traffic.

Capacity

Predetermination is the dominant capacity feature, accounting for about 44 percent of world traffic. While anecdotal evidence¹¹ suggests that predetermination of capacity is a restrictive market access feature, details of capacity are often not revealed in International Civil Aviation Organization (ICAO) data. A predetermination clause limiting capacity to a level well above the commercial potential of a city pair is in practice equivalent to a free determination clause.

Bermuda I accounts for 26 percent of world traffic. This is a semi-liberal criterion where the control of capacity takes place *ex post*. The actual degree of restrictiveness depends on the parties' approach to monitoring. Since it is generally difficult to backtrack on a liberal capacity policy, this criterion has been valued as semi-liberal in the QUASAR. The most liberal capacity criterion, free determination, accounts for 18 percent of global traffic.

Tariff Determination

The dominant tariff determination clause is dual approval, which accounts for 73 percent of total traffic. A semi-liberal clause, dual disapproval, ranks a distant second. It accounts for 20 percent of world traffic. However, apart from rare cases making the headlines (e.g., the Italian authorities checking British Airways tariffs in 2004), tariff practices are not documented and problems, if any, tend to be solved discreetly through bilateral consultations. Today, tariff approval by aviation authorities is difficult to implement due to the vast differentials on tariffs paid by individual customers on each flight. Therefore this usually occurs *ex post* in case of a complaint by a competitor. Therefore this clause is not as restrictive as it may appear.

Cooperative Arrangements

Clauses allowing for cooperative arrangements are found in ASAs accounting for only one-quarter of world traffic, but in practice these are more widespread.

Exchange of Statistics

Agreements requiring the exchange of statistics account for 63 percent of world traffic.

AIR SERVICE AGREEMENTS IN SOUTH ASIA

In this study we look specifically at air connectivity amongst five major economies in the SAARC region, namely India, Pakistan, Sri Lanka, Bangladesh and Nepal. We begin with an assessment of the restrictiveness of the ASAs that operate within this region using an index created by the WTO. Based on the QUASAR referred to earlier, the WTO Secretariat has developed a scoring system that rates the openness of different ASAs in the world. The scoring structure of this Air Liberalization Index (ALI) selects key features of bilateral ASAs that affect air traffic and gives scores according to the degree of liberalization of each feature, that is, designation, withholding,¹² tariffs, capacity, traffic rights, absence of exchange of statistics, allowance of cooperative arrangements (e.g. dual approval of tariffs, a very restrictive provision, is attributed zero points, whereas free pricing, the most liberal of the tariff provisions, is given eight points). The ALI has four different rating schemes, each providing a different weighting to a particular feature of restrictiveness that may be particularly influential depending on the nature of an ASA. The first scheme is a standard ALI, the second provides additional weight to the provision of the 5th freedom, the third gives additional weight to ownership (withholding) and the fourth gives extra weight to the designation clause. We use this to generate

Bilateral ASA	ALI Standard	ALI 5+	ALI O+	ALI D+	Туре
Sri Lanka Pakistan	8	13.5	6.5	7	i
Sri Lanka India	6	12	5	5.5	с
Bangladesh India	10	15.5	8.5	13	e
Bangladesh Nepal	6	12	5	5.5	с
Pakistan Nepal	6	12	5	5.5	с

Table 5.2 Air liberalization index of South Asian BASAs

Notes: i = incomplete data; c = 3rd, 4th and 5th freedom, double approval of tariffs, single designation, substantial ownership and effective control, predetermination of capacity; e = 3rd, 4th and 5th freedom, double approval of tariffs, multiple designation, substantial ownership and effective control, predetermination of capacity.

Source: WTO Air Services Liberalisation Analytical Tool (www.wto.org).

 Table 5.3
 Weighted air liberalization index of high-traffic bilateral air services agreements

ASAs concerned	WALI
Top 67 ASAs	16.6
Top 100 ASAs	16.1
Top 200 ASAs	15.4
All QUASAR ASAs (1970)	14.0

Source: WTO Secretariat (2006).

ALI ratings for the ASAs that operate in South Asia, for which data were available. These ratings are provided in Table 5.2.

The maximum ALI score that is possible is 50 and this applies to all four scoring schemes in Table 5.2. From this perspective, it appears that South Asian ASAs are very restrictive, with the highest ALI (standard) being 10 out of 50. However, as mentioned earlier, most ASAs that operate globally remain somewhat restrictive and, therefore, one finds that even the most liberal of the ASAs do not score very high, as is evident in Table 5.3.

South Asian ASAs are even more restrictive than average ASAs that operate globally. Furthermore, considering Table 5.4, it is clear that South Asian countries are relatively more liberal in terms of BASAs with third parties than within the region.

Quantitative evidence suggests, therefore, that South Asian ASAs

Country	Singapore			Japan			UK					
	St	5+	0+	D+	St	5+	O+	D+	St	5+	O+	D+
Sri Lanka	14	19	12	16.5	10	15.5	8.5	13	14	12	12	16.5
India	10	15.5	8.5	13	12	17	10	14.5	10	15.5	8.5	13
Pakistan	14	19	12	16.5	_	_	_	_	14	12	12	16.5
Nepal	17	21.5	14.5	15.5	10	15.5	8.5	13	8	7	7	11
Bangladesh	10	15.5	8.5	9	6	12	5	5.5	-	-	-	-

 Table 5.4
 ASAs between South Asian countries and selected

 extra-regional countries

Note: Singapore, Japan and the UK are selected based on the fact that data for these countries' ASAs with almost all the selected South Asian countries were available.

Source: WTO Air Services Liberalisation Analytical Tool (www.wto.org).

within the region are relatively more restrictive than most global ASAs and South Asian ASAs with parties outside the region. Thus the restrictiveness of bilateral ASAs could potentially be an important determinant of limited connectivity in the region. We now examine the extent to which the South Asian region is connected by air.

EXTENT OF AIR CONNECTIVITY IN SOUTH ASIA

Figure 5.4 maps out air connectivity in the region based on respective airline website flight schedules as of April 2011. It is evident that there are currently three routes that are considered as "commercial routes" in the region (more than double daily flights): Colombo–Chennai, Delhi–Kathmandu and Dhaka–Kolkata. Mumbai–Kathmandu and Mumbai–Dhaka are considered "well-serviced routes" with double daily flights. Three other routes are considered "adequately serviced routes" with more than ten flights a week; flights between Dhaka–Karachi and Dhaka–Kathmandu, and Delhi–Dhaka.

On a country-by-country basis, it is clear that India is the most connected country in the region whilst Pakistan is the least connected in the region. Sri Lanka has no direct flights with Nepal and to reach it passengers must travel via either Delhi, Bangkok, Singapore or the Middle East. In a recent development, the Sri Lankan budget carrier, Mihin Airlines, launched a Colombo–Dhaka direct flight, which is scheduled three times a week. Table 5.5 illustrates the level of connectivity.

The picture is even less encouraging when considering capital-to-capital

Frequency per week	52 2238 2238 2238 2238 2238 2238 2238 22
Route	Colombo-Chennai Colombo-Bangalore Colombo-Harachi Colombo-Harachi Colombo-Trivuchirapalli Colombo-Trivuchirapalli Colombo-Trivantrum Colombo-Varanasi Colombo-Varanasi Colombo-Varanadi Dhaka-Kathmandu Dhaka-Kathmandu Dhaka-Kathmandu Karachi-Dhli Karachi-Dhaka



Figure 5.4 Map of air connectivity in South Asia (April 2011)

	India	Pakistan	Sri Lanka	Bangladesh	Nepal
India		6	120	53	78
Pakistan	6		3	10	1
Sri Lanka	120	3		3	0
Bangladesh	53	10	3		12
Nepal	78	1	0	12	

 Table 5.5
 Connectivity by country in South Asia (flights per week)

Source: South Asian airline websites.

connectivity. In this case, Colombo is not connected directly with Kathmandu or Islamabad. Islamabad is only connected with Kathmandu – but just one flight a week. Based on these statistics, the extent to which South Asia has very poor air connectivity is abundantly clear.

The next step is to identify whether this is a result of excessive regulations, as outlined in the previous section, or whether other factors are at work. It was necessary to supplement the quantitative findings pertaining to the restrictiveness of ASAs with qualitative research. The latter entailed obtaining the perspectives of representatives of airlines that operate in the region and aviation officials. In the next section we discuss the findings of this qualitative research.

FINDINGS FROM STAKEHOLDER CONSULTATIONS

In order to obtain stakeholder views on factors that inhibit greater air connectivity in South Asia, the study included a number of interviews with key airlines and governments in the region. Airlines included Sri Lankan Airlines, Jet Air, Kingfisher Airlines and also the Civil Aviation Authority of Sri Lanka and the Ministry of Tourism and Civil Aviation in Nepal.¹³ Despite best efforts to interview Pakistan International Airways (PIA) and Bangladeshi airlines, it was not possible to secure interviews. In this section of the chapter we summarize the findings from these interviews which identified perceptions on key constraints to increasing air connectivity in South Asia.

Commercial Viability

A unanimous perception among the stakeholders consulted was that lack of commercial viability of routes in South Asia is as much an integral issue as regulatory factors. Given the fact that the region remains relatively poor with low per capita incomes, the demand for air travel in most countries other than India remains limited. This is particularly true for intra-regional travel. The demand for flights for purposes of tourism and commercial interest between South Asian countries other than India remains low, and this low traffic potential is one factor that makes more frequent scheduled flights between these countries less commercially viable. Sri Lankan industry players noted that India has moved little on granting more rights (on capacity) to metro airports, while granting more and more rights to operate into secondary airports. They noted that the commercial potential is limited in these secondary airports, and that opening up more capacity rights to metro airports will be key in expanding air services to India. An example cited by one player was that instead of offering more capacity on the Colombo-Mumbai route, which is seeing greater traffic potential, India offered more capacity on a new Colombo-Pune route as an alternative. This was seen as of little use as passenger traffic to Mumbai would not substitute travelling to Pune as a connecting destination. However, as observed earlier in the chapter, it is important to bear in mind that commercial viability (as determined by demand for air travel) influences, and is influenced by, economic integration, which is low in the region at present.

Stakeholders further noted that there are certain aspects of regulation that could provide a marginal boost to intra-regional connectivity; codesharing is one such factor.

Code Sharing

Civil aviation regulatory bodies in the region place restrictions on codesharing in some cases. Stakeholders who were interviewed stated that both Pakistan and Bangladesh do not allow code-sharing between two thirdparty airlines, and expect all agreements to take place with their national carriers. One of the interviewees was of the opinion that among the biggest barriers to travel from Sri Lanka to Bangladesh is the restriction on codesharing. He pointed out that only 10–15 passengers per flight travel from Sri Lanka to India with the intention of disembarking in Bangladesh. Therefore, allowing Sri Lanka to code share with a third-party airline would reduce costs and inconvenience to passengers. At present, divergence in quality and safety records deter certain airlines from code-sharing with other national carriers in the region. For example, Sri Lankan Airlines is reluctant to code share with Bangladesh Biman Airways and Nepal Airlines. However, Sri Lankan Airlines could, if allowed, access the Bangladeshi market via a code-sharing arrangement with a third-party airline that flies from, say, India to Bangladesh. At present, most bilateral ASAs place restrictions on code-sharing; this could take the form of only allowing code-sharing with the national carrier of that country and not allowing code-sharing with a third-party airline.¹⁴ By completely liberalizing restrictions on code sharing in ASAs, or at least allowing unrestricted code-sharing on a priority basis on key routes where code-sharing could have a positive impact, it would be possible to create more convenient routes connecting passengers travelling within South Asia. Such liberalization will, of course, result in greater competition for national carriers, especially on commercially lucrative routes.

Operational Costs

Another factor that could affect commercial viability of routes is the magnitude of operational costs. The commercial viability of a route is contingent on the potential revenue and the cost of operating the route. Therefore a reduction in the latter could to an extent mitigate shortfalls in the former. In South Asia, high operational costs are prevalent in ground handling, airport charges and a number of other expenses. Some of these could be addressed by policy changes, such as revisiting monopoly rights accorded to ground handling (e.g., such as Sri Lankan Airlines in Sri Lanka). It is important to improve efficiency in ground handling and other airport operations across the region.

There was broad consensus among interviewed Sri Lankan aviation stakeholders that operating costs (airport taxes and ground service charges) at the Sri Lankan airport are the highest in the region. Low-cost carriers are particularly conscious of high operating costs at airports as their profit margins are slim. Malaysia-based Air Asia has remarked that airport taxes in Indian airports are crippling, noting that as much as half of the ticket price (on average US\$100 per fare) goes towards paying airport taxes.¹⁵ Newer airports have tended to be particularly hawkish in charging high taxes; the new Hyderabad Airport has begun charging a "user development fee", a move that may prompt other new airports or new terminals to follow suit (e.g., Bengaluru, Delhi and Mumbai).

Visa Bottlenecks

Another problem identified by stakeholders was immigration laws and visa processes. It was pointed out that the process of obtaining double entry transit visas to India is cumbersome, making it difficult for business and other persons to transit via India in travelling through the region. It is clear from the Indo-Lanka air services agreement that a more liberal

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visa regime within South Asia will help to spur tourism, creating much required commercial demand for air connectivity within the region. Given the present limitations in economic integration and interaction within South Asia (other than on a bilateral basis with India), business visitors must be combined with increased intra-regional tourism in order to generate sufficient air traffic for commercial routes within the region. More flexible visa regimes are an important determinant of this.

Geographic Issues

Another factor affecting development of air services is the geography of the region. One interviewee illustrated the difficulties in navigating the mountainous terrain surrounding Kathmandu airport and the requirement of a non-automated "visual landing". Airlines have to set aside additional funds to pay for specialist pilots who are licensed to land in mountainous terrain, particularly when visibility is poor (a frequent occurrence at Kathmandu airport). It was noted that only one international airline operates a night flight owing to the requirement of specialist trained pilots in landing at night at Kathmandu airport.

Route-specific Issues

Stakeholders were asked for feedback on factors influencing the lack of flights between certain specific routes:

- Colombo-Kathmandu. As far as Kathmandu is concerned, the geographic positioning of the airport makes night flights challenging. Sri Lankan Airlines indicated that its entire schedule would need to be altered to accommodate this destination point.
- Colombo-Dhaka. The fact that Bangladesh does not allow codesharing on third-party airlines, and that Sri Lankan Airlines is not willing to code share with Biman, makes this route unviable.
- With regard to routes such as Colombo to Kathmandu and Dhaka, even if 5th freedom rights are granted by neighboring countries, travel to those countries must be economically viable in order to utilize those rights. This is not the case for travel to Kathmandu and Dhaka from Colombo. Commercial viability would require at least 100 passengers on a given flight to make the route feasible.
- India–Pakistan. Being the two largest economies in the region, there is undoubtedly potential commercial viability, *ceteris paribus*. However interviewees noted that tense political relations between the two countries have undermined potential connectivity between them.

Challenges

Stakeholders were asked for perceptions on the key challenges that would result from more liberal civil aviation regulations in South Asia.

Low-cost carriers

Deregulation would lower entry costs for low-cost carriers (LCCs), which would threaten national full-service carriers (FSCs) in terms of commercial viability. Existing LCCs would thrive and expand in an open aviation market. However, it was felt that rather than creating a new market through low pricing, LCCs tend to infiltrate and erode the target market of FSCs. The end result is that new benchmark pricing is created below the break-even point of FSCs (at least with regard to some routes).

However, it was also pointed out that while low-cost carriers are always a challenge, LCCs and FSCs could thrive side-by-side as in other regions. The need for FSCs will not cease to exist just because of a greater advent of LCCs. The moot point will be the distribution of gains and losses between countries in such a liberalized environment. It is likely that in a more liberal environment, inefficient airlines – which could be national carriers in certain countries – would lose out to LCCs or even more competitive FSCs. There will obviously be opposition to liberalization by vested interests. Measures to address the distributional effects will need to be taken at the highest political levels, balancing overarching regional benefits against short-run national costs. The ultimate objective should be to enhance the efficiency of all airlines in the region. Carefully structured, liberalization of air services can be a catalyst in reaching this objective.

Infrastructure

While airport capacity and airline capacity currently are not significantly affected by shortfalls in infrastructure, both these capacities would need to be expanded in the long run in order to accommodate potential increased traffic following liberalization of air services. Tretheway (2010) shows that, in several countries, investment in airport infrastructure (along with investment in airline capacity) provides strong rates of return by increasing connectivity and contributing to increases in national GDP (see Table 5.6).

Political economy factors

As noted in an earlier section, the beneficiaries of liberalization are numerous and fragmented and receive relatively small marginal benefits, while the losers are usually limited in number but politically influential, such as entrenched domestic airline monopolies. Given this, deregulation poses

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Country	Airport Investment (US\$ millions)	Aircraft Investment (US\$ millions)	percent increase in connectivity 2000–2005	percent increase in national GDP	National GDP in 2000 (US\$ millions)	GDP increase (US\$ millions)	Annual rate of return
Cambodia	248	538	61	0.323	31 085	100	19
El Salvador	256	546	43	0.245	34 592	85	16
Jordan	26	334	76	0.385	26048	100	28
Jamaica	23	168	34	0.199	13123	26	16
Kenya	61	348	85	0.417	50007	209	59

 Table 5.6
 Rates of return from investment in air transport in selected developing countries

Source: Tretheway (2010).

inherent political economy challenges. For example, deregulation of airline-related services at Sri Lanka's main international airport, currently a monopoly of the state-owned national flag carrier Sri Lanka Airlines, is not considered an option. Much of the losses of the airline's direct operations are more than offset by the monopoly profits earned from its ground handling and catering services provided to other airlines.

LESSONS FROM OTHER REGIONS

The chapter to this juncture has examined the bottlenecks faced in enhancing air connectivity in South Asia and has addressed some short-term policy issues that could make certain routes viable. However, in the long run it is important to adopt a more ambitious strategy to enhance air connectivity in the region through deregulation. To explore the options in this regard, this section of the study draws on lessons from other regional bodies that have embarked upon liberalization of air services, including lessons from sub-regions (see Box 5.2).

Lessons from Liberalization of Air Services in ASEAN

The ASEAN-wide "open skies" endeavor was initiated with the formulation of the Action Plan on Transport and Communication 1994–1996 (Tan, 2009). In 1996, the first ASEAN Transport Ministers' (ATM) meeting identified the need to cooperate on the development of an open skies policy (Tan, 2009). This culminated in the inclusion of a competitive air services policy as one area for development within the revised ASEAN

BOX 5.2 LESSONS FROM CLMV FOR SOUTH ASIA

The CLMV Sub-Regional Cooperation was forged among relatively less-developed nations in ASEAN, with the idea of developing the sub-region in line with the rest of ASEAN. Thus, we may draw from this agreement to explore the possibility of subregional agreements in South Asia, reflecting the disparity in economic strength between different member nations of SAARC.

The CLMV initiative recognizes the important role of air transport in national economic development (Vu Hien, 2003). The initiative accepted that CLMV nations were at a relative (economic) disadvantage compared to their ASEAN neighbors (particularly the BIMP-EAGA countries). Through the agreement, CLMV nations collectively determined methods for developing air travel within the region.

Although CLMV countries have less-developed aviation industries, they nonetheless have substantial potential for growth in air travel through tourism and investment (Vu Hien, 2003). CLMV Sub-Regional Cooperation has assisted the four countries to build up their competitiveness gradually and to participate in the air transport market.

Why Would Such an Agreement be Beneficial for South Asia?

The East Indian states, along with Bangladesh and Nepal, suffer from rigid bilateral transport agreements (Subramaniam and Arnold, 2001). Most of the territories within this sub-region are landlocked, and the inflexibility of transport regulations is particularly disadvantageous for them. A sub-regional agreement on liberalization of air transport would yield substantial benefits. It could pave the way for a liberalized air services policy in much the same way as the CLMV assisted ASEAN in developing a comprehensive regional air services policy.

Like the CLMV countries, South Asia has tremendous potential in tourism and investment. Having witnessed the growth in air services enjoyed by the CLMV, South Asia could draw from the steps taken by members of ASEAN in developing sub-regional agreements. Plan of Action in Transport and Communication in 1997 (Tham, 2008). The new action plan targeted the various sub-regional agreements that were in force within the ASEAN area. The importance of focusing on sub-regional agreements was highlighted in the policy document "Preparing ASEAN for Open Skies" (Forsyth et al., 2004). At the time, the CLMV (Cambodia, Laos, Myanmar and Vietnam) and the BIMP-EAGA (Brunei, Indonesia, Malaysia and Philippines East ASEAN Growth Area) emerged as the most prominent sub-regional agreements that included provisions for liberalized air travel. A policy for air travel within the CLMV was then agreed on by the heads of the countries' civil aviation authorities ("Sub-Regional Cooperation on Air Transport among Cambodia, Lao People's Democratic Republic, Myanmar and Vietnam (CLMV)", ICAO, 2003a).

The ASEAN liberalization effort took a policy approach that identified priority and secondary options:

- Priority options: removing investment and ownership controls; permitting multiple designation; removing route capacity controls; relaxing restrictions on gateways; and wet lease aircraft to be allowed within ASEAN.
- Secondary options: relaxing fare restrictions; granting 5th freedom, both within and beyond ASEAN; allowing 7th freedom operations; charter liberalization; enhancing market competition; cargo liberalization; allowing domestic cabotage; removing restrictions on ground handling; and removing "doing business" restrictions.

Two particular events further led to significant developments in air travel in ASEAN. These events were the Bali Concord II of 2003 and the 10th ASEAN Summit of 2004 (Bofinger, 2008). The Bali Concord established 11 pillars of development aimed at establishing an ASEAN community by 2020; one of these pillars was Air Travel and Tourism (Tham, 2008). These events led to two key approaches to liberalizing air travel: preparing ASEAN for Open Skies and the Roadmap for Integration of Air Travel (Bofinger, 2008). Preparing ASEAN for Open Skies was based on an internal study titled the same, which was carried out by Forsyth et al. in 2004. This document recommended three phases to liberalization of air travel:

- 1. Phase 1 (by 31 December 2007) Double disapproval on fares.
 - Double designation.
 - Ownership to be substantially ASEAN.
 - Unlimited 3rd and 4th capacity.

Timeline	Specific steps
December 2005	Liberalization of scheduled passenger services with no limitations on 3rd and 4th freedom traffic rights for all designated points within the ASEAN sub-regions
December 2006	Liberalization of scheduled passenger services with no limitations on 3rd and 4th freedom traffic rights for at least two designated points in each country between the ASEAN sub-regions
December 2006	Liberalization of scheduled passenger services with no limitations on 5th freedom traffic rights for all designated points within the ASEAN sub-regions
December 2008	ASEAN-wide liberalization of scheduled passenger services, with no limitations on 3rd and 4th freedom traffic rights for the capital city in each ASEAN member country
December 2010	ASEAN-wide liberalization of scheduled passenger services, with no limitations on 5th freedom traffic rights for the capital city in each ASEAN Member Country
2005–2010	Enhancing capacity building programs to facilitate transition towards full air services liberalization

 Table 5.7
 Roadmap for integration of air services in ASEAN

2.	Phase 2 (by 31 Dec 2010)	 No control on fares. Multiple designations. Ownership to be principal place of business
3.	Phase 3 (by 31 Dec 2012)	 Capacity: restricted 5th beyond (unlimited within). Unrestricted 5th beyond ASEAN (all foreign airlines to be allowed).

Air cargo liberalization was addressed in the ASEAN effort. In 2002, the ASEAN Memorandum of Understanding on Air Freight Services was signed (Tham, 2008). This agreement removed all limitations on 3rd and 4th freedoms for cargo transport and specified a maximum capacity for transport.

While "Preparing ASEAN for Open Skies" provided an overall framework for liberalization of air travel, the Roadmap of Integration (Table 5.7) established specific policy steps and timelines for implementation.

BOX 5.3 LCCS: A COMPARISON WITH SOUTH ASIA

Most LCCs operating within the South Asian region originate from India. Therefore, although India has a large domestic market to protect, it also has the most to gain through the expansion of LCCs. Unlike in the case of ASEAN, where large archipelagos such as the Philippines and Indonesia were threatened by LCCs from smaller nations, India has little to fear from outside competition. As a result, India could become the strongest advocate of liberalization of air services in South Asia.

Opposition may come from the geographically smaller nations, which depend heavily on the entrenched national carrier. Further, powerful political forces may have a stake in national carriers and endeavor to block the drive towards liberalized air travel.

Challenges to liberalization of air services in ASEAN

One striking inhibitor to the open skies initiative of ASEAN was the fear of the low-cost carriers (LCCs) that would inevitably emerge as a result of liberalization (Bofinger, 2008). Further, owing to the diversity within ASEAN with respect to capacities and priorities in air travel, some states advocate open skies more readily than others (Tan, 2009). For example, Indonesia, the Philippines and Vietnam have substantial domestic markets to protect, while Singapore and Brunei have much smaller markets, with one international airport each. Therefore nations with smaller geographical regions tend to support greater liberalization than their geographically larger counterparts.

Lastly, the strength of national carriers tends to have a bearing on respective governments' positions on adopting a liberal aviation policy (Tan, 2009). Malaysian Airlines and Thai Airways have established global networks and are likely to exert pressure on their governments to adopt restrictive policies. National carriers such as Malaysian Airlines had to restructure heavily in the face of new competition from LCCs (Ionides, 2008). In general, national carriers are likely to see liberalization as damaging (see Box 5.3).

Lessons from Liberalization of Air Services in Europe

This section focuses on the progress made by the EU in liberalizing regional air services and identifies the key steps taken in that process.
Europe has now become the largest and most successful region in terms of deregulation and integration of air services (Geil, 2010). It serves as a model for other regions hoping to deregulate air services for commercial and consumer gain.

Background to liberalization

In 1997, the EU, following the US, became the second economic area of significance to liberalize civil aviation completely. Prior to liberalization, European aviation was plagued by severe restrictions, markets were fragmented and the regulatory environment was made up entirely of bilateral agreements (Rocka and Weyna, n.d). Duopolies effectively managed flight routes, preventing third-party airlines from servicing those destinations involved (Gagnepain and Marin, 2006). Further, capacity on major routes was artificially restricted and fares were prohibitively high, which made business for non flag-carriers virtually impossible (European Law Fares Association, 2004). As for the national carriers, the duopolies allowed airlines the freedom to operate inefficiently, driving operational costs up.

During the period 1984 to 1986, owing to the inefficiencies of national airlines and rising costs, several governments within the EU began renegotiating their bilateral agreements to incorporate price reductions and third-party entry on certain routes (Gagnepain and Marin, 2006). Keen to enjoy the same success as experienced by the US, the UK initiated deregulation in Europe by signing a liberal bilateral agreement with the Netherlands (Morrell, 1998). Following this, the UK signed liberal air services agreements with West Germany, France, Belgium, Switzerland and Ireland. The subsequent Single European Act provided for multilateralism and offered scope for legislation to enable liberalization.

The first package of air services liberalization materialized in 1987. To avoid market turmoil experienced in the US following overnight liberalization, the EU decided to carry out deregulation in three phases, the first of which was implemented in 1987.

The first package (1987) weakened bilateral ties, and reduced controls on capacity and airline designations (Morrell, 1998). Further, fare restrictions were reduced and, although bilateral agreements were still strong, additional flexibility for cooperation within the ASAs was introduced (European Law Fares Association, 2004). Further, airlines were given more flexibility in seat sharing between carriers (Williams, n.d).

The second package of liberalization (1990 onwards) simply evolved as an extension of the first. Airlines were awarded extended flexibility in fare setting and seat sharing (Williams, n.d), and 3rd, 4th and 5th freedoms were introduced across Europe (Rocka and Weyna, n.d). Further, improvements were made to route access enjoyed by airlines (Morrell, 1998).

Implementation of the final package in 1993 proved to be problematic, as it involved common licensing for all carriers, introducing thereby the concept of the community carrier. Many nations contested the 3rd package and the matter was taken to the European Court of Justice (ECJ) for settlement.

It must be noted, however, that bilateral agreements are still very much in place, although European law prevails whenever a conflict arises between the two. Nearly 900 bilateral agreements, or approximately half the ASAs in Europe, have been made congruent with EC law to date (Geil, 2010).

Consequences of liberalization

The most prominent outcome of liberalization of air services was the proliferation of LCCs. Ryanair became the first "no-frills" airline to begin services in Europe, re-engineering itself to follow the business model of Southwest Airlines in the US (European Commission 2003b). In 2004, LCCs carried around 60 million passengers, or 16 percent of intra-European scheduled passengers. LCCs also made up 24 percent of total intra-European traffic, including both scheduled and non-scheduled traffic.

Although full-service carriers found it difficult to cope with the advent of LCCs, many of them negotiated capital arrangements with competitors to stay afloat. Established carriers entered into a number of share purchase and franchising agreements with other airlines and strengthened their hubs through flight coordination (Morrell, 1998).

Another key indication of the success enjoyed by Europe in terms of liberalization is the increase in traffic. Morrell (1998) suggests that airline competition at the route level can only be effective if there are more than two airlines operating those routes. Between 1992 and 2009, intra-EU routes with more than two carriers increased by 310 percent (Geil, 2010), indicating a high level of competition.

The process of liberalization also saw the entry and exit of numerous airlines. In reality, however, the net number of air services companies increased only marginally, from 124 in the pre-liberalization era to 131 post-liberalization (European Commission, 2003a). Still, it must be noted that not all airlines which are treated as exits were financial failures. A number of them were acquired by larger and more profitable airlines in order to consolidate their position. The above figures, therefore, can be misleading.

Looking ahead

Owing to the success of the three-package approach to liberalization, the EU has now launched a second phase of liberalization. This second phase is designed to modernize and simplify the internal air transport market and to consolidate legislation on air services further (Tincani, 2007). The EU also initiated a road map to strengthen ties with nations outside the EU, particularly with respect to ironing out problems with the US (Williams, n.d). The road map was drawn up with the objectives of: (1) ensuring legal stability of existing bilateral agreements; (2) developing a common civil aviation area with regional states, by 2010; and (3) negotiating a comprehensive air transport agreement at the pan-European level with selected third-party countries.

Overall Observations

In conclusion, it must be stated that Europe's success in liberalization of air services can be largely attributed to the political maturity of the region. The European Commission (EC) has long since been accepted as a supra-national body for the region, the policies of which member states need to conform to. No other economic region has an entity remotely resembling the EC and, as such, multilateralism will be more difficult to negotiate. However, ASEAN was able to liberalize its air markets to a substantial degree, despite not having an overarching body of the EC type, providing some indication that if nations are willing to cooperate on identified issues, a powerful regional governing body is not essential for integration.

POLICY ROAD MAP FOR SOUTH ASIA

The case for greater liberalization of air services is strong. South Asian policy-makers and stakeholders examining the issue need to take note of the substantial evidence from other research studies which demonstrate the economic benefits of air services liberalization. These benefits include reduced fares and some employment creation in the short run, and the catalytic growth of direct and indirect employment and enhanced trade in the longer run.

This study has examined the nature of air service connectivity in South Asia and found that the regulatory issues, as per the bilateral ASAs within the region, are fairly restrictive. There are also several other related issues that have caused the region to be characterized by limited air connectivity. The study found that, as revealed by stakeholder consultations, the limited number of economically viable routes poses a key challenge in expanding air connectivity in the region in a manner that is profitable to airlines.

While efforts are made to formulate a more liberal South Asian air services connectivity framework, other related issues, such as infrastructure constraints and the need for more competition in national air transport, must be addressed simultaneously. A SAARC-led collaborative program could give the necessary impetus for South Asian countries to begin addressing these issues. It would be useful if such a program is informed by an examination of other regions' efforts at tackling similar issues. Sector stakeholders need to be made aware of the process and measures adopted by these regions.

This section outlines some key steps in enhancing commercial viability of air services in the region, suggests some measures for broader liberalization of air services under a phased approach, and provides, as a case study, a brief overview of the India–Sri Lanka bilateral measures to liberalize air services. This section also highlights the emphasis in the SAARC agenda and provides the impetus to move more aggressively towards air services liberalization in the region.

Enhancing Commercial Viability: Key Steps

The study identified some policy-related measures that could help enhance the viability of certain routes. These include;

- Enabling code sharing with third party airlines.
- Reducing operational costs in the region reducing airport taxes¹⁶ liberalizing ground handling by breaking monopolies and introducing competition in some cases.
- Grant of 5th freedom rights on certain routes it will also be important to consider the quality of liberalization; for example, if 5th freedom rights are granted by a country, are the allocated landing times of a commercially viable nature or not?
- Simplification of visa processes Indian visa accessibility, in particular, is a serious constraint.
- Investment in airlines to enhance competitiveness possibility of encouraging greater foreign equity in national airlines.

These measures would need to be supplemented by greater overall investment in airline-related infrastructure, particularly airport capacity and airline strength itself. To catalyse such infrastructure development, South Asian countries would need to place more emphasis on involvement of the private sector. India has already strongly embraced this and is a leader in promoting public–private partnerships (PPPs) in airport development in the region.¹⁷

While these would address some of the key infrastructure bottlenecks, a significant driver of increased connectivity would be greater demand for travel within the region. This would require greater regional integration in general, on fronts such as commerce, tourism and people-to-people transactions. The case of Indo-Lanka air services liberalization discussed later in this section highlights the central role played by the relaxation of visa regulations by Sri Lanka in spurring demand for flights between the two countries.

In the current environment of limited demand for flights, it appears that the regulatory environment of the bilateral ASAs is not the only significant inhibitory factor. However, assuming that demand increases in the long run as economic integration and tourism increases, regulatory factors will pose greater constraints. Additionally, it should be borne in mind that further liberalization of regional air services would have dynamic effects, possibly causing certain routes that are currently commercially unviable to become viable. For instance, a current commercially unviable route connecting two South Asian capitals, as identified in earlier sections of this chapter, may become viable due to the granting of 5th freedom rights in a country. Sri Lanka's own experience of the initial attempts to move towards open skies via unilateral liberalization of air services with India highlights the positive spillover effects of such liberalization: increased tourist arrivals and greater people-to-people connections which stimulate investment and commerce.

Measures towards Greater Liberalization: A Phased Approach

This study emphasizes that it will be necessary for SAARC to approach liberalization of air services in a phased manner, as was done in ASEAN and Europe. ASEAN, for instance, began by enabling foreign equity participation in domestic airlines, which would help airlines deal with increased competition in times of a downturn. The relatively easy and less contentious measures such as easing capacity controls and tariff restrictions could be implemented first, and then progress on to more complicated areas. Such a staggered approach to liberalization will help airlines in the region cope better with the adjustment costs entailed in the process of liberalization. The key challenges for policy-makers in the region will be to balance the regional interest with the national interest of countries whose carriers are likely to struggle to survive in an increasingly competitive environment.

The following steps in liberalizing bilateral ASAs in South Asia could be

undertaken as a tentative roadmap for air services liberalization in South Asia in the longer term:

- 1. Begin with easing restrictions on withholding (that is, allowing foreign investment in airlines) this can enhance the quality and scope of services. This is also important for enabling code-sharing and to enable an increase in flights, since current airline capacity in many South Asian countries is limited; for countries like Nepal, even viable routes cannot be fully serviced due to a lack of aircraft.
- 2. Ease restrictions on designation (double designation) and capacity (Bermuda I) (that is, reducing limits on the number of destinations that airlines are allowed to fly into and also the number of passengers permitted). This will enable smaller countries to tap into the Indian market better; Sri Lanka, for instance, was able to enter into the Indian market as a result of increased flights allowed into Indian cities (an important parallel measure was extension of visa on arrival in Sri Lanka). Such a venture into the Indian market can help profitability of airlines in the region.
- 3. Full liberalization of capacity (free determination) for 3rd and 4th freedoms for capital-to-capital flights in the region and allow multiple designation (that is, multiple destination points).
- 4. Tariff liberalization, ownership as principal place of business and extension of 5th freedom across the SAARC region.

(More complicated measures such as allowing cabotage have not been mentioned in this road map since they are of a very advanced nature.)

While the exact nature of the steps to be taken could change as circumstances change, the road map in this study provides a starting point from which to work towards liberalization of air services in South Asia. It is important to see this initial road map as a precursor to a much more ambitious and proactive liberalization plan by SAARC, possibly even adopting the ASEAN plan, with adaptations to suit this region's context.

As indicative from the India–Sri Lanka experience discussed in the following subsection, it is clear that a multifaceted approach is required – not just deregulation of the bilatarel ASAs, but also easing visa restrictions and promoting closer trade and tourism relations.

India-Sri Lanka Bilateral Air Services Liberalization Experience

India and Sri Lanka have in the past "tested the water" regarding various international commercial ventures by engaging in bilateral exercises along the same lines. This was the case in regional trade agreements, where

India and Sri Lanka signed the India–Sri Lanka Free Trade Agreement in 1998, the first bilateral free trade agreement (FTA) signed by each of the two countries. Six years later both countries signed the South Asian Free Trade Area agreement. Likewise, both countries ventured into more liberal air services agreements by progressively liberalizing the Indo-Lanka Bilateral Air Services Agreement in the early 2000s. The results could provide some indication of the potential implications of air services liberalization on air traffic flows.

Liberalization of air services between the countries began in 2000. According to the joint study group report on the India-Sri Lanka Comprehensive Economic Partnership Program (Institute of Policy Studies of Sri Lanka, 2003): "between 2000 and 2003 the number of Indian destinations to which Sri Lankan Airlines flies increased from 5 to 8, the number of flights from 29 to 44 per week and the number of seats from around 8000 to nearly 9500, representing a significant increase in capacity." In 2003, it was agreed between the two nations to eliminate the requirement of commercial agreements between the designated airlines of the two countries regarding asymmetrical operation. By 2005, Sri Lanka had the most flights into India for any international carrier and was soon operating 110 flights a week prior to the global economic crisis. Sri Lankan Airlines' expansion into the Indian market helped it stay afloat after the debilitating terrorist attack on Sri Lanka's international airport in 2001, which resulted in a reduction in travel to and from Sri Lanka. A key factor that influenced the increase in flights between the two countries was the extension of visa on arrival by Sri Lanka to Indian visitors (which was later extended to 73 countries worldwide). This facilitated travel a great deal and resulted in increased demand for Indian visitors to Sri Lanka. Unsurprisingly, India soon became Sri Lanka's leading source of tourism. At the same time, the movement of Sri Lankans to India also increased - including for educational, medical and business reasons. The fact that the two countries had a very visible and effective bilateral FTA helped spur business travel between the two countries; bilateral trade and investment grew exponentially. At the same time, the increase in capacity allowance enabled Sri Lankan Airlines to position itself as a gateway to and from India. The fact that Sri Lankan Airlines had direct flight access to numerous Indian cities made it a good option for people who did not necessarily want to fly direct to popular cities such as Delhi and Mumbai. The liberalization of regulations enabled Sri Lankan Airlines to design its strategy in a more flexible manner, while maintaining long-term commercial viability.

The experience of India and Sri Lanka underscores the fact that for air services to increase there needs to be both a viable market for air services (and this was created by the relaxation of visa requirements and the increase in economic interaction and exchange between the two countries) and a relaxation of the stringent bilateral air service agreements that govern air services. The problem for many South Asian countries is that economic and tourism integration between the countries is still at a nascent stage. Perhaps the main driver of increased air service operations between India and Sri Lanka was relaxation of visa regulations by Sri Lanka. This also facilitated tourism, another important determinant. This is further illustrated by the fact that it was only in November 2010 that any of the Indian airlines began operations on the Colombo–Delhi route, reflecting increased demand following the end of the civil war in Sri Lanka.

Air Services as a Key Element of the SAARC Connectivity Agenda

Policymakers and stakeholders involved in and/or keen on driving the South Asian air services liberalization agenda need to bear in mind the significant emphasis recently on connectivity in the SAARC agenda. The 14th SAARC Summit held in New Delhi, India, was the first summit significantly to address intra-regional connectivity as a priority area for SAARC cooperation. The summit declaration stated:

The Heads of State or Government recognized the importance of connectivity in fulfilling these objectives. It was vital to first have better connectivity within South Asia and then with the rest of the world. They agreed to improve intraregional connectivity, particularly physical, economic and people-to-people connectivity...

The Heads of State or Government recognized the full benefits of an integrated multimodal transport system in the region. They emphasized that this would not be realized unless physical infrastructure and matters relating to customs clearance and other facilitation measures, including multimodal transport operations, were addressed comprehensively. They called for an extension of the SAARC Regional Multimodal Transport Study (SRMTS) to include Afghanistan as well. They also called for early implementation of the recommendations contained in the Study in a phased manner. In this context, the Heads of State or Government directed the Inter-Governmental Group on Transport to identify and develop sub-regional and regional projects based on the prioritized recommendations of the SAARC Regional Multimodal Transport Study (SRMTS) and to develop appropriate regional agreements. They noted the offer of India to hold the Meeting of SAARC Ministers of Transport in New Delhi in 2007. They also directed that pilot projects for improving connectivity be identified and implemented through mutual consultations among the Member States.

The Meeting of SAARC Transport Ministers held in New Delhi in 2007 then formally mooted the idea of a "connectivity decade". At the

conclusion of the meeting, the ministers' communiqué stated that: "The Ministers also agreed to recommend to the SAARC Council of Ministers to declare the next decade as the '*Decade of Intra-regional Connectivity in SAARC*'."

At the conclusion of the 15th SAARC Summit in Colombo in 2008, the summit declaration heavily emphasized the need for greater connectivity, stating:

The Heads of State or Government recognized the importance of connectivity for realizing the objectives of SAARC. They accordingly directed the SAARC mechanisms to continue to embody in their programs and projects a strong focus on better connectivity not only within South Asia, but also between the region and the rest of the world. They further stressed the necessity of fasttracking projects for improving intra-regional connectivity and facilitating economic, social and people-to-people contacts.

In a specific section on transport, the declaration further stated:

The Heads of State or Government expressed satisfaction at the progress through the Meetings of the Ministers of Transport. They reiterated the critical importance of an efficient multi-modal transport system in the region for integration and for sustaining the region's economic growth and competitiveness.

In the same context, and of relevance to the air services connectivity agenda, the statement also highlighted the South Asian tourism industry and the strong role of connectivity in promoting tourism in the region:

The Heads of State or Government underscored the vital contribution that tourism could afford to the economic development of the SAARC region. They agreed to make every effort to implement the comprehensive action plan adopted by the Second Ministerial Meeting held at Cox's Bazaar, Bangladesh. These efforts would include facilitating the movement of people through improved travel infrastructure and air, sea and land connectivity among the SAARC countries, collaboration in human resource development and the promotion of SAARC as a common destination through public–private partnerships and joint campaigns.

The recommendation made by the Transport Ministers' meeting in 2007 was accepted at the 16th SAARC Summit held in Thimpu, Bhutan, in 2010. The summit declaration stated:

The Leaders called for collaborative efforts to achieve greater intra-regional connectivity and endorsed the recommendation to declare 2010–2020 as the 'Decade of Intra-regional Connectivity in SAARC'...

The Leaders, reiterating the centrality of connectivity to further deepen and consolidate regional integration, mandated the Chair to convene an

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Inter-Governmental Meeting to recommend specific measures to enhance multi-modal connectivity including air, sea and surface transport.

CONCLUDING REMARKS

With forecast stronger growth of passenger aviation and air cargo in the Asian region in general as well as in the South Asian region in particular, it is important for South Asia to evaluate critically the various elements affecting the growth of its civil aviation industry. The nature of bilateral air services liberalization agreements, the level of competition and contestability in domestic airport services markets, the level of investment in and competitiveness of its airlines, and the level of supporting infrastructure, need to be investigated, and anomalies and barriers addressed on a SAARC-wide, collaborative basis.

South Asian policy-makers need to note the significant interdependence between regional economic integration and transport connectivity. A significant driver of increased connectivity would be greater demand for travel within the region and this would require greater regional integration on fronts such as commerce, tourism and people-to-people transactions.

In the longer run, South Asia needs to embark on a more ambitious framework of liberalization on a regional basis. Research studies highlighted in this chapter have shown that restrictive air services regulations between countries stifle air travel, trade, business interactions and tourism. This, in turn, stifles economic growth and job creation.

As part of the broader effort to improve multimodal intra-regional connectivity, better and freer air services can spur a virtuous circle of increased dynamism in South Asia air transport markets, reduced fares, higher passenger flows within the region, and increased air cargo. These developments will help lower the transaction costs of doing business in the region, catalyse intra-regional trade, boost South Asian exports in global production networks and increase trade, tourism and other forms of regional integration.

NOTES

1. An example cited in this study is the case of Poland, where the connectivity index increased by 27 percent with flights to the United Kingdom (UK) increasing from 58 per week to 250 (seats increasing from 7000 to 40000). In turn, this resulted in a cumulative increase in productivity of 0.19 percent, valued at approximately US\$600 million. The UK too saw a rise in productivity, with the corresponding figure of US\$45 million.

- 2. Achard (2009) uses a gravity model to estimate the impact of regulation on air cargo flows. The data used are from the International Air Transport Association (IATA) on the top 100 routes worldwide between 2002 and 2007. The author uses a variant of the Air Services Liberalization Index (ALI), the CALI, which is cargo-specific. The analysis follows the principal component technique developed by Gonenc and Nicolette (2000) and used by Piermartini and Rousova (2008) to analyze air passenger services.
- 3. Interviews were conducted with Fedex and Skynet World Express.
- "3.3 Billion Air Travellers Projected for 2014", http://www.foxnews.com/leisure/ 4 2011/02/14/billion-air-travelers-projected/.
- "Changing the Game", Mark Haneke (InterVISTAS), www.intervistas.com/down 5. loads/.../Changing_the_Game_Haneke.pdf.
- 6. Sri Lanka's stated objective for the tourism industry is to attract 2.5 million tourists by 2015.
- 7. "3.3 Billion Air Travellers Projected for 2014", http://www.foxnews.com/leisure/ 2011/02/14/billion-air-travelers-projected/.
- 8. PRC, United Arab Emirates, Vietnam and Malaysia are the others.
- 9. For example Leinbach and Bowen (2004), Bowen and Leinbach (2006, 2003).
- 10. See for example, Zhang (2003).
- 11. According to air negotiators, capacity and route features are key because agreements tend to be very similar (virtually all of them include substantial ownership and effective control and dual approval of tariffs, which are never applied in practice except on denunciation) and because what airlines are predominantly interested in, when briefing their national governments, is the commercial potential of city pairs.
- 12. The term "withholding clause" is used by ICAO, but this clause is often referred to as the "designation" or, more frequently, "ownership" clause, given that the "standard" requirement is that, to be designated by a contracting state to utilize the rights granted in an ASA, an airline must be "substantially owned and effectively controlled" by the nationals of that contracting state.
- 13. Due to privacy issues it is not possible to disclose names of individuals who were consulted.
- 14. Of the Indian carriers, Sri Lankan Airlines code shares only with the national flag carrier, Air India.
- 15.
- "AirAsia Says Airport Taxes Too High in India", Aviation Week, 7 January 2011. "AirAsia Says Airport Taxes Too High in India", Aviation Week, 7 January 2011. 16.
- 17. Several Indian airports have been developed under the PPP model since the Indian authorities opened the sector up to private investment in 2005, for example development of existing airports at Delhi and Mumbai, building greenfield airports in Hyderabad and Bangalore, and calls for investment for proposed second airports in Chennai and Navi Mumbai.

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APPENDIX

Restriction	Description
Grant of rights	Defines the rights of carriers to provide air services between two countries. Particularly 5th freedom (transport of freight/ passengers of two countries by an airline of a third country, with the flight originating/terminating in the home country of the airline) and 7th freedom (allows an airline to carry passengers between two countries with no connection to the airline's home country) and cabotage (allows an airline to carry passengers within a country with origin/termination in the home country of the airline). (See Figure 5.3 for further details.)
Capacity	Refers to restrictions on volume of traffic, frequency of service and aircraft types. Pre-determination requires that capacity is agreed prior to the commencement of service; Bermuda I regime gives limited rights to the airlines to set their capacities without a prior governmental approval and free determination leaves the capacity determination out of regulatory control.
Tariff approval	Regulates the regime of price determination. Ranges from dual approval, whereby both parties have to approve the tariff before this can be applied, to free pricing, when prices are not subject to the approval by any party.
Withholding	Defines restrictions on the ownership of the foreign airline operating in the country with whom the agreement stands. The most restrictive of these requires the airline to be the flag carrier of the partner country. More liberal regimes include community of interests (where country can designate airlines) and principle place of business removes the requirement for substantial ownership.
Designation	Defines the number of points between which airlines can operate between the two countries in question.
Cooperative agreements	Regulates the freedom of airlines to enter into code-sharing and alliance formation
Exchange of statistics	Requirement of airlines to disclose statistics to governments enabling them to monitor changes in traffic and other areas. This is in general perceived as a restrictive feature.

 Table A5.1
 Features of ASAs that restrict air services



FIRST FREEDOM

The right of an airline of one country to fly over the territory of another country without landing



SECOND FREEDOM

The right of an airline of one country to land in another country for non-traffic reasons, such as maintenance or refuelling, while en route to another country



THIRD FREEDOM

The right of an airline to carry freight and passengers from the home country (country of registry) to another country



FOURTH FREEDOM

The right of an airline to carry freight and passengers to the home country from another country



FIFTH FREEDOM

The right of an airline of one country to carry freight and passengers between two countries outside of its own country, with origin/destination in its home country

Source: WTO (2006).

Figure A5.1 Definitions of the freedoms of the air



SIXTH FREEDOM

The right of an airline of one country to carry freight and passengers between two countries on two routes via its home country (combination of Third and Fourth Freedoms).



SEVENTH FREEDOM

The right of an airline to operate stand alone services entirely outside the territory of its home country, to carry freight and passengers between two foreign countries (on a route with no connection in its home country)



EIGHTH FREEDOM OR CABOTAGE

The right of an airline to carry freight and passengers between two points within the territory of a foreign country (on a route with origin/destination in its home country)

6. Liberalization of trade in services under SAFTA: prospects and challenges for Pakistan

Safdar Sohail, Noorulain Hanif and Maliha Quddus

INTRODUCTION

The service sector has emerged as an important sector in the world economy and contributes significantly to global gross domestic product (GDP), constituting around 60 per cent of global output and 30 per cent of global employment. In many developing countries, services account for 50 per cent or more of GDP, with agriculture and industry each accounting for less than 30 per cent of total production.

Like other South Asian nations, Pakistan too has witnessed a major transformation in its economic structure, with the share of the service sector in the economy reaching 53.3 per cent in fiscal year 2010–2011. The service sector has been an important contributor to Pakistan's economic growth and grew at an average rate of 5.5 per cent annually in the years 2000–2011 as compared to the commodity-producing sector (agriculture and manufacturing) which grew by an average of 4.5 per cent in the same period. The continuing trend, though less buoyant now – while growth in the industrial sector has been negative – implies that the service sector in Pakistan has been relatively insulated from the global financial crisis.

The rapid growth of the service sector during the past few years notwithstanding, globally, Pakistan ranks very low in terms of exports (83rd) and imports (54th) and continues to experience a service trade deficit as shown in Tables 6.1 and 6.2.¹

An examination of commercial service exports and imports for the South Asian Association for Regional Cooperation (SAARC) region reveals that, in the year 2008, India exported \$102.6 billion and imported \$83.5 billion; India ranked 9th and 13th, respectively, in the world in terms of exports and imports of commercial services.² As compared to

	July 2009–	July 2010–
	May 2010	May 2011
Total service exports	4828	5016
Transportation	1175	1297
Travel	263	318
Communication services	219	207
Construction services	15	16
Insurance services	38	48
Financial services	87	67
Computer and information services	172	197
Royalties and licensing fees	6	2
Other business services	482	646
Personal, cultural & recreational services	5	3
Government services	2366	2215

 Table 6.1
 Pakistan's service exports (millions of US dollars)

Note: The survey-based study was done primarily in 2009. Most of the data quoted in the study pertain to the period before 2009. However, an effort has been made to update the data wherever possible before going to press.

Source: State Bank of Pakistan (provisional data for first 11 months of the financial year).

	July 2009– May 2010	July 2010– May 2011
Total imports of services	6259	6744
Transportation	3210	3577
Travel	818	875
Communication services	139	160
Construction services	28	25
Insurance services	135	137
Financial services	86	100
Computer & information services	148	151
Royalties & licence fee	103	106
Other business services	1001	1047
Personal, cultural & recreational services	19	10
Government services	573	555

 Table 6.2
 Pakistan's service imports (millions of dollars)

Source: State Bank of Pakistan (provisional data for first 11 months of the financial year).

other SAARC countries, India's services trade is much more diversified, with information technology (IT) and other business process outsourcing (BPO) services growing rapidly.

Trade data for Sri Lanka show a service trade deficit of \$1.04 billion in the year 2008, a continuation of service trade deficits since 2000. Sri Lanka's main service export categories include transportation, travel and other commercial services.

Since 2000 Bangladesh has also experienced service imports higher than service exports; in 2008, Bangladesh experienced a service trade deficit of \$2.79 billion. Like Sri Lanka, the main service export categories were transportation, travel and other commercial services. Apart from India, all major SAARC economies have had service trade deficits.

The SAARC Agreement on Trade in Services (SATIS) was signed in April 2010 and ratified by Bangladesh, India, Pakistan and Sri Lanka. The negotiations followed a "positive list" approach, that is, they were based on a request offer basis. The agreement includes 12 service sectors and 160 subsectors. Some of the sectors identified for possible liberalization include tourism, transportation, insurance and banking. SATIS proposes the facilitation of freer movement of natural persons and mutual recognition (of educational qualifications) to boost trade in services.

SAARC countries are undertaking the liberalization of services on the back of a growing body of literature on the benefits of liberalization of trade in services, as most of the analysts (Wooster et al., 2007) suggest that liberalization of trade in services at the intra-regional level will generate more benefits as compared to inter-regional trade. The services sector entails closer people-to-people contact among SAARC member countries. This has not been happening much despite their common pre-independence history, shared borders, customs, cultural practices and, for the most part, even a common spoken language. In this context, deeper economic integration through liberalization of trade in services should make good economic sense.

The rising significance of the service sector in South Asia notwithstanding, the trade in services has not grown significantly within the region. At the global level, however, SAARC countries have significantly liberalized their services sector, permitting 100 per cent foreign director investment (FDI) in several sectors. Intriguingly, SAFTA commitments do not cover some services which have been opened up to foreign international participation. Thus, commitments for the region clearly indicate the failure on the part of SAFTA members to lock into the developments at the global level, and the proportion of intra-regional trade and investment is still quite modest despite recent talks and initiatives. In 2001, the intra-regional trade was only 4.9 per cent of total trade (with members and non-members) of SAARC countries; in contrast, intra-regional trade in ASEAN and Mercosur (Southern Common Market) was about 22.4 per cent and 20.7 per cent, respectively. In 2006, intra-regional trade in South Asia constituted less than 2 per cent of GDP against 20 per cent in East Asia. Contrary to East Asia, region-wide corporate joint ventures (JVs) and mergers and acquisitions (M&A) in South Asia are practically non-existent. As a result, the culture and practice of trust and requisite institutions for handling JVs and M&A are weak and it is hard to find in South Asia the kind of success stories common in East Asia. A recent study supported by ADB and carried by UNCTAD India concluded that:

though the South Asian countries have traversed quite a long distance in the reforms journey and they have also made commitments at the multilateral trading system, in order to reap the benefits of liberalisation they need to further liberalise as their level of commitments is far short of the level autonomous liberalisation has achieved. Moreover, they need to under-take more liberal commitments at the regional level without being much apprehensive about the adverse implications of liberalisation. Given the resource endowments the region has it is expected that the four sectors – construction, tourism, health and higher education – can provide further fillip to the growth momentum and also help sustain that. (Pratima Dayal, 2008)

The historically low levels of exchange in services sector in South Asia are however not entirely a result of poor competitiveness and lack of complementarities. On the basis of available data, Raihan (2008) constructed a Balassa's index of revealed comparative advantage (RCA) for the service sector in South Asia (Table 6.3).

Table 6.3 indicates that Pakistan has RCA indices higher than other SAARC countries in the subsectors of air transport and communications. It is also in a relatively strong position with respect to the financial services subsector. India, on the other hand, has a higher RCA index than its neighbours in five service subsectors including electricity, trade services, transport services, recreation and other services, with the highest comparative advantage in business services. Sri Lanka has a comparative advantage in three sectors, namely construction, sea transport and insurance, whereas Bangladesh has the highest comparative advantage in financial services. But notwithstanding the RCAs, trade in these sectors is not growing.

	Bangladesh	India	Pakistan	Sri Lanka
Electricity	0.00	0.06	0.00	0.00
Gas, production, distribution	0.00	0.00	0.01	0.03
Water	0.00	0.08	0.02	0.19
Construction	0.04	0.07	0.04	1.07
Trade services	0.06	1.50	0.24	0.38
Transport services	0.19	1.17	0.23	1.14
Sea transport	1.47	1.26	1.45	2.55
Air transport	0.11	0.31	2.95	1.77
Communication	0.26	0.09	2.94	1.07
Financial services	0.13	0.12	0.12	0.06
Insurance	0.09	0.80	0.24	7.11
Business services	0.26	1.96	0.20	0.54
Recreation and other services	0.12	0.31	0.08	0.22
Public administration, defence, health, education	4.67	0.80	1.05	0.26

 Table 6.3
 Revealed comparative advantage of services subsectors in South

 Asia

Source: Raihan (2008).

SCOPE OF THE CHAPTER

The decision-makers in SAARC countries have been rather slow in appreciating the importance of liberalization of services trade and continue to live with high explicit and implicit barriers to trade, which might be partially responsible for increased trade through informal channels, especially with respect to the health and education sectors. A major obstacle in this regard is the absence of credible studies and data regarding the service sector, especially in the case of Pakistan. This has hampered Pakistan's efforts in developing effective promotional strategies to realize the full potential of liberalization of trade in services. This is also hampering effective participation of Pakistan in various trade negotiations.

The main purpose of this chapter is to assess the barriers which Pakistan's key services sectors might be having. The sectors chosen for study are telecommunications, health, education and transport. The study seeks to advance policy discussion on regional economic integration and hopes to improve the domestic policy and regulatory environment. As the availability of sector-specific data continues to be a major challenge, the required data related to barriers to trade in services have been generated through sector-specific surveys and interviews with major stakeholders in Pakistan.

DATA AND METHODOLOGY

The methodology adopted for the collection of data was a combination of stakeholder analysis and expert opinions. The process included the designing of questionnaires, identification of respondents, field visits, interviews, collection of data, scoring and weighting of measures. In translating qualitative information into numerical values, the first step was to select a scoring strategy for the information collected through the surveys, of which 90 per cent contained descriptive information regarding the presence or otherwise of regulations and restrictions. In order to overcome the difficulty of transforming all measures into numerics, we had to accept some loss of variation as a rich variety of possible outcomes was reduced to a 0–1 score in order to gain simplicity and tractability.

Survey

The objectives of the survey were:

- 1. To understand various types of barriers faced by service providers, considering the latter as a proxy for a South Asian potential investor.
- 2. To study the impact of recent reforms on the performance of the services sector and the economy as a whole.
- 3. To obtain maximum information on bilateral barriers to service trade.

Competitiveness of the service sector and a well-functioning regulatory system are essential for ensuring gains from service trade liberalization. Most of the SAARC member countries lack established and well-functioning regulatory and institutional frameworks suitable for service trade liberalization. As a result, SATIS negotiations are moving at a very slow pace as almost all the countries are asking for adequate time to frame appropriate domestic regulations and policies.

In addition to the scholarly literature, in recent years private sector organizations have been playing an active role in identifying potential areas of trade interest, areas of possible joint ventures and other forms of cooperation between different countries of South Asia. Studies undertaken by the private sector see good scope for trade in several service sectors, such as health and entertainment services, information technology, energy and tourism. This study engaged the private sector as the respondents included major service providers in Pakistan, together with regulatory authorities and other stakeholders.

The chapter is structured as follows. The next four sections provide an analysis of the telecoms sector, the higher education sector, the health sector and the transport sector. Sector-specific recommendations are given at the end of each section. The chapter concludes with an analysis of existing barriers to trade in services and the potential of increasing trade within the SAARC region.

TELECOMS SECTOR OF PAKISTAN

Overview

The telecommunications sector is considered as a backbone in the developmental structure of a country, as it facilitates other economic sectors like IT and financial sectors to establish linkages among various sectors of the economy and society as a whole. According to the Economic Survey of Pakistan³ 2010–11, the telecom sector contributes up to 2 per cent of the national GDP. The sector is contributing a handsome amount to the national exchequer through taxes and duties. Telecom sector revenue showed a 19.8 per cent growth during 2008–2009 compared to 18.2 per cent in the previous year. During 2008–2009, the telecom sector generated revenue of Rs333.9 billion compared to the previous year's Rs278.5 billion. The sector has expanded phenomenally and the prices of telecommunications services have fallen significantly. As a result, the telecoms sector of Pakistan has come to be seen as a successful model of liberalization in Pakistan.

The telecoms sector in Pakistan is expected to continue growing. According to a United Nation's forecast, Pakistan's population is expected to grow to 190 million by 2018. Assuming that future cellular coverage reaches 95 per cent of the urban population and 30 per cent of the rural population, and taking into account the relative geography and population density of each province, there is an expected demand of approximately 25 million cellular subscriptions by 2018.⁴ Sensing these opportunities, the sector has been a beneficiary of unusually high investments.⁵ Telecom companies in Pakistan have invested over US\$8 billion during 2004–2007, of which mobile phone sector investment accounted for 66 per cent of total investment. This investment was also followed by high levels of imports of telecom equipment, which accounted for about 3 per cent of total imports in 2008–2009.

Liberalization of telecom sector

According to the third Trade Policy Review for Pakistan at the World Trade Organization (WTO) (2008), the telecom sector of Pakistan has been totally transformed as a result of successful reform. The process started in earnest in the early 1990s. The first major legislation in this regard was the Pakistan Telecommunication Corporation Act 1991. Although the Act did not create a regulator in its true sense, the attributes of a regulator were, to some extent, provided by the Pakistan Telecommunication Corporation (PTC). The PTC was responsible for development, research, improvement in quality, advice to government, determination of tariff (subject to approval of government), liaison with foreign governments and other obligations regarding the telecom sector. The Act provided the broad framework, principles, authority and functions of the regulator. However, the Act was silent about how the various telecom services, tariffs, interconnection guidelines and regulations, accounting standards and so on are to be regulated and controlled, and how fair competition would be ensured. This gap had largely been filled by establishment of a new independent regulator in 1994: the Pakistan Telecommunication Authority (PTA).

Telecom deregulation and cellular mobile policies resulted in large investments and new players entering the telecom market. Since July 2003, regulators have granted more than 900 fixed, mobile and long-distance licences to some 50 companies, enhancing tele-density in Pakistan to 52.8 per cent and increasing the number of mobile subscribers from 8 million in 2003 to over 76.6 million by the end of 2007. Expansion of the sector made it a major provider of skilled jobs, creating 80 000 jobs directly and 500 000 jobs indirectly.

Pakistan's commitments under GATS

Pakistan has already liberalized or deregulated a number of telecom services (that is, these sectors are now open to domestic and foreign investors). The deregulated sectors include:

- 1. email/internet/electronic information services;
- 2. data communication network services;
- 3. trunk radio services;
- 4. circular mobile telephone service;
- 5. audiotex services;
- 6. voice mail services;
- 7. card payphone services;
- 8. Close User Group for Banking Operations; and
- 9. international satellite operators for domestic data communication services.

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Pakistan has made extensive commitments regarding the telecom sector in the course of its effort to import advanced technology and to secure foreign investment. It is understood that actual policies of Pakistan go well beyond what the country agreed to under its GATS commitments.

Authorities were aware that Pakistan needed to meet the huge unmet demand for telecommunications services in the shortest possible time. It has, therefore, already opened to domestic and foreign investors several subsectors: cellular mobile phones, card payphones, paging service and data communication, and internet services. Along with deregulation, the institutional infrastructure also evolved.

Pakistan's institutional infrastructure related to the telecommunications sector includes the following major organizations:

- National Telecommunication Corporation.
- National Telecommunication Authority (PTA).
- Pakistan Telecommunication Company Ltd (PTCL).
- Frequency Allocation Board (FAB).
- Ministry of IT.
- Fixed network operators.

Framework for Measuring Barriers to Trade in Telecom Services

The importance of institutions vis-à-vis openness and trade policies is apparent. However, even more important is the presence or relative absence of stated or hidden barriers and good governance. These latter factors are critical to promoting sustainable growth in a sector which hopes to benefit from liberalization through healthy competition and FDI.

The general impression in Pakistan regarding the efficiency of the regulatory infrastructure in opening up of the telecom sector to genuine competition is quite positive. It was expected that following liberalization, the telecom sector would become an important exporter of services, which did not happen. Telecommunications imports, on the other hand, have grown significantly. But FDI and/or importation of telecommunication services or equipment from South Asia remains negligible.⁶ Prices of intra-regional communication services in Pakistan are higher than interregional prices in most other SAARC countries. The cheapest prices from Pakistan are \$0.03 (fixed and mobile), offered to many non-SAARC destinations, including the United States (US) and Hong Kong, China. The lowest SAARC prices are to Bangladesh, \$0.12 (mobile) and India, \$0.12 (fixed). The cheapest intra-SAARC price is four times that of the cheapest external-SAARC price.

The cheapest prices from Sri Lanka are \$0.10 (mobile) and \$0.21 (fixed);

they are not offered to SAARC destinations. The lowest SAARC prices are \$0.14 (mobile) to India and \$0.32 (fixed) to most SAARC countries. Calls to neighbouring SAARC countries cost 40–50 per cent more than to the USA.

Index of Restrictiveness for the Telecom Sector

Key respondents in this survey included the regulatory authority (PTA) and representatives from all major service providers (both domestic and foreign).⁷ Scores are assigned for each restriction on the basis of the nature of the restriction and how stringent it is (the more stringent the restriction the higher the score). The index score ranges from 0 to 1. The index of restrictions was constructed as shown in the Table 6.4.

Analysis of the Survey Results

General

According to our survey with PTA officials, there is no discrimination between foreign and local telecom operators, as out of the five mobile operators, four are foreign owned. The only potential barrier for foreign entrance, especially for satellite services and radio frequency identification (FI) devices, is that security clearance has to be obtained from various security agencies. In the case of India, the level of restrictiveness is 1; few Indian companies have ever taken an interest in entering the Pakistan market.

Other barriers are horizontal and apply to all foreign firms, regardless of the sector they operate in. These include language barriers, work permits for entry, environmental restrictions, contacts and security problems. One of the biggest problems highlighted by service providers is the lack of information about the rules and regulations, as the documents containing the rules and regulations are not available easily. For example, in February 2009, the PTA enacted the SIM Registration Regulation, which was viewed unfavourably by industry representatives as they believed this was against the clauses of their licence agreements. The new clause clashes with their contracts with the PTA, which had allowed them to keep their clients' information secret. The response of mobile companies to this measure was strongly worded, with remarks such as the following: "This was not part of the agreement when we paid hundreds of millions in license fees; license terms cannot be changed just like that." However, the PTA contends that all regulations are enacted after a thorough consultation process, involving all major stakeholders. They believe that there is lack of coordination within the industry regarding these regulations.

Score	Extent o	f restrict	iveness		
0.00	Does not restrict at all				
0.25	Somewh	at restric	ctive		
0.50	Fairly re	strictive			
0.75	Modera	tely restr	ictive		
1	Complet	tely restr	ictive		
Barriers			Ranks		
	0.00	0.25	0.50	0.75	1.00
Licensing procedure			1		
Licensing cost			1		
Transparency in licensing procedure	1				
Inter-connection agreements		1			
Tariff regulations					1
Anti-competitive rules	1				
Equipment standards requirements			1		
Pricing policy	1				
Government policy instability					1
Security situation of country				1	
Corruption at govt level		1			
Other regulatory constraints by government				1	
Difficulty in finding reliable and competent business partner	1				
Bureaucratic red tape			1		
Culture & language	1				
Lack of competent work force	1				

Table 6.4 Index of trade restrictions

Source: PITAD Research & Survey team.

As the foreign impact is different compared to the local impact, foreign service providers usually face more of the bureaucratic hurdles. The Pakistan National Accreditation Council (PNAC) deals with unfair practices by domestic and foreign service providers through consultation and awareness. To accommodate local service providers, the Council has taken several initiatives to train, raise awareness and provide consultation to enhance competitiveness.

Mobile operators have been expanding their networks at a fast pace, reflected in the fact that most densely populated metropolitan cities are now covered with almost 100 per cent penetration. These companies are

Table 6.5	Licensing	procedure
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Licensing procedure				
Restrictive and unsatisfactory	Unrestricted and satisfactory			
15%	85%	_		

now increasing their coverage in those areas where mobile networks have not reached.

Licensing procedure

According to the survey results, the majority (85 per cent) of our respondents agreed that the system of licensing has been simplified and they are satisfied with the procedure. Initially the number of fixed line licences – local loop (LL) and long-distance international (LDI) – was open and unlimited, subject to meeting the PTAs licensing requirements. Currently, however, there is a seven year "watch" period on issuing new licences, including for cellular services. The results of the survey are given in Table 6.5.

While the PTA does not normally consider licensee applications unless first releasing a public invitation, expressions of interest can be lodged at any time. Criteria for issuing a licence include economic viability, Pakistani ownership, and contribution to universal service goals and other social or economic development objectives.

By 2009, 12 LDI licences were awarded to new operators. All of these 12 LDI companies are now operational, carrying international traffic to and from Pakistan. Issuance of these licences has allowed the mobile and wireless local loop (WLL) carriers to construct their own long-distance backbone networks, as well as operate on the international gateway. All carriers believe that they have sufficient traffic to justify their networks and even to go beyond the 14 telecom region points of presence. Competition in the LDI sector has already brought down tariffs for international incoming and outgoing calls.

WLL operators were offered 20 years licences with a view to increasing the penetration rates in underserved areas. As far as restrictions of new entrance are concerned, the government of Pakistan lifted restrictions on basic telephony services.

New licences are awarded by the Ministry of Information Technology. On the basis of market readiness, an open policy is followed for the issuance of class licences. Class licences are granted to applicants who meet the objective criteria (as published by the PTA). Companies must register with the Security and Exchange Commission of Pakistan (SECP). Carriers can hold both LL and LDI licences.

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In the segments where it is determined that a sufficient level of competition has been achieved, the PTA is minimizing the regulatory restrictions. To ensure investors' interests, licensing charges are based on a fixed percentage of turnover.

Other barriers (that is, high fixed capital costs, and economies of scale that accrue to incumbent operators) are minimized by PTA's invitation to international telecom operators to participate in the local market. This has ensured that financial constraints do not become a problem. As incumbents could use interconnection networks as a means for anti-competitive practices, the PTA has devised interconnection guidelines for each service to avoid such practices.

Interconnection

Interconnection to the domestic network is guaranteed so as to promote "fair" competition between incumbents and new operators (PTA Interconnection Guidelines, 2004). According to our respondents from PTA, the interconnection terms are to be public unless determined confidential by the PTA. The terms include the following: charges are "cost-based"; they are not "unfairly" discriminatory between new entrants; and they encourage "efficient and sustainable competition". Operators with significant market power (SMP) must submit to the PTA their Reference Interconnect Offer (RIO) within one month of gaining such status, which becomes public; PTCL, the only fixed-line SMP, submitted its RIO in October 2003 (approved in May 2005). Interconnection parties may adopt the RIO as the default interconnection offer or negotiate alternative charges; interconnection disputes are referred to the PTA for resolution (Interconnection Dispute Resolution Regulations, September 2004).

Tariff regulations

PTA regulates prices of fixed line SMP operators (currently only PTCL) (Fixed Line Tariff Regulations, July 2004).⁸ Prices of LL and LDI operators are set using a price-cap formula to control the overall weighted and individual prices of the "basket" of services provided, based largely on consumer price index movements, annual set productivity factors and individual service caps. Operators can change prices within these restrictions at any date and frequency, provided the PTA is informed 30 days in advance; they may be rejected or amended if considered anti-competitive. PTA also sets maximum tariffs on leased lines of SMPs, based on cost.

Anti-competitive rules

No licensee, acting alone or collectively, may compete "unfairly" or drive competitors out of the market; they must operate "fairly and honestly" (Pakistan Telecommunication Rules, 2000 and PTA (Functions and Powers) Regulations, 2006). SMP operators must not abuse their market dominance through anti-competitive conduct, and individual licences prohibit such conduct. The PTA investigates all allegations of anticompetitive conduct (e.g. predatory pricing, margin squeeze, withdrawal of essential facilities, discrimination and cross-subsidization) and takes remedial measures. It may not issue exclusive licences and must promote "fair and sustainable" competition so as to provide consumers the best possible service in terms of quality, choice and value for money. The PTA is to protect consumers' interests (subject to national interest and security) and is responsible for approving telecom mergers.

Equipment standards

The PTA accepts international telecom equipment standards and applies them equally to domestic and imported products. Type approval is required for specified equipment, and tests conducted by internationally accredited laboratories are accepted (Type Approval Regulations, September 2004). The PTA may require retesting, but this has never happened. Self-certified test results are unacceptable.

The Impact of Liberalization

Mobile cellular operators

Mobile cellular services started in 1990, when the government awarded licences to two cellular mobile companies, Paktel and Pak Com (Instaphone), for the provision of cellular mobile telephones in Pakistan. A third cellular licence was issued to Pakistan Mobile Communications Limited (PMCL) Mobilink in 1992. Mobilink established a Global System for Mobile Communication (GSM) network. In order to meet the increased demand for cellular phones, in 2001 PTA issued a licence to Pakistan Telecommunication Mobile Limited (Ufone) for provision of GSM service.

The increase in cellular subscribers has been remarkable. Today, mobile network coverage reaches almost 90 per cent of the total population. Especially with the introduction of the calling party pays (CPP) system, the growth rate is calculated to be 142 per cent. In order to boost the mobile phone sector further, the government sharply reduced the royalty for mobile operators from 4 per cent of the gross revenue to only 1.5 per cent.

In 2004, mobile licences to two new companies (Warid and Telenor) were awarded through open bidding, with a floor price of US\$291 million each. As per the new mobile policy regime, these licences were technology-neutral so that operators could decide the best possible options. The

Years	Total % tele-density	
2000-01	2.80	
2001-02	3.66	
2002-03	4.31	
2003-04	6.25	
2004–05	11.89	
2005-06	26.26	
2006–07	44.06	
2007-08	58.90	
2008–09	61.8	
2009–10	64.1	
2010-11	67.5	

Table 6.6 Growth of tele-density during 2000–2009

Source: PTA.

introduction of these two mobile operators gave a tremendous boost to the mobile phone subscriber base in Pakistan, which increased by a phenomenal 182 per cent. On average 2.3 million subscribers were added every month during 2006–2007. In 2008 People's Republic China (PRC) Telecom acquired Paktel and Instaphone, and is providing services under the name of ZONG.

After experiencing phenomenal growth in recent years, the telecom sector of Pakistan is now experiencing positive but slower growth in terms of revenues and subscribers, with tele-density reaching 67.5 per cent at the end of the third quarter in March 2011 (Table 6.6).

Foreign direct investment (FDI)

FDI plays a very important role in the economic development of countries by facilitating technological improvements, reduction of poverty and raising living standards. It is also considered as one of the largest sources of private capital for many developing countries. Pakistan has introduced wide-ranging reforms to attract foreign investment. During the 1990s FDI in Pakistan started to decline but in 2000 the government began aggressively pursuing trade and investment reforms so as to remove the various irritants affecting the business and investment climate.

FDI figures for the telecom sector are oft cited as a success story of liberalization. However, there are two sides to the coin as FDI numbers mask the disproportionate repatriation of profits from the telecom sector (Table 6.7). Profits repatriated from the sector account, on average, for 8.74 per cent of total profits repatriated from Pakistan. These repatriations reached

Year	2001–	2002–	2003–	2004–	2005–	2006–	2007–	2008–
	02	03	04	05	06	07	08	09
FDI (USD in millions)	12.8	24.3	221.9	517.6	1937.7	1898.7	1625.3	815

Table 6.7 FDI trends in the telecom sector in Pakistan

Source: Economic Survey of Pakistan 2010-11.

Fiscal Year	Repatriation of profits by telecom sector (USD millions)	Total repatriation of profits from Pakistan by all sectors (USD millions)	Total profits repatriated by telecom sector (% of total profits repatriated by all sectors)
2005	29.0	536.6	5.4
2006	16.2	504.4	3.2
2007	151.1	804.2	18.7
2008	92.1	921.4	9.9
2009	49.8	764.0	6.5

Table 6.8 Profits repatriated by telecom sector

Source: Economic Survey of Pakistan 2010-11.

their peak in 2007, when the sector repatriated profits worth \$151.1 million or 18.7 per cent of total profits that companies repatriated from Pakistan (Table 6.8).

Access to telecom services

Today, telecom access, which was only 4 per cent per 100 inhabitants in 2002, now stands at 23.1 per cent per 100 inhabitants. The mobile subscriber base has reached 30 million and some 2 million new connections are added on average per month. Mobile cellular services have become more affordable to the common man due to increased competition and reduced prices. Similarly, services like wireless local loop and broadband are becoming popular in the country. Fixed line subscribers are also increasing and tariffs of all telecom services have been greatly reduced. The minimum tariffs for mobile-mobile, mobile-fixed and Nation Wide Dialing (NWD) calls have dropped more than 50 per cent as compared to tariffs in 2004–2005. Some calling cards are providing international calls as low as Rs0.99 (\$0.13) per minute.

Service	Direct employment 2007	Indirect employment
Cellular mobile	31922	23495
Long-distance international	2687	8061
Wireless local loop	653	9032
Local loop	120	160
Payphones	188 800	188800
Manufacturing	1145	2912
ISPs	343	668
Sets & accessories sellers	6000	120
Total	231 670	233 248

Table 6.9 Employment in the telecom sector

Source: Pakistan Telecommunication Authority, Annual Report, 2007-08.

Affordability

Telecoms were initially a state-owned monopoly and consumers had no choice but to pay the set price. After the introduction of telecom reforms and more recently the issuance of WLL and LDI licences to the private sector, telecom services are becoming more and more affordable for the general public. Various measures have been taken to facilitate the operators and to lower the tariff rates.

For the promotion of telecom services in the underdeveloped regions such as the province of Baluchistan, the licence fee for internet service providers (ISPs) has been reduced by 50 per cent and the 5 per cent royalty on telecom equipment sales has been abolished. For satellite services the licence fee has been abolished and only registration is required. The type approval equipment fee has also been reduced by 50 per cent and 39 per cent on local- and foreign-manufactured telecommunication equipment, respectively.⁹

Impact on labour demand and supply

The effects of trade liberalization on the demand and supply of labour can be seen from the level of employment, changes in wages and conditions of employment. Detailed analysis of the sector revealed that structural reforms of the telecom sector have contributed positively to creating employment opportunities in the country (Table 6.9). In 2004, the government declared the telecom sector as a priority area for employment generation and poverty reduction. At present, there is an acute shortage of trained manpower in the telecom sector. In response to the rising demand for skilled and educated labour for this sector, many educational institutions are now providing training and educational services. In most of the educational institutions, telecom engineering is a separate department with substantial enrolment. Students have direct access to employment in the sector. It is noted that expansion of the telecom sector and the reduction in rates has significantly contributed to the well-being of the middle class.

Conclusion and Recommendations

For the telecom sector, it can rightly be said that deregulation has proved fruitful. The benefits of deregulation and liberalization policies in the telecom sector of Pakistan are being enjoyed by consumers in the form of increased consumer choices, greater access, generally better quality, value-added services and affordable prices. The technology is changing rapidly and its transfer to local markets is fast. Before liberalization of the sector, getting a telephone connection was a momentous task for ordinary customers. Now, they have a wide variety of telecommunication services to choose from. Telecom rates have been greatly reduced and communication has become much easier for people using the latest technology at affordable prices. Liberalization of the telecom sector in Pakistan has attracted foreign direct investment, facilitated technological changes and generated employment opportunities. With time, the liberalization process could leverage economic growth and competitiveness further.

In order to promote intra-regional trade in telecom services, it is important that all SAARC countries reduce their tariffs vis-à-vis member countries. Presently, intra-regional prices of communication services based in Pakistan are higher than inter-regional prices in most other SAARC countries. Reducing tariffs will be an important step towards the promotion of regional trade and making SAFTA beneficial for its people as they will start communicating, interacting and doing business with each other.

The role of regulatory authorities is very central in regional integration, for the removal of distorting barriers. At present the regulatory authorities of SAARC countries cooperate and coordinate very little with each other in order to promote intra-regional trade in communication services, dispute resolution and to maintain a level playing field. Similarly, business-to-business contact, vital to promoting trade, is also weak, which is bad news for the SAARC integration process.

HIGHER EDUCATION SECTOR

Education services worldwide are emerging as one of the more important components of the service sector, in terms of shares in GDP and employment. Education services not only generate significant employment and income in many countries, but they also serve as vital inputs for producing other goods and services, making it as a crucial sector for the overall economy. Opening up the market for education services has therefore become an important policy objective (Raychaudhri and De, 2007).

Countries around the world have experienced spectacular growth in higher education over the past few decades. Along with increased enrolment, there has been a sharp rise in the movement of international students and the demand for educational enrolment by international students is projected to increase sharply.

Education services are covered under chapter 5 of the GATS classification system. The chapter is subdivided into five subsectors: (A) primary, (B) secondary, (C) higher, (D) adult and (E) other (mostly reflecting traditional education structures). Education, together with the energy and audio-visual sector, remains one of the sectors where WTO members have been least inclined to schedule liberalization commitments. WTO member countries have imposed considerably more limitations on trade in educational services under Modes 3 and 4 than for Modes 1 and 2. Furthermore, member countries have in general put slightly more limitations on trade in primary and secondary education – considered as "basic" schooling in many Organisation for Economic Co-operation and Development (OECD) countries – than on higher and adult education.

During commitment negotiations regarding education services, a number of delegations highlighted the political sensitivity of the sector due to its "public good" nature and high degree of government involvement. In this regard, there was a common understanding that the negotiations and the resulting commitments would not mean replacing public sector education. All members commenting on education services agreed that private providers complemented but did not displace public education services.¹⁰ Some members believe that the sensitivities vary from subsector to subsector, with adult and other education services being less sensitive. With this in mind, the negotiating proposals presented were limited to higher education, adult education and training.¹¹

The following barriers to trade in education services were identified by member countries during WTO negotiations:¹²

- Prohibition of services offered by foreign entities.
- Lack of opportunity for foreign suppliers to establish facilities.
- Lack of opportunity for foreign suppliers to qualify as degreegranting institutions.
- Inappropriate restrictions on electronic transmission of course materials and, more generally, on the import and use of educational materials.
- Economic needs tests and measures requiring the use of a local partner.
- Denial of permission for private sector suppliers to enter into and exit from joint ventures with local or non-local partners on a voluntary basis.
- Tax treatment that discriminates against foreign suppliers.
- Less favourable treatment for foreign partners in joint ventures.
- Franchises treated less favourably than other forms of business organization.
- Minimum requirements for local hiring causing uneconomic operations.
- Repatriation of earnings subject to excessively costly fees and/or taxes for currency conversion.
- Excessive fees and/or taxes imposed on licensing and royalty payments.
- Where required, government approval with exceptionally long delays.
- No reasons given for denial of a request and no information given on what must be done to obtain approval in the future.
- Domestic laws and regulations unclear and administered in an unfair manner.
- Qualification and recognition issues which act as a deterrent to gaining qualifications at overseas institutions.
- Limits on ownership and foreign equity.
- Rules on twinning arrangements which restrict the development of institution arrangements.
- Visa requirements regulating the entry of international students and academics.
- Foreign exchange requirements.
- Employment rules affecting academics and specialized, skilled personnel (including managers, computer specialists, expert speakers).

Globalization is a multifaceted process with economic, social, political and cultural implications for higher education. It poses new challenges at a time when nation states are no longer the sole providers of higher education and the academic community no longer holds the monopoly on decision-making in education. The challenges not only include issues of access, equity, funding and quality, but also those of national sovereignty, cultural diversity, poverty and sustainable development. A further and even more fundamental concern is that the emergence of cross-border higher education provision and trade in education services bring education within the realm of the market. This may seriously affect the capacity



Source: HEC Islamabad.

Figure 6.1 Student enrolment in higher education (2001–2008)

of the state to regulate higher education. Declining policy influence of the state could negatively affect weaker and poorer nations but benefit the more prosperous ones (OECD, 2004).

Sectoral Profile of Pakistan's Higher Education Sector

In Pakistan, Higher Education refers to education above Grade 12, which generally corresponds to the age bracket of 17–23 years. The higher education system in Pakistan is made up of two main sectors: the universities and Degree-awarding institutes (DAI) sector and the affiliated colleges sector.

With a population growing at the rate of 2.5 per cent per annum, the number of students enrolled in higher education (HE) has been consistently increasing (Figure 6.1). However, the HE sector (including colleges) enrols less than 3.76 per cent of the age cohort. This compares unfavourably with countries such as India at 11 per cent and Malaysia at 32 per cent.

The higher education sector is predominantly public in nature, with public higher education institutions (HEIs) dominating both the university and DAI and the college sectors. The period from 1990 to 2000 saw a steady increase (11) in public sector universities and a similar increase in the private sector, bringing the grand total of universities to 44 from 22 in the previous

decade. The number of DAIs increased from 3 to 4 in the public sector and from 0 to 6 in the private sector. The total number of higher education institutions rose from 25 in 1990 to 54 in 2000. This trend has continued and in the year 2009–2010 there were more than 100 public and private sector universities. The number of DAIs also rose to a total of 30 in 2009–2010.

Regulatory regime

The higher education sector in Pakistan falls under the purview of the Ministry of Education, which formulates the National Education Policy, and the Higher Education Commission, which is the primary regulatory body for the HE sector.

The Higher Education Commission (HEC) was established in September 2002, repealing the University Grants Commission (UGC), in recognition of the contribution of higher education to the socioeconomical developments of Pakistan. Its aim was to reform higher education and transform Pakistan from an agriculture-based economy to a "knowledge-based economy". The HEC is an autonomous apex body responsible for allocating public funds from the federal government to universities and DAIs and accrediting their degree programmes. Colleges are funded and regulated by provincial governments, but follow the curriculum of the HEC-funded universities and DAIs with which they are affiliated. While the HEC primarily funds public universities, it has recently opened a limited number of avenues for making funds available to private sector universities for research and infrastructure development.

Pakistan's education commitments under GATS

Pakistan did not undertake any commitments in education services during the Uruguay Round. However, Pakistan's initial offer in the WTO included education services and proposed commitments covering all three subsectors of higher education: higher education services (CPC 923), adult education (CPC 924) and other education services (CPC 929). Coveragewise, Pakistan's commitments in the sector were close to those of Nepal and far wider than those of India. In the market access column, Pakistan offered full commitments under Modes 1, 2 and 3, in all three subsectors. However, Mode 4 is unbound and refers to the horizontal section, where Pakistan has made significant commitments.

Liberalization and its Impact on Higher Education Competitiveness in Pakistan

It is generally believed that opening of the education sector leads to welfare benefits, due to increased competition and improved functioning of domestic education service providers, though the profits for domestic private sector education services providers could initially be reduced to some extent in the beginning (Raychaudhri and De, 2007).

In Pakistan, the liberalization process started in 1977, when the then military government realized it would not be able to carry the burden of providing education services on its own. The National Education Policy of 1979 allowed the private sector to establish educational institutions. The first private sector university (Aga Khan University, Karachi) was established in 1983. This was followed by the Lahore University of Management Sciences in 1985. After 1990, the government adopted a more liberal policy. The third phase of HE reforms started in 2002 with the establishment of the Higher Education Commission (HEC). The HEC defined the core strategic aims for reform as: (1) faculty development; (2) higher education infrastructure development; (3) focus area support; (4) industrial linkages; (5) higher education quality assurance and assessment; and (6) higher education sector reforms.

Survey Results

Mode 1

The sample for this mode consisted of the government-owned Allama Iqbal Open University (AIOU). This is the only distance learning institution in Pakistan that has regional centres all over Pakistan and the Gulf region. The university was asked a series of questions designed to assess the barriers to trade under Mode 1. The purpose of the survey was to determine the reasons why AIOU failed to attract more enrolments from foreign-based students. According to the respondent, regulations on the preparation of course materials and the management of students' academic work were non-existent; the few regulations that existed were not at all restrictive. Regulations on the establishment of education resources (e.g. library) were "somewhat restrictive". Requirements for legal compliance of the electronic media used for the presentation of course materials were not at all restrictive. Regulations on premises required were also not at all restrictive. The university was of the view that the requirement of establishment of regional centres was somewhat restrictive, primarily due to the fact that AIOU does not have an extensive online presence. This increases its reliance on the establishment of regional centres where tutorial courses were conducted by its (physically present) tutors. The university was of the view that this problem could be largely mitigated through increased online presence.



Source: Assessment by PITAD Research & Survey team.

Figure 6.2 Major barriers in education sector

Mode 2

The sample for this survey consisted of foreign students enrolled in various academic programmes in Pakistani universities. The respondents were asked a series of questions to determine the barriers they faced at the time of enrolment in Pakistani universities. Factors included the following: 30 per cent of students were required to make financial deposits with their respective universities; 70 per cent of students believed that the initiatives by the government to promote higher education in Pakistan (in terms of course quality, faculty and infrastructure) were effective; 60 per cent of students were of the opinion that the government was not providing any incentive for foreign students; and 70 per cent of students believed that poor international recognition of Pakistani degrees was a major barrier in attracting foreign students (see Figure 6.2).

Pakistan does not place any restrictions on student employment, which was reflected in the responses; 70 per cent of students ranked this factor as not at all restrictive (see Figure 6.3).

The Higher Education Commission has made it mandatory for all foreign students desirous of seeking admission to Pakistani universities to obtain an Equivalence Certificate of their degrees from the Inter Board Committee of Chairmen (IBCC); 80 per cent of students were of the view that this requirement was not restrictive at all (see Figure 6.4). Students from African and Central Asian countries are also required to be cleared by the Interior Division, Government of Pakistan.

With regards to visas, 50 per cent of students believed that granting of student visas by Pakistani authorities was not a barrier for foreign



To what extent does regulation on student employment restrict foreign students

Assessment by PITAD Research & Survey team. Source:

Figure 6.3 Restrictions on student employment



To what extent does equivalence of degrees restrict foreign students

Source: Assessment by PITAD Research & Survey team.

Degree restrictions for foreign students Figure 6.4

students; 40 per cent of students thought that granting of student visas was completely restrictive (see Figure 6.5). Further analysis revealed that 100 per cent of respondents who rated this factor as "completely restrictive" were Chinese Muslim students studying at the International Islamic University (IIU). When asked to explain the reasons for rating this factor as completely restrictive, a majority of the students said that they



To what extent does requirement of student visa restrict foreign students

Source: Assessment by PITAD Research & Survey team.

Figure 6.5 Visa restrictions for foreign students



Source: Assessment by PITAD Research & Survey team.

Figure 6.6 Relative importance of barriers

were only granted a single entry visa for three months, which had to be renewed or extended for the duration of the degree after clearance from the Ministry of Interior.

Students were asked to rank all the above-mentioned factors in terms of their relative importance (see Figure 6.6), with 1 being the least

important and 7 being the most important. The granting of student visas was ranked between 4 and 7 by 80 per cent of students, with 40 per cent of students ranking it as the most important; 50 per cent of respondents (see Figure 6.5) rated this factor as completely restrictive or fairly restrictive. Therefore, not only is the requirement for student visas restrictive, it is also very important in assigning weights and scores for the construction of the Total Restrictiveness Index (TRI).

Degree equivalence was ranked as important by 40 per cent of respondents (see Figure 6.6). International recognition of Pakistani degrees was ranked between 4 and 7 by 60 per cent of respondents; 70 per cent of students believed that this was an impediment to attracting foreign students to Pakistan.

In order to obtain another perspective of the barriers faced by foreign students, the Higher Education Commission, university administrations and foreign embassies were also consulted. The HEC reported that it had clearly laid down and published on its website the steps for the admission of foreign students and for the renewal of student visas. According to published procedures, after obtaining admission to a Pakistani university students should go to the Pakistani Mission in their respective country for a student visa. The Mission then forwards all the relevant documents to the Ministry of Foreign Affairs in Islamabad for further processing. The Ministry of Foreign Affairs then forwards these documents to the Ministry of Interior for security clearance. The Ministry of Interior is required to complete all the processes within four weeks and send the visa to the Mission concerned.¹³ The university administrations contacted were of the view that the guidelines provided by HEC are followed "in letter and in spirit" and there were no further conditions for the admission of foreign students. The foreign Missions, in contrast, corroborated more or less the feedback from foreign students.

University administrations were surveyed regarding enrolment of students from the SAARC region. They responded that the number of students in Pakistani universities from the SAARC region was negligible, with on average only 2–3 students from Nepal each year. There was a sizeable number of Afghan students but most were naturalized citizens of Pakistan.

Mode 3

The sample for this survey included representatives of the HEC and universities with foreign collaboration or twinning arrangements. HEC representatives were interviewed regarding the process and requirements for establishing foreign universities or twinning arrangements. HEC officials indicated that they have published all procedures and guidelines for establishment of a new university or institution, as well as procedures for inspection. The application and licence processing fees are outlined in a comprehensive document available on its website.¹⁴ According to the HEC and after a review of the pertinent legislation, there appears to be no discrimination between foreign universities willing to establish in Pakistan and Pakistani-owned universities.

Regarding foreign collaboration and twinning arrangements, the HEC specifies all such forms of collaboration and has published the approved policy governing these arrangements (Higher Education Commission Pakistan, 2009). Provided they are well recognized and have good academic standing, HEC welcomes collaboration with foreign universities and fast-tracks the process. However, it is wary of "bogus colleges" existing only on paper (Director General A&A, 2009). The regulation in this regard is reasonable, with the HEC requiring that the universities undertaking such arrangements have proper provisions in their respective charters.

Universities with foreign collaboration and twinning arrangements were surveyed regarding the procedural barriers they faced. Further detailed interviews were conducted in order to explore other non-regulatory barriers that restrict foreign investment under Mode 3. Most of the universities surveyed indicated that the requirement for programme approval and renewal of approval was not a barrier to foreign investment under Mode 3. However, accreditation by the HEC was cited as a major barrier by most of the universities surveyed, with 20 per cent indicating that this was completely restrictive in attracting foreign investment in their institutes. When asked to rank the reasons why accreditation was restrictive, almost 90 per cent of respondents cited bureaucracy and politics at the HEC as the most important factor; procedures for accreditation with other government agencies were cited as less restrictive. Accreditation fees were not considered a barrier by most respondents, as the fees required were low, that is, approximately \$1500. The requirement for local incorporation was not considered a barrier by most respondents.

Pakistan's horizontal commitment section specifies that commercial presence is subject to incorporation in Pakistan with maximum foreign equity participation of 60 per cent. India and Sri Lanka allow foreign equity up to 100 per cent and Nepal allows foreign equity of 80 per cent. Compared to other SAARC members, Pakistan's limit seems unattractive. As far as restrictions on foreign equity were concerned, 50 per cent did not consider it a barrier. The reason for the latter could be that higher education in Pakistan is less dependent on foreign investment, with a trend towards foreign-linked programmes with no foreign equity investment.

Pakistan's GATS position includes the statement that there will be no national treatment with regards to subsidies, that is, Pakistani-owned private universities and foreign universities are ineligible for government subsidies; 80 per cent of respondents indicated that the government did not provide any incentives or support for attracting foreign investment. When the respondents were asked to rank the barriers in terms of importance, accreditation by the HEC was ranked as the most important factor followed by lack of government support and incentives for the sector. Respondents were then asked a series of questions regarding non-regulatory barriers. The major issues identified by most respondents rated in terms of importance were the following.

Firstly, lack of market for foreign universities in Pakistan: according to respondents, the most important non-regulatory barrier to foreign investment in Pakistan's HE sector was the absence of a large market. The average cost of a foreign-linked degree in Pakistan is approximately \$5000 per year for which, according to the universities surveyed, the market is fairly limited. Any foreign university operating in Pakistan (with all the requisite infrastructure and foreign faculty) would have to charge fees of approximately \$10000 to \$12000, for which a market does not exist. This is due to the fact that at this fee level, foreign university branch campuses in Pakistan directly compete with foreign universities. Most respondents opined that at such high fee levels, students would rather opt to travel abroad than obtain a degree from a second-tier university branch campus.

Secondly, land. The minimum land and endowment requirements for establishing a private campus are 10 acres (3 acres in the city and 7 acres on city fringes) depending upon the location. Under national treatment commitment, all real estate acquisitions by non-Pakistani entities are subject to authorization depending upon the location and purpose of such acquisitions. Respondents believed that these requirements further increased the costs of setting up foreign-owned branch campuses.

Thirdly, security situation. The security situation was cited as a major barrier to foreign investment. Middlesex University, which was in talks with a local partner to establish a branch campus in Islamabad, had to withdraw from the plans due to major security concerns.

Fourthly, grant of charter from the federal government or the provincial government. After the completion of all the formalities, the HEC recommends a grant of charter to the federal government or provincial government, as the case may be. A major barrier at this stage, and acknowledged by HEC officials, is that Cabinet approval takes a very long time and the process may not be transparent.

Mode 4

The sample for this survey included representatives of the HEC, university administrations and foreign faculty members teaching in Pakistani universities. The questions for foreign faculty members and university administrations were designed to ascertain the barriers faced under Mode 4 (movement of natural persons). One hundred per cent of the respondents were of the view that the requirement for a permit to teach and work in Pakistan was not a barrier to movement of natural persons. There were no quotas imposed by the HEC or university administrations on the employment of foreign nationals. Respondents from the National University of Modern Languages (which boasts a very large foreign faculty) stated that they could have 100 per cent foreign faculty members if they so required. Some 90 per cent of respondents stated that equivalence of degrees was not a barrier since there were no such requirements imposed either by the HEC or by university administrations. Visa requirements also did not pose a restriction on the entry of foreign faculty. In most cases, the foreign faculty members interviewed indicated that they were on cultural exchange programmes and, therefore, visa requirements did not pose a restriction. The respondents were asked about other barriers they faced in Pakistan. A major barrier according to both university officials and foreign faculty members was the security situation; travel advisories were preventing many foreign faculty members from travelling to Pakistan.

When university representatives were asked about foreign faculty from the SAARC region, they noted that there were currently no faculty members from the region. The National University of Modern Languages (NUML), which employs a large number of foreign faculty, indicated that it did not have a single faculty member from the region. Even though the university had a Hindi programme, it did not employ any faculty members from India.

Increasing Higher Education Trade between Pakistan and SAARC Countries

The higher education sector manifests interesting similarities across the South Asian region. All South Asian countries lack adequate resources to provide their population with quality higher education. In view of their other more pressing priorities, such as poverty reduction programmes, health care and basic education, they are not able to allocate adequate resources in order to offer quality higher education to all those qualified to advance to this level. In light of this, pooling of regional resources could be a great help.

Trade potential through Mode 1

There is a lack of information concerning the cross-border supply of education services. Anecdotal evidence suggests that there is strong demand for higher education, triggered by the needs of the labour market. The emergence of new technologies is rapidly expanding the market share of distance learning (Czinkota, 2005).

In 2005, the International Trade Centre (ITC) commissioned a study titled the "Services Capacity Report" to map Pakistan's service export potential. According to the report, state-run Virtual University (VU) and Allama Iqbal Open University (AIOU) were exporting educational services under Mode 1, mainly to the Pakistani expatriate community living in the Middle East and the UK. The report saw an "enormous export potential" in this mode due to "substantially lower costs".

The Vice-Chancellors of open universities in the SAARC region met in Colombo in January 1999 and made recommendations for the establishment of SACODiL (SAARC Consortium of Open Distance Learning). This initiative was designed to strengthen cooperation in the joint development of educational programmes, credit transfers, and promotion of equal opportunities and access to knowledge. The proposal was endorsed by the 26th Session of the Standing Committee.

The second meeting of Vice-Chancellors of open universities and heads of national distance learning institutions, held in New Delhi in December 2002, decided to operate SACODiL through a rotational Secretariat until arrangements were made to establish a permanent Secretariat. The rotational Secretariat acts as a central point for correspondence, maintaining SACODiL records, monitoring the progress of assignments, convening meetings, taking follow-up action and any other functions conferred upon it by the Board of Governors.

The Board of Governors of SACODiL comprises the Vice-Chancellors of national open universities or heads of major open and distance learning institutions or educational bodies. It also includes the National Focal Points of SAARC in the Ministries of Foreign/External Affairs of the SAARC Member States and representatives of the Secretary General, SAARC (Open and Distance Learning, 2009).

Among SAARC countries, India's India Gandhi National Open University (IGNOU) is a recognized distance learning provider, with students in 35 countries including the Middle East, the Gulf, Africa and South Asia. It also hosts the SACODiL Secretariat.

Students from SAARC countries benefit from IGNOU's special concessionary fees, which are substantially lower than those charged from other international students. For example, IGNOU charges \$250 per course (for its prestigious MBA programme) for non-SAARC international

Destination	Year		
-	2008	2004	2003
United Kingdom United States Australia	11760 5401 6192	9000 4000 1100	12 000 5000 900
Total	23 3 53	14100	17900

Table 6.10 Number of Pakistani students studying abroad

Source: British Council (2009).

students. The same programme costs \$64 per course for students from SAARC countries (International Division). In order to promote academic interaction between SAARC members, IGNOU established in 2003 a collaborative course in business management and public administration with open universities in Pakistan, Bangladesh and Sri Lanka. Trade under this mode is feasible between India and Pakistan as it bypasses visa requirements and other security concerns. According to the IGNOU course director (for this project): "We have had no problems from either the Pakistan Foreign Ministry or our own Ministry of External Affairs" (Sahani, 2003).

Trade potential through Mode 2

A study by Rahman (2000), which deals with bilateral trade in educational and health services between India and Bangladesh, emphasizes the importance of quality of services in these sectors. This study, based on field surveys, concludes that the main factor driving the increased trade between India and Bangladesh in these services is differences in the quality of services, whereas the relative cost differences play a less significant role. The study also highlights that a high proportion of this trade is informal, to avoid the hassles of administrative requirements. Much of this trade in educational and health services, therefore, is not reported. Although Pakistan has been expanding its education facilities in recent years, it has not kept pace with demand, which means that there are substantial opportunities for importing HE services.

As Table 6.10 shows, the number of Pakistani students travelling abroad has been increasing. However, the number of students travelling to traditional destinations such as the United Kingdom (UK) and USA has declined. The overall increase is thus attributed to a growing number of Pakistani students travelling to non-traditional countries, including Malaysia, the PRC and Turkey. This shift has occurred mainly due to the post-9/11 stringent visa regimes. Recent developments vis-à-vis the arrest

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of Pakistani students in the UK, the top destination for Pakistani students, have prompted more and more students to travel to non-traditional countries. Herein lays the potential for SAARC countries to attract Pakistani students.

Approximately 30 per cent of students seeking overseas education look to enrol in postgraduate studies, following the completion of a master's degree in Pakistan; 40 per cent of students seek undergraduate studies and 10 per cent look to enrol in PhD and postdoctoral studies. PhD and postdoctoral studies include HEC scholarship students (Education Market in Pakistan, 2007).

Trade potential through Mode 3

A number of foreign universities are operating in Pakistan, mainly through branch campuses, twinning arrangements and external degree programmes underscoring the enormous potential in Pakistan's higher education market. Higher education institutions in India are already exporting services under this mode through setting up campuses abroad, for example, Mumbai's SP Jain Management School has set up branches in Dubai and Singapore to offer MBA courses (Raychaudhri and De, 2007).Leading institutions from the SAARC region, especially India, which find it difficult to enter through Mode 1 could enter the Pakistan market via collaborative programmes.

Trade potential through Mode 4

The HEC has identified an acute shortage of qualified faculty in Pakistan and in order to plug this resource gap has developed a foreign faculty hiring programme. This programme is focused

to ease the critical shortage of qualified faculty in the public sector institutions of Higher Education. The programme is also designed to produce top engineers, scientists and other graduates across a broad range of disciplines by hiring experienced pedagogues where ever available, specially expatriates. The Programme will generate linkages between local and foreign institutions, encouraging long-term sustainable scientific collaborations. Foreign faculty members will be expected to supervise world class graduate level research and deliver cutting-edge graduate level courses in their academic disciplines. (Higher Education Commission Pakistan (2009)).

There are a number of options under this programme, which include:

- Foreign Faculty Hiring Programme (for one year or more)
- Short Term Foreign Faculty Hiring Programme (for three to six months)

- Interim placement of fresh PhDs
- Short Term Teacher Exchange Programme (local)
- HEC Distinguished National Professor
- Visiting Scholar Programme
- Hiring of eminent educationists and researchers having PhDs (Expansion Programme)

There has been criticism of HECs foreign faculty hiring programme, with many academics questioning the utility of the 200 foreign faculty employed in Pakistani universities (Lodhi, 2008). Critics argue that toptier foreign faculty in leading Western academic institutions are reluctant to leave their established positions to take up jobs overseas. As a result, faculty attracted to Pakistan are mostly second-tier staff yet they are offered exorbitant pay packages (Hasnain and Toor, 2006). There is an opportunity for leading SAARC academics to teach in Pakistan's universities. Not only do Pakistan and India have common linguistic ties, but all SAARC member countries also use English as a medium to impart higher education. Also, according to the Gravity Model, trade among nations depends upon two factors, that is, the mass of the trading partners and the distance between them. On this basis, there is potential for exchange of faculty among SAARC countries.

Impact of Trade Liberalization Reform

The success of the reform and liberalization process has been a hotly debated topic among academic circles, as well as the national press. Higher education statistics show that the total number of universities increased from 59 in 2000–2001 to 124 in 2008–2009 (Statistical Information Unit, 2010) and the number of enrolments in higher education rose by 168 per cent from 2000–2001 to 2007–2008. The number of PhDs produced also rose from only 2823 in 2000 to 5011 in 2007. However, critics of the reform process initiated by the HEC contend that these numerical targets provide only a superficial analysis of higher education progress in Pakistan. The real barometer of success is the quality of graduates (Hasnain and Toor, 2006).

The reform process in Pakistan has a long way to go to achieve the desired results. Much has been written about why the HE reform process has failed to achieve the desired results, with some arguing that owing to a weak primary and secondary education system, higher education has floundered on an unstable base (Jahangir, 2008). Another major problem is that the HE reforms led to a surge in the number of HE institutions, but there is a lack of trained human resources required to run these

institutes. Many colleges upgraded to universities were unable to make the transition for lack of sufficient numbers of qualified faculty and the absence of the academic discipline and traditions required at that level. The growth in universities with foreign collaboration had poor infrastructure (Hasnain and Toor, 2006). A major component of the HECs reform agenda was establishing research centres at universities. These heavily funded research centres or facilities did not have a core group of active researchers and there was no serious discussion on the utility of such centres.

Conclusion and Recommendations

There were no major barriers identified to trade in higher education services through Mode 1. AIOU could create its own distance learning programme subject to infrastructure constraints. The recognition of Pakistani degrees abroad was a major barrier for foreign students in Pakistan. For some foreign nationals, the issuance of student visas was also restrictive due to the government policy of issuance of visas for only three months rather than for the entire duration of the degree. Foreign investment in Pakistan was restricted due to the absence of a large market and the security situation. Minimum land requirements imposed on universities were also restrictive. Surveys and interviews suggested that these barriers were non-discriminatory between local and foreign ownership. It was found that the only discrimination foreign and private universities faced was the absence of government support and subsidies. No major regulatory barriers existed under Mode 4. The only factor that prevented foreign faculty from travelling to Pakistan was the adverse security climate and travel advisories by respective governments.

The large number of students from Pakistan studying in universities abroad is indicative of the demand for higher education services. The excess demand and the common linguistic ties in the region provide a unique opportunity for trade in higher education services under all modes of supply. Moreover, Pakistan, India and Sri Lanka have made commitments in the higher education sector. In order to encourage trade in higher education there is a need to take major initiatives at the SAARC level. For example, for promotion of trade under Mode 1, SACODiL was established. India's IGNOU also offers concessional fees to students from South Asia. However, SACODiL has failed to articulate and implement any visionary plans for transforming trade under Mode 1 and fresh impetus should be given to initiatives in this regard.

HEALTH SECTOR

International trade in health services is opening many possibilities for increasing the economic contribution of the health sector to the national economy. Governments from both developed and developing countries are exploring different options, including the implementation of export strategies for health services and the liberalization of business ownership to maximize their resource endowment and competitive advantages. This endeavour requires facing the challenge of reconciling trade objectives like foreign currency generation with those of granting their populations universal access to quality health care at an affordable cost (Benavides, 2002).

Balancing trade objectives with public health interests is a recurrent theme in all major papers on trade in health services. According to Woodward et al. (2002), liberalization of health services:

may facilitate access to high-level services by the better off; but it may also divert human resources from public services to more profitable, private services for the elite or foreign markets, thus reducing staffing levels, lowering staff quality, and/or raising salary costs for the public sector (Woodward et al., 2002).

A report by Save the Children is highly critical of liberalizing trade in health services and concludes that the market disciplines included within GATS undermine national efforts to develop public health systems; it calls for the agreement to be revised (Hillary, 2001). Due to the sensitivities involved, trade in health services is minimal, particularly when compared to other traded services (Woodward et al., 2002). However, a study by Rupa Chanda asserts that the health care sector is among the most rapidly growing sectors in the world economy (Chanda, 2002).

Of the four subsectors of health services cited under GATS, medical and dental services are the most heavily committed (54 member countries), followed by hospital services (44 members) and services provided by nurses, midwives, and so on (29 members). Overall, this pattern suggests that it is politically easier or more economically attractive for administrations to liberalize capital-intensive and skills-intensive sectors rather than labour-intensive activities (Adlung and Carzaniga, 2002).

An often cited study on trade in health services by the Asian Development Bank states that SAARC members would be willing to undertake more liberal commitments at the regional level, on the premise that all seven have made liberal commitments under GATS. The study asserts that SAARC members should be undertaking deeper commitments at the regional level rather than at the multilateral level, due to two prime reasons. First, the small size of the SAARC group of countries would enable them to benefit from liberalization fairly quickly. Second, the risk of opening up the health sector at the regional level would be much less as compared to the multilateral level (Pratima Dayal, 2008).

It is, therefore, imperative for SAARC governments to develop a comprehensive strategy for trade in health services in order to balance commercial interests with the provision of low-cost and efficient health care to all their citizens.

Sectoral Profile of Pakistan's Health Services

According to the Economic Survey of Pakistan (2009–2010), health expenditure as a percentage of GDP averaged at 0.5 per cent between 2002 and 2009. However due to the fiscal crunch faced by the government the year 2010–2011 saw health expenditure drop to just 0.27 per cent of GDP. The government recognized the need to enhance allocations in this area and for mainstreaming "alternative approaches to health financing" (Khan, 2008-09). The public sector dominates Pakistan's health sector and Pakistan has one of the largest public sector-owned service delivery infrastructures in the world. However, dual job-holding is common, due to the differences in incentives in the public vis-à-vis the private sectors. As a result, the role of the private sector has been increasing. A survey undertaken by the World Health Organization (WHO) estimated that around two-thirds of Pakistan's population buys health care from the private sector through out-of-pocket expenditures (Mirza, 2004). Despite its importance, there is no regulatory framework in place with regard to private sector services. Efforts are under way to address the currently prevailing service delivery challenges by developing alternative service delivery and financing options at the basic health care and hospital levels.

Constitutionally, health is a provincial concern in Pakistan, with clearly demarcated roles, responsibilities and prerogatives at each level of government. The federal government is mandated with policy-making, coordination, technical support, research, training and seeking foreign assistance. The provincial and district departments of health are responsible for the delivery and management of health services.

The state attempts to provide health care through a three-tiered health care delivery system and a range of public health interventions. The former includes basic health units (BHUs) and rural health centres (RHCs), forming the core of the primary healthcare structure. Secondary care including first and second referral facilities providing acute, ambulatory and inpatient care is provided through Tehsil Headquarter Hospitals (THQs), and District Headquarter Hospitals (DHQs) which are supported

by tertiary care from teaching hospitals. With the assistance of international donors the government has initiated a number of reform programmes for the sector which include the Millennium Development Goals, Medium Term Development Framework, Poverty Reduction Strategy Papers and National Health Policy.

Key challenges facing Pakistan's health sector include:

- neglect of linkages with the private sector;
- neglect of quality and equity dimensions in health service delivery;
- lack of intersectoral coordination and limitation of sectoral approach;
- lack of institutional capacity, including measurement and monitoring skills;
- insufficient resource allocation for the health sector.

Regulatory regime

The health sector falls under the purview of the Ministry of Health and is regulated by the Pakistan Medical and Dental Council (PMDC). The Council, established under the Pakistan Medical and Dental Council Ordinance 1962, is the authority responsible for the regulation of the medical and dental professions in Pakistan. The Pakistan Nursing Council, established under the Pakistan Nursing Council Act 1952, is the authority responsible for registration and licensing of nurses and midwives. Only persons possessing degrees recognized by the relevant councils and registered with such a council can practice medicine, dentistry and nursing in Pakistan. The PMDC lays down the minimum standards for the degrees of MBBS and BDS and the higher qualifications like MD, MS, MDS and other postgraduate minor diplomas like DO, DLO, and so on. The Council also lays down the necessary qualifications and experience for the appointment of the various categories of teachers in the medical and dental colleges in Pakistan.

Legislation pertinent to the health care sector includes:

- Medical and Dental Degrees Ordinance, 1982.
- Pakistan Medical and Dental Council Ordinance, 1962.
- Pakistan Medical and Dental Council Regulations, 1965.
- Pakistan Medical and Dental Council Regulations, 1979.
- Pakistan Medical and Dental Council Regulations, 1984.
- Pakistan Medical and Dental Council Regulations, 1985.
- Pakistan Medical and Dental Council Regulations, 1998.
- Pakistan Registration of Medical and Dental Practitioners Regulations, 1966.

Pakistan's Health Sector Commitments under GATS

Mode 1

Mode 1 is unbound because of what Pakistan perceives as "lack of technical feasibility" in cross-border supply of health services (Pakistan initial offer, 2005). When the Pakistani Mission to the WTO was contacted about the "lack of technical feasibility", their response was that Pakistan would remove these terms when tabling their revised offer. The Mission was of the view that telemedicine was unknown in 1995 when the offer was made.

Mode 2

There are no restrictions on Mode 2. Hospital, medical and dental services are free from all market access restrictions relating to Mode 2 (that is, consumption abroad). Subject to Pakistan Medical and Dental Council Regulations, horizontal commitments are also applicable to these services.

Mode 3

Under Mode 3, incorporation is necessary and foreign participation up to 51 per cent is allowed. Mode 3 is further subject to Pakistan Medical and Dental Council regulations.

Mode 4

No commitments for the health sector have been undertaken with regard to Mode 4. The horizontal section states that specialists, who are employed by a juridical person having commercial presence, will be provided access. The quota for such specialists is 50 per cent of the requirement of the juridical person. The time period for access, however, is not specified.

The framework for FDI in Pakistan allows for 100 per cent FDI for hospitals. Movement of foreign doctors also seems to be possible under the regulations.

Survey Results

Mode 1

The sample for this survey consisted of hospitals that had established telemedicine links with international institutions. The experts interviewed were of the opinion that there were no regulatory or legal issues that they faced. No permission was required from the government to set up a telemedicine link and the only problems that they infrequently encountered were technical problems.

MODE 2		
Barrier	Is the barrier highly restrictive? (Rating between 3 and 5)	Comments
Visa restrictions	No	10% ranked it as somewhat restrictive 80% ranked it as does not restrict at all
Lack of portability of health insurance	No	Respondents believed that this issue was not relevant for Pakistan
Lack of capacity to pay	No	70% rated this as somewhat restrictive
Absence of specialized healthcare facilities	Yes	40% fairly restrictive 30% as quite restrictive
High cost of treatment in Pakistan	Yes	Some respondents believed that the cost of medical treatment was higher than in India
Awareness about Pakistan's health sector	Yes	Identified as a major barrier Pakistan should be represented at International Forums

Table 6.11 Barriers to trade in health services

Source: Assessment by PITAD Research & Survey team.

Mode 2

The sample for this survey consisted of leading private hospitals in Pakistan (both foreign and Pakistani owned). The questions were designed to assess the barriers that prevented foreign patients from coming to Pakistan for treatment. All the respondents ranked visa restrictions low on the restrictiveness scale, believing that this is not an issue in Pakistan (see Table 6.11 for details). The lack of portability of health insurance, according to respondents, was not relevant for Pakistan and the South Asian region; 80 per cent of respondents rated this factor lowest on the restrictiveness scale. When asked whether the movement of patients in the region was restricted due to a lack of capacity to pay by the consumer, most respondents believed that this was not a restrictive factor and a market exists in the region. The absence of specialized health care facilities in Pakistan as a barrier to attracting foreign patients was rated as quite restrictive or fairly restrictive by 70 per cent of total respondents. When asked to identify any

MODE 3		
Barrier	Is the barrier highly restrictive? (Rating between 3 and 5)	Comments
Procedure for registering a hospital	No	80% of respondents rated it as somewhat restrictive 10% rated it as not at all restrictive
Requirement for local incorporation of hospital	No	Same as above
Lack of interest by investors	Yes	50% of respondents identified this as a barrier
High cost of treatment	Yes	A few leading hospitals identified this as a barrier

Table 6.12 Procedural restrictions in health services

other factors that restricted foreign patients, some respondents identified the cost of treatment in Pakistan as compared to India as a major inhibitor. The average cost of a kidney transplant in a leading private hospital in Pakistan was roughly three times as high as in India.¹⁵ Other respondents also believed that lack of awareness about the Pakistan health sector was restricting patients from travelling to the country. Health practices in Pakistan were usually not presented in international forums or only on a very limited scale. The respondents were then asked to rank the barriers in terms of their importance. Visa restrictions were ranked as the least important followed by lack of capacity to pay (by consumers), lack of portability of health insurance, cost of treatment and awareness of Pakistan's health care sector. The absence of specialized health care facilities was ranked as the most important barrier by most respondents.

Mode 3

The respondents for this survey were leading foreign-owned, for-profit private hospitals operating in Pakistan. The questions were designed to assess the reasons why Pakistan was not attracting foreign investment. The procedure for registering a hospital was rated as either somewhat restrictive or not at all restrictive by the respondents (see Table 6.12). The same ratings were assigned to the requirement for local incorporation by foreign hospitals. All our respondents were of the opinion that restrictions

MODE 4		
Barrier	Is the barrier highly restrictive? (Rating between 3 and 5)	Comments
Visa restrictions	Yes	60% of the respondents as quite restrictive whereas 20% of respondents thought that visa restrictions were fairly restrictive
Recognition of degrees	Yes/No	40% of respondents rated it as somewhat restrictive 60% rated it as quite restrictive
Requirement of work permit	No	Rated as low by all the respondents

 Table 6.13
 Importance of Mode 4 barriers to trade in health services

Source: Assessment by PITAD Research & Survey team.

on foreign equity were not a barrier to trade and investment in Pakistan; for setting up hospitals, Pakistan allows foreign investors to hold 100 per cent equity, allowed on a repatriation basis. When asked whether the government had provided any incentives, loans or support for attracting foreign investment in health services, the respondents replied in the negative. The respondents were asked to identify other factors that, in their perception, were inhibiting foreign investment under Mode 3. Some believed that there was generally a lack of interest among investors regarding investment in this sector. Secondly, some thought that the cost of treatment was generally higher in Pakistan. Ranking the barriers in terms of their importance, the respondents believed that procedure for registering an institution was the least important factor followed by requirement for local incorporation. Lack of interest by foreign investors was rated the highest by the respondents. It should be noted here that the PMDC and the Ministry of Health were contacted repeatedly for their input but there was no response from them.

Mode 4

The sample for this questionnaire comprised leading foreign-owned, forprofit hospitals operating in Pakistan. The questions were designed to assess why Pakistani hospitals failed to attract foreign doctors (see Table 6.13 for result details). Visa restrictions were rated by 60 per cent of the respondents as quite restrictive, whereas 20 per cent of respondents thought that visa restrictions were fairly restrictive. A mixed response was received regarding recognition and equivalence of degrees as a barrier; 40 per cent of respondents believed that this somewhat restricted foreign doctors and the remainder ranked it as quite restrictive. Section 13 of the Pakistan Medical and Dental Council Ordinance 1962 relates to the power of the Council to enter into negotiations with appropriate authorities within or outside Pakistan for settling a scheme of reciprocity for the recognition of medical and dental qualifications. Section 14 provides that the federal government, after consulting the Council, may accord recognition to a medical qualification granted by a medical institution outside Pakistan.¹⁶ For this purpose, the PMDC has a Recognition Committee headed by the Vice-President of the Council and is responsible to equate and recognize the various degrees obtained by doctors from countries outside Pakistan. This Committee determines equivalence of foreign degrees with the Pakistani degrees. It also evaluates the teaching experience gained outside Pakistan in teaching institutions to give them benefit for the purpose of appointments in medical and dental colleges of Pakistan.

The requirement for a work permit was rated low by all the respondents. When asked whether highly qualified foreign doctors had to sit for an exam before being eligible to practice in Pakistan, almost all respondents said no. When asked to identify other barriers, some respondents cited security concerns; other respondents believed that there was no plan by the government to attract human capital to the country. When asked to rank the barriers in terms of their importance, visa restrictions were termed as the most important, followed by the absence of a government plan to attract foreign-qualified doctors.

Pakistan Health Sector Trade Potential

There are tremendous export and import opportunities within the SAARC region for Pakistan's health sector.

Mode 1

The gains from cross-border medical transcription services and telemedicine are akin to the gains economists traditionally associate with international trade in goods. Differences across countries in endowments with capital, labour and technology imply that some countries possess a comparative advantage in the supply of certain health services, meaning they can provide them better and more cheaply than others. Allowing trade in health care services can thus generate efficiency gains for both the importing and the exporting economies. Patients who seek medical treatment abroad and hospitals which outsource medical transcription to foreign service providers can realize significant cost savings. One recent study, for example, estimated that the United States would save \$1.4 billion annually if only one in ten patients were to go abroad for a limited set of low-risk treatments (Aaditya Mattoo, 2005).

Although there is a dearth of official data or any regulation in this sector, Pakistan has gained a foothold in the outsourcing of health services, such as medical transcription and billing, with many private companies providing these services to big hospitals in the West. This is the low end of the value-added spectrum of cross-border delivery of health services. At the high end of this chain there is a growing demand for telemedicine services; for example, carrying out surgeries in Pakistani hospitals with the guidance of renowned foreign surgeons through state-of-the-art video-conferencing facilities or providing diagnostic facilities. Hospitals in India, such as the Apollo Group, have taken the lead in telemedicine exports throughout the SAARC region. Today, the Apollo Telemedicine Networking Foundation (ATNF), the Groups telemedicine arm, has successfully set up over 120 telemedicine locations, of which seven are in countries outside India, including Pakistan, Sri Lanka, Oman, the Maldives and Nepal (Prasad, 2008).

In October 2004, the Apollo Group established a telemedicine link between Indraprastha Apollo Hospitals in Delhi and the Apollo Information Centre, Lahore, Pakistan. The telemedicine facility will also be used for continuing medical education (CME) for local doctors at Lahore, enabling them to upgrade their skills by attending videoconferencing-based medical programmes offered by Apollo specialists (Express Healthcare Management, 2004). For India, this mode is the least affected by the uncertain political climate and Pakistan can benefit from India's expertise in certain specialist fields like cardiology. With the growth of information technology, Mode 1 offers the potential for strong growth in supplying health services between SAARC countries. This will depend to a large extent on the mutual recognition of doctors qualified in a SAARC country by all other SAARC countries (Pratima Dayal, 2008).

Mode 2

This category includes patients coming into Pakistan for treatment and trainees and students from the medical profession under training in Pakistan. The data on these movements is currently unavailable or scattered but some trends suggest that more Pakistani patients and students are going to other countries than foreigners entering Pakistan for treatment or training (that is, Pakistan is a net importer in this category).

Pakistan lacks the kind of medical facilities required for medical tourism. There are many instances of Pakistani expatriates receiving medical or dental treatment in Pakistan, but again there is an absence of data in this regard. On the import side, there is evidence that Pakistanis travel to India to receive specialized medical care but mainly through informal channels. If there were some sort of formal understanding between the governments in the SAARC region for issuance of medical visas then this trade could grow significantly.

Mode 3

Pakistan is the sixth most populous country in the world, hence a large market for Mode 3. If the country's overarching investment climate improves, investments in the health care sector from offshore sources are likely to increase. This would follow from policies of liberalizing services traditionally in the public domain, which governments have pursued over the last ten years. While this approach has its benefits in terms of upgrading health care infrastructure, facilitating employment generation and providing a broad area of specialized medical services, it can also create inequalities by creating a two-tiered health system with high-quality care being supplied to the affluent (Nishtar, 2008).

Despite the large market, at present, there is no major FDI in Pakistan's health sector (except for franchised clinics of Materna SA of France and Cromwell liaison offices). There are prospects for intra SAARC trade under Mode 3, with India's Apollo Group operating 38 hospitals in South Asia including Bangladesh, Sri Lanka and Nepal. It also has 60 branded day-to-day retail clinics on a franchised basis across India and the Middle East.¹⁷ As previously mentioned, Apollo is operating a telemedicine link with Pakistan, which raises the possibility of cooperation through Mode 3.

Mode 4

Pakistan is a labour surplus country but not a health professionals surplus country. The PMDC and Ministry of Labour do not have the relevant data but a large number of Pakistani health professionals move to other countries, especially the UK, US, Gulf Cooperation Council (GCC) countries and Malaysia. This "doctor drain" has reached such limits that the government of Punjab has put restrictions on Pakistani doctors going abroad to work.

As far as services provided by midwives, nurses, physiotherapists and paramedical services are concerned, Pakistan has already demonstrated its capacity to export such services to the Gulf States (Saeed et al., 2005). The problem, however, is that while a number of WTO members import these services on a fairly large scale, most of them have kept them out of their specific commitments under the GATS. SAARC member countries are net exporters of midwives, nurses, physiotherapists and so on, and therefore there is a limited potential of trade among them through this mode. With regards to the movement of medical specialists, however, there is a vast potential in the region.

Conclusion and Recommendations

Within the SAARC region in general, and for Pakistan in particular, trade in health services is fairly liberalized, with no regulatory constraints on telemedicine (under Mode 1) or the movement of patients across borders (under Mode 2), few restrictions on investments in the health sector (under Mode 3), and arrangements in place at the institutional levels for the recognition of medical degrees (under Mode 4).

The major barriers in Mode 2 are not regulatory but stem from the lack of specialized health care facilities, the lack of promotion of Pakistan's health sector and the high cost of treatment in Pakistan as compared to India. Out of all these factors, the lack of awareness about Pakistan's health sector is considered as the most important factor. Therefore the following policies are recommended:

- The government should formulate a Regional Medical Tourism Policy.
- The government should arrange health shows in regional markets.
- The government should provide a tax subsidy to the institutions promoting and marketing Pakistan's health care portfolio in international markets.

Even though Pakistan is a large market, there is still little foreign investment in its health care sector. Survey results show that the regulatory barriers are not impeding investors, who are generally ambivalent towards investing in this sector. For Mode 4, some of the major barriers identified were visa restrictions and the absence of a sound government policy for attracting foreign doctors. In the health care industry, professional human capital remains the core service element. The government should work on a master plan to attract professionals and expatriates by providing "Special Citizen" status to doctors and researchers.

For the SAARC region, there is significant potential for trade in health services under different modes. For Mode 1, Pakistan's Lahore Imaging Centre already has a telemedicine link with India and there are numerous prospects for trade under this mode since it is the least impacted by the adverse security situation. As evidence suggests, there is movement of patients across borders in the region but largely through informal channels. SAARC member countries should frame a comprehensive policy that would deal with the timely issuance of medical visas for patients and generally aim at promoting health tourism.

The respective policies of India and Pakistan prohibit FDI from each other, which must be revised at least for the health sector. Since all SAARC countries are net exporters of midwives, nurses, physiotherapists and so on, the potential for intra-regional trade in this category is limited; there is, however, vast potential for the exchange of specialist doctors, for which member countries should frame a "specialist exchange programme".

TRANSPORT SERVICES

Economic and industrial development processes demand rapid as well as mass transportation of goods and raw materials. The more easily the passengers and goods get to the destination, the more rapid would be the pace of development of the concerned country. But the transport and communication systems need continuous expansion and maintenance, including of the network of railways and highways as well as the rolling stock.

Determinants of the export performance of a country largely depend on external and internal factors. External factors include market access conditions while internal factors refer to supply-side conditions. The supply side is affected by transport costs and service quality (including speed and reliability of delivery), entrepreneurship, capital and labour costs, and product quality, as well as the role and performance of the export-promoting institutions. These supply-capacity elements have a significant impact on export performance and the competitiveness of export products.

According to Pakistan's National Trade Facilitation Strategy (2008):

The Global Supply Chain requires an enabling environment that facilitates the free movement of goods and services across borders, while taking into account the necessary regulatory and statuary instruments. This includes an acceptance of the need for speed and agility in the production and flow of goods across borders; an open attitude to information sharing; the need for appropriate legislation to cover the acceptance of digital signature and certificates; and the development of a corporate culture that looks at and takes responsibility for entire supply chain.¹⁸

High trade costs such as transportation charges, documentation requirements and clearance delays at the borders have negative effects on trade. Improved transport and trade facilitation measures bring obvious winwin outcomes for the trading partners,

Pakistan's geographical location includes being surrounded by

landlocked countries (Afghanistan and the Central Asian states). Transit trade is therefore of immense importance, demanding smooth and quick flows across borders in which Pakistan has a key role to play. Transit proposals are of a high level of importance, keeping in view the nature of the political relations and security situation in the area.

Trade facilitation has progressed in Pakistan through major Customs reforms undertaken under Customs Administration Reform (CARE) a programme implemented with the help of the World Bank. Pakistan must apply CARE countrywide.

According to a World Bank report (2006):

The cost and service level provided by the internal and external transport systems is just one element of a country's competitiveness. As tariff levels fall, the economic distance to market (defined as the sum of all time and cost expenditures for moving a consignment to a market, including freight rates, handling costs, transit times, delivery predictability, loss and damage, insurance costs, etc.) plays a more and more critical role in determining competitiveness. While freight rates are still important in the final price of the product, the other elements of generalized costs, such as predictability and reliability, become increasingly important in the composition of total distribution costs.

This section of the study looks into issues related to transport services in Pakistan, from the trade facilitation perspective, that is, trade-specific impediments to efficient trade and transport logistics for Pakistan in South Asia.

Regional cooperation in transport services can play a crucial role in addressing critical problems of hindering trade in goods. A better cooperation on services like transport and trade facilitation can transform landlocked countries such as Bhutan and Nepal into land-linked countries and regions. While Pakistan could be a gateway for all South Asian countries to access one another's market through the land route, Pakistan and India can play an important role as transit states for the rest of South Asia to access Central Asia's market.

Exports of transport services, along with travel services, account for over 50 per cent of global trade in services.¹⁹ Transport services constitute the major component of services trade in South Asia. South Asian exports of transport services grew much faster than those from Asia and the world during 1995 to 2008. As a result, South Asia accounted for about 7.7 and 1.5 per cent of exports of transport services exports of Asia and the world, respectively, in 2008; this compares to 6.9 and 1.1 per cent in 1995. In the case of Sri Lanka and India, exports of transport services grew much faster than imports during 1995 to 2008. Except for Nepal, South Asian countries – especially India – experienced rising trends in exports of

transport services during 2000 to 2008. The largest exporter of transport services in South Asia is India; in 2008, India's total exports of transport services were over US\$6 billion, accounting for 76 per cent of the region's total exports of such services. Pakistan, Bangladesh and Sri Lanka are other important South Asian players in trade of these services. All South Asian countries, including India, have a deficit in trade in transport services.

Under Mode 3, whereas there is some investment by India in most other SAARC members there is no FDI between India and Pakistan. This is attributable to the stated policies of both countries to prohibit any investment from their respective neighbour country. Though the political circumstances are not very conducive, relevant firms of these countries should seriously explore the possibilities of joint ventures, as they could make huge gains once the level of trust improves.

It is believed that increased trade could play a vital role in normalizing the political relationship between the two countries. This would benefit millions of people living in both countries, as the resources would be diverted from less desirable areas, such as defence spending, to poverty alleviation initiatives. Given the likely impact of trade liberalization between the two countries, the lack of any established estimate of potential trade and the items likely to be traded is unfortunate.

Barriers in Transport Sector

Poor infrastructure, along with protective policies, corruption and red tape, is a major obstacle that impedes the economic growth of South Asia. Investment climate surveys have pinpointed transport as a particular problem for regional and international trade in South Asia. Bottlenecks are encountered in all modes of transport infrastructure and services: poor condition of roads; lack of intraregional connectivity between the national road networks; unreliable and overall costly road transport services; underinvestment in railways (which has led to the excessive use of road transport); unrealized high potential for rail and inland water freight transport; inadequate road and rail connectivity of ports with the hinterland; and others. Trade between India and Pakistan amounts to about US\$2 billion a year, but with improved transport infrastructure and removed trade barriers it could grow substantially.

Improved transport facilitation is seen as one of the main avenues for realizing the trade potential within the region. To quote the Asian Development Bank and United Nations Conference on Trade and Development (ADB-UNCTAD) report, "High trade costs such as transportation charges, documentation requirements and clearance delays at the borders have a discouraging impact on trade and production, similar to trade restrictions such as tariffs and quotas" (Pratima Dayal, 2008).

Poor transport infrastructure and services also leaves hundreds of millions of people in South Asian countries without access to basic social and economic services. Poor access, especially in rural areas, contributes to a sense of isolation from the economic mainstream, leading to a greater incidence of poverty among the region's large rural populations. Only 57 per cent of South Asia's rural population has access to all-season roads. It is critical to maintain existing transport infrastructure and services while simultaneously investing in new and improved services.

South Asia is also prone to natural disasters and conflict, requiring substantial investment in the reconstruction and rehabilitation of transport infrastructure. Reconstruction in war-torn Afghanistan, the aftermath of the December 2004 tsunami in Sri Lanka, India and the Maldives, the earthquakes in Pakistan in 2005 and floods in 2010, as well as the 2004 floods in Bangladesh, are examples of the region's needs in disaster reconstruction, management and collaboration.

Transport Services in Pakistan

Transport is an important sector in Pakistan's economy, accounting for 10 per cent of gross domestic product and 20–25 per cent of investment in the annual public sector development programme. The provision of transport infrastructure facilities is largely the responsibility of public sector agencies. There were advantages in the past in having such facilities delivered by the public sector.

It is estimated that the bulk of Pakistan's international trade, about 40 million tons per annum of dry and liquid cargo, is transported by road along the main corridor, Peshawar–Lahore–Karachi, called the National Trade Corridor (NTC). Almost all of this trade (95 per cent) is handled by the two seaports of Karachi and Port Qasim, located about 50 km from each other. Pakistan's trade is characterized by a concentration of movements within the country (mainly along the NTC), small numbers of export destinations and import origins (mainly three regions) and a simple supply chain structure.²⁰ This should provide ideal conditions for improving trade procedures and logistics services.

Pakistan's sustained economic growth and trade competitiveness depends heavily on improvements to its trade environment through harmonization, simplification and standardization of trade procedures, and improvements of logistics services. Strategic investment in infrastructure is necessary for Pakistan to take advantage of its geopolitical position and to benefit from regional cooperation in trade and commerce.

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However, the transport sector is constrained by key issues that include: multi-modal share distribution; preservation of existing assets; project prioritization; portfolio management; effective public or private sector initiatives; and adequate and stable funding.

Survey Results

Maritime transport

Extensive interviews were conducted with trade facilitation experts to identify various issues involving Pakistan's ports. According to the experts, there are three main parties that directly affect port efficiency: port authorities, Customs and carrier agents. A survey was then conducted with Customs officials, port authorities, shipping companies, exporters and importers. The respondents were asked a series of questions that were designed to assess the barriers that exist at Pakistan's ports.

One survey was conducted with importers that import through ports and Karachi International Container Terminal (KICTL), one of the biggest container terminal operators in Pakistan. Some 75 per cent of respondents rated lack of port capacity as fairly restrictive, as Pakistani ports were operating at or near maximum capacity. Also, Pakistani ports did not have the capacity to handle large vessels (the harbour was not dredged). KICTL termed this factor as quite restrictive.²¹ Absence of risk management techniques by Customs authorities was rated high in the restrictiveness index by 90 per cent of respondents, including KICTL. The Customs authorities check every single container arriving at the port, which invariably leads to long delays and clogging of ports. Adopting risk management techniques in Customs procedures would expedite the clearance of goods. The time taken to clear goods in Customs using old-fashioned procedures can amount to as much as one or two weeks. New risk management techniques will release 80-90 per cent of the goods within a few hours (UNCTAD Trust Fund on Trade Facilitation Negotiations, 2008). Lack of coordination between different government agencies at ports (narcotics, health department and so on) was also rated as fairly restrictive by 70 per cent of respondents, including KICTL (see Table 6.14). According to respondents, some government agencies like railways have no presence at the port. Some importers also expressed concern over the fact that once a container was cleared by Customs it had to be reopened by the Narcotics Department, leading to long delays. Inefficiency of carrier agents at ports was rated as restrictive by 90 per cent of respondents. After clearance by Customs, goods cannot be released until the carrier agent has confirmed the receipt of payment by the importer. In most countries this clearance takes less than 15 minutes, but in Pakistan this procedure takes about 48 hours.²²

Barrier	Is the barrier highly restrictive? (Rating between 3 and 5)	Comments
Lack of port capacity	Yes	75% of respondents rated it as fairly restrictive KICTL rated it as quite restrictive
Absence of risk management by Customs	Yes	90% of respondents rated it as highly restrictive KICTL rated this as quite restrictive Customs rated this as completely restrictive
Lack of coordination between different government agencies at port	Yes	70% of respondents rated it as either fairly restrictive Custom Officials rated it as completely restrictive
Inefficiency of carrier agents	Yes	 80% of respondents rated it as either completely restrictive or quite restrictive 10% of respondents rated it as fairly restrictive Customs rated it as completely
Absence of computerization/ EDI IT at ports	Yes/No	30% of importers rating it low with 20% rating it high as completely restrictive Customs and KICTL both rating it as fairly restrictive
Lack of port infrastructure	No	Most respondents rated it low in terms of restrictiveness KICTL rated it as completely restrictive
Port location	No	70% respondents rated it low KICTL rated it as fairly restrictive

Table 6.14 Barriers in maritime transport services

Source: Assessment by PITAD Research & Survey team.

Responses were mixed regarding the absence of electronic data interchange information technology (EDI-IT) at ports, with 30 per cent of importers rating it of low restrictiveness while 20 per cent rating it as completely restrictive. KICTL, on the other hand, rated it as fairly restrictive; according to them, with the advent of the Pakistan Customs Computerized System (PACCS) some of the system was already online. Inadequate road and rail connectivity and the absence of multimodal transport among South Asian countries were rated as fairly restrictive by most importers. Pakistani authorities currently do not allow multimodal transport, which has compounded the problems of many importers. Regarding lack of port infrastructure, most importers rated it as low in terms of restrictiveness but this factor was rated as completely restrictive by KICTL. Port location was rated of low restrictiveness by most (70 per cent) importers. However, according to KICTL port location was an issue because lack of a deep sea port causes most large vessels to dock at ports in the United Arab Emirates (UAE). From there, cargo was loaded onto smaller vessels for their onward journey to Pakistan.

Another survey was carried out with Customs officials, the results of which were similar to those obtained with importers and KICTL. The following issues were flagged by Customs authorities:

- Multiple Customs systems in the country. There are two parallel processes, one is largely automated (the Pakistan Customs Computerized System) and the other is paper-based, though computerized (the One-Customs system).
- Lack of coordination between various agencies at the port (for example Customs and port agencies are integrated but shipping lines and warehouses are not integrated with them). For ports charges, traders have to pay separately at present, whereas payments could be aligned with Customs duty payments rather easily.
- Lack of a single-window system, whereby traders (importers or exporters) could interact with all regulatory authorities through one portal.
- Improper risk management processes. The system is still heavily dependent on human discretion (say in Customs) leading to delays and corruption opportunities. Officials were of the view that risk management practices based on the principles defined in the Revised Kyoto Convention (RKC) of the World Customs Organization (WCO) (which Pakistan Customs is a signatory to) would immensely help in trade facilitation. The RKC is based on two important pillars: (1) formal forums for dialogue between Customs and trade; and (2) adoption of risk management principles. Pakistan Customs has the necessary tools and systems available for risk management but has not yet defined risk management processes to make use of those tools.
- Unorganized and unprofessional shipping agents and freight forwarders, mostly in the form of one desk operator's agents.

Barrier	Ranking (9 = most important, 1 = least important)
Absence of risk management by Customs	9
Lack of coordination between different government agencies at port	8
Absence of computerization/EDI-IT at ports	7
Inefficiency of carrier agents	6
Absence multimodal transport	5
Inadequate road and rail connectivity to ports	4
Limited port capacity	3
Location of port	2
Lack of port infrastructure	1

Table 6.15 Relative importance of barriers in maritime transport

Source: Assessment by PITAD Research & Survey team.

After rating barriers in terms of their restrictiveness, respondents were asked to rank the barriers in terms of their importance from most important to least important. Absence of risk management practices by Customs was identified as the most important barrier. The results are presented in Table 6.15.

Road transport

The respondents for this questionnaire were Customs officials, exporters and importers trading across the border with India at Wagah and Ministry of Commerce officials of the Pakistan government. The questions were designed to assess the problems encountered when trading with India via Wagah. When asked to what extent poor road conditions restrict trade, 50 per cent of respondents rated it as fairly restrictive and 50 per cent rated it low on the restrictiveness scale (see Table 6.16 for details). Lack of bilateral transport and multilateral transit agreements was rated by 70 per cent of respondents as quite restrictive. Security and political uncertainty in the South Asia region was rated high on the restrictiveness scale, as 100 per cent of respondents were of the view that the cumbersome procedures at border posts and lack of investment in road infrastructure in the region were a direct consequence of the security situation. Transshipment of cargo at the border was rated high in the restrictiveness index by 80 per cent of respondents, with 50 per cent rating it as completely restrictive. Inefficient immigration and custom offices at border posts were rated as fairly restrictive by 70 per cent of respondents. A mixed response was received respecting the existence of a single gate for goods and customers

Barrier	Is the barrier highly restrictive? (Rating between 3 and 5)	Comments
Poor road conditions in the region	Yes/No	50% rated it low on the restrictiveness scale 50% rated it as fairly restrictive
Lack of bilateral transport and multilateral transit agreements	Yes	70% of respondents rated it as quite restrictive20% rated it as fairly restrictive
Security and political uncertainty in the South Asian region	Yes	100% of respondents rated it between 3 and 5
Transshipment of cargo at the border	Yes	50% rated it as completely restrictive30% rated it as either quite restrictive or fairly restrictive
Inefficient immigration and custom offices at border posts	Yes	70% of respondents rated it as fairly restrictive
Existence of single gate for goods and passengers at Wagah border	Yes/No	40% of respondents indicated that it was fairly restrictive, 20% rated it as completely restrictive
Limitation of number of trucks that could go across each day (at Wagah border)	Yes	Rated as fairly restrictive by 80% of respondents
Absence of computerization/ EDI-IT at border posts	Yes	Rated as fairly restrictive by almost 80% of respondents
Lack of baggage scanning facilities at border posts	No	70% of respondents rated it as either somewhat restrictive or does not restrict at all
Poor condition of vehicles	No	Same as above

 Table 6.16
 Barriers in road transport services

Source: Assessment by PITAD Research & Survey team.
Barriers	Ranking $(9 = Most important, 1 = Least important)$
Poor road conditions	3
Lack of bilateral transport and multilateral transit agreements	8
Security and political uncertainty	9
Transshipment of cargo	7
Absence of computerization/ EDI-IT at border posts	6
Immigration and custom offices at border posts	5
Existence of single gate for goods and passengers at Wagah border	4
Limitation of number of trucks that could go across each day (at Wagah border)	2
Poor condition of vehicles	1

 Table 6.17
 Relative importance of barriers in road transport

Source: Assessment by PITAD Research & Survey team.

at Wagah, with 40 per cent of respondents saying that it was fairly restrictive and 20 per cent rating it as completely restrictive. Limitation on the number of trucks that could cross each day at Wagah was rated as fairly restrictive by 80 per cent of respondents. Absence of computerization or EDI IT at border posts was also rated as fairly restrictive by almost 80 per cent of respondents. Lack of baggage scanning facilities at border posts and poor conditions of vehicles were rated low on the restrictiveness scale.

After rating barriers to trade in road transport services in terms of their restrictiveness, respondents were asked to rank the barriers from most important to least important. The results are presented in Table 6.17. As can be seen, on average, respondents thought that the most restrictive barrier was the security and political situation, followed by the requirement for transshipment of cargo. The least important barriers were poor condition of vehicles and lack of baggage scanning facilities at border posts.

According to a report on transport services of Pakistan by the World Bank (2006):

Transport Services, with the exception of rail, have benefited from a reduction in public sector participation and an increase in competition. The logistics services industry, in particular freight forwarding, has to some extent increased the range of services offered and improved the quality of these services through interaction and cooperation.

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In many respects, Pakistan's external transport and trade facilitation systems provide an adequate level of connection with the global economy:

- Sea freight rates for both container and bulk cargoes are in line with regional and international levels, taking into account the size of the container flow.
- Sea transit times are slightly better to some major markets than for its competitors and worse for others, but this is largely a feature of geography and distance.
- There is an adequate supply of road transport which, for break bulk and bulk cargo, offers some of the lowest road freight rates in the world, but with very low service levels.
- Where service quality is important, Pakistan's exporters have improvised relatively effective (if rather ad hoc) arrangements with the road transport industry to monitor the flow of exports and ensure delivery times at port, though at significantly higher freight rates than are normal.
- While Customs was traditionally a major constraint, with very cumbersome and time consuming manual systems, it is beginning to achieve significant improvements in clearance times and is in the process of further major streamlining of procedures; it is, however, still perceived as a problem by port users.

Conclusion and Recommendations

For increasing export competitiveness, Pakistan needs to adopt a systematic approach that takes into consideration both common and tradespecific impediments to efficient trade and transport logistics. According to the World Bank Report (2006):

The efforts must look beyond improvements in transport infrastructure towards a general strengthening of the entire supply chain while incorporating three elements of Trade Facilitation, namely harmonization, simplification and standardization of trade procedures, and improvements in logistics. The efficient functioning and market structure of the ports, railways and road system as well as improvements in trade procedures and logistics services are at the heart of increasing competitiveness of exports, thus improving the general trading environment.

The government of Pakistan has made considerable progress in the facilitation of international trade. These improvements include measures taken to simplify and modernize customs procedures and to increase the quality of logistics services. It has also focused on the infrastructure side

of the supply chain by upgrading roads and ports facilities, in particular along the Peshawar–Lahore–Karachi corridor.

The transport development programme of Pakistan is based on a broad strategy that includes establishment of a multimodal transport system with emphasis on asset management through consolidation, upgrading, rehabilitation and maintenance of the existing system. It also includes enhanced private sector participation in sector development and institutional capacity building, with the use of modern technology, procedures and processes to increase sector efficiency. The strategy takes into account the regional and domestic dimensions, particularly in relation to rail, road and ports and shipping subsectors, enhancing thereby regional connectivity to improve links to the Central Asian states, Iran, Afghanistan and India.

Sustained efforts must continue – including the Trade and Transport Facilitation Project (TTFP) – to reform customs and trade procedures. All these measures for trade facilitation have been taken by Pakistan with a view to promoting and enhancing legitimate trade in a secure and safe environment. Regardless of progress in the WTO in trade facilitation, Pakistan is already compliant with the majority of measures expected to be included in the future trade facilitation agreement.

A sound domestic regulatory regime is important in providing a conducive policy environment for businesses to trade in different services. Domestic regulations are also important, for instance, in Mode 3 in terms of better governance that safeguards investments of a long-term nature. This distinction between the positive aspects of domestic regulations and those that may act as barriers to trade in services is important. Such understanding would have important implications for policy negotiations among SAARC countries for expanding trade in services.

The importance of transport in trade facilitation in the SAARC region makes it imperative for governments in the region to establish and modernize the transport sector. South Asia has a strong comparative advantage in its services sector, which accounts for a significant and growing share of the region's total output, mainly due to a combination of strong demand and effective reforms undertaken by South Asian countries. However, due to lack of research and data on international trade in services, policy-makers have limited guidance as to how liberalization of trade and investment in services should proceed at the regional level.

Regional cooperation in transport services can play a crucial role in addressing problems hindering trade in goods. Better cooperation in transport services and trade facilitation can transform landlocked countries such as Bhutan and Nepal into land-linked countries and regions. While Pakistan could be a gateway for all South Asian countries to access one another's markets through land routes, Pakistan and India could also play an important role as transit states for the rest of South Asia to access markets in Central Asia.

South Asia countries are at early stage of creating synergies in the transport sector. Poor transport services is one of the major barriers to enhancing trade among SAARC countries. Even with further liberalization of goods, trade volumes could be restricted as a result of weaknesses in transport networks and infrastructure.

SERVICES TRADE RESTRICTIVENESS INDEX FOR TELECOMMUNICATION, EDUCATION, HEALTH AND TRANSPORT SECTORS

This section compares the results of our survey-based STRI with the Service Trade Restrictive Index (STRI) estimated by Banik et al. (2009) – another study under RETA 6417 – for the SAARC region with a view to enrich our study. The methodology adopted for construction of the STRI by Banik et al. identifies the barriers through expert opinion and assigning weights based on pair-wise comparison. A widely accepted criticism of this methodology is the element of subjectiveness that it brings to the analysis. Being cognizant of this methodological issue, our study instead sought to conduct detailed stakeholder analysis coupled with expert opinion. The primary purpose of this procedure was to develop more reliable inputs for the construction of an STRI similar to the one constructed by Banik et al. Extensive surveys enabled us to ensure the robustness of the information collected (for the selected sectors in Pakistan). Comparing the results of the STRI constructed by Banik et al. with our findings suggests certain similarities as well as divergences.

Banik's results for the mobile service sector in Pakistan reveal relatively low scores, especially for Mode 3 (FDI). The results are fairly similar for most SAARC countries as all have liberalized this sector. However, low STRI scores for Mode 3 in telecoms belie the level of restrictiveness between India and Pakistan, both of which have policies that forbid direct investment from each other. If this factor was accounted for, it would have produced higher scores in the STRI (see Table 6.18 and Figure 6.7). For trade in services, as with tariffs in the case of merchandise trade, we see that the level of protection varies among SAARC countries. The STRI fails to take into account bilateral protection measures which, according to our results, are very restrictive between India and Pakistan. A possible area of research could be the construction of bilateral STRIs, which would be a more realistic measure of service trade barriers.

	Mode 1		Mode 2		Mode 3		Mode 4		Aggregate	
	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank
Telecom (mobile)	0.00	N.A	1.00	1	0.43	4	0.53	1	0.50	1
Higher education	0.62	1	0.67	1	0.67	2	0.52	2	0.55	2
Health	0.20	2	0.58	1	0.04	2	0.51	1	0.41	1
Maritime transport	0.50	2	0.00	2	0.54	2	0.63	2	0.57	2

 Table 6.18
 Service Trade Restrictive Index scores by mode and rank for Pakistan (2009): selected service sectors

Notes:

Score of 0 =least restrictive.

Score of 1 = Most restrictive.

Rankings are based on the position of Pakistan with respect to Bangladesh, India, Nepal and Sri Lanka (5 countries).

Rank 1 = Most restrictive country, 5 = least restrictive country.

Source: Bank et al. (2009).

Mode Wise Service Trade Restrictive Index for Pakistan: Select Sectors



Figure 6.7 Service Trade Restrictive Index scores by mode for Pakistan (2009)

For higher education, Pakistan is indicated as having fairly low scores on the restrictive index across all four modes. For other countries, however, the STRIs reveal varying levels of openness across modes. India, for example, is relatively restrictive under Mode 4 (0.62) but less restrictive under Mode 2 (0.22), partly explained by full current account convertibility in its balance of payments (BoP). For the higher education sector, our findings show that under Mode 2 there is substantial discrimination among foreign students depending on their country of origin. For example, we found that most foreign students who rated the visa regime as highly restrictive were from the PRC.²³ In the health sector Pakistan's score primarily reflects consumption abroad (Mode 2) and restrictions on the movement of natural persons (Mode 4). On investigation, it appears that the State Bank's lengthy formalities respecting allowance of foreign exchange for treatment of nationals in other countries is the major impediment. We find a major divergence in STRI scores for Mode 1; after a thorough analysis it was found that there are no barriers for health trade under Mode 1, even with India. For the maritime transport sector, the results are in line with our findings; Pakistan's aggregate score is 0.57, which compares favourably to India's aggregate score of 0.65. For all SAARC members, the highest number of restrictions occurs under Mode 4.

STRI estimates could be further strengthened by enhancing the quality of the data. The data collection methodology used in our study, which seeks to identify bilateral trade barriers, provides STRI with more meaningful results, as compared to other techniques, for the policy-makers and negotiators alike.

POLICY RECOMMENDATIONS

Pakistan is well aware of the benefits of liberalization of trade in services, as experienced in its telecom sector through new entrants, local as well as foreign, and the important gains stemming from increased competition and efficiency of production. The government of Pakistan is following a conscious policy, as have other developing countries, of liberalizing its trade and investment regimes to promote growth through value-added exports. Pakistan's experience with autonomous liberalization of its services sectors has been viewed rather positively.

The SAARC process is moving towards deeper integration with the inclusion of services in the negotiation process. However, there is a near consensus among SAFTA observers that concrete measures to facilitate trade and economic cooperation in South Asia have yet to show results. There is much more to be done to translate the ambitions into reality (Bayson et al., 2006).

For Mode 1, our survey results indicate the absence of any regulatory barriers and the presence of few technical barriers; moreover, trade under this mode is not affected by the security situation in the region. This raises the question as to why trade under this mode is not growing rapidly, particularly for education and health. We believe there needs to be a coherent strategy at the intra-governmental level to promote trade under Mode 1 and to expedite existing initiatives.

A first step towards achieving increased trade under Modes 2 and 4

is to remove visa restrictions and enhance the free movement of natural persons across borders. According to the survey results for the education and health sectors, trade is restricted due to problems in obtaining visas.

Analysis of trade data by Pitigala (2005) found that South Asian countries are only moderate natural trading partners because they tend to trade more intensively with countries outside the region and specialize in products that are predominantly labour-intensive where they compete against each another. Overall, South Asia's trade interests in the services sector are driven by its factor endowments, with export interests in the area of labour-intensive and manpower-based services and import interests in the area of capital- and technology-intensive services (Chanda, 2005). All South Asian countries have strong interest in exporting labour-intensive services at all levels of skill.

Hence Mode 2 invokes the defensive interests of all SAARC countries. This being said, there will always be a demand for highly qualified professionals in all the fields in the region. There is a need for much more research and policy work to identify win–win situations and to promote them.

Under Mode 3, whereas there is some investment by India in other SAARC members there is no investment between India and Pakistan. This is attributable to the stated policies of both countries to prohibit investment between each other. Though the political circumstances are not very conducive, the relevant firms of these countries should seriously explore the possibilities of joint ventures, as they could make huge gains once the level of trust improves.

During the course of this research it was observed that a major stumbling block for SAARC is the lack of trade statistics for the services sector, which could potentially be used by the countries to delay their commitments in the sector. With respect to Pakistan, the absence of credible trade data at the firm level and by mode has been a major constraint in developing effective promotion strategies for the service sector. This is also hampering effective participation of Pakistan in trade negotiations at different forums.

Pakistan's data for the services sector are not sufficiently disaggregated, particularly for trade statistics. The Statistics Division of the government of Pakistan maintains the best and most disaggregated data on the contribution of the sector to GDP. Services are classified into: transport, storage and communications; wholesale and retail trade; finance and insurance; ownership of dwellings; public administration and defence; and (other) services.

The State Bank of Pakistan (SBP), in its Annual Report, classifies services into: shipment, other transportation, travel, investment income, and

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other goods, services and income. The Economic Survey of Pakistan classifies services primarily into energy, environment and housing, and transport and communications (which includes telecommunications). With respect to trade, only a single category of "services" is considered with no disaggregation.²⁴

According to the State Bank of Pakistan (2008), this situation makes it difficult for the government to plan initiatives to strengthen the sector. It has therefore been decided that the SBP will start the process of fully disaggregating balance of payments statistics, so that there is more clarity regarding trade in services. So far, however, progress in this regard has been slow.

Therefore, it is strongly recommended that the statistical coverage of the service sector be improved, with disaggregated data to make clear to policy-makers the value and scope of services trade. Further, there should be uniformity of data organization across the SAARC region. For this purpose, SAARC stakeholders should endeavour to develop an effective strategy for data development on trade in services, in the format suggested by the United Nations Interagency Task Force on Statistics of International Trade in Services.

In key subsectors of the services sector, involvement of the private sector has been limited, especially in Pakistan. Our surveys indicate significant awareness of the prospects and challenges for the services sector in South Asia. Our surveys have also identified the key stakeholders. Our extensive surveys have created a genuine interest in reducing the restrictiveness of trade in services between India and Pakistan in particular, and among South Asian countries in general, so as to facilitate mutually beneficial intra-industry trade.

Our study has shown that, in terms of the services sector, Pakistan is the least integrated in South Asia and could benefit significantly from higher levels of intra-regional trade. Pakistan, therefore, needs to be proactive in enhancing trade in services. What Pakistan needs to do has been summed up very effectively by Pascal Lammy, Director General, World Trade Organization (DG WTO) (Mr Lammy was making an important point in a speech to the Global Services Summit on 14 October 2009 in Washington DC):

to speed global economic recovery, we will need to shore up peoples' faith in an open international trading system. We will need to demonstrate that continued policy and regulatory reform in favor of services trade will be vital to supporting economic recovery. This may be clear to all of you attending this Summit, but you are the "converted". The challenge is to take this message beyond these walls. Sectors such as transport, telecoms, finance and distribution are after all the backbone of our international trading system. Other sectors such as energy

or the environment hold a huge potential, in particular in the fight against climate change.

We strongly hope that this study and the resultant policy work will help to win many more converts both in the government and in civil society.

NOTES

- 1. http://stat.wto.org/CountryProfile/WSDBCountryPFView.aspx?Language=F&Country = PK
- 2. http://stat.wto.org/CountryProfile/WSDBCountryPFView.aspx?Language=S&Country =IN. All statistics have been obtained from WTO sources.
- 3. http://www.finance.gov.pk/survey_0910.html.
- 4. "Mobile Cellular Policy", Jan. 2004, Ministry of Information Technology, IT & Telecommunication Division, Government of Pakistan.
- 5. http://www.pta.gov.pk.
- 6. This understanding is based on interviews with industry representatives, as disaggregated data were not available.
- 7. In order to understand better the barriers and discrimination (if any), both domestic and foreign telecom operators were interviewed.
- 8. SMP is generally where the operator has more than a 25 per cent market share in a particular telecom market. However, the PTA may determine otherwise in light of the operator's ability to alter market conditions.
- 9. Business Recorder Islamabad, 3 June 2006.
- Council for Trade in Services, Special Session: "Education Services" JOB(05)/203.
 S/CSS/W/23. Commitments are sought by this proposal only from countries that permit private education, rather than from countries that maintain exclusively public systems. Members are invited to accord full market access and national treatment in the areas concerned
- 12. S/CSS/W/23 and S/CSS/W/110.
- 13. "Steps for the Admission of Foreign Students" document obtained from Higher Education Commission.
- 14. "Guidelines for the Establishment of a New University or an Institution of Higher Education", www.hec.net.pk (accessed June 2009).
- 15. According to officials at Shifa International Hospitals Ltd Islamabad.
- 16. http://www.supremecourt.gov.pk//sub_links/judgements/CP2206of20.
- 17. www.apollohospdelhi.com.
- 18. www.commerce.gov.pk/.../NTFS-July%202008-Final%20circulated.pdf.
- 19. Authors' own calculations using data from stat.wto.org.
- 20. The supply chain most often involves direct movement between the factory and port or via an inland container depot.
- 21. 1 =does not restrict at all, 2 =somewhat restricts, 3 =fairly restrictive, 4 =quite restrictive, 5 = completely restrictive.
- 22. Based on responses we received during our survey results.
- 23. According to Interior Ministry sources these mainly Chinese Muslim students require a stricter security clearance due to security concerns of the Chinese government.
- 24. EC Trade Related Technical Assistance Programme For Pakistan Services Capacity Report.

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PART IV

Regional Public Goods for South Asia

The provision of regional public goods in South Asia¹

Khaja Moinuddin

INTRODUCTION

Public goods (PGs) satisfy the twin properties of non-excludability – that is, no consumer can be excluded from its consumption, say through price mechanism or physical controls; and non-rivalry – that is, the consumption of the good by one person does not diminish its availability for use by others. When the domain of the PGs relates to the consumers in a defined region comprising several countries, those goods are termed regional public goods (RPGs). Typically, optimal provisioning of RPGs has to deal with free-rider and cost-sharing issues among the participating countries.

The effectiveness of regional cooperation and integration (RCI) could be measured in terms of the quality and quantity of RPG outputs produced under them (Devlin and Estevadeordal, 2002). At a general level all RCI activity could be regarded as an RPG since the classical properties of publicness are found in RCI as an activity. However this approach blurs the focus on the provision of specific RPGs which is required from an operational point of view. A more operationally helpful approach is to view specific RPGs as contributing to the strengthening or achieving of RCI.² A coordinated approach will help determine the optimal provisioning of an RPG. This is illustrated in Figure 7.1 for a two-country case.³

With coordination and cost-sharing the total quantity of RPG supplied is Q3 at combined price of P3. This is the optimal or desired level of the provisioning of the RPG where the marginal cost of the RPG supply equals the sum of the prices the two countries are willing to pay for it. Without such coordination country B will produce Q2 units of the RPG and country A may choose to be a free rider (since at equilibrium its demand is only Q1) resulting in the suboptimal or underprovisioning of the RPG.⁴

A distinction may be drawn between national PGs and RPGs. National PGs provide benefits mainly to the inhabitants of a country – for example,



Figure 7.1 Optimal provisioning of RPGs

national defense or provision of internal security. However, there may be national PGs which bestow indirect and unintended cross-border benefits to other countries in the region. If such benefits are substantial it may be reasonable to view them as de facto RPGs (e.g. control of a communicable disease-causing vector in one country could have major unintended benefits to other countries in the region due to reduced scope of cross-border transmission of the disease). However, if they are in fact regarded as RPGs the challenge is to secure their optimal provisioning through coordinated action of all the regional countries involved (e.g. coordination of clean energy and control of communicable diseases in South Asia). This would call for a regionally coordinated program on the provision of the RPG (e.g. clean air provision in South Asia) and is the first-best approach to the provision of RPGs. A second approach is to provide specific activities having RPG implications for the entire region (e.g. training of technical and management staff in clean water management for South Asia) if there is agreement among the regional member countries.⁵

The regional coordination of the provisioning of public goods involving cross-border externalities and the provisioning of specific activities with RPG implications may be called the RPG approach to RCI. Global PGs are different from RPGs. Global PGs provide benefits with worldwide coverage (e.g. research for AIDS), and worldwide action to mitigate global warming through global agreements (e.g. Copenhagen Accord).

In this chapter RPGs are viewed as those which satisfy the twin criteria

of publicness and providing significant benefits to a region – that is, the main benefit from the RPGs accrues to the countries constituting the region (e.g. water management in rivers that flow across countries in the region, or mitigation of air pollution generated in a group of countries which affects them more than it affects the rest of the world). In general, activities such as the management of environment and control of communicable diseases are more RPGs than global PGs, since they affect the regional population much more than the population outside the region.

WHY A STUDY ON RPGS FOR SOUTH ASIA?

Sandler defines a region as a territorial subsystem that may be geological, geo-climatic or geographical in terms of continental placements, cultural or political (Sandler, 2002). In a clearly defined region the constituent countries share common cultural or economic values. It will be difficult for countries with disparate cultures and economic philosophies to coalesce as a region.

The geographical proximity, broad cultural homogeneity within South Asia and shared values of social and economic development among the countries comprising the sub-region provide the rationale to consider RPGs in the sub-regional context of South Asia. There are other reasons for studying the provisioning of RPGs in South Asia as well:

- There is ample scope for South Asian countries as a group to cooperate in the provision of several RPGs including environment, health and governance to their individual and combined benefit. Such benefits will redound more to the countries in South Asia than to countries outside the grouping. Simultaneous provision of RPGs by countries in South Asia will produce outcomes larger than the sum of the parts due to externalities.
- A good beginning in RCI has been made under the South Asian Association for Regional Cooperation (SAARC) and other subregional cooperation programs in South Asia but much more remains to be done to consolidate the gains and strengthen RCI in the subregion and to reach the level of RCI achieved elsewhere. The RPG approach is a useful instrument for strengthening RCI in South Asia.
- There has not been sufficient attention paid to RPGs in South Asia since many of these overlap with global PGs. This might have resulted in giving lower priority to RPGs in allocating resources. This should be reversed since most of the externalities associated

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with these goods are impacting more at the sub-regional level than at the global level. It is necessary to move quickly on the RPGs so that quick wins could be achieved at the sub-regional level even if global action on these may be delayed. An example is a regional action plan on clean energy which need not necessarily wait for a global agreement on environment.

- There are cases of sub-region-specific RPGs. For example, water management in the Ganges–Brahmaputra–Meghana (GBM) basin is a well-defined RPG with very little implications outside the sub-region.
- Multilateral institutions such as United Nation (UN) agencies and the ADB could be tapped for financing some of the cost of RPGs, particularly knowledge products at the sub-regional level. These products can be powerful instruments for strengthening cooperation in the sub-region. These institutions can also play the role of an honest broker for evolving approaches and methods for arriving at equitable distribution of costs of providing RPGs at an optimal level. Their involvement would also help to ensure open regionalism, that is, the provision of RPGs is consistent with related global protocols and frameworks.

RATIONALE FOR PRIORITIZING RPGS FOR THE STUDY

Climate change management, provision of clean energy and environment, control of communicable diseases, food security, furtherance of good governance, control of human and drug trafficking and coordinated natural disaster management, the RPGs selected for this study, are high-priority RPGs for the South Asia region. The RPGs of clean energy and environment, food security, and disaster management response could be viewed as subthemes under the overall rubric of the RPG climate change management. Water management, which is particularly important for the GBM and Indus basins, could be included as part of the RPG relating to climate change management. The justification for treating climate change management as an RPG stems from the concept of environmental federalism. The concept of environmental federalism distinguishes between three categories of environmental impacts: (1) those at the global level impacting on all the constituents equally; (2) those at the local level impacting only on the local constituents; and (3) those involving spillover effects between the constituents. Regional cooperation offers a practical way of mitigating the last category of adverse impacts since in this situation it is difficult to

apply the standard solution of imposing a pollution tax to internalize these negative externalities.⁶

South Asia is extremely vulnerable to global warming and the selection of these RPGs for the study reflects the high priority that attaches to alleviating the impacts of global warming in South Asia. There is little debate that global warming constitutes one of the biggest threats to the continued economic development of South Asia.

The other selected RPGs are also of high priority for South Asia. For example, in view of its large aggregate population South Asia can suffer huge economic losses if communicable diseases are not controlled effectively. Communicable disease control could also be an important aspect of climate change mitigation. Good governance and control of human and drug trafficking are interlinked and are major concerns of all South Asian countries in improving public services.

A REVIEW OF RPG PROVISION IN SOUTH ASIA AND SCOPE FOR REGIONAL COOPERATION

This section has two purposes: to provide the regional context for the concerned RPG, and to suggest areas where the RPG outputs could be enhanced through regional cooperation.

Global Warming and Climate Change

Climate change has been characterized as the greatest and widest ranging market failure ever seen.⁷ Arguably, among the various regions of the world South Asia is the worst affected by global warming. The sub-region is already facing the impacts of climate change and its future development will be under threat if global warming continues unabated. The major impacts are due to the melting of the Himalayan glaciers, rising sea levels, loss of agricultural productivity and biodiversity, worsening water shortages, more intense natural disaster events, and increasing health hazards.

Global warming is associated with a decreasing number and increasing intensity of typhoons in the Bay of Bengal, shortened monsoons and sharp variability in precipitation. As a consequence water security in the subregion will be degraded while the incidence of weather associated natural disasters will increase. The United Nations Environment Programme (UNEP), SAARC and Development Alternatives (DA) have provided a summary of the past trends in the rising of temperatures and changing rainfall patterns in South Asia, as shown in Table 7.1.

The variability of rainfall is increasing throughout the sub-region with

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Country	Change in temperature	Impacts			
Bangladesh	An increasing trend of about 1°C in May and 0.5°C in November during the 14-year period from 1985 to 1998	Decadal rain anomalies above long term averages since 1960s			
India	The updated 100 year linear trend for 1906–2005 is 0.74°C	Increase in extreme rains in north- west during summer monsoon in recent decades, lower number of rainy days along the east coast			
Nepal	0.09°C per year in Himalayas and 0.04°C in Terai region, more in winter	No distinct long-term trends in precipitation records for 1948 to 1994			
Pakistan	0.6 to 1.0°C rise in mean temperature in coastal areas since early 1900s	No distinct long-term trends in precipitation records for 1948 to 1994			
Sri Lanka	0.016°C increase per year between 1961 to 90 over entire country, 2°C increase per year in central highlands	Increase trend in February and decrease trend in June			

 Table 7.1
 Trend in changes in average temperature and rainfall in South

 Asia

Source: UNEP, SAARC and DA (2009), Table 14, p. 46.

grave implications for the sub-region's agriculture. For example with a 4°C increase in the temperature and a 22 percent increase in evaporation, rice output in Bangladesh is projected to decline by at least 30 percent. The output of wheat and potato, the other staple crops in the region could decline by 50 percent and 70 percent respectively. Fisheries will also be affected by global warming. For example, tuna will migrate from warmer to cooler habitats resulting in loss of livelihoods for tuna-dependent fisher populations such as in the Maldives. Since 60 percent of the sub-region's population is dependent on agriculture and 85 percent of the poor are from the rural areas, the good progress made in South Asia in the recent past to reduce poverty may come under threat due to climate change. Alongside the region may face slippages in achieving the Millennium Development Goals (MDGs).

There is a severe danger of populations living downstream of glacial melts being subjected to major floods if there is no abatement of global warming. Tibetan Plateau glaciers are projected to vanish with a 3°C

increase in temperature and no change in precipitation. This will affect all the countries through which rivers fed by snowmelt flow, namely India, Pakistan, Afghanistan, Nepal, Bhutan and Bangladesh. The Gangotri, Yamunotri and Go Mukh glaciers which feed the Ganges and the Yamuna in India are already melting at an alarming pace. If the current warming rates persist, the Himalayan glaciers will shrink by 80 percent during 1995–2030. As glaciers melt, lakes are being formed at the foot of the Himalayan glaciers presenting the grave danger of outburst floods if these lakes are unable to hold the snowmelt volume. The implications for populations who live downstream of these lakes in Nepal, India, Pakistan and Bhutan will be catastrophic.

Another major consequence of climate change is the rise in sea levels. Except for the landlocked countries, Nepal and Bhutan, all the other countries in the sub-region will face the threat of rising sea levels. The island nations of the Maldives and Sri Lanka will be most severely affected. As rising seas displace coastal populations large-scale migration from coastal areas to inland areas including transborder migration will occur. As livelihoods are decimated in the inundated areas there will be increased competition for resources and a degradation of social systems. Rising sea levels will also cause saltwater intrusions into groundwater aquifers, reducing the fresh water supply for agriculture and drinking purposes. Water shortages would be further aggravated by increasing urbanization.

The implications of climate change for ecosystems and biodiversity could be no less devastating. One study estimates that a 2°C increase in average temperature will result in the disappearance of 15–40 percent of all species in the sub-region (UNEP, SAARC and DA, 2009). The sub-region's forests, wetlands and sea coasts will come under stress. In particular, mangrove forests (the habitat of the Royal Bengal tiger) and coastal reefs will be adversely affected and livelihoods dependent on them will be degraded.

Scientific opinion strongly supports the premise that global warming is caused by greenhouse gases (GHGs).⁸ The output of these gases is a function of the quantity of energy used for household, commercial and industrial purposes.

Production of GHGs is not the only problem related to the production of harmful gaseous substances resulting in global warming. The release of particulates into the air, mostly due to the use of fossil fuel-powered vehicles in urban transportation, burning of fuels by industries and the burning of wood by households, is a threat to human life and health. Most of the cities in South Asia suffer from high concentrations of particulates which are considered to be at dangerous levels. The major health hazards associated with particulate pollution include debilitating respiratory diseases



Note: Figure only provides contribution by gas for India in CO₂ equivalents. *Source:* World Bank (2009).

Figure 7.2 GHG contribution by South Asia

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such as emphysema, premature delivery of babies and lung cancer. The yearly economic loss in India due to failing health caused by air pollution is estimated at \$1.3 billion (ADB, 2003).

The transboundary phenomenon of the atmospheric brown cloud (ABC) or haze, comprising aerosols which are light-scattering and light-absorbent particles caused by burning of fossil fuels and biomass burning (forest fires, slash-and-burn agriculture and so on), poses a significant threat to the health of the populations in South Asian countries. Haze has become a common occurrence in winter even at high altitudes in South Asia.

According to a Reuter's report the People's Republic of China (PRC), US, European Union (EU), Russia and India, in that order, constitute the world's largest producers of GHGs, (Reuters, n.d.). The GHG contributions of the countries in South Asia are shown in Figure 7.2.

India was by far the largest contributor of GHGs in the sub-region in 2000 (73.4 percent), reflecting the large size of its economy and its fast pace of economic development. However, it has been successful in reducing the energy intensity of its gross domestic product (GDP) from 0.3 kg of oil equivalent in 1992 to 0.19 kg in 2003, comparable with Germany and other fuel-efficient countries.⁹ Its per capita energy consumption is low given the large size of its population and the relatively low per capita income. As India maintains its high growth its use of energy will go up; its per capita CO_2 emissions are projected to increase from 1.7 tons in 2005 to 2.1 tons in 2020, and to 3.5 tons in 2030 (Post Carbon Institute, 2009). India has voluntarily targeted a reduction in its energy intensity

of GDP by 20–25 percent by 2020 over the 2005 level. The government announced a National Action Plan on Climate Change in June 2008. The plan identifies eight priority missions running through 2017:

- expanding the use of solar energy;
- enhancing energy efficiency;
- evolving sustainable habitat;
- strengthening water security;
- sustaining the Himalayan ecosystem;
- greening India;
- achieving sustainable agricultures; and
- acquiring strategic knowledge of climate change.

The actions of the various state governments to accomplish these missions will be reported to the Prime Minister's Council on Climate Change which will periodically report the progress. The Council has also been tasked with the development of monitorable indicators to measure progress. The mission statements for the mandated missions are being finalized.

The other countries in South Asia are not significant contributors to global emission of GHGs, but increasing urbanization, industrialization and energy use by these countries could rapidly add to the sub-regional emission load unless carefully managed. An RPG approach to the control of GHGs in the sub-region would be a helpful start.

Bhutan wishes to preserve its pristine environment and is virtually a zero contributor to greenhouse gas emissions. In fact its rich forests may serve as carbon sinks. However, Bhutan is vulnerable to climate change. Its rural livelihoods are predominantly based on subsistence agriculture which depends on the monsoons. Twelve percent of its GDP is derived from the export of hydro power to India. These sources of income could be degraded due to climate change. The vulnerability to climate change is exacerbated by the high population growth. The Royal government has announced the National Adaptation Program of Action to address the climate change challenge. The key projects in the program include preparation of a disaster management strategy, weather forecasting system, flood protection, rain harvesting and promotion of community-based forest management.

Forests, particularly new-growth forests, are important carbon sinks and play a key role in absorbing atmospheric carbon in the carbon life cycle.¹⁰ Deforestation will aggravate the adverse impact of climate change on soil quality. South Asia needs more green cover to prevent erosion from the increasing intensity of rainfall expected from climate change. The



Source: UNEP, SAARC, DA (2009), Figure 11, p. 13.

Figure 7.3 Annual percentage change in forest area

ongoing destruction of forests in South Asia is shown in Figure 7.3. The pace of deforestation in Nepal is the severest, while very little forest is left in Afghanistan.¹¹

While the overall progress in climate change management has been slow there are positive developments. A major achievement in the sub-region is the sharp reduction in lead concentration in ambient air due to the mandated use of lead-free gasoline in most South Asian countries. In forestry management, India and Bhutan have made progress. During 1990–2005 Bhutan's forest cover rose from 77.6 million ha, to 79.2 million ha, and India's from 63.9 million ha to 67.7 million ha. While this is a positive development the quality of the forest in terms of density of the tree cover is an issue.

In India the Thirteenth Finance Commission set up to review and recommend the allocation of resources between the states and the center has been asked "to manage ecology, environment and climate change consistent with sustainable development" (Government of India, 2009). The Commission has allocated approximately US\$3 billion (Rs15000 crores) for the environment sector covering forest wealth, renewable energy and water management. The report of the Commission became effective on 1 April 2010.

It is clear that South Asia is extremely vulnerable to climate change, but

the precise dimensions of the problem, the different scenarios that have to be considered for assessing possible damage from climate change and the implications of global warming for the sub-region's social, cultural and economic life are not clearly understood. For calibrating responses to the adverse impacts of global warming and preparing strategies for countries to adapt to the changing environment, it is important to improve South Asia's knowledge base of the impact of global warming on the various aspects of the sub-region's economic and social life through investing in thorough scientific studies. A major priority is developing a reliable data base for forecasting the impact of global warming on the sub-region's economies and social systems. There is also scope for pursuing regional cooperation in reforestation and reducing industrial pollution by adopting regional environmental standards including for efficient energy use.

Clean Energy and Energy Efficiency

Clean energy is largely a counter to air pollution caused by urbanization and industrial development; however the increasing use of energy in South Asian villages is adding a rural dimension to the clean energy issue. Almost all cities of South Asia are afflicted with rapidly deteriorating air quality due to:

- increasing use of fossil fuels, in transportation, power generation, industrial applications and the use of wood and coal in cooking and heating of households;
- inefficient use of energy which aggravates the problem by increasing the air pollution loads; and
- underpricing of energy which results in its excessive use.

Table 7.2 describes the distribution of commercial energy consumption in South Asia among the different sources.

India dominates the South Asian sub-region in terms of the use of commercial energy followed by Pakistan, Bangladesh and Sri Lanka. India's main source of energy is coal (55 percent) while for Bhutan, it is hydro energy (80 percent). The Maldives depends on petroleum almost entirely for its commercial energy, while Sri Lanka's dependence on petroleum is 80 percent. For Nepal, the major source of energy despite its vast hydro potential is petroleum (55 percent). South Asia's dependence on fossil fuels (coal and petroleum) is 80 percent; only 6 percent of its energy use is based on hydro resources. Renewable sources do not figure prominently in the use of commercial energy in South Asia.

Table 7.3 shows the contribution to GHGs by the various sources of

Country	Total (quad- rillion Btu)	Petro- leum	Natural gas	Coal	Nuclear	Hydro- electric	Other	Carbon dioxide emis- sions (million metric tons of carbon)
Bangladesh	0.57	31%	66%	1%	0%	2%	0%	8.8
Bhutan	0.02	13%	0%	7%	0%	80%	0%	0.08
India	13.99	32%	7%	55%	2%	5%	0%	279.9
Maldives	0.01	100%	0%	0%	0%	0%	0%	0.2
Nepal	0.06	55%	0%	15%	0%	31%	1%	0.8
Pakistan	1.83	43%	41%	5%	1%	10%	0%	29.6
Sri Lanka	0.19	82%	0%	0%	0%	17%	0%	3.1
Total	16.67	34%	12%	46%	1%	6%	0.30%	322.5

Table 7.2 Commercial energy consumption in South Asia

Source: UNEP et al. (2010), Table 19, p. 82.

Table 7.3 GHG emissions by source in larger South Asian countries (%)

DMC	Agriculture	Waste		Transport		Industry	Energy Production
India	22	7		6		4	61
Bangladesh	57	14			4		25
Nepal	95				5		
Sri Lanka	72		8			14	13
Pakistan	44	8		10		2	36

Source: World Bank (2009), Figure 3.10.

air pollution in the larger South Asian countries. The data show that a "one size fits all" approach to strategy for clean air in all the South Asian countries will not be appropriate; the strategy has to be country-specific. For example, in India the focus should be on using clean energy technologies in electricity production. In Nepal and Sri Lanka the focus should on reducing the production of methane from agriculture through more environment-friendly technologies and practices.¹²

India is the world's third-largest producer of coal in the world behind the US and the People's Republic of China (PRC). Except for coal, it is not endowed with abundant energy resources. It has significant hydro potential but this is not sufficient to meet the growing energy demands of its fastpaced development. It has planned a significant increase in its renewable energy capacity. Even under the most optimistic scenario of clean coal use, renewable energy development and transport reform, in the foreseeable future (2031) coal will be the dominant source of energy for India. This is unavoidable from India's energy security point of view and electricity generation economics. If actual developments were to deviate from the most favorable scenario, the share of coal in the total energy use will increase.¹³ Under the most optimistic scenario the GHG emission will rise to about 4 billion tons of CO₂ compared with 1 billion in 2000. Under the most pessimistic scenario, the CO₂ emissions will be about 5.5 billion tons.

India is fast-tracking its renewable energy production program and has developed considerable technical capacity in mini hydro plants, photovoltaic cells to harness solar power, biomass energy to support rural energy applications, waste to energy technologies, and geothermal and ocean energy. Various states in India are in the process of issuing guidelines on the prices to be paid for renewable energy-based electricity generation and specifying mandatory quotas or shares in power supply from renewable energy sources in accordance with the provisions of the Central Electricity Act.

The rapid growth of urban transportation in India has been a major factor in increasing urban air pollution. The demand for transport increased by 1.9 percent per year during 2000–2005; total demand is projected to double by 2015 and more than quadruple by 2030 (US Dept. of Commerce, 2008). The slow growth in demand for diesel to date may be due to improved fuel efficiency of new cars and trucks, and switching to compressed natural gas in vehicles for public transportation in some major cities. The high fuel cost to per capita GDP ratio has also been a deterrent to the growth of vehicle trips (World Bank, 2009).

The government is promoting several research, development, and demonstration projects including a demonstration project in battery-operated vehicles (BOVs). Under the program a central subsidy is provided for purchasing BOVs through renewable energy development agencies. In addition, fuel cell-battery hybrid vehicles with indigenously developed exchange membrane fuel cells for motor vehicles have undergone field performance evaluation. These efforts are expected to lead to the indigenous production and wider applications of fuel cell systems in the country. Various laboratories are developing technologies for production, storage and transportation including hydrogen fuel, which some argue has the potential to replace fossil fuels as early as 2020. Motor vehicle manufacturers in India have the technical and management competence to transfer these research outcomes to production lines.

India is also researching the use of biofuels such as ethanol from sugar cane and biodiesel from the jatropha plant which thrives in semi-arid conditions. The economic viability of ethanol has been well established. However, the net impact on GHG production of growing sugar cane to produce ethanol to substitute for fossil fuels should be carefully assessed. The overall economics of growing jatropha and the implications of jatropha planting for the allocation of land and water for food production will also need to be evaluated more carefully before it is accepted as a viable substitute for fossil fuels.

Pakistan's major source of energy is natural gas. It is not a major user of coal in commercial energy supply – only 5 percent of its commercial energy requirements are met by coal. Pakistan has a total identified hydropower potential of more than 45000 MW. However, the total installed capacity of hydropower generation in the country is only 6595 MW. Pakistan has considerable potential for developing a broad range of renewable energy resources, principally wind, solar, biomass and small to medium-sized hydro plants. The vast potential of natural gas in Iran and the Central Asian countries can be tapped by Pakistan for low-carbon-intensity energy generation.¹⁴

Bangladesh aims to achieve 20 percent of its energy production from green sources by 2020 through exploiting wind power, biomass, biogas and hydro-electricity. These have been identified by the government as the country's major renewable energy sources. It is expanding the use of natural gas for domestic use with ADB assistance (ADB, 2005). Replacement of inefficient light bulbs in the major cities with energyefficient incandescent light bulbs and rationalization of energy prices are among the major energy-efficiency-enhancing policies of the government.

In Sri Lanka, the share of thermal power in the power generation mix has increased dramatically from 1 percent in 1986 to 58 percent in 2008 as the entire demand growth was met by oil-fired thermal generation. A major push on energy generation based on imported coal is under way. The increasing reliance on imported fossil fuels to meet the country's rising energy requirements poses a serious threat to the country's energy security as well as to the environment. The government wishes to add at least 500 MW of renewable energy capacity by 2016 by tapping donor funds. In October 2007, the government established the Sustainable Energy Authority, a focal agency mandated to develop and implement the national policy for renewable energy development. In the area of energy efficiency Sri Lanka plans to promote compact fluorescent lamps (CFLs) and introduced mandatory energy labeling in 2007.

Nepal's energy policy emphasizes hydro power generation including for exports. Nepal has the potential to generate 43000 MW of hydro power; this can meet Nepal's energy requirements besides providing a surplus for export to energy-deficient countries in the region, provided appropriate mechanisms for cross-border trading in power could be established and environmental and resettlement concerns associated with large storage reservoirs addressed. The ADB is improving the access of consumers to clean energy by strengthening the power transmission and distribution grid, propagation of energy-efficient electric bulbs, rehabilitation of smallscale hydro plants and use of solar and wind power in off-grid areas (ADB, 2009a). Preventing electricity leakage is a key program for achieving energy efficiency.

Bhutan is also blessed with a huge potential for hydro power which can meet its requirements besides providing a surplus for export. The export of power from Bhutan to India is a well-established practice. India has already given assistance to build three major hydro-electric projects at Chukha, Kurichu and Tala. India is also helping in the construction of the Punatsangchhu-1 project. The latest initiative is the ADB-assisted 114-megawatt (MW) Dagachhu hydropower plant using public-private partnership (PPP) modality for exporting surplus power to India (ADB, 2008). Under the project, the state-owned Druk Green Power Corp of Bhutan and Tata Power Company of India will set up a joint venture company for the Dagachhu Power project which will serve as a showcase for the PPP approach, leading to increased foreign direct investment in energy development and a reduced state debt burden. The project is seeking a Clean Development Mechanism (CDM) status on a cross-border basis since it will help cut GHGs. If approved, the project operators will be entitled to carbon emission credits that can be sold for additional revenue.

In the Maldives the principal source of energy is fossil fuels but scope exists for developing solar, wind and biomass-based power. Its energy requirements are met almost entirely from imports of fossil fuels. Diesel fuel is used in seawater desalination (for potable water production). Petroleum products are used in land transport (e.g., gasoline, high-speed diesel), including aviation (jet fuel), industries and households (e.g., kerosene; liquefied petroleum gas – LPG). Firewood is the main cooking fuel in most of the outer islands. Most urban households use LPG and kerosene for cooking. In the outer islands, the main source of energy for domestic purposes has been biomass. The government is exploring the feasibility of using renewable energy capable of providing reliable electricity supply to the islands, while concurrently taking steps to make the Maldives greener.

The runoff in Afghanistan's rivers could turn erratic due to climate change, and it has to look for more reliable energy alternatives. Natural gas from neighboring Central Asian countries could provide a lowcarbon-intensive commercial energy alternative as a long-run solution. Tapping renewable sources, including small hydro stations, solar energy and wind power, is a feasible option given Afghanistan geo-climatic conditions. Technical cooperation with India in renewable energy could help develop domestic capacity in clean energy.

Developing workable models in cross-border trading in power will help to boost the use of hydropower in the sub-region and reduce the reliance on coal, which is the major energy and air polluting source in the subregion. However, this strategy has to take into account environmental and resettlement implications of large-scale reservoirs dependent on snowmelt from the Himalayan glaciers. The risk of the Himalayan glaciers receding and drying up due to rapid progression of climate change will have to be taken into account while deciding to invest in hydro capacity. The South Asian countries could also share knowledge in renewable energy, clean coal use, energy conservation and successful approaches for increasing energy efficiency including economic pricing of energy.

Environment

Clean energy, energy efficiency and measures to combat global warming are the key RPGs in the area of the environment. Apart from these, other environmental RPGs important for South Asia are water management, hazardous waste disposal in urban areas and preservation of biodiversity.

Water security in the sub-region is impacted by climate change. Economic growth accompanied by growing population has compounded the problem. For example, the per capita water availability in India has decreased to 1869 m³ per year from 4000 m³ in last two decades, and farmers increasingly tap into groundwater resources. By 2025, the per capita water availability could decrease to less than 1000 m³, indicating an extremely stressful situation.¹⁵

The allocation of water among economic purposes in the sub-region is overwhelmingly in favor of the agriculture sector. Almost 95 percent of the water supply is being used for agriculture (world average of 70 percent). A limited portion of the available water resources is used by the industrial and domestic sectors. The efficiency of water use in the sub-region except for Sri Lanka is also not satisfactory. Except Sri Lanka, water productivity in terms of GDP per 1 m³ of water falls well below the world average.

In view of the increasing scarcity of clean water, efficient management of water in the river basins shared by the South Asian countries Afghanistan, Pakistan, Nepal, Bangladesh, Bhutan and India should be viewed as an important RPG. The most important among these are the Ganges–Brahmaputra–Meghana (GBM), Indus and Helmand basins.

The GBM basin extends over 1.75 million km², stretching across Bangladesh (7.4 percent), India (62.9 percent), Nepal (8.0 percent), Bhutan (2.6 percent) and the PRC (19.1 percent).¹⁶ The mean annual precipitation

is 1200 mm and 2300 mm in the Ganges and Brahmaputra–Meghana river basins, respectively. The system drains about 1150 billion m³ of water into the Bay of Bengal. The estimated basin population is approximately 535 million (75.8 percent in India; 20 percent in Bangladesh; 3.5 percent in Nepal; 0.2 percent in Bhutan; and 0.5 percent in the PRC).

The basin is home to the largest concentration of poor in the world, with half of its population living in poverty. On the other hand, it is richly endowed with water resources, and has significant power potential of about 150000 MW. With fertile alluvial lands in the plains (79.8 million ha) and a favorable climate, the majority of the population (about 10 percent of the global population) subsists on agriculture. With high population densities, India and Bangladesh withdraw groundwater for irrigation purposes, to meet growing agricultural demands. As a result, the groundwater levels have been sinking at an alarming rate in some parts of these countries. The GBM basin countries are also increasing their industrial activities at a rapid rate. According to a UN report approximately 300–500 million tons of heavy metals, solvents, toxic sludge and other wastes are discharged each year from industrial activities, most of which enter the freshwater sources. In the GBM basin, 70 percent of the industrial wastes are dumped untreated into the rivers (UN, 2006).

Among the South Asian countries, Bangladesh is located in the downstream and deltaic portion of a huge watershed. It is therefore vulnerable to flooding and loss of water quality due to upstream pollution. Because all major rivers flowing through Bangladesh originate outside its borders, any interventions in the upper riparian regions can have a significant impact on the water resources of the country.

The Indus basin is shared mainly by India and Pakistan.¹⁷ The sharing of the waters comes under the Indus Waters Treaty signed between the two countries in 1960. The Treaty is being implemented relatively smoothly (UNEP, 2008). The quality of water in the basin is under stress due to pollution from agricultural activities (almost 96 percent of the water is used for agriculture) and comparative lack of sanitation facilities in the urban settlements along the Indus and its tributaries. There is no agreement between Afghanistan and Pakistan on the use of water resources of the Kabul River, an important tributary of the Indus which flows through Afghanistan before joining the Indus in Pakistan. Increasing water scarcity in Afghanistan due to global warming and economic development suggests that an early agreement on the use of the waters of the Kabul River would avert potential future tensions between the two countries.

The Helmand basin is located mostly in Afghanistan.¹⁸ Therefore it does not present major regional implications. However the rapid deforestation

in the watershed and the possible increase in the river's salinity due to climate change, with implications for food security, are causes for concern.

There will be increasing competition for water resources in the subregion due to economic development, growing populations and resource scarcity brought about by climate change. This may compel the downstream populations to adapt to the resulting water scarcity through more efficient use of water in agriculture, including water conservation and recycling. Global warming could make the water flow in the rivers unpredictable; the basins may be affected by severe flooding if the glacial lakes formed from the snowmelt in the Himalayas were to burst their banks.

Scientific hazardous waste management is essential for ensuring water safety. Careless disposal of hazardous wastes, particularly in urban areas – a common practice in the sub-region's mega cities such as Mumbai and New Delhi – could add to GHG emissions, and pollute rivers, drinking and groundwater sources and ecologically fragile sea coasts. Kathmandu faces a similar challenge. Unsafe levels of arsenic in drinking water have been detected in India, Bangladesh and Nepal. Beach tar is a common occurrence on the western sea coast of India. The uncollected garbage clogs drainage channels, causing flooding even during modest rains. Mismanagement of hazardous wastes in towns and cities could partly explain the frequent outbreaks of gastroenteritis and other water-borne infections, particularly in the slum areas which are usually devoid of even a semblance of a solid waste management system.

In Rajasthan, India, the ADB is promoting organic waste composting in several urban local bodies. This will reduce the release of methane into the atmosphere at landfill sites, while providing business opportunities for the marketing and selling of compost. The project will also help avoid ground seepage of toxic and contaminated leachate (ADB, 2009b). Institutionalizing door-to-door collection of garbage with segregation at source, recycling of inorganic wastes and composting of organic wastes comprise the essentials of solid waste management in urban areas.

Biodiversity in South Asia is under severe threat. South Asia is home to 12 percent of the world's fauna and 16 percent of its flora species (World Bank, 2009). Three land-based biodiversity hotspots with rich biodiversity, cutting across several South Asian countries, have been identified.¹⁹ Vegetation remains only in about 10 percent of the original extent of more than 3.3 million ha of the hotspot areas. The extent of vegetation in the biodiversity hotspots has been declining due to overexploitation of natural resources resulting from high population growth and the impact of climate change.

The fragile state of biodiversity in South Asia may be seen in the high number of biodiversity resources, both flora and fauna, either endangered

DMC	Critically endangered	Endangered	Vulnerable		
India	72	161	240		
Sri Lanka	129	127	159		
Bangladesh	10	28	51		
Maldives	1	3	7		
Nepal	4	18	52		
Bhutan	3	12	32		
Pakistan	8	16	50		
Afghanistan	3	5	22		

Table 7.4Number of species facing threat of extinction in South Asia
(all species)

Source: World Bank (2009).

or under the threat of extinction in South Asia (Table 7.4). The situation in India is particularly dire with almost 20 percent of all animal species being under threat of extinction. As population continues to expand and global warming results in increased desertification and loss of wetlands and vegetation, the prospects of preserving the species under threat are fast receding.

Apart from the biodiversity hotspots, the coral reefs and mangrove forests of the sub-region are also under stress due to intrusive human activity. Mangroves are receding due to deforestation and coral reefs are shrinking due to unsustainable fishing practices including destructive coral mining. Fourteen percent of the world's mangrove forests and 6 percent of its coral reefs are found in South Asia. In the aftermath of the 2004 tsunami the coral reefs of South Asia suffered extensive bleaching²⁰ and destruction. However the damage they suffered in the tsunami was much less compared with the destruction caused by human activity (UNEP, 2008). If global warming results in increasing ocean temperature in the coral reef areas by 3–4°C the coral reefs will perish and will be lost forever.

The efficient use of water in the shared river basins such as the GBM basin can be better addressed through getting people and communities more involved in water management, increasing efficiency of water use in agriculture, more investment in water conservation, and preventing over-exploitation of the rivers. A regional approach to dealing with flooding in the rivers and navigation will be more efficient than dealing with these only at the national level. Preparing a database on the clean water and biodiversity resources of the region, and assessing their vulnerability to global warming and pressures of urbanization and industrialization, will

be the first step in formulating a regional strategy to preserve these fragile resources. This analysis should include hazardous waste management issues.

Improved regional cooperation will be required to reduce the threat of extinction facing some species living in forest habitats spanning more than one country (e.g. the Sunderbans, shared by India and Bangladesh for the Royal Bengal tiger). Increased cooperation among maritime nations of South Asia will also be needed for preserving the rich biodiversity found in the sub-region's marine ecology.

Food Security

Despite the ongoing diversification of the sub-regional economies, agriculture is still the major provider of employment and an important source of income in South Asia. Poverty in the sub-region is concentrated in the rural areas. Agriculture sustains rural livelihoods and has provided the essential wage goods for industrial labor which has allowed development to proceed smoothly.

By and large the sub-region achieved self-sufficiency in the production of basic food grains – namely, rice and wheat – by the 1990s. Food security improved for SAARC during 1990–2008 (see Chapter 9 in this volume) but population pressure has not subsided: falling death rates and slowly declining fertility rates are continuing to cause the sub-regional population to expand steadily. Food production has to increase continuously to cope with the population increase. Projections by the Food and Agriculture Organization (FAO) show that growth in demand for food will outstrip the growth in production before 2015 (cited in UNEP, 2008).

Moreover, economic development has also brought about household income increases and a spurt in the demand for superior and incomeelastic foods such as dairy products and meat. The FAO projects that the per capita daily calorie intake in the sub-region will increase from 2400 in 1997–1998 to 2700 by 2015, and further to 2900 by the turn of the century (cited in UNEP, 2008). Agriculture in the sub-region has to meet with this challenge as well.

Despite improved food self-sufficiency, the challenge of food security has not been overcome. The coexistence of poverty and food selfsufficiency in South Asia implies that the issue is more one of income or employment security than food security. Income security can be brought about only through a strategy of economic development that targets employment generation and poverty reduction. While income security is the ultimate objective of development, supply-side responses to address food security are also important. Rising food prices pose a serious threat to food security. South Asia's poor are on average more vulnerable to food price increases compared to the remainder of developing Asia. Sixty percent of the total increase in the numbers of poor in developing Asia, if food prices rise would be caused by increases in poor headcount ratios in South Asia. Sri Lanka's food security would be least affected by any food price increases. India – in particular the rural areas – and Bangladesh would be most affected by the increase in food prices (Carrasco et al., 2011).

During the 2008 crisis, prices of food grains rose sharply in the subregion, tracking the rising food prices rises worldwide. This caused huge welfare losses particularly among the poor and net purchasers of food. highlighting the fragile condition of food security in the region. The causes for the food price rises were both structural and cyclical. The major structural causes from the supply side included the loss of land devoted to food production due to increasing urbanization, land speculation and diversion to crops for biofuel production such as jatropha, increasing desertification due to climate change and stagnating productivity. On the demand side the structural causes included increasing demand for food from rising per capita incomes and ever-increasing populations, particularly in the developing countries. The cyclical causes included sympathetic increases in prices to reflect higher oil prices, hoarding by traders and adverse weather events in the food-exporting countries (Carrasco et al., 2011). Low levels of inventories of food worldwide and speculation in the commodity markets triggered by financial market weaknesses also pressured the food prices (Liverman and Kapadia, 2010). The correction of the cyclical factors eased the pressure on food prices in 2009 but the structural issues have not disappeared. Food security in the sub-region therefore will continue to be under threat from rising food prices due to structural causes at the global level.

Agriculture development in the sub-region faces several obstacles. Agriculture is more a way of rural life and less a commercial activity. Subsistence and tenant farming dominate food production and cannot be easily reformed. By and large subsistence and tenant farmers are riskaverse and are reluctant to accept innovations. Rural credit markets do not function well and agriculture is starved of credit, particularly for longterm investments. Interlinked markets virtually bind the farmer to the landlord and the money lender. Because of these obstacles, agricultural productivity is low in South Asia compared with the developed countries and East Asia. If these obstacles were to be addressed effectively, agriculture development could be accelerated and food security strengthened.

Global warming poses a serious threat to agriculture and food security in the sub-region. The already low productivity of agriculture in South

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Asia could decline further due to global warming. The main threats posed to sub-regional agriculture and food security by climate change include:

- uncertainty of monsoons;
- variability of rainfall;
- loss of soil fertility due to desertification and flooding; and
- loss of biodiversity affecting marine resources.²¹

Regional and sub-regional approaches to food security in the context of global environmental change have not been adequately explored (Ingram and Liverman, 2010). Sub-regional food production adaptation options to emerging constraints to food production arising from global warming could add a different and additional dimension to national- and global-level solutions. In terms of reducing transaction costs, it may be more pragmatic to consider sub-regional solutions to the food security problem than global solutions. Also there could be efficiency gains from raising food crops in lands best suited for this purpose rather than growing them in less suitable areas; this approach would be possible only if a sub-regional rather than a nation-specific approach is adopted for food security.

In policy terms the key step is to commercialize agriculture and enable farmers to respond to market signals which will emerge from the changing ecology. This would require removing market distortions that protect higher-income consumer groups at the cost of farmer incentives. Crop insurance will also be needed to encourage risk-taking behavior among farmers. These policy changes are best accomplished when introduced on a sub-regional basis in order to discourage arbitrage among the national markets. Liberalization of foodgrains trade in the sub-region will improve production efficiency. Without these reforms sub-regional economies may find it difficult to respond to the changing global environment.

Food security has been traditionally regarded as a national or global PG. At a conceptual level it appears that food security concerns can be more efficiently addressed through a regional framework. For example, if food scarcity arises in a country due to monsoon failure, it will be efficient to import food from the neighboring countries. The traditional approach of building up huge inventories of food grains in every country to meet emergencies may not be an efficient solution to alleviating food security concerns, since these stocks are held at a great cost and incur physical damage over time. The food shortages caused by the floods of 1998 in Bangladesh did not result in famine since food could be imported from neighboring India. If all the regional countries build up stocks to insure against the risk of crop failure, the aggregated stock will likely exceed the

quantity required to meet emergencies at any point in time. Hence it may be more efficient to address food security as a regional issue to avoid its overprovisioning.

Some authors have recommended an RPG approach to food security such as the formation of a regional food bank to address food security concerns of the sub-region (see Chapter 9 in this volume). In fact SAARC has already agreed to set up a food bank.²² It will be useful if the Food Bank Board will publicize its activities through a dedicated website. The Board may also need capacity building to handle the international dimensions of the operation. It will be important that the operations of the food bank do not distort market prices through restricting supply. Creating a virtual food bank with rules and procedures for access during periods of distress is an option. This approach will not only help reduce market distortions but will also bring down the costs of holding inventory.

During the 2008 food inflation crisis some food surplus countries including in South Asia imposed restrictions on food exports. An understanding of mutual help among the regional members on food exports to counter the crisis could have been a better expression of regional cooperation and dampened inflationary expectations.

An assessment of the threat to food security posed to the sub-region due to global warming, and the policies and strategies needed to address it at a sub-regional level, is a priority activity in sub-regional cooperation. Several studies have been prepared to model the impacts of global warming on agricultural production and productivity in the sub-region. For example, a study for India suggests that a loss of nearly 50 percent in farm incomes could occur due to global warming (World Bank, 2009, Table 7.1). Such dire projections underline the importance of formulating appropriate coping strategies. This could be most efficiently accomplished as an RCI activity in the sub-region.

Food security in the region could be improved through sharing of knowledge on farming technology and practices among the South Asian countries and reducing barriers among them in the trade for food grains (see Chapter 9 in this volume). The region could also benefit through liberalization of food prices, which will benefit the farmers and motivate them to allocate more investment for agriculture. Market-oriented agriculture development will commercialize farming and be an antidote to traditional, risk-averse, low-productivity subsistence farming.

Natural Disaster Response

South Asia is vulnerable to natural disasters including floods, drought, typhoons and earthquakes. Much like food security, natural disaster

response (NDR) and management has traditionally been regarded as a national PG. It assumes an RPG dimension when the natural disaster affects more than one country in the region. Floods of rivers shared by regional countries, earthquakes and typhoons which occur in a geographic region shared by more than one country, and tsunamis along sea coasts common to more than one country in the region, are examples. For South Asia the major vulnerabilities to natural disasters in terms of damage caused arise from wind, storm, floods and wave surges (66 percent), earthquakes (19 percent) and drought (15 percent). These catastrophic events generally tend to have cross-border impacts (ESCAP, 2006, p. 132). Therefore, pooling sub-regional resources for managing natural disasters is potentially an efficient approach.

The occurrence of natural disasters in South Asia will likely intensify with global warming. In particular, the rise of temperatures in the oceans will give rise to more intense typhoons. The sub-region has witnessed recently severe changes in weather patterns attributable to climate change. Since 1970 there has been a fall in the number of typhoons affecting South Asia but their intensity has increased. The severity of flooding in the rivers has also increased even though there has been a reduction in overall precipitation.

The UN's Economic and Social Commission for Asia and the Pacific (ESCAP) has proposed four priority areas of regional cooperation related to infrastructure development for disaster management:

- Establishment of a regional mechanism for effective post disaster recovery.
- Promotion of a multi-hazard warning and monitoring system.
- Development of an institutional mechanism for disaster management.
- Regional cooperation on integrating eco-efficiency of physical infrastructure in decision-making (ESCAP, 2006, pp. 135–6).

SAARC has made some progress in some of these areas but there is considerable room for enhancing cooperation in NDR in the sub-region.

The creation of the SAARC Disaster Management Center in October 2006 is the first step in cooperation on building eco-friendly infrastructure and in formulating guidelines for disaster preparedness and management in the sub-region. This has helped SARRC members prepare their national disaster management plans. The Center has proposed tools and techniques for mainstreaming disaster risk assessment in development projects. These include identification of development-induced disasters; preparation of sector-and area-specific guidelines on mainstreaming disaster risk
reduction (DRR) in development projects; creating a techno-legal regime for mainstreaming DRR in development; and carrying out disaster risk assessment as standard practice in all development project design. A challenge would be incorporating disaster risk reduction in climate change adaptation and in coping with high-density urban growth (SAARC Disaster Management Center, 2008, p. 3).

Recent experience in the post-disaster response to the 2004 tsunami suggests that responding to NDR on a sub-regional level has many advantages. In particular:

- There is no need to duplicate the early warning system (EWS) for each individual country; there could be a single EWS covering all the vulnerable countries. For example, the recently introduced Natural Disaster Information System of India which includes an EWS for tsunamis can be availed by Bangladesh, Sri Lanka and the Maldives under a regional cooperation framework. This cooperation could be patterned after the Panel of Tropical Cyclones.²³
- The strategy and programs for post-disaster relief are basically the same for all the affected countries; there could be economies in pooling and acquiring the materials required for post-disaster relief operations.
- The knowledge and experience in managing post-disaster relief could be shared by the affected countries in a regional framework.

Disaster preparedness could be approached as an RPG activity. If vulnerable and risk-prone populations could be identified in advance, critical infrastructure in these areas could be strengthened prior to the catastrophic event to reduce mortality and damage to property. For example in flood-prone areas river embankments and bridges could be strengthened; in areas vulnerable to cyclones or earthquakes appropriate building standards and regulations could be mandated. Construction of vulnerability and disaster risk indices for the sub-region and identification of hotspots of potential natural disasters could be undertaken as an RPG activity (Pelling, 2006; Queste and Lauwe, 2006).

Another area of RPG enhancement is by pooling resources in the region to be used for post-disaster recovery. Prior to seeking international relief the South Asian countries could first attempt to address the financial dimensions of the problem as a regional issue. There could be a common sub-regional facility patterned after the SAARC Development Fund to which South Asian countries could contribute for addressing NDR. This facility could be availed during periods of distress caused by NDR. Donors could contribute to this facility also. This mechanism would help avoid the current practice among South Asian countries and MBDs of diverting resources from development projects to NDR when a natural disaster strikes.

A study of mechanisms available in other regions to coordinate NDR on a regional basis will be a helpful start. A coordinated strategic approach to NDR management among South Asian countries facing the possibility of common catastrophic events, such as typhoons, earthquakes and floods in rivers shared by more than one country, could be considered as a high priority activity in sub-regional cooperation.

Another priority would be instituting an early warning system (EWS) for flooding occurring in commonly shared rivers. For example, heavy rains in Nepal and India will cause flooding in Bangladesh with a lag of a few days. A regional approach to managing EWS for floods will help to convey the warning of impending flooding to vulnerable populations more effectively and thereby avoid loss of human lives and property in the downstream countries. The Mekong River Commission mechanism has helped to institute a regional EWS for Mekong covering the PRC, Thailand, Laos, Cambodia and Vietnam.²⁴ A similar EWS of flood warning for the GBM basin, which has experienced frequent episodes of flooding in the past and faces the risk of more floods in the future due to climate change, could be considered. The sharing of EWS information on tsunamis is another possibility.

Fighting Communicable Diseases

The major infectious diseases (IDs) afflicting South Asian countries include HIV/AIDS, TB and malaria. Leprosy, Kala-Azar and elephantiasis are continuing to torment the poor and the socially marginalized populations.²⁵ The new and emerging IDs include dengue, severe acute respiratory syndrome, avian influenza and flu caused by the AH1N1 virus. The interplay between communicable diseases, poverty and malnutrition adversely affects socio-economic development in the countries. Evidence also links the occurrence of cancer and some degenerative diseases to infectious diseases (WHO, 2007). Table 7.5 summarizes the incidence levels of the major IDs in South Asia as seen in the World Health Organization (WHO) fact sheets of these countries.²⁶

Resistance of some IDs to drugs is an emerging threat faced across all disease control programs. Some diseases such as malaria and sexually transmitted diseases (STDs) are becoming increasingly drug-resistant, putting more than 30 percent of the populations of these countries at risk and underscoring the urgent need to find cures and preventive medicines for these deadly diseases (WHO, 2007).

DMC	AIDS	Malaria	TB
Bangladesh	9 (2004)	44 (2004)	221 (2005)
India	910 (2005)	29 (2005)	312 (2005)
Maldives	None	Not available	0.26 (2005)
Sri Lanka	<100 (2005)	422 (2002)	60 (2004)
Bhutan	12 (2005)	366 (2004)	133 (2004)
Nepal	500 (2005)	25 (2005)	280 (2005)
Pakistan	960 000 (2008) ^a	104454 (2008) ^b	140 (2008)
Afghanistan	<1000 (2008) ^c	467 123 (2008) ^d	104 (2008)

Table 7.5 Incidence of IDs in South Asia (per 100000 population)

Notes:

a. People living with HIV (PLHIV).

b. Total number of confirmed cases per annum.

c. Number of people living with HIV (PLHIV) cases.

d Number of reported cases.

Source: WHO website, SE Asia Department.

The approach adopted in fighting AIDS has been effective in slowing the progress of the disease. Over the past several years, both preventive care and treatment services for HIV have been scaled up in the affected countries in the sub-region. Countries have adopted a public health approach to addressing the epidemic. The key steps of such an approach include defining the problem and risk factors, developing effective prevention and care strategies, scaling up these interventions, and monitoring and evaluating program impact (Shrikantiah et al., n.d.). This strategy could be replicated in fighting other IDs.

The chances of the transborder migration of these IDs have increased with growing globalization and RCI such as through transborder migration of labor. This risk will become even greater with intensifying RCI in South Asia. Supported by the WHO, the South Asian countries are implementing national programs to address the various IDs. There are several success stories. For example, smallpox and guinea worm disease have been eradicated from the sub-regional countries (WHO, 2007). All these programs have RPG implications to the extent that suppression of infection in one country of these IDs in the sub-region lessens the chances of their transborder transmission.

Climate change could affect human health in diverse ways. For example, there could be an outbreak of malaria and dengue due to water stagnation caused by flooding. Water-borne diseases such as gastroenteritis could also break out. Malnutrition due to loss of food security could be another outcome; when it occurs, malnutrition tends to impact more severely on the health of vulnerable groups, particularly the poor, women and children.

Apart from the national programs, regional approaches could also be considered for fighting IDs. These include regionally financed R&D on these diseases and launching region-wide awareness-raising programs on the causes of the diseases and the preventive actions. The implications of climate change for human health in the sub-region, particularly for the incidence of IDs, should be studied carefully so that appropriate strategies and responses could be devised. In view of the technical nature of these initiatives collaboration with WHO would be needed to ensure the efficient and effective use of resources.

Fighting Drugs and Human Trafficking

Only India and Sri Lanka among the South Asian countries have signed the Protocol on Human Trafficking.²⁷ However they have yet to ratify it. Recognizing the gravity of the menace of human trafficking, SAARC member countries signed a convention in 2002 at Kathmandu on preventing trafficking in women and children.²⁸ A regional task force was set up under the Convention to implement it. It will be useful if the activities of the task force would be publicized by the SAARC Secretariat on a dedicated website.

The UN Office on Drugs and Crimes (UNODC) states that South Asia is home to a vast number of victims of human trafficking. An important consequence has been an increase in the number of minor girls contracting HIV/AIDS (UNODC, 2007). The signature and ratification of the Protocol by all the South Asian countries would help forge a common understanding of what constitutes human trafficking and be the first substantive step in regional cooperation to fight the menace.

Illegal drug trafficking is also a lucrative trade in the region due to the high levels of unemployment and poverty in South Asia. India is situated between two hubs of global illegal drug production (the Golden Triangle and the Golden Crescent) and is particularly vulnerable as a transiting point in drug trafficking, mostly to Europe. SAARC members signed a Convention on narcotic drugs and psychopathic substances in 1990. The Convention enjoins the members to take stringent measures against drug trafficking and to facilitate exchange of information and research on eradication of the illegal drug menace.

Winning the fight against narcotics in Afghanistan and Pakistan will be crucial for eradicating this menace worldwide. In 2006 Afghanistan produced 92 percent of the world's supply of opium, the key ingredient of heroin. Narcotics trade accounts for a third of the country's total economic activity (UNODC, 2007). Even though Pakistan was declared poppy-free in 2000, a stricter enforcement of the law against narcotics in Afghanistan could result in resumption of poppy cultivation in Pakistan. Pakistan is also a key transit hub for the narcotics produced in Afghanistan. While narcotics trade has global implications, the countries in the sub-region are immediately affected by this activity. It is clearly a sub-regional "bad".

Much of the national-level response to drug and human trafficking, particularly in India, has been to apprehend and prosecute human traffickers and drug offenders. To the extent that punishment of offenders discourages drug and human trafficking originating across the border, this national action will have RPG implications. However, in view of the enormous profits involved in the trade, it is doubtful whether this limited response has had the desired deterrent effect on the offenders. Law enforcement agencies, given their multitude of functions, also do not seem to attach priority to this problem.

A regional approach to enhance the fight against drug and human trafficking could include measures such as coordination of intelligence on drug producers and human traffickers in the region so that they could be kept under close surveillance.²⁹ Education of the population on the harmful effects of illegal drugs and the practices and methods of human traffickers to trap unsuspecting victims could also be efficiently organized as a regional initiative. A joint study by the SAARC Secretariat with UNODC to identify the dimensions of the human and drug trafficking problem in the region, and steps that should be taken to raise the awareness of law enforcement agencies about the growing menace, will be a helpful start to tackle the problem systematically.

Governance

South Asian developing countries do not rank high in governance standards (Transparency International, 2010) even though they have individually launched programs to fight corruption and improve public sector and corporate governance. This has discouraged foreign investment and delayed project implementation, resulting in huge economic losses for the sub-region.

There is not much available in the literature on governance as an RPG. Reforms to simplify licensing procedures or building construction rules are basically examples of national PGs involving virtually zero crossborder externalities. At a broader level, to the extent that better public sector governance in one country lessens corruption and improves public sector efficiency, it will benefit all those who have to do business in that country such as domestic and international traders, investors, and tourists including from those countries coming under an RCI framework. Thus this national reform could be viewed as a global public good. However trade facilitation reforms (e.g. harmonization of Customs rules and transit requirements) and simplification of business rules and processes to benefit traders and investors (e.g. unification of tax and investment codes) in a regional cooperation framework help economic agents belonging to countries coming under that framework rather than outside of it, and should therefore be viewed as an RPG.

Governance as an RPG is particularly important for addressing negative externalities which may arise from cross-border movement of capital. While most of it is legitimate and should be encouraged, there is a possibility that some of it could be by way of escaping surveillance and tax accountability in the parent country. The negative externalities could be avoided by regional cooperation in financial surveillance and preventive action which is a governance-related RPG.

The areas in public sector governance emphasized by SAARC for regional cooperation include harmonization of regional standards to facilitate trade, mutual assistance in Customs administration and avoidance of double taxation. These initiatives are strong RPGs and should be pursued.

Following the Latin American model (Nogueira, 2007), efficiency in the provision of governance in South Asia can be improved through investing in regional institutions for training public sector staff in the South Asian countries and inculcating shared values in public administration and governance standards among the trainees. Anti-money laundering could also be better addressed as a regional initiative through sharing of intelligence on capital movements.³⁰

Recent experience in managing the global economic crisis and food crisis has highlighted the importance of avoiding beggar-thy-neighbor policies. Sharing information on macroeconomic policies among the South Asian countries can have important RPG implications since it will help improve macroeconomic management in the sub-region.

For incorporating governance systematically in the RPG approach to RCI, the first step would be to prepare a study of governance as an RPG in South Asia. The study could be used to determine the governance-related priorities of SAARC members. Till a shared understanding of governance as an RPG emerges, specific activities carried out to improve public administration in the sub-region may be viewed as knowledge products in the area of governance.

BEST PRACTICES IN THE MANAGEMENT OF RPGS

The RPG approach requires strong "regionalism", that is, involvement and support of governments concerned.³¹ The provisioning of national PGs which could have regional impacts (e.g. clean energy, control of communicable diseases) is relatively straightforward. The financing of these activities will be from the concerned national budgets and the quantity of supply will be decided purely on national benefit and cost considerations. However, this approach does not ensure efficiency in resource allocation. The challenge in the RPG approach is for the regional governments to take coordinated action on the provisioning of the RPG to secure its optimal provisioning. This requires the following:

- That the regional member countries are strongly committed to RCI as a way of enhancing regional development. This may involve the more developed members shouldering costs of initiatives higher than the less developed members in the grouping. The sub-regional or regional grouping of countries must be fully functional for moving forward with the RPG approach. Provided the above condition is met, multilateral institutions such as the ADB can assist the regional country groups to identify the priority programs and projects for RCI including provision of RPGs.
- That there is consensus in the group of countries regarding the prioritization of RPGs and their financing in the concerned national budgets. This in turn will require intensive consultations and coordination in the preparation of national budgets.

Technical cooperation on specific RPG-related subjects (e.g. clean energy and control of communicable diseases) among the participating countries could be considered as a preliminary step towards a more structured provisioning of the RPG including evolving regional objectives and approaches for the provisioning of the RPG.

Apart from the national budgets, MDBs such as the ADB can also finance RPGs. But, in view of the costs and difficulties in coordination, MDB initiatives generally focus on provision of software aspects of RPG and knowledge. The Inter American Development Bank instituted a fund in 2004 for non-reimbursable financing of regional projects which satisfy the twin criteria of publicness. These funds could be used for both technical assistance and physical investment. Since the approval of the Regional Cooperation and Integration Strategy in 2006, the ADB has extensively used the Technical Assistance (TA) modality to support RCI activities in the region, including in South Asia. MDBs can also play the role of an honest broker in negotiating agreements among participating countries.

Another good practice in regionalism in RPGs is to institute funds to finance cross-border development projects. The recently instituted SAARC Development Fund (SDF) will support cross-border social, economic and infrastructure projects. In particular, the resources and facilities may be utilized for funding: (1) projects involving all SAARC member states; (2) projects involving more than two but not all SAARC member states; (3) projects located in one or more SAARC member states, of significant economic interest for three or more SAARC member states; and (4) projects with significant focus on poverty alleviation in any SAARC member state having thematic linkage with more than two SAARC member states as part of a sub-regional project. SAARC member countries established the SDF in 2008 with a corpus of SDR1 billion and a paid-up capital of SDR200 million to be contributed by all the SAARC member countries. The Fund may obtain technical and/or financial support from UN agencies, multilateral or regional funds, and other nonregional partners as approved by the Fund's Governing Council. A wide dissemination of information on the projects being implemented with the support of the fund will help solidify RCI in South Asia and showcase a success case in financing cross-border RPGs through regionalism.

The key step is to forge an agreement among the participating governments that the selected RPG should be dealt with as a regional and not merely as a national issue. Once an agreement is reached it would be possible to consider a supranational arrangement to coordinate the provisioning of the RPG. Institutional arrangements such as the SAARC Disaster Management Center and SAARC Infrastructure Development Fund are examples of this approach.

While regionalism offers the best solution for the provision of RPGs due to market failure and free-rider issues, private sector investment and the PPP approach have been found to be successful for the provision of clean energy in the sub-region. A common criticism of RCI is that it is a topdown activity and public sector driven with little private sector involvement. Getting the private sector involved in RPG provision through investment incentives and PPP should be considered where possible.

RECOMMENDATIONS

National-level activities in South Asian countries often impose significant cross-border externalities. Several of these, such as the use of fossil fuels for energy, deforestation and lax control of communicable diseases, have negative impacts on the neighboring countries. Conversely national actions taken on clean energy and control of communicable diseases confer positive externalities on neighbors. If a suitable mechanism could be devised to coordinate national activities involving cross-border externalities, the impact of negative externalities could be mitigated and positive externalities maximized, allowing optimal provisioning of RPGs. This is the basic rationale for the RPG approach.

For the RPG approach to RCI to take root it is necessary that RCI be strengthened in the region. Repeated interactions among players help to reveal their preferences. This is a key step in the optimal provisioning of RPGs. A top priority is further to empower and institutionalize RCI platforms such as SAARC, SECSCA, SASEC and BIMSTEC³² which are important for South Asia. More opportunities for strengthening RCI activities in these frameworks should be explored.

For SAARC to move forward on RPGs it must be clearly recognized that provision of RPGs is a high priority in RCI. As a start, the provision of eight RPGs discussed in this chapter may be recognized as an operational priority in RCI for South Asia.

Since climate change concerns have emerged as a top development priority in SAARC, environment-related RPGs may be given the highest priority in allocating resources.³³ In particular:

- Climate change portends several far-reaching changes in the economic and social life of South Asia. The knowledge base on the subject should be enhanced to help the sub-regional countries prepare themselves for the adjustments needed. In particular, climate change will impact on NDR and regional food security and slow the progress in achieving the MDGs.
- Based on the findings of the studies on climate change it may be necessary to adjust national development strategies.

It will be useful to assess the progress in implementing the various conventions and agreements concluded between the participating countries under the SAARC framework. This exercise will help reveal the priorities of the SAARC members in the provision of RPGs and help to lay the foundation for a solid RPG approach to RCI in the sub-region.

Future support for governance would benefit from a strategic approach to capacity building in governance. While ad hoc capacity building may be important to meet short-term needs, a preferred approach is to build a capacity building program based on a long-term plan of capacity development to meet strategic development objectives. Capacity building initiatives should also match the RPG priorities. For example, capacity building in clean energy provision including in such areas as formulating PPP in energy projects, negotiation of cross-border power supply agreements and tariff determination in cross-border energy projects are of priority. In climate change, capacity building in designing and implementing coping strategies would need prioritization.

The ADB, being the regional development bank, is in an advantageous position to assist SAARC in the provision of RPGs in the region. For example:

- It can dialogue with other multilateral institutions including the concerned UN agencies (e.g. UNODC, UNEP, FAO, WHO)³⁴ and other donors to delineate the RPG dimensions of environment, communicable diseases control and so on which are usually regarded as global PGs.
- The ADB can play an important role in providing RETAs to enhance the knowledge of South Asian countries in RPGs. Examples include studies on the impacts of global warming and urbanization on the region, including its clean water resources, biodiversity and food security. These studies could establish the groundwork for the coordination of the provision of the relevant RPGs.
- The ADB can help in dissemination of economic information. Sharing of economic information by the constituent countries would be the first step in promoting economic cooperation in the sub-region. The work being carried out by the ADB's Asia Regional Information Center for ASEAN could provide a precedent for this activity.
- The ADB can play an honest broker's role in forging PPPs and negotiating commercial agreements. The ADB's guarantee mechanism provides powerful instruments for alleviating project and country risks inherent in cross-border investments.

NOTES

- 1. South Asia for the purposes of this chapter comprises the membership of the South Asian Association for Regional Cooperation (SAARC), viz. India, Bangladesh, Bhutan, Sri Lanka, Maldives, Nepal, Pakistan and Afghanistan.
- 2. This is the approach taken in the Asian Development Bank (ADB)'s Regional Cooperation and Integration Strategy (RCIS) which views RPGs as one of the four pillars of RCI strategy. The RCIS provides a useful operational framework for the provision of RPGs by identifying specific RPGs which are priorities for the fourth pillar of the strategy. The RCIS has been incorporated into the long-term strategic framework of the Asian Development Bank 2008–2020 which provides the basis for the ADB's strategies and programs at the country and sub-regional levels.

- 3. This figure is a variation of the standard diagram used to illustrate the optimal provisioning of PGs (e.g. Case and Fair, 2006).
- 4. It is possible that that Country A may choose to produce Q1 units of the RPG. The total production of the RPG would thus be Q1+Q2 which could exceed Q3. The resulting resource allocation will be inefficient and would be a case of overprovisioning of the RPG. However from a practical perspective overprovisioning of a public good (such as the environment) may be preferable to its underprovisioning.
- 5. This approach has been the main instrument of the ADB for providing RPGs using the regional technical assistance (RETA) modality.
- 6. See Oates (2001). Even though Oates's analysis of environmental federalism relates to the federal and state governments in the United States (US), the concepts are equally valid for a region whose constituents are sovereign countries which do not collectively conform to the federalist structure of government.
- Stern (2006). The Stern Review was commissioned by the United Kingdom (UK) Chancellor of the Exchequer as a contribution to assessing the evidence and building understanding of the economics of climate change.
- 8. The main GHGs are carbon dioxide (CO_2) , water vapor, methane, nitrous oxide and ozone. Water vapor and CO_2 together contribute the major part of the greenhouse effect.
- 9. The energy intensity of India's GDP is low; the recent high-growth performance of India has been based on sectors with low energy intensity including information and communication technology (ICT), biotechnology and research and development (R&D), rather than manufactures.
- 10. Carbon life cycle refers to the process by which carbon emissions from human activity and natural causes are returned to the earth through carbon sinks such as forests and oceans. Trees, for example, use CO₂ during photosynthesis and release oxygen into the air after absorbing carbon.
- 11. The World Bank estimates that Afghanistan's forests comprise 1.3 percent of the total area (World Bank, 2009).
- 12. The GHG intensity of agriculture in South Asia in general is relatively low due to low fertilizer use, poor soil quality and planting practices.
- 13. In the most pessimistic scenario, coal use could comprise as much as 65 percent of total energy consumed by 2031.
- The ADB-supported Turkmenistan–Afghanistan–Pakistan–India gas pipeline is an example. The proposed Iran–Pakistan–India natural gas pipeline is another such possibility.
- 15. UNEP (2008). Per capita availability less than 1700 m³ per year is considered stressful.
- 16. The Brahmaputra and the Meghana are largely unexploited in the Indian portion of the basin as they flow through the hilly areas in northeastern India.
- 17. The river originates in China. Its main tributaries are the Jhelum, Chenab, Ravi, Beas and Sutlej.
- 18. More than 85 percent of the basin is located in Afghanistan (UNEP, 2008). The other countries sharing the basin are Iran and Pakistan.
- 19. UNEP et al. (2009). The three hotspots are: Category I, covering the Western Ghats in India and the highlands of southwest Sri Lanka; Category II, covering the Himalayan foothills of India, Bhutan and Nepal; and Category III, covering the Himalayan range stretching over Nepal, India, Bhutan and Pakistan (including all the world's mountain peaks above 8000 m).
- Coral bleaching occurs due to several causes including wave action, infection by bacteria and ocean acidification. If the causes of bleaching persist, corals will eventually die.
- Research also suggests that *ceteris paribus* higher atmospheric concentration of CO₂ will help rice production. However other negative factors associated with global warming would likely offset this partial benefit.
- 22. The SAARC Food Bank, which was proposed during the 15th Summit of the SAARC countries held in Colombo in July–August 2008, is a move to maintain a food stock

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to be used during emergencies. Agriculture ministers of the SAARC countries met in New Delhi on 5 November 2008 for operationalizing the SAARC Food Bank. With an initial stock of 243000 MT of food grains, the SAARC food bank will be set up with the contributions of the SAARC members. India will be the principal contributor with 153000 MT of food grains, followed by Pakistan and Bangladesh with 40000 MT each, while Nepal and Sri Lanka will provide 4000 MT each. Afghanistan will provide 1420 MT, the Maldives 200 MT and Bhutan 180 MT. Each country's share has been determined by the SAARC Food Bank Board, a body with one representative from each SAARC member country, based on production capacity, per capita consumption and availability. The Board would also work out the mode of pricing for distributing food grains during emergencies, which would be a lower price than prevailing international prices.

- 23. The Panel, an initiative of the World Meteorological Organization, was constituted in 1972 with India, Bangladesh, Oman, Myanmar, Sri Lanka, the Maldives and Thailand as members.
- 24. The Mekong River Commission (MRC) was formed on 5 April 1995 by an agreement between the governments of Cambodia, Lao PDR, Thailand and Vietnam. The four countries signed the Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin and agreed on joint management of their shared water resources and development of the economic potential of the river. In 1996 China and Myanmar became Dialogue Partners of the MRC and the countries now work together within a cooperation framework. The MRC monitors the water level and the water flow in the river through a series of hydrological stations located on the river and its tributaries.
- Incidence of Kala Azar in Bangladesh is particularly severe with incidence level of 175 per 100 000 population at risk, recorded in 2004.
- 26. WHO Regional Office for Southeast Asia. http://www.searo.who.int/index.htm.
- 27. The full title of the Protocol is: Protocol to Prevent, Suppress and Punish Trafficking in Persons, Especially Women and Children, supplementing the United Nations Convention against Transnational Organized Crime. The Protocol defines human trafficking as the recruitment, transportation, transfer, harboring or receipt of persons, by means of a threat or use of force or other forms of coercion, of abduction, of fraud, of deception, of the abuse of power or of a position of vulnerability or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person, for the purpose of exploitation. Exploitation includes sexual exploitation including prostitution, forced labor practices and the removal of organs of the trafficked persons.
- 28. The cooperation envisages the wide-ranging mutual legal assistance in respect of investigations, inquiries, trials or other proceedings including taking of evidence and obtaining of statements of persons; provision of information, documents and other records including criminal and judicial records; location of persons and objects including their identification; search and seizures; delivery of property including lending of exhibits; making detained persons and others available to give evidence or assist investigations; and service of documents including documents seeking attendance of persons.
- 29. Effective implementation of the recently signed bilateral agreement between Bangladesh and India on combating terrorism, organized crime and illicit drug trafficking (reported in *Daily Star*, Dhaka, 12 January 2010) would be a useful start for cooperation on fighting drugs in the sub-region.
- 30. The SAARC Conventions on mutual assistance in criminal matters signed in 2008 and on prevention of terrorism signed in 2004 could be used to foster cooperation on antimoney laundering in South Asia.
- Regionalism in the RCI terminology is a public sector top-down activity, in contrast with regionalization of production networks which is a market-driven private sector activity (see Moon and Roehrl, 2005, for example).
- 32. RCI platforms in South Asia include SAARC; Subregional Economic Cooperation in South and Central Asia (SECSCA); South Asia Sub-regional Economic Cooperation

(SASEC); and Bay of Bengal Initiative for Multi-Sectoral, Technical and Economic Cooperation (BIMSTEC).

- 33. For example, the Colombo Declaration of the 15th SAARC Summit "expressed deep concern over global climate change and its impact on the lives and livelihoods in the region".
- 34. It may be necessary to include in the dialogue bilateral donors as well, if they are involved in providing assistance for the concerned RPG.

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8. Food security in South Asia: strategies and programmes for regional collaboration

Muhammad Iqbal and Rashid Amjad

INTRODUCTION

A dramatic increase in food prices from mid-2007 to mid-2008 brought into sharp focus the critical need for ensuring food security in most developing countries, especially to protect the poor and vulnerable households. The Food and Agriculture Organization (FAO) food price index rose on average by 56 per cent in this period and an estimated 75 million people joined the number of hungry (FAO, 2008). Though global cereal prices subsequently declined below the level of 2008, starting in mid-2010 prices increased again – to a level which was 32 per cent higher in April 2011 than what it was in 2008 (see Figure 8.1 and Table 8.1).

A number of factors contributed to creating this imbalance between supply and demand and the resulting sharp increase in food prices. These included short-term fluctuations but, more importantly, structural shifts in demand for food grains which are expected to continue over the long run. Among the most important of these factors were: poor harvests of food crops in major agricultural regions; increased cost of food production, processing and marketing due to higher oil prices; increased demand from the People's Republic of China (PRC) and India; and diversion of food crops from human consumption use to produce biofuel and manufacturing of animal feed. To this one can add the role of speculators, which may explain spikes in food prices but not necessarily the cause of these shortages. As Mellor (2009) points out, high food prices cause decline in real incomes of the poor and their food consumption shrinks because they lack the capacity to shift food patterns dominated by lowcost calorie diets.

The increase and subsequent fluctuations in food prices has put millions of people around the globe at risk of becoming food insecure and being pushed into poverty (IFPRI et al., 2010; DFID, 2009; UN, 2008;



Source: FAO (2011).

Figure 8.1 Price indices

Ivanic and Martin, 2008a). The poorest households, which spend nearly four-fifths of their incomes on food, remain the most vulnerable to a sharp rise in prices of staple food items. Studies, including for Pakistan, indicate that the sharp rise in food prices would increase poverty in many developing countries (Chaudhry and Chaudhry, 2008; Ivanic and Martin, 2008b; Wodon and Zaman, 2008). The recent hike in global food prices observed in early 2011 would further add over 64 million to the poor just in Asia (ADB, 2011a).

At the same time, it needs to be kept in mind that high food prices can also have a beneficial impact. Improved terms of trade for farmers should increase incomes of at least a portion of the rural population. It is important therefore to make a distinction between the consequences of high food prices in urban and rural areas; a large portion – between 60 and 80 per cent – of the population of countries of South Asia live in rural areas. This is an important issue discussed later in this chapter.

Date	Food Price Index	Meat Price Index	Dairy Price Index	Cereals Price Index	Oils Price Index	Sugar Price Index
2000	90.2	95.8	95.4	84.5	67.8	116.1
2001	93.3	96.5	107.1	86.2	67.6	122.6
2002	89.9	89.5	82.2	94.6	87.0	97.8
2003	97.7	96.8	95.1	98.1	100.8	100.6
2004	112.4	113.7	122.6	107.4	112.2	101.7
2005	117.3	120.1	135.4	103.4	103.6	140.3
2006	126.5	118.5	128.0	121.5	112.0	209.6
2007	158.6	125.1	212.4	166.8	169.1	143.0
2008	199.6	153.2	219.6	237.9	225.4	181.6
2009	156.8	132.9	141.6	173.7	150.0	257.3
2010	185.1	152.0	200.4	182.6	193.0	302.0
Jan. 2010	179.8	140.5	202.0	170.3	168.8	375.5
Feb. 2010	175.9	142.0	191.4	164.2	169.2	360.8
Mar. 2010	168.3	144.7	187.4	157.8	174.8	264.8
Apr. 2010	170.0	150.8	204.3	154.8	173.5	233.4
May 2010	169.5	151.7	209.2	155.1	170.4	215.7
June 2010	168.1	152.4	203.1	151.2	168.4	224.9
July 2010	172.5	151.0	197.8	163.3	174.4	247.4
Aug. 2010	182.8	155.4	192.9	185.3	192.4	262.7
Sept. 2010	194.0	153.4	198.4	208.3	197.6	318.1
Oct. 2010	204.6	157.3	202.6	219.9	220.0	349.3
Nov. 2010	212.3	159.8	207.8	223.3	243.3	373.4
Dec. 2010	222.7	164.9	208.4	237.8	263.0	398.4
Jan. 2011	230.7	165.7	221.3	244.8	277.7	420.2
Feb. 2011	237.2	169.3	230.0	258.6	279.3	418.2
Mar. 2011	231.0	172.3	234.4	251.2	259.9	372.3
Apr. 2011	232.1	172.8	228.7	265.1	259.1	347.8

Table 8.1 Monthly food price indices (2002-2004 = 100)

Source: FAO (2011).

South Asia

The majority of the people of South Asia reside in rural areas and directly or indirectly depend on agriculture for their livelihood. The rural populations in Nepal, Sri Lanka and Bhutan account for more than 80 per cent of total population, whereas over 70 per cent of the people of India, Bangladesh, Afghanistan and the Maldives live in rural areas (Table 8.2). Despite the gradual decline in the percentage of population living in rural

Year	Afghanistan	Bangladesh	India	Nepal	Pakistan	Sri Lanka
1991	83	80	74	91	69	83
2000	83	77	72	87	67	84
2006	80	75	71	84	65	85
2009	78	74*	71*	—	64	-

 Table 8.2
 Rural population (% of total population)

Note: * Figures for 2008.

Source: ADB (2010) and World Bank (2008).

Year	Afghanistan	Bangladesh	India	Nepal	Pakistan	Sri Lanka
1990	_	30.25	29.28	48.4	25.98	24.2
2000	_	25.51	23.35	37.8	25.93	17.60
2005	39.5	20.14	18.00	35.2	21.47	13.50
2008	31.6	19.00	17.20	31.7	20.30	13.40
2009	-	18.7	17.10	32.6	21.6	12.6

Table 8.3 Share of agriculture in GDP (%)

Source: ADB (2010).

areas, the South Asian Association for Regional Cooperation (SAARC) countries remain predominately rural societies.

Agriculture's contribution to gross domestic product (GDP) has declined more sharply in all SAARC countries but it still accounts for about one-third of GDP in Nepal. The sector accounts for about one-fifth of GDP in Pakistan and Bangladesh. The contribution of the sector in India and Sri Lanka has declined to about 17 and 13 per cent, respectively (Table 8.3).

South Asia, with over 40 per cent of the world's poor, has the highest concentration of poverty and hunger in the world (World Bank, 2008). The enormity of malnutrition in South Asia can be gauged from the fact that it is the home of nearly two-thirds of the world's undernourished children. More than 56 per cent of the world's low-birth-weight babies are born in South Asia; India alone accounts for 35 per cent of the world's undernourished (FAO, 2007).

These depressing numbers seem to contradict the fact (as we shall show later) that South Asia has expanded its food production during the last two decades. In spite of this, South Asia's record in reducing malnutrition is one of the world's worst. This, then, is the fundamental problematique that this chapter addresses. What explains this stubborn persistence of significantly high levels of poverty and malnutrition in South Asia despite reasonable expansion in food production? Does the explanation rest on a combination of structural factors (e.g. population growth, skewed distribution of land), the inequitable access to key resources, level of education and literacy especially for females, poor economic management (food grain pricing, trade and distribution policies) and/or insufficient safety nets for the poor?

This critical discrepancy, as IFAD (2007) points out, is a "sombre reminder that the challenge of ensuring food security for all involves more than simply raising the level of per capita food production". This point is again re-emphasised in IFPRI et al. (2010), which states that: "in South Asia, the major problem is a high prevalence of underweight children under five, resulting from the lower nutritional and educational status of women, poor nutrition and health problems, and inadequate water and sanitation services".

Chapter Outline

On the basis of analysis of the complex, diverse and risk-prone nature of overall food security in SAARC countries, this chapter endeavours to help draw up strategies and programmes for regional cooperation in ensuring food security and reducing hunger and malnutrition in the region. The specific objectives of the study are as follows:

- a) To identify critical factors influencing food security in South Asia.
- b) To make an initial start on the construction of a food security index for SAARC as well as individual countries, to track progress in achieving food security.
- c) To analyse the scope for regional cooperation in devising policies related to pricing, procurement and trade of major food items among member states that would lead to greater food security in the region as a whole.
- d) To suggest specific and realistic strategies and programmes for regional collaboration for food security in the region.

FOOD SECURITY

The concept of food security as defined at the World Food Conference in 1974 covered the aspects of assuring steady supply and price stability of

basic foodstuffs at the international and national level: "Availability at all time of adequate world food supplies of basic foodstuffs to sustain a steady expansion of food consumption and to offset fluctuations in production and prices".

In 1983, FAO analysis focused on food access, leading to a definition emphasizing the balance between the demand and supply side of food security, with the demand side being highlighted in terms of economic accessibility: "Ensuring that all people at all times have both physical and economic access to the basic food that they need" (FAO, 1983).

The definition went through a number of improvements during more recent years to include household and individual levels, in addition to regional and national levels, of aggregation in food security analysis. Mainly due to the writings of Amartya Sen, the question of "access" and "entitlement" gained prominence and the widely accepted definition of food security was adopted in the World Food Summit (1996) worded as: "food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life" (World Food Summit, 1996).

This definition encompasses four dimensions: availability, access, nutritional status (food utilization) and stability. Let us examine each in turn.

Availability of Food

The regular availability of sufficient quantities of foodstuffs of appropriate quality (at convenient places) in accordance with the tastes and preferences of the people is an essential though not sufficient aspect of food security. Domestic production, imports, food assistance and releases from public stocks add to food availability, while exports, additions to public stocks, wastages of food produce during post-harvest operations, input as seed and non-human usages reduce the quantity of food items available for human consumption. In turn, availability is affected by a number of factors including production, processing, storage, distribution and marketing systems and technologies.

Accessibility to Food

Access is another important determinant of food security. Accessibility to food depends on factors like incomes, sources of income including remittances, income disparities, real food prices, landlessness, gender, literacy and employment status. Sen's important contribution in this area is to highlight the fact that even with available food supplies, lack of access can lead to vulnerable households facing acute hunger and malnutrition, as happened during the Indian Famine in West Bengal in 1943. In the context of South Asia, the issue of access is an important factor explaining why, with improved food availability, indicators of both hunger and malnutrition have shown only marginal improvements.

Food Utilization (Nutritional Aspect)

This involves the effective biological utilization (food absorption) through adequate food, clean water, sanitation and health care for attainment of nutritional well-being that meets all the physiological needs of an active and healthy life. Thus food absorption has public health and education dimensions attached to the concept.

Stability

This implies that people have at all times access to adequate food without involving any risk of losing physical availability and economic access to it as a result of economic shocks and resulting higher prices, natural disasters (floods, droughts, earthquakes, cyclones and tsunamis) and wars. At a time when global food prices show wide fluctuations, this is an important challenge faced by countries in South Asia, especially in balancing the need for food security with that of providing price incentives for farmers to increase productivity and output.

Data Sources

Food security analysis involves data on several key variables over a reasonable time period. Information on a number of variables and indicators of food security was missing regarding Afghanistan, Bhutan and the Maldives. Therefore, these countries were dropped from some of the analysis. Although this would only marginally affect the analysis at the regional level, as these countries account for only a small fraction of the population of South Asia (less than 2 per cent), it underlines the importance of building up a reliable database for these countries. The analysis is also confined to wheat and rice, which are the main food items constituting the diet of common people in South Asia.

Most of the data are drawn from the Food and Agriculture Organization (FAO), World Development Indicators (WDI) (2008, 2010), and Asian Development Bank's (ADB) Key Indicators for Asia and Pacific, 2010 and Basic Statistics 2011b. Some of the data were collected from the annual Economic Surveys of the respective countries.

Methodology

There are a number of factors determining the major four components of food security, as discussed in the following:

- 1. Food availability is primarily the sum of per capita domestic production and net imports of food stuffs (imports minus exports).
- 2. The stability or lack of it is reflected in movements in food availability and degree of reliance on imports. The greater a degree of reliance, the greater a country is exposed to international fluctuations in quantities and prices, problems of availability, and pressures on the country's balance of payments.
- 3. Access to food is a function of the level of per capita real incomes; the extent of income inequalities; the scale of gender disparity that severely affects the nutritional status of female children and women; unemployment rates; the share of food expenditures in total consumption outlays; the incidence of poverty; and per capita calorie intake and its composition. Access is also affected by increases in real food prices (food price index relative to consumer price index) higher food prices reduce affordability.
- 4. Food absorption is examined using nutrition indicators (malnourishment and underweight) and health indicators (infant mortality, child mortality, immunization coverage, access to safe drinking water and sanitation, and public spending on health and education).

An attempt is made in this study to examine movements in these key variables over time in various South Asian countries. This allows us to identify crucial factors influencing food security in the region.

Food security index

A preliminary attempt is made in this study to construct a food security index (FSI) for South Asia, drawing on earlier exercises (mostly using cross-sectional/survey data) undertaken at the country/region level. While it is not possible to cover all key variables¹ for this FSI, an attempt is made to reflect some of the critical variables (covering various aspects of food security) on which time series data are available for all the countries included in the construct of the index. These indicators include a per capita food availability index, a per capita food production index, a selfsufficiency ratio index, and an inverse of relative food price index (clearly there are other factors and indicators, the inclusion of which may improve the index provided that time series data are available). Food availability per capita clearly is a critical factor in determining food security and was given a 50 per cent weight. Food production in most of the countries is a key factor that has bearing on level of food consumption but is not in itself a sufficient indicator; thus it was assigned a weight equal to 1/6. The inverse of relative food prices and the self-sufficiency ratio indices were also each given a weight of 1/6. The real food prices index is an indicator for affordability (access) and the self-sufficiency index represents the extent of exposure of a country to external quantitative and price shocks. The weights used are similar to those used in the Report of the Task Force on Food Security in Pakistan (GOP, 2009). The country level food security indices (FSIs) were constructed for the period 1990–2008 using the following formula:

 $FSI = 1/2(PCFAI) + 1/6(PCFPI) + 1/6(FSSI) + 1/6(RFPI)^{-1}$

where

PCFAI = per capita food availability index PCFPI = per capita food production index

FSSI = food self-sufficiency index

RPFI = index of real food prices

The region level FSI for the SAARC was developed by taking the weighted average of FSIs of individual countries, using shares of the region's population as weights for each country.

It is important here to discuss why we used (inverse of) the real food price index as defined earlier. The prices paid by the consumers (retail prices) and received by the farmers (farm gate prices) generally diverge by significant margins. The divergence between farm gate prices and retail prices in various countries may differ depending on pricing policy (consumers versus producers protection); transport costs; processing costs; marketing margins; and possibility of cartelization, hoarding and black-marketing. The farm gate price of wheat amounted to 8 and 13 rupees (in local currencies) per kg respectively in India and Pakistan during 2007. The retail price of wheat flour during August 2007 in Delhi and Islamabad was, respectively, 12 and 15 rupees per kg in local currency units. As illustrated by these farm gate and retail prices, returns to Pakistani wheat growers relative to retail prices are larger than those received by Indian wheat growers. The heavy subsidy on wheat flour in Pakistan and agricultural input subsidization in India can explain the spread to some extent.

Consumers and producers, respectively, respond to retail and farm gate prices. The obvious question is what prices to use in examining the impact of food price on food security. Higher retail prices of food hurt the consumers whereas higher farm gate prices induce farmers to produce more. We used the inverse of the real food price index because it captures

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the negative impact of food inflation on affordability for consumers. The positive impact of higher farm gate prices on food security through inducing a supply response is taken care of by directly including a per capita production index in the calculation of the FSI.

MAJOR CAUSES OF FOOD INSECURITY IN SOUTH ASIA

Population Growth

The SAARC countries account for over 22 per cent of the world population, with India alone contributing about 1.2 billion people (over 17 per cent of the total). Pakistan's and Bangladesh's shares of the world population are 2.5 and 2.4 per cent, respectively. Population growth rates in South Asia have slowed down in almost all the countries, with Sri Lanka now having an annual population growth rate of only 1.3 per cent. Bangladesh, India, Nepal and Pakistan also have moved in this direction although Pakistan still has a high rate of population growth (over 2 per cent). While population growth has slowed down it is still high in most countries relative to output growth. As a result, there have been only marginal improvements in per capita income and food consumption, despite the fact that overall expansion in food production and general economic growth are somewhat satisfactory.

Rural–Urban Divide and Food Inflation

Even though family sizes in rural areas are considerably larger than in urban areas, the percentage of the population in rural areas has been declining in almost all South Asian countries (except Sri Lanka during the period 1991–2006). This points to accelerated migration from rural to urban areas, reflecting both pull and push factors. Cities offer higher wages and better employment opportunities, as well as greater availability of services like health and education. The push factors that force migrants to leave rural areas include factors like displacement by conflict, disasters, droughts, landlessness, land degradation and population pressures on land. The natural growth of cities along with rural to urban migration is resulting in fast-growing cities. The growth of cities on the one hand inflates the population of net food buyers and on the other hand reduces arable land by converting productive agricultural land and water resources to residential and industrial uses. Thus the process of urbanization is a potential threat to food security in the region. The vast majority of rural and urban households in SAARC countries are net food buyers and are negatively affected by higher prices. However, the impact is expected to be different in rural and urban areas. While the poor in urban areas suffer due to rising food prices, rural households may benefit from rising food prices depending on: (1) whether they are net producers or consumers of staple food items; (2) the extent of rural wage adjustments to higher food grain prices; (3) the mode of payment of wages in cash or kind; and (4) the portion of landless households in the rural population. As to the last factor, it must be borne in mind that the level of landless households in rural areas of SAARC countries is in most cases high.

The majority of the South Asian people (two-thirds or even higher) live in rural areas and a significant portion are landless households working as tenant farmers or wage workers in agriculture or nonagriculture sectors. This segment of rural society suffers from high food inflation.

Further, land ownership is highly skewed in certain SAARC countries. The vast majority of farm households (50 and over 90 per cent, respectively, in Pakistan and Bangladesh) cultivate farms of small size (2 hectares or less). The majority of these farm households are net buyers of food and the rest generate only a limited marketable surplus. For example, in Pakistan about 30 per cent of farming households (small owners) are net wheat buyers. Therefore, small-sized farms benefit to a lesser extent from rising grain prices as compared to large farm households which produce a greater marketable surplus.

Given that the vast majority of poor living in rural areas are also net buyers of food implies that the impact of high food prices on the food security of the rural poor can neither be termed as less severe nor be overlooked in SAARC countries.

Low Agricultural Productivity

An important reason for persistent food insecurity in the region is the low productivity of crops and livestock as compared to that in many developed countries. The investment made in agriculture research as a percentage of agricultural GDP has been declining in many of the South Asian countries from a low base. India and Pakistan have badly neglected maintaining their vital irrigation infrastructure, which has led to its rapid deterioration (Etienne, 2010). In addition to benefits from research and improved irrigation infrastructure, there is also great potential for improvement in food security by investing in the development of improved technology and making it available to farmers.

Year	Afghanistan	Bangladesh	India	Nepal	Pakistan	Sri Lanka
1995	_	-0.3	-0.7	-0.9	6.6	3.4
2000	_	7.4	-0.2	4.9	6.1	2.3
2001		3.1	6.3	5.5	-2.2	-3.8
2002		_	-7.2	3.1	0.1	2
2003	17.1	3.1	10	3.3	4.1	1.5
2004	-4.9	4.1	0	4.8	2.4	1.3
2005	6.7	2.2	5.2	3.5	6.5	2.9
2006	0.6	4.9	3.7	1.8	6.3	7.2
2007	24.7	4.6	4.7	1.0	4.1	2.8
2008	-16.5	3.2	1.6	5.8	1.0	7.5
2009	_	4.1	0.2	3.0	4.0	3.2
Avg. (2000 to 2009)	4.62*	4.08	2.43	3.67	3.24	2.69

Table 8.4 Growth rates of agriculture real value added

Note: * Average (2005-2008).

Source: ADB (2010).

Climate change and fluctuations in agricultural production

Agricultural production in South Asia is prone to high risks resulting from adverse weather conditions. The projections of future climate change indicate that South Asia is likely to be severely affected by global warming during this century. The availability of freshwater is projected to decrease and coastal areas will be at greatest risk due to increased flooding from the sea and rivers. The expected rise in temperatures may significantly reduce yields of rice, wheat, other cereals and certain cash crops (Mittal and Sethi, 2009). Various subsectors of agriculture bear the effect and contribute to global climate change. Neglect or failure on the part of SAARC countries to develop and adopt technologies for climate change mitigation and adaptation of agriculture to sustainable resource use and environment-friendly improved practices may lead to severe food insecurity in the region.

South Asian agriculture is still highly dependent on the weather (India witnessed severe drought in large parts of the country in 2009) and vulnerable to natural disasters (Pakistan experienced widespread flooding during 2010 resulting in huge losses to croplands and infrastructure). Consequently, output of the sector in the region shows erratic movements from year to year (Table 8.4). The unprecedented floods in Pakistan in 2010 resulted in considerably lower agricultural growth (by over two percentage points) than targeted. Given the importance of the agricultural sector, its performance directly effects overall economic growth. Since

2000, agricultural output has grown at an average rate of about 3 per cent or more in Bangladesh, Pakistan and Sri Lanka. In India, growth in agricultural output was only 2.4 per cent during the same period. Clearly, in view of high population growth rates, the growth performance of the agriculture sector in South Asian is not satisfactory.

The problem is aggravated by factors such as the rapidly growing population, skewed distribution of assets and income, degradation of the natural resource base and unsustainable management of land and water resources, which include increase and imbalance in the use of plant nutrients, loss of soil fertility and growing use of pesticides (SAARC and FAO, 2006).

Disasters

Another important issue affecting food security is that many areas in the region are disaster prone. The respective governments have to devote large public sector resources to cope with frequent natural disasters. The most vulnerable of the population are severely affected during such incidence, as they lack the capacity of adaptability and are food insecure. Cyclones and floods in Bangladesh and coastal parts of India are quite frequent. Recurring droughts are a common feature in the arid and semi-arid parts of India and Pakistan. The excessive rainfall in most parts of Pakistan during the monsoon in 2010 resulted in the worst flooding of the country's history. It displaced 20 million people and inflicted heavy damage on crops, livestock, housing and agricultural as well as other infrastructure estimated at US\$10 billion.

These complex but interlinked factors underscore the challenges faced by South Asian countries in ensuring food security. Some of the complexity also arises due to geographical location in terms of inaccessibility for trade; in addition to remote areas within countries such as Pakistan, landlocked countries like Afghanistan, Nepal and Bhutan experience unusual difficulties in conducting trade in food products. Other factors impacting upon food security in SAARC countries reflect the heterogeneity in their physical and natural resource endowments, biodiversity, socio-economic conditions, climatic factors and dominance of the agricultural sector. The impact of these factors is manifest in variations in the nutritional status and diverse food habits of the people.

Given the enormity of the challenges faced, it is encouraging that the governments of SAARC countries are strongly committed to the goal of ensuring food security, in the spirit of the 1996 World Food Summit Declaration and the Millennium Development Goals (MDGs). All countries of the region have taken up food security as one of the important cross-cutting themes in their short-, medium- and long-term plans.

Member countries affirmed during the 15th SAARC Summit in 2008 their resolve to ensure region-wide food security and make South Asia, once again, the granary of the world; this despite problems of terrorism, bilateral conflicts, mutual mistrust and intra-state tensions. This underlines the commitment of all governments of SAARC countries to achieve some tangible outcomes in minimizing food insecurity in the region as a whole.

BROAD TRENDS IN FACTORS INFLUENCING FOOD SECURITY

Food Production and Availability

With significant differences in fluctuations and trends in per capita production for cereals (wheat and rice), the overall per capita production index for SAARC shows no significant or sustained increase (Table 8.5).

Per capita cereal production in Bangladesh showed major improvement

Year	Bangladesh	India	Nepal	Pakistan	Sri Lanka	SAARC
1991	100.00	102.58	91.39	98.61	92.98	101.56
1992	98.55	99.39	74.43	101.71	90.00	99.01
1993	95.52	104.05	89.81	106.15	97.76	103.05
1994	87.38	105.08	80.84	96.17	101.04	101.68
1995	90.18	104.25	91.34	105.47	104.79	102.65
1996	94.52	102.67	94.28	103.91	76.23	101.58
1997	92.99	106.68	92.49	100.16	82.18	104.02
1998	97.57	104.89	89.29	108.82	98.14	104.27
1999	110.01	108.91	91.74	104.36	103.51	108.24
2000	116.74	107.60	98.32	115.25	103.05	109.41
2001	109.90	106.35	94.73	100.14	96.64	105.85
2002	111.14	93.57	94.80	97.17	102.08	96.16
2003	110.66	97.45	95.01	101.02	109.20	99.53
2004	101.84	96.94	98.88	101.30	93.07	98.16
2005	108.10	98.23	95.85	110.24	114.47	100.99
2006	114.70	97.76	91.69	106.46	117.32	100.89
2007	112.84	102.24	85.66	114.05	106.18	104.33
2008	124.07	109.32	90.76	105.57	124.29	110.29

Table 8.5 Per capita production index (1990 = 100) for cereals (wheat and rice)

Source: Based on FAO (2009a).

after 1998 (Table 8.5 and Figure 8.2). The per capita availability index (PCAI) followed a similar pattern and remained above the per capita production index (PCPI) during most of the time period. The index for per capita wheat production improved significantly during the 1990s but since 2001 it showed a declining trend. Rice production per capita fluctuated below the base year level of 100 during the 1990s and started improving subsequently with some fluctuations.

In India, the cereal production index showed notable improvement during the 1990s. The index remained below 100 after the year 2001, mainly due to the decline in per capita rice production (Table 8.5 and Figure 8.2). The availability index remained mostly below but close to the production index. The wheat production index for Nepal improved after the mid-1990s, whereas rice production lagged behind the population growth rate. The cereal production index for Nepal is mostly discouraging, showing wide fluctuations. The food production index showed small improvements with minor fluctuations.

Wheat is not produced in Sri Lanka and the requirements are met through imports. The rice production index for Sri Lanka showed small improvements (till 2004) with wide fluctuations (Figure 8.2). The index showed significant improvement in more recent years. However, the availability index shows relatively smoother movements and remained above the productivity index, as well as the base level of 100. In the case of Pakistan, the per capita food production index showed small improvements since 1990 with the exception of 1991, 1994, and 2002 (Table 8.5 and Figure 8.2). Surprisingly, the availability index for Pakistan remained below 100 and well below the production index, especially after 2000. This is partly due to the government gradually reducing its involvement in wheat marketing and partially due to lack of confidence of private entrepreneurs in public policies and resultant reluctance to invest in private sector infrastructure for wheat marketing (see Box 8.1).

The analysis shows that food production in South Asia exhibits wide fluctuations. Further, the increase in food production has been mainly offset by high population growth in the region. As the possibility of increased land under cultivation is limited, South Asia has to increase food production to feed the increasing population by raising productivity. The food production system of South Asia is generally characterized by a number of other constraints such as the small size of landholdings, shrinking supplies of irrigation water, low productivity, and poor marketing and transport infrastructure resulting in high post-harvest losses. This problematic situation is worsened by the fact that some areas are prone to floods, droughts, cyclones and other natural disasters.

Food production and net food imports are translated into food availability



Figure 8.2 Food production and availability by country

in terms of calorie and protein intake. South Asia has made some progress in terms of average per capita daily intake of calories since 1990. The average consumption increased from 2280 Kcal/person/day in 1990–1992 to 2340 Kcal/person/day during 2003–2005. However, it declined to 2290 Kcal/person/day during 2005–2007 and has lagged far behind the world average consumption of calories (2780 Kcal/person/day) and even the average in developing countries (2630 Kcal/person/day) as shown in Figure 8.3.

Accessibility

Real per capita GDP growth has been positive since 1991 in almost all the countries of the region. Real per capita incomes grew at a relatively rapid rate in Bhutan, India, the Maldives and Sri Lanka as compared



Figure 8.2 (continued)

to Bangladesh, Nepal and Pakistan. Growth in per capita GDP picked up momentum after 2002 in all the countries of the region except Nepal. However, a slowdown in GDP growth in the region occurred as a result of the recent global financial crisis, which also adversely affected the accessibility aspect of food security. Pakistan suffered most, given its precarious foreign reserves and fiscal situation. It had to resort to an International Monetary Fund (IMF) stand-by arrangement and the country remains mired in stagflation with high inflation and low growth. Other countries, especially India, recovered quickly from the global financial crisis (Amjad and Muslehud Din, 2010).

From 1991 to 2004–2005, the proportion of the population living below the poverty line declined for all countries except Pakistan, based on national poverty lines or the World Bank's poverty line of US\$1.25 a

BOX 8.1 WHEAT PRICES IN PAKISTAN

In a decisive move, the new democratic government in Pakistan that took office in March 2008 raised the procurement price of wheat for the spring harvest to Rs 625 per maund from the price of Rs 425 per maund to ensure better returns for farmers.

This was partly a reaction to the shortage that had resulted from the policies adopted by the previous government, which had fixed the price well below world prices for the wheat crop of spring 2007. Believing it had a bumper crop the then government had first allowed the export of wheat, but since it had fixed the price of wheat well below world prices a large part of the wheat crop was smuggled into neighbouring countries resulting in acute shortages. The government eventually was forced to import wheat at much higher prices than it had exported. The government further increased the procurement price of wheat in August 2008 to Rs 950/40 kg given the higher prices of imported wheat. When wheat was harvested in spring 2010, world wheat prices had fallen significantly and this meant that the major burden of buying wheat at the procurement price fell on the government. The resulting food inflation and high cost of maintaining stocks had a serious adverse impact on poverty as well as on provincial governments' financial situation.

Source: Amjad (2010).





Figure 8.3 Consumption of calories

Years	Bangladesh	India	Nepal	Pakistan	Sri Lanka
1991	68.8	51.3 (1990)		22.1/(64.7)	20.0/(15.0) 1990
1994	58.2 (1992) /59.4 (1995)	36.00	68.4 (1995)	28.6 (1993)	16.3 (1995)
1996 1997 1999	51.00	46.6	41.76	48.1 31.00 32.60	25.00
2000 2001	49.80/57.8	28.60		<i>35.9</i> 34.36	
2002 2004		43.9	55.1 (2003) 30.90	22.6	22.70/14.0
2005	40.0/49.6	27.5/41.6		22.3 (2006)	15.2 (2007)

Table 8.6Population living below the national poverty line and below\$1.25 (in italics) (% of population)

Source: ESCAP (2008) and FAO (2009b).

day. In Pakistan, poverty rose in the 1990s after falling in the 1980s, but again fell post-2001. In terms of relative poverty based on the US\$1.25 per day indicator, Pakistan's poverty level is much lower than in other SAARC countries, except in the case of Sri Lanka where the level has been consistently lower throughout the period (Table 8.6). The global economic slowdown coupled with widespread poverty in the region and recent hike in food prices adversely impacted the accessibility aspect of food security.

High food prices result in reduced real incomes of the poor and decline in their food consumption. The real food prices index (measured as food price index divided by consumer price index expressed as a percentage) remained below 100 in India after 2000, showing that food prices increased less rapidly than the prices of other consumer items, while in Bangladesh, Pakistan and Sri Lanka an upsurge in real food prices was experienced during the same period (Figure 8.4). The higher food prices have a limited positive effect on farm incomes and are limited to producers that have a sizeable marketable surplus. The urban consumers and a significant part of rural households are net buyers of food and high food inflation has an adverse effect on affordability of these households.

The world price of wheat relative to that of rice increased from 0.45 in January 2000 to 1.02 in October 2002, showing a rapid increase in wheat prices relative to rice prices during this period. The relative wheat-rice price ratio when indexed (January 2000 = 100) reveals that wheat was becoming more expensive relative to rice in the world market up to March



Figure 8.4 Real food price index

2008. The relative price ratio was restored to the level of January 2000 in April 2008, following which rice became more expensive relative to wheat. However, in May 2009 an increase in the relative price of wheat was again observed. The consequences of higher wheat prices on the food security of poor households in countries and regions where wheat is the staple food are expected to be more profound than those where rice is the staple food.

Food Utilization

Improved availability and accessibility to food only partially reduces food insecurity in the absence of proper food utilization, which is related to factors like nutrition education, health awareness, gender disparities, sanitation, access to safe drinking water, food preparation practices, eating habits, food safety, and health services and infrastructure. Indicators relating to immunization coverage, infant mortality, child mortality, prevalence of undernourishment, life expectancy, access to safe drinking water and sanitation facilities, and public investment in health are determinants of the food absorption capacity of the population.

As shown in Table 8.7, during the past decade the Maldives, Bhutan, and Sri Lanka spend a relatively higher percentage (1.7 per cent to 5 per cent) of their GDP on public health as compared to other countries of the

Years	Bangladesh	Bhutan	India	Maldives	Nepal	Pakistan	Sri Lanka
2000	1.0	4.0	0.7	4.1	0.8	0.7	1.6
2001	0.9	5.0	0.8	3.9	0.8	0.7	1.3
2002	0.9	4.2	0.7	3.9	0.9	0.7	1.5
2003	0.8	2.9	0.6	4.1	0.7	0.7	1.5
2004	0.9	2.6	0.6	4.3	0.7	0.6	1.6
2005	0.8	2.6	0.6	5.5	0.8	0.6	1.8
2006	0.8	2.6	0.6	5.9	0.9	0.5	2.0
2007	0.8	3.3	0.7	5.8	1.0	0.6	1.9
2008	0.8	5.0	0.7	7.8	1.2	0.6	1.7
2009	1.4	4.5	1.2	5.0	1.8	0.6	2.0
Avg.	0.91	3.67	0.72	5.03	0.96	0.63	1.69

Table 8.7 Public health expenditure (% of GDP)

Source: WDI (2008, 2009, 2010), ADB (2009), Pakistan Economic Survey 2008-09.

Table 8.8 Improved sanitation facilities (% of population with access)

Years	Afghanistan	Bangladesh	Bhutan	India	Maldives	Nepal	Pakistan	Sri Lanka
1990	_	20	_	14	_	11	37	69
2004	30	39	70	33	59	35	59	91
2008	37	53	65	31	98	31	45	91

Source: WDI (2010), ADB (2011b).

region (1 per cent or less). In the case of Bangladesh, India and Pakistan, a low percentage of their GDP was allocated to the health sector with serious implications for food security. In Sri Lanka, access to sanitation increased from 69 per cent of the population in 1990 to 91 per cent in 2008. Access to improved sanitation in Bangladesh, India, Nepal and Pakistan improved over time but coverage of the population is still among the lowest in the region: sanitation facilities were available to 53, 31, 31 and 45 per cent, respectively, of their population during 2008 (Table 8.8). One-fifth of the population of Bangladesh lacked access to improved water sources during the same year, whereas in Pakistan, India and Nepal about 10 per cent of the people lacked access to improved water sources (Table 8.9).

The prevalence of undernourishment in Bangladesh, Pakistan, Sri Lanka, India and Nepal was 27, 26, 19, 21 and 16 per cent, respectively, in 2007 showing gradual improvement over time except for Pakistan (Table 8.10). The prevalence of malnutrition was lower in Sri Lanka than in India, Nepal, Bangladesh and Pakistan during 1990–2009 (Table 8.11).

Years	Afghanistan	Bangladesh	Bhutan	India	Maldives	Nepal	Pakistan	Sri Lanka
1990	4	72	_	70	96	70	83	68
2004	39	74	62	86	83	90	91	79
2006	22	80	_	89	_	89	90	82
2008	48	80	92	88	91	88	90	90

 Table 8.9
 Improved water source (% of population with access)

Source: WDI (2008 to 2010), ADB (2009, 2011b).

 Table 8.10
 Prevalence of undernourishment (% of population)

Years	Bangladesh	India	Maldives	Nepal	Pakistan	Sri Lanka
1992	35	25	17	20	24	28
1997	40	21	15	26	19	26
2003	30	20	11	17	23	22
2004	30	20	10	17	24	22
2007	27	21	7	16	26	19

Source: WDI (2008, 2010), and other issues.

 Table 8.11
 Malnutrition prevalence (% of children under 5)

Years	Bangladesh	Bhutan	India	Maldives	Nepal	Pakistan	Sri Lanka
1990	66	_	64	_	_	-	_
1991	_	_	_	_	_	40	_
1992	68	_	61	_	_	_	—
1993	_	_	53	_	_	_	38
1994	_	_	-	39	_	40	-
1995	_	-	-	43	49	38	33
1996	57	_	-	_	47	-	-
1997	56	_	-	_	_	-	-
1998	62	-	-	45	47	-	-
1999	61	19	47	_	_	-	-
2001	52	_	-	30	48	35	30
2002	_	-	-	_	-	38	29
2006	39.8	_	43.5	_	38.8	31.3	22.8
2007	41.3	-	-	_	-	-	21.1
2008	_	12	-	_	-	-	-
2009	-	_	_	-	-	_	21.6

Source: WDI (2008, 2010), and other issues.
Years	Bangladesh	Bhutan	India	Maldives	Nepal	Pakistan	Sri Lanka
1990	55	54	59	61	55	59	71
1992	56	56	60	61	56	60	72
1995	59	58	61	63	58	61	73
1997	60	60	62	64	59	62	73
2002	63	63	63	66	61	64	74
2005	64	64	64	68	63	65	75
2006	64	65	64	68	63	65	75
2007	66	66	64	68	66	66	74
2008	66	66	64	72	67	67	74
2009	67	67	64	72	67	67	74

Table 8.12 Life expectancy at birth, total (years)

Source: WDI (2008, 2010), and other issues.

While malnutrition has declined in all the countries, nearly 40 per cent of children (under five years) in India, Nepal and Bangladesh are still malnourished (in terms of weight for age).

Immunization coverage (for measles as well as DPT – diphtheria, pertussis and tetanus) improved in all SAARC countries during the past two decades, and was over 95 per cent in Sri Lanka and Bangladesh in 2008 for children aged 12–23 months. In other countries, coverage remained below 90 per cent. In India, over 30 per cent of children aged 12–23 months were not covered under measles or DPT immunization during 2008; in Pakistan, about 27 per cent and 15 per cent of children in the same age group did not receive immunization for DPT and measles, respectively.

Since 1990, life expectancy at birth has improved in all the countries of the region. Life expectancy is highest in Sri Lanka (74 years in 2009), reflecting relatively good health indicators; in other countries of the region, life expectancy ranged from 64 (India) to 72 (the Maldives) years (Table 8.12).

Although most of the indicators discussed above show improvement over time in all countries of the region, a lot is still to be achieved. A major reorientation of development policies and an enhanced level of public commitment and resources towards these sectors is required, leading thereby to improved food utilization, which is one of the core determinants of food security in the region.

Food Security Index (FSI)

As discussed in the earlier section on "Methodology", a food security index (FSI) has been developed for South Asia covering Bangladesh,

Year	Bangladesh	India	Nepal	Pakistan	Sri Lanka	SAARC
1990	100.00	100.00	100.00	100.00	100.00	100.00
1991	100.03	101.33	94.22	99.20	95.35	100.77
1992	99.13	99.05	82.41	101.14	93.31	98.90
1993	97.28	102.26	93.06	103.79	98.70	101.70
1994	91.99	102.73	87.04	97.13	100.75	100.77
1995	93.64	101.96	94.12	102.80	103.57	101.09
1996	96.56	100.97	95.96	101.90	83.79	100.28
1997	95.62	103.84	94.75	99.38	87.84	102.16
1998	98.38	102.40	92.73	105.12	98.18	102.04
1999	106.69	105.58	93.64	102.15	101.96	105.07
2000	110.83	105.04	98.55	109.58	101.67	105.95
2001	106.40	104.46	96.89	100.42	97.19	104.00
2002	107.42	96.33	96.82	98.54	101.17	97.77
2003	107.37	98.93	97.01	101.23	106.13	100.10
2004	101.20	98.74	99.70	100.87	95.56	99.20
2005	105.14	99.74	97.77	106.08	109.52	101.06
2006	109.46	99.20	94.99	104.09	112.07	100.86
2007	108.04	101.71	90.79	108.60	103.61	102.92
2008	115.33	105.92	93.87	102.20	114.64	106.38

Table 8.13 Food security index (1990 = 100)

Source: Calculation based on FAO and WDI data.

India, Pakistan, Nepal and Sri Lanka. The FSI is based on the following four indicators: per capita food availability index (50 per cent weight); per capita food production index; self-sufficiency ratio index; and an index of inverse relative food prices (the last three indexes equally weighted for the remaining 50 per cent). The first two indexes address food availability, the third vulnerability in terms of import dependency, and the last variable access in terms of rising food prices relative to other prices.²

The food security index for the SAARC region, based on data from the five countries, showed fluctuations in individual years but an overall upward trend until 2000, after which it fell in 2001 and then sharply in 2002. Subsequently it improved but by 2008 it was only marginally better as compared to 1990 (Table 8.13 and Figure 8.5).

The FSI developed by this study clearly shows that despite an overall increase in food production in these countries, there has been no significant corresponding improvement in food security in South Asia.

The fact that the food security index has improved very little over the past two decades despite reasonable growth rates in agricultural output and the reduction in poverty needs to be probed more deeply. To start



Figure 8.5 Food security index: SAARC

with, it is important to keep in mind that, in constructing the FSI, the per capita food production index was given the highest weight (50 per cent). Even if agriculture output or food production grows at a reasonable rate, the per capita output or production would have a considerably lower growth rate given the still relatively high population growth rates in most countries in the region. The FSI is net of the population growth effect and, therefore, it shows smaller improvements.

The marginal improvement in the FSI coupled with evidence of increasing income inequalities in the region is of serious concern with regard to food security in SAARC countries. It should be pointed out that given large-scale concealment of income (mainly from tax authorities) by the higher-income groups in the region, it is reasonable to assume that the Gini coefficients grossly underestimate the actual level of income inequalities. Income inequalities in India are generally low and the Gini coefficient (0.28) did not change during the period 1990–2000. Sri Lanka, Nepal and Bangladesh have relatively high income inequalities (with Gini coefficient over 0.4) which have marginally increased over time, but significantly so in the case of Nepal. Income inequalities declined for a period in Pakistan but increased again recently; absolute levels of inequality are higher than in India.

Country-level food security indices

Any FSI for South Asia will be dominated by developments in India since it accounts for almost three-quarters of the region's population. It is therefore important to see movements in the FSI for each of the countries, as shown in Table 8.13.

In India, the FSI improved gradually during the period 1990–2001 but then declined sharply in 2002, due to a decline in the production of



Figure 8.6 Food security index (India and Pakistan)

paddy of over 16 per cent resulting from reduced acreage (10 per cent) and lower paddy yields (7 per cent) than for the previous year. The paddy area harvested and yields showed a slow recovery for the following four years. Depressed domestic prices played a significant role in slow recovery and the FSI remained below the level of 100 until 2006. The FSI index for India improved during 2007 and 2008 (Figure 8.6 and Table 8.13) as increased food grain prices played an important role in enhancing food grain production.

In the case of Pakistan, the FSI showed steady improvement during the 1990s but with wide fluctuations. It then fell sharply in 2001 and further declined during 2002. The reduced production of paddy (19 per cent) and wheat (9.7 per cent) during 2001 resulted from decline in acreage as well as yields of both crops. A further decline in wheat production (4.2 per cent) resulting from reducted acreage yields in 2002 pushed the FSI to an even lower level. The long dry spells during these years were mainly



Figure 8.7 Food security index (Sri Lanka and Bangladesh)

responsible for the poor performance. The persistent water shortages, rise in fertilizer prices and depressed food grain prices accounted for the slow recovery in production of cereals in Pakistan. The index recovered subsequently, reaching a level in 2007 which was just below what it had been at its peak in 2000. During 2008, however, the FSI fell again to a level that was just slightly above the level of 100 in the base year in 1990 (Figure 8.6 and Table 8.13). This was mainly due to the decline in availability (wheat exported and smuggled out and delayed imports) and about 10 per cent due to reduced wheat production on account of low yields resulting from various factors (including late sowing of crop, water shortages and low use of diammonium phosphate (DAP) fertilizer due to to high fertilizer prices).

The FSI for Sri Lanka fluctuated considerably during the past two decades, and by 2008 its level was significantly higher than it was in 1990 (Figure 8.7 and Table 8.13). The fall in the FSI during 2004 was primarily due to low production of paddy on account of a 17 per cent decline

in acreage resulting from drought conditions in both cultivation seasons (Maha and Yala). Similarly, production of paddy declined during 2007 because of the fall in acreage sown due to shortages of water and low paddy prices. Of note, year-to-year fluctuations in paddy yield in Sri Lanka were mild relative to variations in other countries of the region.

In the case of Bangladesh, the food security index fluctuated below the base year level of 100 during the period 1992–1998. However, the index showed notable improvement during the following two years and attained a level of 111 in 2000, reflecting an almost 10 per cent increase in rice production. Subsequently the level has fluctuated, declining sharply in 2004 before recovering to its peak level in 2008 (Figure 8.7 and Table 8.13). The provision of price incentives in the National Food Policy 2006 for enhancing domestic production played a major role in improvement of the index in later years. The food security index for Nepal remained below 100 from 1991 with sharp fluctuations until 2008. The growth of production of food grains remained lower than the population growth in Nepal throughout this period.

The above analysis suggests that food security in South Asia is prone to severe fluctuations, resulting mainly from adverse weather conditions and policy distortions. A notable improvement in food security index has been observed in the case of Bangladesh and Sri Lanka during the 2000s due to increased domestic production of food grains. The achievement of reduced population growth rates by these countries, greater price incentives to food grain producers and enhanced openness of the respective economies are the other important factors that contributed positively toward improved food security in these countries. The population growth rates in Sri Lanka (0.9 per cent) and Bangladesh (1.3 per cent) in 2008 were the lowest among SAARC countries. The trade openness index (total trade as percentage of GDP) doubled from 20 per cent in 1990 to about 40 per cent in 2005 in Bangladesh. The greater role of the private sector and diminishing public sector participation in food markets in Bangladesh contributed to improving its food security index. The ratio of total trade to GDP in Sri Lanka increased from 65 per cent in 1995 to 80 per cent in 2005.

It is important to note that despite improvements in their FSIs, these countries continue to face significant risks to food security and the situation can hardly be termed as satisfactory. The higher food prices in the domestic market provide incentives for more production but have strong negative effects on the welfare of poor households. Increases in productivity of crops through increased investment in agricultural research and development, especially in the crops produced and consumed by the poor, are essential for future food security in these countries. The FSIs improved least in the case of India and Pakistan over the study period, mainly on account of depressed food grain production because of interventionist policies followed by the respective governments. The role of the private sector in food grain markets remained limited, keeping production below efficient levels. The growing population resulting from still high population growths in these countries is another factor accounting for the low performance in terms of FSIs and has important implications for food security.

In Pakistan, food production remained mostly depressed due to the withdrawal of input subsidies and low prices offered³ to producers during the 1990s. In recent years, the government of Pakistan has started providing subsidies on fertilizer and has increased the procurement price of wheat above the world price. Despite the positive impact of higher food prices on food production, increasing food inflation is the most important factor of concern in Pakistan as it will result in a reduction of purchasing power of the poor. The situation was made worse by the unprecedented floods in the summer of 2010, which sharply reduced food production. The expected food inflation will further reduce the purchasing power of the poor.

India also has a long history of intervening heavily in agricultural markets, resulting in depressed production of food grains. It has a large food procurement and distribution system and has initiated a large number of safety net programmes aimed at improving access of the poor to food. Frequently exercised restrictions on inter-regional movement of agricultural commodities resulted in disincentives to local producers while higher prices were paid by consumers in the deficit areas. Thus such restrictions mainly benefited the traders and rent-seeking government officials and had adverse effect on food production as well as food security.

Food Hunger Index 2009

The FSI developed in this study with further improvements, and incorporation of other key variables can help policy-makers in tracking how the region or individual countries are faring in their quest for improved food security. However, this variable in itself does not give a quantitative feel of how close or far away is the goal of a satisfactory level of food security. One country could have made more progress in recent years in improving its food security index as compared to another but still be well behind that country in terms of its overall food security situation, or in a situation which could be termed as satisfactory.

The Global Hunger Index is a good indicator of progress being made in eradicating hunger and malnourishment. Developed by IFPRI in collaboration with Welt Hunger Hilfe and Concern Worldwide, it ranks nations from the best to the worst countries with a score of 0 and 100, respectively. A country with a score of less than 4.9 implies low hunger, a score between 5.0 and 9.9 reflects moderate hunger, whereas higher scores are indicative of serious problems (10 to 19.9), alarming (20 to 29.9) and extremely alarming (30 or more).

The index combines three equally weighted indicators:⁴

- the extent of undernourishment as a percentage of the population;
- the percentage of underweight children under the age of five; and
- the mortality among children under the age of five.

The recently released IFPRI Global Hunger Index Report (2010), based on data for 2003–2008 (our FSI covers data to 2008) is very informative and should set off alarm bells in all countries in South Asia. The report shows that although the Global Hunger Index (GHI) improved in South Asia from 30.7 in 1990 to 22.9 in 2010 (actually 2008), it was still alarmingly high, and highest amongst all regions in the world including sub-Saharan Africa. The relative position of other regions and for the World GHI are shown in Figure 8.8.

Looking at individual countries, Sri Lanka's GHI stood at 14.5 in 2010 (compared to 21.1 in 1990), followed by Pakistan at 19.1 compared to 24.7 in 1990, India at 24.1 down from 31.7 in 1990, and Bangladesh at 24.2 down from 35.9 in 1990. This shows that, except for Sri Lanka, hunger remains a serious problem in South Asia (Table 8.14). The results also indicate that the lowest decline in the GHI between 1990 and 2010 was for Pakistan, which is similar to what the FSI analysis indicated.

Trends in the GHI again bring out Pakistan's poor performance during the post-1990 period and are a reflection of its continuing very poor human development indicators, especially for females. It also points to the need for tackling serious structural constraints in its fight against hunger and malnutrition.

This section has clearly illustrated the multifaceted challenge that countries in South Asia face in achieving food security, especially given still high and fluctuating global food prices. It also confirms that while indicators of economic growth, increases in food production and availability and the decline in overall poverty have marginally improved the situation in South Asian countries, they still have a long and arduous task ahead.

The lack of progress in reducing food insecurity and hunger and malnutrition in some countries shows that their economic structure in terms of asset and income distribution, HDI status and gender disparities may be key factors. This also points to the need for closer analysis at the household level.

nortality rate	of underweight in children	of undernourished		8.7	4.9	GHI GHI	1990 2010	Latin America	& Caribbean
Z Under-five n	Prevalence o	Proportion 6		ų	7.5 5.1	GHI GHI	1990 2010	Near East &	North Africa
			14.4	8.6	5	GHI GHI	1990 2010	Southeast	Asia
30.7	0.00	(j 🖾				GHI GHI	1990 2010	South Asia	
	25.3	21.7				GHI GHI	1990 2010	Sub-Saharan	Africa
		19.8	15.1		į.	GHI GHI	1990 2010	World	

data on the proportion of undernourished are for 1990–92: data on child underweight are for the latest year in the period 1988–92 for which data are available: and data on child mortality are for 1990. For the 2010 GHI, data on the proportion of undernourished are for 2004–06, data on child underweight are for the latest year in the period 2003–08 for which data are available and data on child mortality are for 2008. Notes: Contribution of components to 1990 GHI (based on data from 1988–92) and 2010 GHI (based on data from 2003–08). For the 1990 GHI,

Source: IFPRI et al. (2010).

Figure 8.8 IFPRI Global Hunger Index

Rank	Country	1990	2009	2010
35	Sri Lanka	21.1	13.7	14.5
55	Nepal	27.6	19.8	20.0
58	Pakistan	24.7	21.0	19.1
65	India	31.7	23.9	24.1
67	Bangladesh	35.9	24.7	24.2
	South Asia	30.7	23.0	22.9

Table 8.14 Global Hunger Index (1990, 2009 and 2010)

Source: IFPRI et al. (2010).

PUBLIC SECTOR POLICIES RELATED TO FOOD SECURITY

Public sector initiatives or policies aimed at food security undertaken in various SAARC countries have included supply-side as well as demandside measures. Supply-side initiatives or policies included price-oriented (price-increasing or cost-reducing) and non-price measures (infrastructure development and investment in agricultural research and extension). The price-oriented measures entailed fixing support and procurement prices for important crops. These were coupled with procurement and distribution activities performed through: public distribution systems run by federal or provincial institutions and authorities; providing subsidies to processors or consumers; subsidizing agricultural inputs like fertilizer, biocides, seeds, agricultural machinery, electricity, irrigation water and institutional credit; reduction of tariffs on materials used in production, processing or marketing of important food items; and supplying gas and electricity at subsidized prices to producers of agricultural inputs like fertilizers.

The countries of the region have also implemented a range of demandside programmes affecting aspects of food security, including various safety-nets and public distribution systems (PDSs).

Supply-side Policies

Price-oriented policies

SAARC countries have pursued interventionist policies in agricultural output markets as well as input markets. Pricing has been used as an instrument to expand agricultural production, to meet domestic consumption needs, help stabilize agriculture prices and substitute food imports. Policies have also been adopted to supply food to consumers at low prices. The prices for most agricultural commodities were kept considerably lower than world prices and the commodities were subject to compulsory procurement by government agencies. Low prices for consumers has been the main concern, with little attention paid to international prices and incentives for producers. This resulted in depressed incentives for the producers and reduced output levels.

Non-price policies

These policies included development of irrigation, roads, and market infrastructure and investment in agricultural research and extension. Empirical evidence shows that agricultural research and development (R&D) has been an important source of growth in agricultural productivity in many of the developing countries, including in South Asia (Evenson, 2002).

Demand-side Policies

Public distribution system

The countries of the region have a long history of distribution of staple food at low (below-market) prices. All SAARC countries have instituted public distribution systems run through domestic procurement at preannounced prices and, if needed, resorting to imports. Procurement of food grains and building of buffer stocks are important means of food availability on which the distribution of food grains depend.

However, even the largest countries of the region lack sufficient storage capacity. The procurement and distribution systems involve large subsidies and huge incidental costs. For example, incidental costs of private traders are much lower than those of the state-owned enterprises in Pakistan (Salam, 2003). Similarly, the high cost of running such systems forced Sri Lanka to switch from cheap food delivery to food stamps, suggesting that the earlier alternative failed to ensure food security for the poor. Moreover, the large differential between the distribution price and market price not only increases public expenses but also leads to leakages and rent-seeking. The countries of the region need to learn from each others' experiences.

Safety nets

Among SAARC countries, India has had extensive experience in implementing a large number of safety net programmes aimed at household and individual level food access and, thereby, food security. However, safety net programmes are generally marred by inefficiencies and adverse selection. Some of these initiatives in India are listed below:

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- Mid-day Meal Scheme. The scheme was initiated for students in primary schools run by provincial and local governments. Under this scheme, food grains were provided free of cost to each child at the rate of 100 grams per school day.
- Annapurna Scheme. Under this scheme senior citizens are provided, free of cost, 10 kg of grain per person per month.
- Food for Work Programme. Implemented in 150 of the poorest districts, at least one able-bodied person from each household is provided 100 days of employment at the minimum wage rate.
- National Rural Employment Guarantee Scheme. Implementation started during in 2006–2007 in 200 of the poorest districts and gradually extended to all 610 districts of India. The allocation for 2009–2010 is Rs 780 billion (0.66 per cent of GDP of India).

In Pakistan, the Benazir Income Support Programme (BISP) is the main social safety net. It was launched during 2008 to provide cash transfers to the vulnerable, identified on the basis of a poverty scorecard. It was intended to cover 3.4 million families or 22.7 million people during 2008-09 and was extended to cover 7 million families in the next couple of years. Under this scheme, female heads of the households are provided Rs 1000/ month per family, which approximates an increase of 20 per cent in family income.

Among other schemes in Pakistan, the Food Support Program (FSP) and the Child Support Program (CSP) are important; they are being sponsored through the Pakistan Bait-ul-Mal. Some 1.25 million house-holds receive Rs 3000 per year under the FSP. The CSP is being piloted in three districts as a conditional cash transfer programme. It was scaled up to 11 districts during 2009–2010 and will expand to 27 districts in 2011–2012. At present, support under the CSP is conditional on the beneficiary's children aged 5–12 years being in school with at least 80 per cent school attendance. Beneficiary families are paid Rs 300 per month with one child in school and Rs 500 per month with more than one child in school.

SAARC COLLABORATION IN ENSURING FOOD SECURITY: POSSIBILITIES AND CONSTRAINTS

Given the political realities in the region, it is important to distinguish between what may be desirable and what is feasible for ensuring food security through regional collaboration, both bilaterally and under SAARC. Trying to achieve the best may well be the enemy of the good.

Liberalization of Regional Trade

Intra-regional trade among SAARC countries is very low, at about 5 per cent of their total trade. Indeed as a recent study points out, South Asia is the least integrated region in the world. The study identified cross-country conflict as the most important reason for this very low level of integration (Ghani and Ahmed, 2009). Intra-regional trade in South Asia is 0.8 per cent of total GDP for the region, in contrast to East Asia where intra-regional trade is equivalent to nearly 28 per cent (Rodrigo, 2008).

There are, however, sharp differences in the pattern of intra-regional trade among South Asian countries (Tables 8.15a and 8.15b). Intraregional imports as a percentage of total imports for Bangladesh, Nepal and Sri Lanka stood at 15.2, 45.9 and 19.4 per cent, respectively, during 2002–2006. In contrast, Pakistan and India met only 2.8 and 0.9 per cent, respectively, of their import requirements from the region during the same period. Intra-regional imports as a percentage of total imports showed some improvement in the case of Nepal, Pakistan, and Sri Lanka during 2007–10 (Table 8.15b). The share of regional imports increased around threefold for Bangladesh and Sri Lanka between 1985 and 2010. In the case of both India and Pakistan, the share of intra-regional imports as a percentage of total imports as a percentage of total imports as a percentage of total imports as a percentage of some since as a since as a percentage of total imports as a percentage of some since as a since as a percentage of total imports as a percentage of some since as a percentage of total imports as a percentage of some since as a percentage of total imports increased only marginally and from a small base.

Trends in intra-regional exports reveal a different picture. As shown in Table 8.15a, during 2002–2006 intra-regional exports as a percentage of total exports for Bangladesh were 1.8 per cent, for Nepal 51.1 per cent, for Pakistan 8.9 per cent and for India 5.5 per cent. As shown in Table 8.15b, the average during 2007–10 was notably higher: for Bangladesh 2.6 per cent, for Nepal 64.4 per cent, and for Pakistan 11.9 per cent. In the case of India, however, intra-regional exports as a percentage of its total exports declined between the two periods shown in Tables 8.15a and 8.15b, from 5.5 per cent to 4.8 per cent.

There is little doubt, as many studies have consistently shown, that removing trade barriers among SAARC countries would benefit them all. At the same time, most of the studies confirm that the benefits would be marginal or modest at best, given low per capita incomes, poorly developed infrastructure and high transaction costs (Kumar and Singh, 2009). Other studies (Kemal et al., 2000) have also found that in view of the almost identical patterns of comparative advantage in a relatively narrow range of products, there is a lack of strong complementarities for bilateral trade in South Asia. However, the process of trade liberalization among SAARC countries needs to accelerate, even if the benefits are marginal to begin with.

Country	Intra-re	gional ex	ports	Intra-regional imports			
	Avg. value (\$ million)	Region	Share in own total exports	Avg. value (\$ million)	Region	Share in own total imports	
Afghanistan	83	1.2	41.9	896	13.2	39.8	
Pakistan	1209	17.9	8.9	573	8.5	2.8	
Nepal	319	4.7	51.9	762	11.2	45.9	
Bangladesh	145	2.1	1.8	1836	27.1	15.2	
Sri Lanka	508	7.5	8.7	1598	23.6	19.4	
India	4474	66.2	5.5	984	14.5	0.9	
Maldives	17	0.2	13.9	127	1.9	20.0	
SAARC Region	6754	100.0	6.2	6776	100.0	4.4	

 Table 8.15a
 Intra-regional trade for SAARC countries (average over 2002–2006)

Source: Kumar and Singh (2009).

 Table 8.15b
 Intra-regional trade for SAARC countries (average over 2007–2010)

Country	Intra-r	egional ex	Intra-regional imports			
	Avg. value (\$ million)	Region	Share in own total exports	Avg. value (\$ million)	Region	Share in own total imports
Afghanistan	203	1.6	46.9	2145	15.8	34.8
Pakistan	2331	18.9	11.9	1838	13.5	4.6
Nepal	501	4.1	64.4	1674	12.3	53.6
Bangladesh	378	3.1	2.6	3381	24.9	14.8
Sri Lanka	520	4.2	6.6	2775	20.4	21.9
India	8385	67.9	4.8	1603	11.8	0.6
Maldives	18	0.1	13.3	168	1.2	14.3
SAARC Region	12339	100.0	5.6	13 586	100.0	3.7

Source: Estimates by the authors based on IFS data of IMF.

Trade in food grains

Trade theory holds that allowing freer trade in food grains between countries would stimulate increases in productivity and growth in food production, primarily as a result of an increase in the size of the market as well as greater stability in prices. International agencies, therefore, consistently condemn erection of trade barriers and outright bans on the movement of food grains whenever countries face food shortages.

The reality, however, is quite different. The basic instinct of governments in the face of food shortages or high export prices is to clamp import duties or ban exports to ensure food grain availability for their populations. The alternative is to face the possibility of food riots and political unrest, which clearly no government would like to see. Indeed, governments in the region put in place restrictions of food grain movements across provinces and even districts to ensure food security at the local level.

Regarding the movement of food grains, the region needs to be subdivided. There is considerable movement in food grains between India, Bangladesh and Nepal, and between Pakistan and Afghanistan. However, due to recurring political tensions there is little prospect for some time for the free movement of food grains in the region.

Realistically, the possibilities are limited. The scope for trade depends upon factors like comparative advantage, exportable surplus, complementarities in bilateral trade, seasonality and, most importantly, political cohesion. India and Pakistan have rice in surplus while other countries in the region are net importers. However, Pakistan till recently has been a net importer of wheat; India has surplus wheat but not on a very consistent basis, which constrains its emergence as an established wheat exporter. All other countries are net importers of wheat. The region's exports of wheat fall short of the region's imports. Nonetheless, starting the process of food trade among the countries of the region is a prerequisite for larger possible benefits in the future.

SAARC Food Security Bank

The Food Security Reserve for SAARC was established in 1988 to address the problem of food insecurity in the region by building up a food stock. The working of the reserve could not be made operational. However, recognition by member countries of the importance of regional and sub-regional collective self-reliance with respect to food security led to the establishment of the SAARC Food Security Bank in April 2007. The objectives were to meet the food security needs of SAARC countries and to act as a regional food security reserve (for wheat and rice) for the member states during times of food shortages. The Bank was meant to supplement national food security efforts and mitigate food shortages through collaborative efforts. However, to date operationalization of the Bank has been slow (for details see Mittal and Sethi, 2009). A number of reasons account for the slow progress on the Food Security Bank, including the following: (1) absence, inadequacy and/or poor conditions of essential infrastructure (storage capacity, roads and quality certification facilities); (2) lack of political cohesion and economic coordination; (3) limited complementarities to provide the basis for such cooperation; (4) failure of states of the region to emerge as established food exporters; (5) delay in deciding various modalities; and (6) lack of confidence that limited reserves of food grain earmarked (0.24 million tonnes) will be helpful in solving the problem. The consultation process on deciding the modalities and addressing the issues mentioned above need to be continued with greater commitment.

In summary, it can be concluded that the goal of setting up an effective Food Security Bank is still some way off, not least because no country would like to be in a situation where it finds itself dependent on an arrangement in which it does not have full confidence. Moreover, food security is a highly sensitive issue in SAARC countries and is considered politically too risky to be left to a regional forum.

Agriculture Pricing Policies

Intrinsically linked with trade in food grains is the issue of relative prices of food grains in the countries of the region. If price differentials are high, then even though official trade may not be allowed, porous borders facilitate smuggling of food grains across countries. This illegal movement of food grains is not just amongst adjoining neighbours in South Asia but may involve Central Asia countries as well, as was the case of Pakistan wheat in 2007 when low domestic prices and a bumper crop resulted in large-scale illegal trade and domestic shortages.

Again, a strong school in economics supported by the IFIs postulates that governments should not be in the business of fixing food and commodity prices and that these should be dictated by prevailing market forces and international prices. Yet again, as discussed earlier, SAARC countries have a long history of controlling or setting food prices of essential items to protect the perceived interest of vulnerable consumers, including through food rationing.

In the context of food security, there is need for SAARC countries to exchange views on supply and demand projections and pricing of food grains. Policies towards inputs such as fertilizers also need to be discussed. This may gradually lead to a convergence of views and help reduce trade barriers, as countries move to a system of encouraging prices to be set in line with global markets rather than being influenced by domestic political pressures.

Cooperation in Research and Sharing Agricultural Technologies

Given highly subsidized agriculture in countries that are the main players in international market and volatile global food prices, SAARC countries should strive hard for greater self-sufficiency by promoting production of important food products at lower costs. The path to future food security in the region requires higher productivity in crop and livestock subsectors, as well as conservation of water and land resources. SAARC countries are predicted to be the worst hit by climate change. With their limited resources, SAARC countries can address the new challenges through cooperation in agricultural research efforts, sharing research-based technologies and exchanging the experiences related to agricultural support services. Promising areas of cooperation include sharing of genetic materials and experiences in biotechnology, tissue culture, plant genetics and hybrid seed technology.

Other promising areas for regional cooperation are: collaborative research to combat the threats of climate change; conservation of water and land resources; and control of transboundary livestock and poultry diseases. The introduction of new crops and adoption of uniform quality standards by the member states are yet other areas for collaboration.

India has developed significantly its agricultural research and extension system. Pakistan has experimented with the Farmer Field School training programme under integrated pest management (IPM). Other countries have also specialized in some crop or resource use. All countries of the region can benefit through exchange of information and collaboration in organizing relevant research activities. Governments in the region should enhance their allocations to agricultural research and should be open for the exchange of experts and training of agricultural scientists.

BUILDING BLOCK APPROACH TO FOOD SECURITY IN SAARC THROUGH REGIONAL COOPERATION

The main recommendations of this chapter include:

- 1. A roundtable conference of experts and representatives of SAARC countries should be held in order to discuss and adopt the proposed food security index (incorporating possible improvements); the FSI should be regularly updated and monitored for changes by SAARC and its member states.
- 2. The SAARC Food Security Bank was established to provide regional support to national efforts for food security. In order to build

confidence of member states in depending on the Bank, the reserves need to be enhanced along with development of the required infrastructure for effective and timely distribution. A committee of experts (from member states) should determine the optimal size of such reserves and how these may gradually be built up. The committee should also build consensus about the needed infrastructure (storage, transportation, roads) and operational modalities. The committee should also impress on member states the need for greater political support and economic cohesion in building an effective SAARC Food Security Bank.

- 3. Increased production of food items in the region is essential for food security. Ideally, such an increase in production needs to be achieved through policies that ensure attractive profits to producers and offer affordable prices to the consumers. The enhancement of productivity through increased investment in agricultural research and extension can play a crucial role in this respect. The Regional Food Security Programme needs to develop a research agenda that concentrates on key areas with regional level potential for productivity gains; research projects for this purpose need to be prioritized and financed. Modalities for sharing the technologies developed, genetic resources, and research and training facilities should also be addressed. International donors and member states should contribute necessary financial resources for regional research efforts and enhance their support to the national agricultural research systems.
- 4. Price differentials across national borders determine possible direction of legal or illegal trade of agricultural commodities. Under unhindered trade regionally as well as with rest of the world, prices of agricultural commodities would stay close to world prices. However, prices of agricultural commodities are more often regulated (especially of major food items) to ensure food security for the poor and vulnerable groups. The (independent) pricing decisions undertaken by respective governments in the region impact upon neighbouring states. The possibility of greater coordination among member states with respect to price policies for food products needs to be explored; as a minimum, there should be an exchange of information on a regular basis on the expected level of food production and on price policies for major food items.

NOTES

1. The data regarding several factors influencing various components of food security discussed above are not being generated annually thus constraining the choice.

- 2. The inverse relative food price index was included to capture the adverse effect of rise in real food price, reflecting the accessibility aspect of food security more closely rather than its availability aspect, of which the production is an important part. As far as positive impact of high food price on FSI through increased food production (induced by enhanced incentives to the farmers) is concerned, it is taken care of with direct inclusion of the per capita food production index (which encapsulates several factors including variables such as food prices and weather).
- 3. Fixation of the procurement price for wheat below the world price resulted in heavy implicit taxation of growers and depressed crop production.
- 4. We do not believe that multicollinearity among variables poses any problem for the construction of an index. As a matter of fact indices are used precisely because of the potential problem of multicollinearity among the variables that may hamper econometric estimation.

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REGIONAL INTEGRATION AND ECONOMIC DEVELOPMENT IN SOUTH ASIA

South Asian leaders have made it a priority to tackle key regional issues such as poverty, environment degradation, trade and investment barriers and food insecurity, among others. This book considers the leadership of the South Asian Association for Regional Cooperation (SAARC) and the interaction with civil society in the process of South Asian regional cooperation and integration, and discusses how the emerging urgency in the provision of regional public goods provides an excellent opportunity to add to the successes in South Asian regional integration.

The book explores civil society's role in regional and economic integration in South Asian industries, trade and services, and the importance of regional public goods, such as food security for future integration efforts. It concludes that there are a few successes on which future cooperation and integration in South Asia can be built and where engagement with civil society can be productive, and that these success stories are sector specific—for instance, in industry and trade sectors where cross border activities have been established within the framework of a South Asia Free Trade Agreement (SAFTA). However, a greater number of success stories are required at the sector level to serve as building blocks for further regional cooperation and integration.

This highly original book will prove a fascinating read for academics, students and policymakers across a diverse range of fields including: Asian studies, development, economics and regional and urban studies.

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