



Three Decades of Development Partnership

Royal Government of Bhutan and Asian Development Bank



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Bhutan's collective pursuit of Gross National Happiness has led to socioeconomic advancement, shaping the future of the younger generation.



Bhutan is deeply committed to protecting and conserving its natural environment.

Abbreviations

ADB	Asian Development Bank	JFPR	Japan Fund for Poverty Reduction
BPC	Bhutan Power Corporation	MOLHR	Ministry of Labor and Human Resources
CAPE	country assistance program evaluation	MSME	micro, small, and medium-sized enterprise
CDM	Clean Development Mechanism	NEC	National Environment Commission
COS	country operational strategy	PPP	public–private partnership
DGPC	Druk Green Power Corporation	RCI	regional cooperation and integration
DOR	Department of Roads	RMA	Royal Monetary Authority
FYP	Five Year Plan	SASEC	South Asia Subregional Economic Cooperation
GDP	gross domestic product	TA	technical assistance
GNH	Gross National Happiness	TVET	technical and vocational education and training
ICT	information and communication technology		

Weights and Measures

GWh	gigawatt-hour
km	kilometer
MW	megawatt

Currency

In this report “Nu” refers to Bhutanese ngultrum, and “\$” refers to US dollars.

For the purposes of this report, Nu1 = \$0.01600 and \$1.00 = Nu62.494.

Foreword from the Prime Minister

Royal Government of Bhutan

On behalf of the Royal Government and the people of Bhutan, I would like to express our sincere appreciation and gratitude to the Asian Development Bank (ADB) for three decades of mutually productive and unwavering cooperation.

When Bhutan became a member of ADB in 1982, its incidence of poverty was very high and accordingly, every effort had to be made to combat their impediment. Since then, Bhutan has enjoyed access to ADB's concessionary loans and valuable technical assistance, which help the country achieve sustained economic growth, with social inclusiveness. Today, ADB has become the largest multilateral development partner of Bhutan.

ADB's programs have always remained relevant and well aligned with the Royal

Government strategies to eradicate poverty, in keeping with our development philosophy of Gross National Happiness. ADB has provided continuous support for physical and social infrastructure development, financial and private sector development, institutional capacity building, human resource development, good governance, and environmental protection.

Bhutan is now faced with the challenge of sustaining high and inclusive economic growth. Ultimately, Bhutan aspires to achieve economic self-reliance and green socio economic development by 2020. I am thankful that ADB has remained a reliable partner and supporter of our aspirations. ADB's support will continue to play a crucial role, particularly in achieving the goals of Bhutan's Eleventh Five Year Plan, 2013–2018.

This landmark publication highlights the collaborative journey that Bhutan and ADB have embarked upon nearly 30 years ago. I am confident that our strong development partnership will grow further in the years ahead.



Tshering Tobgay

Prime Minister, Royal Government of Bhutan

Foreword from the President

Asian Development Bank

On the occasion of the 30 years of development partnership between the Kingdom of Bhutan and ADB, we look back with great pride and appreciation at momentous changes in Bhutan's socioeconomic history during the last three decades.

Under the leadership of His Majesty the Third King of Bhutan, Jigme Dorji Wangchuck, Bhutan opened its doors to the world in 1961 and ushered in an era of development. Bhutan's development plans catalyzed its modernization without compromising the rich cultural heritage and abundant natural resources of the country. The remarkable economic performance of Bhutan supported the steady decline of poverty and advancement of social development. The incidence of poverty declined to about 12% in 2012, and Bhutan is taking great strides in achieving the Millennium Development Goals.

ADB is honored to have been part of this exciting journey of Bhutan, being its largest multilateral development partner. This privilege is rooted in Bhutan's becoming a member of ADB in 1982. Since then, ADB has carefully aligned its programs with the government's 5-year development plans. One of the most remarkable achievements of the Bhutan-ADB partnership in recent years is the Dagachhu hydropower development under the Green Power Development Project, which was registered as the world's first cross-border Clean Development Mechanism under the United Nations Framework Convention on Climate Change.

This commemorative publication provides an overview of development effectiveness and relevance of ADB's Bhutan program, and how it has contributed to enhancing the lives

of the Bhutanese people. ADB is strongly committed to pressing ahead with our efforts to help Bhutan achieve inclusive, green, and sustainable growth and further reduce poverty in the country. We look forward to building on our fruitful development partnership in the years to come.

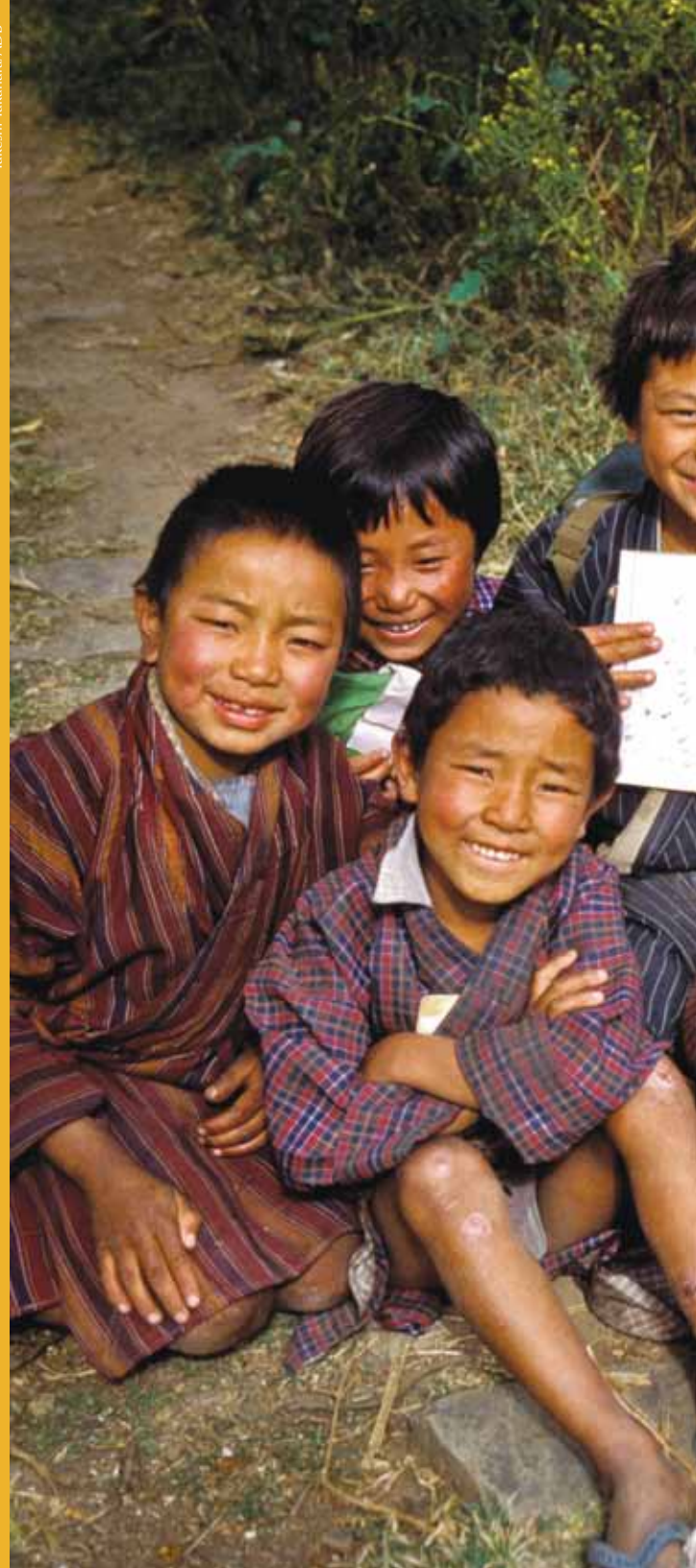


Takehiko Nakao
President, Asian Development Bank

Bhutan–Asian Development Bank: Three Decades of Advancing Development as One

Dramatic progress in Bhutan's development unfolded as a result of strategic and concerted efforts made by the government and its development partners, including the Asian Development Bank (ADB). ADB's country strategy and program for Bhutan have been well aligned with the government's evolving development priorities to help Bhutan fast track its socioeconomic progress and ultimately to reduce poverty in the country.

Under the development philosophy of Gross National Happiness, Bhutan has made remarkable progress in economic and social development in a short span of time.





Situated on the southern slope of the eastern Himalayas, Bhutan is a mountainous, landlocked country with a total area of 38,394 square kilometers (km²), bordered by India on the east, west, and south, and the People's Republic of China on the north. The “Land of Thunder Dragon” consists mostly of steep and high mountains crisscrossed by a network of swiftly flowing rivers, which provide significant hydropower potential. The terrain is rugged and the altitude ranges from 200 meters in the southern foothills to more than 7,500 meters above the sea level. Its geographical diversity endows Bhutan with a wide range of biodiversity and ecosystems.

Ushering in an Era of Development

Until the 1960s, the economy of Bhutan was characterized by isolation and heavy reliance on subsistence agriculture. The absence of infrastructure facilities and the inadequacy

of social services, such as education and healthcare, were conspicuous. Before the advent of planned development in the country, there were no motorized vehicles, no electricity, and no paved roads. Bhutan had no postal or telecommunication systems to connect people with the outside world.

Under the leadership of His Majesty the Third King of Bhutan, Jigme Dorji Wangchuck, Bhutan opened its doors to the world in 1961 and embarked on its unique path for economic development. Far-reaching development activities were initiated, which catalyzed the country's modernization. However, Bhutan has been making conscious efforts to raise the living standards of the population without compromising the country's rich cultural heritage and environment.

In Bhutan, Gross National Happiness (GNH) has served and remains the principal guiding philosophy for the country's long-term development vision and rationale, taking a holistic approach to development and giving equal importance to noneconomic aspects of

Box 1 Footsteps of Bhutan's Development Strategy

Since the adoption of the first Five Year Plan (FYP) in 1961, the government has so far formulated 10 FYPs, each of which set out clear goals and strategic priorities to address the country's evolving development challenges. This 5-year planning mechanism has been an effective instrument for making the Gross National Happiness (GNH) concept operational, through which Bhutan has made remarkable progress in its socioeconomic transformation.

The first three FYPs (1961–1966, 1966–1971, and 1971–1976) provided the foundation for the country's subsequent economic development by investing in key economic and social infrastructure. Particular efforts were made in the expansion of the road network and the enhancement of the provision of education and healthcare.

While the emphasis continued to be placed on enhancing agricultural production until the Fourth FYP, 1976–1981, the government began to diversify its economy under the Fifth FYP, 1981–1987. To address the heavy reliance on external assistance and promote self-reliance, the government prioritized revenue-generating activities in industries, forests, tourism, and power. The plan identified hydropower development, in particular, as a major source of revenues and a driver of economic growth. At the same time, the government continued to promote decentralization to ensure the participatory approach to development. The district development committees established under the Fourth FYP were given a more effective role under the Fifth FYP.

The Sixth FYP, 1987–1992 continued to pursue economic diversification and greater self-reliance, jumpstarted by the commissioning of the 336-megawatt Chukha hydropower plant. It was Bhutan's first mega power project, which produced surplus energy for exports and enhanced government revenues. The Sixth FYP also paid particular attention to the rural sector and provided priority programs that would improve rural housing and resettlement, increase rural incomes, and enhance access to public services and utilities. The promotion of decentralization and people's participation in the development process was again given high priority and the block development committees were established in 1991.

continued on next page

well-being. The four pillars of GNH are the promotion of sustainable development, the preservation and promotion of cultural values, the conservation of the natural environment, and the establishment of good governance. The collective pursuit of GNH has resulted in significant progress in economic and social development within a short span of time.

Despite its geographical challenges and limited linkage to the global markets, Bhutan managed to ignite and sustain high economic growth by unlocking its hydropower potential. While Bhutan's gross domestic product (GDP) per capita was estimated at \$51 in 1961, then the lowest in the world, it rose to more than \$2,500 in 2012 through the robust economic growth over the last few decades, with the real GDP annual growth rates averaging 7.8% during 1981–2012. Bhutan has also made remarkable progress in reducing poverty and advancing social development. Based on the national poverty line, the incidence of poverty declined to about 12% in 2012. Moreover, the country continues to make significant progress in achieving the Millennium Development Goals and is on track to meet most of the goals and targets. Bhutan also successfully

box 1 continued

The enhancement of self-reliance was further emphasized under the Seventh FYP, 1992–1997. Efforts toward privatization and private sector development were made and a large number of corporations were privatized. As the pursuit of self-reliance continued, the Eighth FYP, 1997–2002 aimed to enhance human resource development and the application of technology appropriate to Bhutan’s development needs. The expansion and improvement of education and technical training, as well as of human resource development in all economic sectors, were therefore pursued throughout the Eighth FYP. It was in the context of human development under the eighth plan that the concept of GNH appeared for the first time in the FYPs.

Midway through the Eighth FYP, the government formulated *Bhutan 2020: A Vision for Peace, Prosperity, and Happiness* to provide a long-term vision for development based on the GNH development philosophy. *Bhutan 2020* illustrated the national goals, broad targets, and overall policy principles for the next 20 years. The document highlighted six main principles, including maintaining the Bhutanese distinct identity, strengthening unity and harmony, guaranteeing a nationwide stability for peace and prosperity, promoting self-reliance, pursuing sustainable development, and demonstrating flexibility and the capacity to adapt to changes.

To promote GNH, the Ninth FYP, 2002–2007 set five overall goals, including (i) improving quality of life and income, especially of the poor; (ii) ensuring good governance; (iii) promoting private sector growth and employment generation; (iv) preserving and promoting cultural heritage and environment conservation; and (v) achieving rapid economic growth and transformation. Fiscal decentralization and devolution of some public services and decision-making powers to the local level were the key strategies of the Ninth FYP. The Ninth FYP also accorded high priority to infrastructure development, particularly in the road, power, telecommunication, and urban sectors.

The government prepared the National Poverty Reduction Strategy in 2004 to support the Ninth FYP. The strategy contained an analysis of the causes and manifestations of poverty and strategic interventions required to address it. Clear milestones were set in the framework to track progress and guide the delivery of results, in line with the goals set under the Ninth FYP.

The overarching goal of the subsequent Tenth FYP, 2008–2013 was poverty reduction. The plan aimed to reduce poverty to 15% by 2013 with targeted annual gross domestic product growth rates of 9%. The strategic priorities under the Tenth FYP were enhancing industrial development, promoting balanced regional development, synergizing integrated rural and urban development, expanding strategic infrastructure, investing in human capital, and fostering good governance.

Eric Sales/ADB



Since opening its doors to the world in 1961, Bhutan has made conscious efforts to preserve and promote the country’s rich spiritual and cultural heritage, amid rapid modernization.

completed the transformation of its political system from an absolute monarchy to a constitutional monarchy through a peaceful and stable process of democratization in 2008.

Asian Development Bank: Thirty Years in Bhutan

Bhutan has been working closely with its development partners in advancing the country's development. ADB has been a key partner since 1982 when Bhutan joined ADB, and today it has become the largest multilateral development partner of the country.

Former Finance Minister Lyonpo Wangdi Norbu (Finance Minister 2003–2013) says, “when Bhutan joined ADB in 1982, only 2 decades

of planned development had passed. The incidence of poverty was still high and the need for development financing for socioeconomic development was enormous. Bhutan's joining ADB provided access to concessionary loans and valuable technical assistance. Since then, ADB has emerged as one of the most reliable development partners for Bhutan.”

The enduring partnership started with the approval of ADB's first loan of 5 million in 1983 in response to Bhutan's request for assistance to finance high-priority public sector projects in sectors such as agriculture, forestry, transport, communications, water supply, and sanitation. Since then, ADB has provided 29 loans and 16 grants totaling \$486.29 million, and provided \$54.09 million for technical assistance (TA) projects as of 31 December 2013. During the first 2 decades of ADB's operations in Bhutan (1983–2003), the energy sector had the biggest share of the total loans and grants with 24%, followed by the transport and information and communication technology (ICT) sector (17%) and the education sector (13%). While the former two sectors have remained the priority

sectors of ADB operations during the period from 2004 to 2013, their shares increased to 45% and 21%, respectively (see Figure 1).

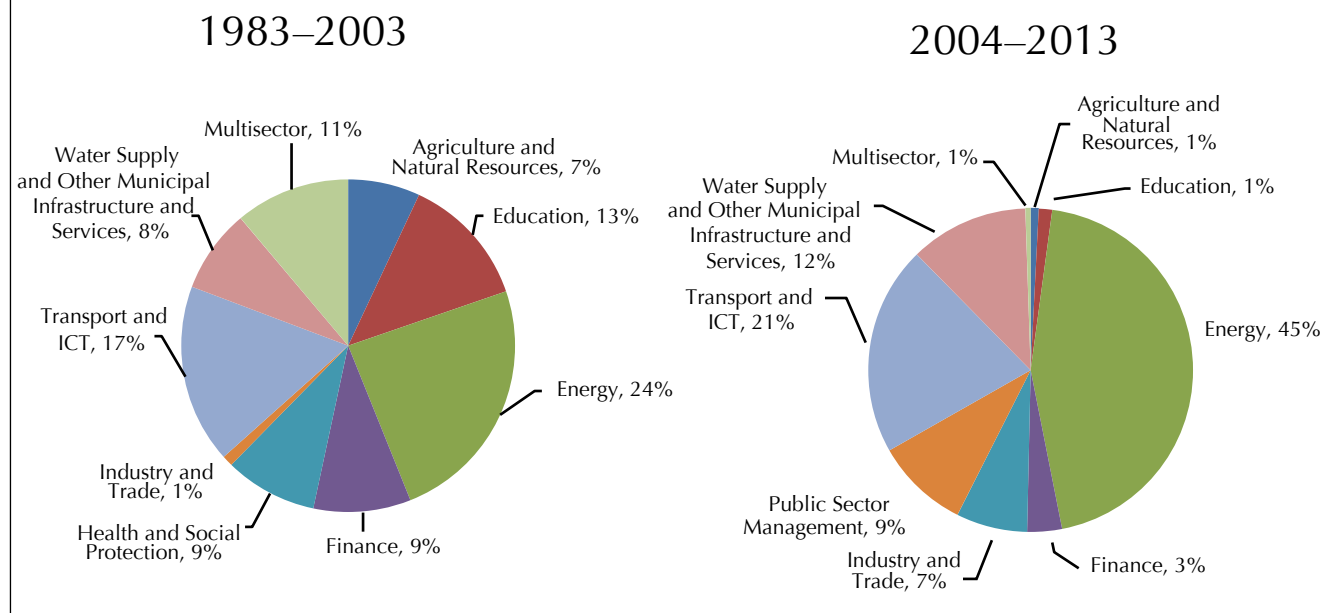
As noted by the country assistance program evaluations (CAPEs) undertaken in 2005 and 2010, ADB assistance has been well aligned with the country's development needs and the government's strategic priorities. ADB operations in Bhutan have been guided by the government's FYPs, and this has helped strengthen the government's engagement with ADB-financed projects and programs. While the sectoral focus of the operations has shifted overtime, lending and nonlending programs have consistently been geared toward helping the government address development challenges through continued interventions in priority areas that encompass institutional capacity development, physical and social infrastructure development, private sector development, human resource development, good governance, and environmental protection.

ADB's first formal strategy for Bhutan was the country operational strategy (COS) prepared

in 1991. The overall objective of the 1991 COS was to support the government to achieve its goal of diversifying the economy by (i) strengthening the capacity for economic management and development administration; (ii) improving physical and social infrastructure; (iii) promoting private sector development; and (iv) protecting the environment. A salient feature of the 1991 COS was the emphasis on ADB's catalytic role in facilitating project preparation and mobilizing cofinancing, particularly on grant terms. The focus of operations was on the provision of TA financing for project preparation, policy research and development, and institutional strengthening.

Poverty reduction became the overarching goal of ADB in 1999 when the Poverty Reduction Strategy was approved. In response to the changes in ADB's strategic thrusts, ADB's operation in Bhutan also began to shift toward poverty reduction under the new COS prepared in 2000. The main aim of the 2000 COS was to support the country's efforts in poverty reduction through the promotion of economic growth and social inclusiveness

Figure 1 Comparative Sector Distribution of Asian Development Bank Loans and Grants to Bhutan: 1983–2003 and 2004–2013 (%)



ICT = information and communication technology.

Source: Asian Development Bank.



Kuensel

under the government's strategic theme of improving the quality of life for all. To promote private sector-led development, ADB provided support to improve the policy environment and to make available financial intermediation under the 2000 COS. This was complemented by interventions to reduce physical infrastructure constraints, develop the domestic skills base, improve the urban environment, and support the government's sustainable provision of quality social services.

Recognizing the importance of measuring and monitoring poverty, the government set out to assess the nature and extent of poverty in the country. ADB assisted this initiative through a TA project, which partially financed the implementation of a nationwide Household Income and Expenditure Survey in 2000. In the same year, ADB provided support to undertake a poverty assessment and analysis, which was Bhutan's first attempt to compile a composite index of poverty and deprivation at local level by using the existing, though limited, data and information.

ADB has been a key development partner of Bhutan since 1982, and the country has been frequently visited by ADB presidents and senior management.

Subsequently, ADB funded the first Bhutan Living Standards Survey in 2003, which provided Bhutan with its first estimates of poverty and also became a major data source for monitoring the Millennium Development Goals. The survey data also helped improve the compilation of the consumer price index. More recently, ADB provided assistance to finance the Third Bhutan Living Standards Survey, conducted in 2012, which will allow the government to assess the Tenth FYP, 2008–2013 as well as to monitor poverty and social development.

The emphasis of ADB support on poverty reduction was maintained under the country strategy and program for 2006–2010. Its overarching goal was to reduce poverty through economic diversification under three pillars—broad-based economic growth, inclusive social development, and good governance. It had two strategic thrusts: (i) assistance for programs and projects in core areas including energy, transport, urban development, and finance and private sector development; and (ii) capacity development

of the operations sectors and overall management of the development process. The overarching goal, strategic thrusts, and sector focus of the 2006–2010 country strategy and program were adopted by the subsequent interim country partnership strategy, 2012–2013.

One of the key strengths of ADB's operations in Bhutan is the fact that ADB has maintained a strong degree of continuity in its support to Bhutan, particularly for its core sectors: energy, finance, road transport, and urban development. Long-term commitment, continuity, adequate resource levels, and a well-sequenced holistic approach to addressing sector constraints have been most effective in delivering development results. A focused program with strong continuity has also helped in policy dialogue and project implementation.

Thinley Namgyel, head of the Policy and Planning Division of the Gross National Happiness Commission, points out that ADB support to important sectors such as rural

electrification, roads, urban development, and the financial sector has contributed significantly to improving the quality of life of the Bhutanese people. Namgyel says that “Bhutan has benefited significantly from ADB over the last 30 years and our country looks forward to continued support and cooperation with ADB in years ahead.”

According to the 2010 CAPE, major achievements of recent ADB assistance include enhanced rural electrification; the commercialization of the power subsector; the preparation and application of a public–private partnership (PPP) model for hydropower projects; the implementation of the world's first cross-border Clean Development Mechanism (CDM); improved rural connectivity; enhanced capacity development in road planning and management, road safety conditions, and asset management; the development of urban infrastructure in Thimphu and Phuentsholing; the establishment of a legal, regulatory, and institutional framework for the finance sector; and the development of capacity for debt management.

Looking Ahead

Bhutan has demonstrated its strong political will to pursue the country's development guided by the overarching philosophy of GNH. This has enabled the country to achieve high economic growth and make remarkable progress in reducing poverty and achieving the Millennium Development Goals. Sustaining high and inclusive economic growth, however, remains a major challenge. Bhutan's growth has so far been narrowly based—driven mainly by hydropower and its related construction—and provided limited employment opportunities, particularly for an increasing number of educated youth. In addition, the recent rupee liquidity issue has underlined the need to strengthen fiscal, debt, and liquidity management. The heavy dependence on external aid is also a critical issue. These challenges need to be addressed for Bhutan to achieve economic self-reliance and strive to be a middle-income country by 2020 as outlined in the *Economic Development Policy 2010*.

ADB has established its strong partnership with Bhutan through close coordination and dialogue over the last 3 decades. ADB's country strategy and program for Bhutan have evolved over time to meet the country's development priorities and needs, and its future activities will be aligned with the government's new Eleventh FYP, 2013–2018. While continuing to focus on core sectors, including energy, finance, transport, and urban development, and combining investment support with other measures to strengthen the institutional, policy, and regulatory capacities of the government, ADB is fully committed to working closely with the government and people of Bhutan to address new and existing development challenges.

Aptly describing the development partnership of Bhutan and ADB in the last 3 decades, former Finance Minister Lyonpo Wangdi Norbu remarked that ADB's assistance has been well aligned with the priorities of Bhutan's FYPs. Because of the predictability of the level of assistance and the flexibility to respond to changing policy priorities and emerging challenges, he says, "ADB's assistance has

tremendously contributed toward major infrastructure development, including the construction of roads, rural electrification, and urban infrastructure. As such, the government highly values its partnership with ADB."

With more development challenges still waiting to be tackled, former Finance Minister Norbu anticipates that "the ADB–Bhutan partnership will reach new heights with the opening of the ADB resident mission in Bhutan."




Sustaining high and inclusive economic growth remains a major challenge to Bhutan and its development partners.

Powering Bhutan's Future

Reducing poverty is paramount to ADB's energy sector initiatives for Bhutan. The considerable success of ADB's operations in Bhutan's energy sector is attributable to ADB's long-term involvement in the sector development and dedication to the country's national development.

ADB came to Bhutan's assistance in 1995 to fund a rural electrification project for the first time. Since then, ADB has been one of the key supporters of the country's rural electrification program and has contributed to the government's 100% electrification target.





From the onset of Bhutan's first FYP, 1961–1966, energy development has remained at the top of the government's priority agenda. Aligned with the government's goals, ADB's operations have been concentrated in four parallel but complementary thematic areas: supporting institutional and legal reforms; bolstering the nation's rural electrification program; developing hydropower; and promoting the use of sustainable clean energy in the country.

Supporting Institutional and Legal Reforms

ADB interventions in Bhutan's energy sector began in 1992. Support for institutional and legal reforms has been one of the key areas that ADB has focused on. Through institutional strengthening and capacity building programs, ADB has helped the government restructure the energy sector, undertake regulatory reforms, and enhance the commercial orientation and cost recovery of public sector utilities. ADB TA support has been highly effective in transforming the power system from a government department to profitable utilities

and an independent regulator, employing state-of-the-art utility management practices.

The Power Sector Institutional and Financial Development TA project started a series of initiatives to restructure the former Department of Power. This TA defined a new power sector structure and developed a draft of the Electricity Act, enacted in July 2001. Since then, Bhutan's energy sector has undergone a major restructuring to separate commercial management and ownership of the energy sector. The Department of Energy, under the Ministry of Economic Affairs, became responsible for policy making and planning for the energy sector. In 2011, the Department of Energy was further divided into three departments, namely the Department of Hydropower and Power Systems, the Department of Renewable Energy, and the Department of Hydromet Services.

As a power regulator, the Bhutan Electricity Authority has been responsible for setting tariffs; establishing and enforcing technical, safety, and operating standards; issuing licenses; and monitoring other regulatory functions. While the Bhutan Electricity Authority regulates electricity tariffs on a cost-reflective tariff structure, actual retail prices

are cross-subsidized in the value chain of the power sector in a transparent manner.

The Bhutan Power Corporation (BPC), a state-owned corporation, has been responsible for the transmission and distribution of electricity. ADB's capacity building intervention has introduced to BPC modern utility management practices for strategic management, budgetary controls, and inventory management.

BPC has become capable of responding faster to requests for new energy connections, cutting customers' waiting time from weeks to 3 days or less. Today, the corporate vision of BPC is to become the best public sector company in Bhutan and also the premier power sector company in South Asia.

Through ADB support, the government also established the Druk Green Power Corporation (DGPC) to accelerate new hydropower development. DGPC looks after power generation as the holding company of all existing hydropower companies. "The power sector has truly been a success story for Bhutan," says Dasho Chhewang Rinzin, managing

director of DGPC. "The country's economic growth has been fueled and sustained by large investments in hydropower development, as well as revenues from the energy sector. While India has been our main and principal partner, ADB has contributed immensely to bringing in structural changes to the power sector of Bhutan, which has helped Bhutan manage the accelerated pace of hydropower development."

Dasho Rinzin says that within 5 years of its formation, DGPC has not only consolidated all the large hydropower plants under its umbrella, but it has also built its capacity in hydropower development from conceptualization to implementation and commissioning. "With its strengthened capacity, DGPC is in a much better position to partner with interested groups at the regional and international levels in all aspects of the hydropower sector," he says.

ADB's 2010 sector assistance program evaluation for the Bhutan's energy sector reports that since its establishment in 2008, DGPC has achieved a high degree of professional competence and institutional strength in operating the existing hydropower plants. In 2010, DGPC established

the Center of Excellence in Vibration and Thermographic Analysis to develop a team of experts in highly specialized fields of vibration; infrared thermography; ultrasonic, magnetic particle inspection; and remote vehicle inspection. Dasho Rinzin adds that DGPC has managed to establish other centers of excellence and is now envisaging setting up a research and development unit that would showcase DGPC's capabilities in the regional as well as international arena.

Providing Light in the Countryside

To reduce poverty and stimulate inclusive economic development, the government started large-scale rural electrification projects under the government's Sixth FYP, 1987–1992. All the subsequent FYPs have included rural electrification as a key development agenda. The government's strategy includes the use of a mix of renewable energy—such as large hydropower plants, micro hydro stations, wind power, and solar energy—to electrify all rural

households. While rural electrification is aimed at households within a reasonable distance of the power supply point, solar home systems are aimed at remote households where connection to the grid is not economically viable.

ADB has consistently supported the country's rural electrification program through a series of lending operations. Using a programmatic approach, ADB has financed a significant proportion of households to be electrified since 1995, when the first loan amounting to \$7.5 million was approved for the Rural Electrification Project. The project provided 3,100 households with access to electricity in seven districts: Chukha, Paro, Punakha, Thimphu, Trashigang, Trashiyangtse, and Wangdue Phodrang. The Sustainable Rural Electrification Project (\$10 million) also maintained the momentum of the rural electrification program promoted under the Eighth FYP, 1997–2002. It extended electrification to 8,090 households in 15 districts. It also installed 100 solar panels in remote villages and introduced an advanced technology, such as the supervisory control and data acquisition system, to utilize qualified technical staff more efficiently.

Drukchu Dorji/Bhutan Power Corporation



The task is arduous but well worth it in the end. In the absence of motorable roads, electric poles, transformers and other electrical gadgets are physically carried by humans and animals across hills, valleys, ravines, rivers, and forests to their final destinations in the distant villages.

Box 2 Better Health, Greater Hopes for the Future

Passang Wangmo lives with her ailing parents and a younger brother in Tsendagana gewog (village block) in Dagana district, about 150 km from the capital, Thimphu. Both her parents suffer from respiratory ailments. They are no longer capable of working in the field. Because of their arduous living situation, Passang was compelled to drop out of school to help put food on their table. Concerned about her family's survival, she works as a ward assistant at the Dagana District Hospital.

"To a large extent," says Passang, "I believe their sickness was caused by many years of exposure to smoke and soot from indoor cooking. They are both very allergic to smoke. They are always coughing and suffer from breathing problems." Before power was installed in their house, Passang's family used kerosene lamps for light and cooked their meals in traditional hearths using firewood.

Tshewang Rinzin, senior program officer in the Ministry of Health, notes that the traditional way of cooking still exists in rural communities. "Traditional cooking practices produce a lot of smoke, which often is a cause of common respiratory infections like bronchitis, asthma, and other chest infections," he says. With the increasing number of rural households being electrified each year, Rinzin remarked that the overall living standards in rural communities are improving. He confirms that "this will bring a significant reduction in the overall chest infection cases, especially in rural areas."

From the time they have received electricity in their district, Passang noticed a significant improvement in her parents' health condition. "My parents are less exposed to smoke as we use the hearth for cooking purpose only when the electricity goes off. So they are now breathing cleaner air," she adds. "We are using electric appliances like a rice cooker and a water boiler, thanks to the kind souls in the village who donated these appliances to my family," she says. Passang shares that they do not have to go through the trouble of fetching firewood or kindling a fire every time they cook. She adds that they can now save the money they used to spend on kerosene. "Electricity has made our lives so much easier," she says.

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ADB provided another loan of \$9.4 million under the Rural Electrification and Network Expansion Project in 2003. At that time, about 65% of the population was still dwelling in darkness without access to electricity. The project connected 9,206 more households to the existing distribution network in eight districts, which extended all the way to the eastern region, where poverty was high because of its remoteness and inaccessibility. The Accelerated Rural Electrification TA project recommended new institutional models to help cut down the costs of connecting rural households, and introduced low-cost techniques for on- and off-grid electrification of remote areas.

Each of ADB's financing operations was designed to expand the electricity grid progressively to more remote areas of the country. As a result, ADB assistance to rural electrification has been properly sequenced and maintained continuity, while taking into account lessons learned from previous operations. The three completed ADB-financed rural electrification projects mentioned above, together with the two ongoing ones (the Green Power Development Project [\$106.28 million] and Rural Renewable Energy Development Project [\$21.59 million]), will have

box 2 continued

Homes with electricity, including Passang's, provide a more conducive environment for learning and accessing information. She recounted how difficult it was to study at night under the kerosene lamp. "Often we had to cut short our study time to save fuel or because our eyes were sore due to smoke. Today with electricity, my brother can study for longer hours. This has helped him perform better in his examinations." Passang and her parents are pinning the family's hopes on her brother. "I am confident that he will become somebody one day and lift us from the abject poverty that we are in. Electricity has not only lighted up our home but has given us this hope as well," she remarks.

electrified more than 37,000 households, or 43% of rural households in Bhutan, contributing significantly to the government's 100% electrification target. Through ADB assistance, the government accelerated projection for achieving its goal of the Electricity for All from 2020, first to 2017, and then to 2013.

Furthermore, ADB-financed rural electrification projects have improved living conditions, including better health and education outcomes for rural communities. According to the ADB's Independent Evaluation Department's impact evaluation study, ADB's second and third rural electrification projects had a significant impact on the incidence of respiratory diseases and increases in educational study time.

Harnessing Hydropower Potential

Bhutan is endowed with a hydropower potential of around 30,000 megawatts (MW). Of this, 23,760 MW is technically feasible and this translates into a mean energy production capacity of around 100,000 gigawatt-hours (GWh) annually. The country's current total installed hydropower generating capacity is 1,488 MW from four major hydropower plants and 23 minor plants. About 75% of total power generated is exported to India after meeting domestic consumption in Bhutan. Power exports account for the largest source of national

revenue in the form of taxes and dividends mainly from DGPC, contributing to 30%–40% of government revenue. The power industry and related construction works make up one-third of GDP. Hydropower development and export have steadfastly underpinned rapid growth of Bhutan's economy and generated government resources for social and other investments. Accelerating the development of hydropower for export is thus of strategic significance to the Bhutanese economy.

To harness its hydropower potential, Bhutan intends to increase hydropower production in the next 10 years. In 2009, the governments of Bhutan and India signed the Protocol to the 2006 Framework Agreement to incorporate the enhanced development target of 10,000 MW from 5,000 MW by year 2020. It includes 10,000 MW for 10 large hydropower projects under bilateral financing from the Government of India and through joint ventures with Indian public sector enterprises. To accelerate hydropower development on a sustainable basis, the government has also established a policy and institutional framework for private participation, such as PPPs and independent power producers.



Kezang Namgay

According to Ngawang Choeda, executive engineer of the Planning and Coordination Division of the Department of Hydropower and Power Systems, ADB's TA project to prepare the 2008 Sustainable Hydropower Development Policy was a major achievement for the power sector in terms of creating an enabling environment to attract public and private investors in order to facilitate accelerated hydropower development. "As a result, the power sector has ventured into other modes of development such as PPP," he says. The key objectives of the Sustainable Hydropower Development Policy are to (i) mobilize funds and attract investments for accelerated hydropower development; (ii) enhance the revenue contribution to the government; (iii) contribute to socioeconomic development; (iv) ensure the security and reliability of domestic electricity supply; (v) ensure that hydropower development is in accordance with the sustainable development policy of the government, keeping view of the fragile mountainous ecosystem of the country; and (vi) contribute toward development of clean energy to mitigate problems related to global warming and climate change.

Living conditions for Passang Wangmo and her family have improved after power was installed in their house in Dagana district.

To help the government promote hydropower development, ADB's Green Power Development Project supported a PPP transaction through an innovative financing mechanism for the development of Dagachhu hydropower. The Dagachhu hydropower project was Bhutan's first PPP infrastructure investment, and was also registered as the world's first cross-border CDM project under the United Nations Framework Convention on Climate Change. This would allow the project to earn saleable certified emission reduction credits, which could be counted toward Kyoto targets. Clean energy development for power export will improve energy security and efficiency and foster economic cooperation in the South Asia region.

The importance of the Green Power Development Project was signified by its receipt of the United States Department of Treasury's Impact Honors on 25 July 2013, along with four international development projects from other multilateral development banks. The project was rewarded for its outstanding project design and implementation, which exemplified a well designed initiative that

Kezang Namgay



With electricity, Passang Wangmo's house is no longer blanketed in darkness at night and her brother can study for longer hours.

Box 3 The Green Power of Bhutan: Dagachhu Hydropower Project

Suk Bdr Darjee, 17, is a hardworking student of Dagana Higher Secondary School. His parents are both farmers and are not earning enough to finance his education. Determined to succeed in life, he takes on part-time jobs every school winter break.

At present, Darjee works as a laborer for a local contractor involved in the construction of a roadside wall for the Dagachhu hydropower plant. He saves the money that he earns, Nu250 (about \$4) per day, and uses it to pay for his school fees, books, and food expenses. “Since last year, I have been able to finance my own education. I don’t have to depend on my poor parents,” he says. “That way they are very happy with me. Sometimes, I give some money to my sister who is also a student.”

Hydropower development brings significant economic benefits to Bhutan. At a national level, it generates revenues that promote and sustain the country’s economic growth. At a more local level, communities benefit from business and job opportunities generated by hydropower development. For many young Bhutanese in Dagana district, the construction of the Dagachhu hydropower plant has come as a blessing for it has given them a chance to become more self-reliant. Most of them work as office aides, laborers, night guards, and security personnel at the project sites.

“If the project wasn’t started here, finding employment would have been really difficult for us. We would have to go far away from our village to look for jobs,” Darjee says. By being actively engaged in community work, young people like Darjee get to enjoy financial freedom while developing a sense of purpose and responsibility as well. “In some ways, I have become more independent and more helpful to my parents by working at the construction sites of the project,” Darjee says.

Thinley Dorji, chief executive officer of the Dagachhu Hydropower Corporation, pointed out that local communities benefit immensely from the new road network in the Goshi village block, constructed as a result of the hydropower plant. “Initially, when the project was started, there was no road. We constructed

simultaneously meets the goals of economic growth, rural development, and environmental protection.

Promoting Sustainable Clean Energy

The nation’s electricity generation is almost exclusively dependent on large hydropower, and Bhutan faces the ongoing problems of meeting peak power demand in the dry season. To promote alternative renewable energy sources such as wind, solar, biogas, and small and mini hydropower, the government approved a national renewable energy policy in 2013 with ADB assistance. The main objectives of the policy are to (i) diversify the energy resource mix to enhance long-term energy security; (ii) reduce the need for fossil fuel imports; (iii) reduce greenhouse gas emissions; and (iv) stimulate social and economic development through efficient renewable energy interventions and private sector participation.

continued on next page

box 3 continued

around 19 km of road within the project area,” he says. With the road network constructed in the district, farmers in the area find it easier to transport their goods to markets. Locals also find it easier to access schools and health centers in the communities.

Dorji says that in terms of employment, the local people have been engaged by the project directly and through contractors. Moreover, some community members are earning additional income from rentals of their homes. “Our office has recently moved to the project site. The project staff also lives in rented houses in that area. I think the Dagachhu hydropower project has made a substantial contribution to the local economy,” he says.

The development of the Dagachhu hydropower plant is part of the Green Power Development Project supported by ADB as well as the Governments of Austria and Japan. The 126-megawatt run-of-river plant is being developed through Bhutan's first public-private partnership infrastructure investment. The Dagachhu Hydro Power Corporation, a special company established to manage the project, is led by Bhutan's state-owned utility, Druk Green Power Corporation and India's leading private energy company, Tata Power Company.

As a Clean Development Mechanism (CDM) project, the Dagachhu hydropower project is expected to reduce carbon dioxide emission by about 500,000 tons per year, especially through exports to India, which relies heavily on coal-fired power plants for its electricity generation. The project will promote cross-border power trade and contribute to a reduction in greenhouse gas pollution in South Asia.

“The Dagachhu hydropower project is the world's first cross-border CDM project, so it is a very special project,” says Dorji. The certified emission reduction will be equal to the amount of electricity exported, he explains. He projects that Bhutan will be able to generate almost 500,000 certified emissions reductions per year. “Through the certified emissions reductions, we will be generating a substantial amount of additional funds,” he says. To support investments in low-carbon projects with carbon emission credits, ADB has provided upfront payments from the Future Carbon Fund.

A few years from now, Bhutan will be building on its success in promoting clean energy in the country and in the region. For Darjee and many other young Bhutanese who have contributed to this effort, that reality will be a cause for great celebration.

Bhutan experiences power supply shortages during dry winter seasons when power generation from the hydropower plants is significantly reduced due to low river flows. Wind power projects have the potential to generate clean energy to supplement the diminishing hydropower in winter to alleviate seasonal power shortage problems. Bhutan also has the potential to develop biogas as an alternative energy source to replace fuelwood for cooking in rural areas. Rural households depend heavily on fuelwood, which emits indoor air pollutants and poses a health hazard.

In support of the government's promotion of renewable energy, ADB supports Bhutan's development of solar, wind, biogas, and small and mini hydropower and deploys cost-effective technologies and development business models. One of ADB's key projects in this area is the Rural Renewable Energy Development Project approved in 2010, which has helped initiate pilot projects for wind and biogas. It has also provided support for on-grid rural electrification sourced from hydropower, as well as off-grid rural electrification with the installation of new solar systems and the rehabilitation of existing ones.



Kezang Nangay

To ensure the sustainable use of the solar home systems, BPC will assign 120 village technicians, of which one-fourth will be women, to perform operation and maintenance services for the units.

The Way Forward

ADB will continue to support the development of the energy sector by encouraging policy, institutional, and legal reforms to improve the commercial orientation and financial performance of power entities. It will focus its assistance on the expansion and stabilization of transmission and distribution networks of electricity to be supplied inside and outside the country. ADB will also maintain its interventions in promoting renewable energy such as small and mini hydro, wind, solar, and biogas to strategically enhance energy security and rural development. Furthermore, as exemplified by the ongoing Green Power Development Project, ADB will support the government to mobilize investments for hydropower development and trading through PPP.

The Dagachhu hydropower development, under the Green Power Development Project, has provided jobs to young Bhutanese like Suk Bdr Darjee, who works part-time as a laborer to finance his education.

According to Kaoru Ogino, principal energy specialist in ADB's South Asia Department, accelerating hydropower development for export will generate more revenue, which will help the government provide cross-subsidies to maintain low-cost supply to rural consumers and make the energy sector environmentally, economically, and financially sustainable. "Expanding the generating capacity for clean power export and increasing rural access to electricity will enhance energy and social security in the country and provide the government a long-term revenue stream to finance its development needs and reduce poverty. It will also help stimulate regional trade in clean energy and reduce pollution," says Ogino.

After 2 decades of an evolving partnership between Bhutan and ADB in the energy sector, remarkable achievements have been made. At present, nearly 32,000 households in Bhutan enjoy the benefits of electricity because of ADB's long-term commitment to improving poor people's living standards through the expansion of electricity access, especially in rural areas.

Kezang Namgay



Construction work continues at the Dagachhu hydropower plant, the world's first cross-border Clean Development Mechanism project.

Closing the Distance in Bhutan

ADB has been a long-term partner of Bhutan in enhancing the transport network to improve rural connectivity and promote access to economic opportunities and social services.

Bhutan's landlocked, mountainous terrain makes the road network critically important for people's livelihood. For decades, ADB has helped Bhutan enhance rural connectivity in the country.





Ngawang Tshering, 37, hails from Trashiyangtse, a district in eastern Bhutan. He has been a truck driver for more than 12 years, plying the 546 km East–West Highway to deliver goods to Thimphu. Driving through the perilous East–West Highway has been his only way of meeting his family’s growing needs. Ngawang recounts his experience on the Bhutanese road cutting across the rugged Himalayan range, saying “the highway used to be really narrow and it was a nightmare to drive through. You could literally see the end of the cliff and if your truck took a plunge, you would never be able to make it out alive.” Quarrels among motorists were also common in the past, says Ngawang. Since the road was very narrow, it could hardly fit two vehicles at the same time. “It was even worse for bigger motor vehicles like trucks. Giving way was very difficult those days and often truckers ended up fighting with other motorists. It was such a hassle traveling on the road those days,” he says.

Bhutan’s Transport Sector

Bhutan’s landlocked, mountainous terrain poses unique development challenges. While the expansion and maintenance of physical infrastructure is critical for pursuing the GNH goals, the country’s small population of about 735,000, dispersed across the mountainous terrain, makes the building and maintenance of vital infrastructure, particularly the road network, very costly.

Since the late 1950s, Bhutan has prioritized the development of its transport sector to spur the nation’s economic growth. Under the First FYP, 1961–1966, the construction of the East–West Highway was initiated as a single-lane road, which was completed in 1985. It connects Thimphu in the west and Trashigang in the east, and provides the only route between those



Kezang Namgay

two important towns. The highway also links a number of other urban centers including Wangdue Phodrang, Trongsa, Jakar, and Mongar, while it connects the North–South corridor to the border with India.

Bhutan currently has a road network of 10,578 km, comprising 2,436 km of national highways and expressways, 1,190 km of feeder or district roads, 5,257 km of rural farm roads, 350 km of urban roads, 667 km of forest roads, and 678 km of other access roads. Road transport is the dominant mode of transportation within Bhutan and with neighboring Indian states. There is no railway system in the country.

Until the early 1990s, most of the country's main road network had been constructed and maintained by India's Border Roads Organization through Dantak, an organization under the Indian Army Corps of Engineers. Dantak still maintains 12% of Bhutan's main road network through grant financing by the Government of India. Today, Bhutan's Department of Roads (DOR) under the Ministry of Works and Human Settlement has direct responsibility for almost

For more than 12 years, Ngawang Tshering has driven the 546-km long East–West Highway. He testifies that the improvement of the highway has made driving safer and faster.

80% of Bhutan's major road network. The Ministry of Agriculture and Forests manages farm roads, forest roads, and some feeder roads, while local roads and mule tracks are under local government authorities' responsibility.

Recognizing the significant impact of roads on economic and human development, *Bhutan 2020: A Vision for Peace, Prosperity and Happiness*, the government's long-term vision for development, accords high priority to improving transport infrastructure. This includes expanding the road network to improve rural accessibility, and introducing domestic air links to promote tourism and high-value agriculture. While the government started paying more attention to the upgrading and maintenance of existing roads, particularly under the Seventh and Eighth FYPs, the government has re-emphasized the development of key infrastructure to enhance rural connectivity under the Ninth and Tenth FYPs, following *Bhutan 2020*.

Other ongoing priorities in the transport sector include consolidating environmentally friendly

Eric Sales/ADB



Improved rural connectivity will shorten travel times and costs, and will increase access to markets and key social services such as education and health care.

Box 4 Farm Roads to Support Poor Farmers' Livelihoods

ADB is mainstreaming gender in its operations in the transport sector through an ongoing project that is building 25 km of selected farm roads in two poor gewogs (village blocks), Bongo in Chukha district and Trimshing in Trashigang district.

The Farm Roads to Support Poor Farmers' Livelihoods Project, funded by the Japan Fund for Poverty Reduction, aims to develop selected priority farm roads that will connect isolated rural communities and farms to feeder roads in Mirchim–Bongo and Tekizam–Bjena in the west region as well as Garbagtang–Autsho and Khardungla–Kangpara in the east region.

Feeder or secondary roads are not sufficient to connect remote villages to the primary road network, as they are scattered over the mountainous terrain of the country. In the case of Bhutan, those living in remote villages have to walk for a day or 2 to reach the nearest village with a health center or market. Children also need to walk long distances to reach the nearest primary school. To address the remoteness and isolation of rural communities, the government aims to build tertiary or farm roads to provide villagers access to basic services.

The Farm Roads to Support Poor Farmers' Livelihoods Project has adopted a gender action plan that considers the needs of female farmers, particularly those who head households, as they are among the principal beneficiaries of the project. During the project consultation and participation process, female farmers expressed their needs and indicated that the farm roads would not only help reduce their workload, but they would also help increase their income. In Bhutan, almost two-thirds of women are employed in agriculture and about 70% of them own their land. Many of them are also engaged in cottage activities—such as weaving, knitting, and cheese-making—during off-farming seasons, to meet their needs.

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construction practices to minimize impacts on the environment, and enhancing quality, efficiency, and safety of the road network. The government also continues to promote private sector participation in the construction and maintenance of road and bridge infrastructure, and enhance its capacity in the planning, design, monitoring, quality control, and cost-effectiveness of the transport sector.

Enhancing the Road Network

ADB has committed a total lending of \$92.78 million to the transport sector from 1983 to 2013. This makes the sector the second most financed after energy. In 1983, its first year of operations in Bhutan, ADB approved the Multiproject Loan (\$5 million), which funded the construction of 34 km of road between Samchi and Dorokha, 73 km of forest roads, and 10 suspension bridges. Shortly after, ADB financed the Roadworks Mechanization

box 4 continued

The project supports the development of agriculture and marketing capacity by helping form farmer groups. Around 50% of farmers in these groups are women. Farmers in project areas were also trained by technical and financial service providers in ways to better access financial and technical services. Nine workshops on how to access existing public and private marketing-related services for agricultural products were organized. At least 50% of participants were women.

Given the project's goal to institutionalize community management and maintenance of the farm roads, a series of 3-day training workshops were also conducted to help communities in project areas establish their own road user groups. Each group is composed of 20 members who would lead the implementation of the community-based road maintenance plan. About 50% of these members are women. The road user groups are committed to preparing road maintenance plans every year to ensure the preservation of the farm roads in their jurisdiction.

Project (\$4.5 million) to support and enhance the government's capacity for road construction and maintenance.

In 1993, ADB financed the maintenance of the East–West Highway under the East–West Highway Maintenance Project (\$5.2 million). The project included resealing and resurfacing of the 259 km lateral highway, and strengthening and maintaining five bridges along the highway. Concrete barriers were also installed along the

treacherous curves as safety precautions for drivers. Under the 2000 COS, ADB focused its assistance on the maintenance of existing main roads, aligned with the government's Seventh and Eighth FYs. This led to the approval of the Road Improvement Project in 2000. Upon the completion of the project in 2006, a total of 328 km of the East–West Highway was improved through resurfacing, as well as constructing line drainage and slope protection.

Ngawang, a veteran driver, testifies that “the improved highway has definitely reduced traveling time, at least by a few hours. Many truckers used to drive during the night to avoid traffic jams and vehicle congestion on the highway. But now, we prefer traveling during the day, thanks to the wider and improved road. The traffic has definitely eased because of the wider road.”

Ngawang's experience is reflected in the 2010 CAPE, which reports that the improvement of the East–West Highway has reduced vehicle-operating costs by 19%–38%, and cut travel time by 25%. “Today, it is much easier and more convenient to drive on the highway, as the roads are wider and comparatively safer to drive,” says Ngawang. “We no longer have to fight with other drivers as there is enough space on the road to fit two vehicles at a time. You just mind your own space and drive along.”

Under the 2000 COS, ADB also provided important TA support for strengthening the government's institutional and technical capacity in the transport sector. The Road Transport



Natsuko Totsuka/ADB

Network Development TA project helped strengthen DOR's capacity to plan and manage the road network. This initiative helped DOR assume full responsibility for the national road network as India's Border Roads Organization gradually passed on the responsibility to the government. Similarly, the Road Planning and Management Strengthening TA project produced milestone-planning documents for the transport sector, including the Road Sector Master Plan and draft legislation on the proposed Road Act. Completed in 2001, the master plan provided a framework for improved road policy and management system, which facilitated an efficient budget allocation for road sector development and maintenance. The Road Act was adopted by the National Assembly in July 2004.

Subsequently, ADB provided two key investment projects in the transport sector under the country strategy and program, 2006–2010, namely the Road Network Project I (\$27.3 million) in 2005 and the Road Network II Project (\$38.8 million) in 2009. The Road Network Project I upgraded about 136 km of the 244 km Gelephu–Trongsa national highway.

Villagers mark the start of road construction at a groundbreaking ceremony for the Farm Roads to Support Poor Farmers' Livelihoods Project.

This is a strategic north–south road connecting to the Indian border at Gelephu and the main East–West Highway at Trongsa. In addition, feeder roads in the areas of Mirchim–Bongo and Tekizam–Bjena in the west region, and Garbagtang–Autsho and Khardungla–Kangpara in the east were constructed to improve rural connectivity. Under the Road Network Project II, ADB is helping Bhutan upgrade and construct the southern East–West Highway to enhance access to border crossings and promote regional trade. The project also has a component that will strengthen overall sector management capacity, such as quality control, survey and design, and control of overloading and vehicle emissions.

One of the key goals of the government's Tenth FYP, 2008–2013 was to ensure that at least 85% of the rural population lives within a half-day walk from the nearest road. To support this goal, ADB provided a Japan Fund for Poverty Reduction (JFPR) grant amounting to \$3 million for the Farm Roads to Support Poor Farmers' Livelihoods Project in 2010. This ongoing project aims to develop priority farm

roads connecting isolated rural communities and farms, particularly in Bongo and Trimshing gewogs (village blocks) to feeder roads constructed under the Road Network Project I. It will also develop the capacity of communities to manage and maintain these roads and enhance rural farmers' access to financial and technical services.

More recently, together with the Department of Foreign Affairs and Trade—Australian Aid (formerly the Australian Agency for International Development), ADB helped the government develop the Bhutan Transport 2040 Integrated Strategic Vision in 2011, to set the long-term development and direction of the country's transport sector. Nine strategies have been developed based on land use, demographic distribution, economic policy and activity, movement of goods and people, and environmental balance.

Former Minister for Works and Human Settlement Lyonpo Yeshey Zimba (Minister for Works and Human Settlement 2008–2013) says, "ADB has been one of our main partners

in national highway construction. Many of the major feeder roads to connect rural communities have also been financed by ADB." Affirming ADB's support to the transport sector, he adds, "ADB has played a critical role in enabling Bhutan to meet its goal of socioeconomic development by providing both technical and financial assistance. In addition to infrastructure development, ADB has helped Bhutan undertake key policy reforms and institutional development in the transport sector."

The Way Forward

According to the government's *Annual Info-Comm and Transport Statistical Bulletin*, published in 2012, Bhutan's vehicle fleet, concentrated in Thimphu and Phuentsholing, has grown rapidly in recent years. There were only 13,600 registered vehicles in 1997, but this number escalated to 62,707 in 2012. Because of this rapid growth, the development of the road network has not been able to meet the growing demands of vehicles, particularly

Box 5 Progress in the Air

Some of the oldest and most revered Buddhist temples and monasteries in Bhutan, such as the Kurje Monastery and Jambay Lhakhang, are found in Bumthang. The spiritual heartland of Bhutan beckons throngs of tourists all year round because of its mystic appeal. Bumthang, which literally means “beautiful fields,” is home to a number of other tourist attractions.

Further to the east stretches out Trashigang district where Yonphula is located. This historical region is still being used as a primary route for the country’s trade with India. It cradles a 354-year-old fortress called Trashigang Dzong, built as defense against Tibetan invaders. Tourists flock to Trashigang to immerse themselves in the serene Bremung Lhakhang, the most venerated temple in the place. In Kanglung Zangdopelri, travelers get to appreciate some of Bhutan’s most intricately designed statues. The protected areas of the Sakteng Wildlife Sanctuary in Trashigang entice visitors with its tales of the mystical *migoi*, a type of yeti, which the locals strongly believe has existed in the area.

In the southern part of Bhutan, there is an entry point that welcomes travelers to the country. The town of Gelephu in Sarpang district is a strategic place for development because of its proximity and connectivity with India and linkage to the central parts of the country. The picturesque and extensive plains of the south have a great potential for safari adventure and nature trips, particularly to the Royal Manas National Park and neighboring Zhemgang district.

Bumthang, Gelephu, and Yonphula are the three strategic locations where Bhutan has developed its domestic airports. The government, under the Tenth FYP, 2008–2013, aimed to promote balanced regional development and expand strategic infrastructure as one of the strategic priorities to achieve its overarching goal of reducing poverty. To support the government’s efforts, ADB provided the Air Transport Connectivity Enhancement

of larger and heavier vehicles. “With due consideration of economic viability, ADB will assist further development of road network in Bhutan,” says Tsuneyuki Sakai, transport specialist in ADB’s South Asia Department. “In view of the expansion of road network, it is equally important to enhance the country’s road maintenance scheme and budget allocation mechanism to ensure the sustainability of the road subsector. There is a role that ADB can play with respect to this challenge.”

ADB will continue to assist the government in (i) enhancing the main road network, especially of the southern East–West Highway; (ii) strengthening the road asset management system to ensure adequate maintenance of the existing road network; (iii) improving road safety conditions; (iv) strengthening the government’s capacity to deliver modern road technology; and (v) supporting transport sector management, including institution realignment.

ADB will also continue to support Bhutan to improve its domestic aviation, through an ongoing TA project for the Department of

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box 5 continued

Project with an almost \$7 million grant in 2012. This project will enhance safety, security, and capacity at the three domestic airports in Bumthang, Gelephu, and Yonphula. The infrastructure improvements in these airports include securing the airport perimeter; expanding terminal space, aircraft parking, and taxiways; and improving runways. Installing drainage and flood protection systems, aeronautical communication and navigation aid equipment, and air rescue and firefighting services are also part of the ongoing project.

“The overall goal of the project is to improve air transportation infrastructure to promote safe and reliable air transport connectivity,” says Dong-Kyu Lee, principal transport specialist in ADB’s South Asia Department. “This will support tourism development and result in inclusive economic benefits, especially for the less developed regions of the country.” Lee elaborates on how the project will help cut travel time and provide better access to services, especially for people living in the eastern and southern regions where access to roads remains limited. “Better connections will lead to new business and employment opportunities in these poorer areas where development is badly needed.”

Civil Aviation and an investment project that will boost the government’s efforts to upgrade safety, security, and capacity at the three domestic airports in Bumthang, Gelephu, and Yonphula.

The Secretary of the Ministry of Economic Affairs, Dasho Sonam Tshering points out that

“for a landlocked, mountainous and rugged country like Bhutan, air transport will help overcome many of the challenges of road travel. The airports will lead to better connections, new business opportunities, and contribute to the regional development of the country.” Dasho Tshering says that air transport will help spread the benefits of tourism to secluded yet beautiful

places currently inaccessible to tourists. “This would support the growing tourism industry and create jobs,” he says.

Sakai assures that ADB-funded projects in the transport sector “not only improve transport efficiency, but contribute both to the expansion of economic opportunities and poverty reduction.”

According to the 2010 CAPE, households in the vicinity of the newly built roads felt that the roads helped increase their income levels, mainly as a result of higher agricultural price and production levels and/or increased opportunities for nonfarm income.

Small shops along the roads have mushroomed as they flourish from the steady influx of travelers and motorists. Zam Rinzin, 44, runs a restaurant-bar in Nobding, a dusty roadside settlement along the East–West Highway, some 40 km from Wangdue Phodrang in western Bhutan. For the last 4 years, she has catered to hungry and tired motorists and travelers, offering them an assortment of local food items



Dong-Kyu Lee/ADB

and beverages. She started the restaurant after her husband retired from work.

Back then, Zam remembers, business was slow. She ran the restaurant at a loss for almost a year. However, the number of her customers has been gradually increasing in recent years, she says, mainly due to the improved road condition. "Sometimes, I get more than 25 to 30 customers a day and I make some profit at the end of the month," says Zam. "For me, this highway is a source of livelihood." Noting the changes brought to Nobding by the improved road, Zam says, "the number of travelers has increased compared to the past. A few years back, the number of vehicles plying on this road was very few. Now every few minutes, a motor vehicle passes by. The road has been widened and there are definitely more people traveling today. Thanks to the better road condition and a greater number of vehicles driving through, local entrepreneurs like us benefit a lot."

The improvement of the domestic airport in Bumthang will open the door to tourists eager to experience the mystic appeal of Bhutan.

Making more than Nu200,000 (nearly \$3,200) a year is no longer an enormous task for this entrepreneur. Today, she comfortably sends her three children to school and spends money on other household costs. For Zam, this kind of change is more than welcome.

Kezang Namgay



Restaurant-bar owner Zam Rinzin delights in the dramatic rise in customers along the improved East-West Highway.

Building Tomorrow's Cities

To help the government address rapid urbanization in the country, ADB has prioritized urban sector development as one of the core areas of its operations in Bhutan.

Bhutan has been experiencing rapid urbanization over the last few decades.





In 1961, Thimphu replaced Punakha as the capital city of Bhutan. Thimphu, the most populated city in Bhutan, is home to more than 100,000 people. The bustling city has been transformed into a modern capital without losing its rich cultural and religious inheritance. This is evident in the architecture and art found in Thimphu's infrastructure. Concrete buildings and wooden houses, painted and built in time-honored Bhutanese styles, line the roads.

In the Thimphu Structure Plan, 2002–2027, Thimphu is envisaged to evolve into a green city. Bhutan wants Thimphu's landscape to be developed around the “colors, scents, and even the sounds of rustling water and numerous species of birds.”

Having lived in Thimphu all her life, Rinzin Dema, 49, is an eyewitness to the tremendous changes and development the city has undergone in the last 4 decades. She has seen how the capital has been transformed from a small, sleepy town into a lively, sprawling city with civic amenities.

“The extent of development that Thimphu has undergone is phenomenal,” says Rinzin. “The difference is that of earth and sky. Thimphu was like a small rural village in old days. There were barely any houses. In the past, many of the places here were either huge swathes of forestland or paddy fields. There was no network of roads. Even the vehicles were few. Getting a taxi was so hard those days.” She adds that the development in the city has benefited everyone. “We had nothing those days and today we have access to every kind of facilities,” she says. “Life has become much easier after the development. It is more organized and systematic. We have drinking water, electricity, and good roads.”

Supporting Rapid Urbanization

Thimphu began to experience a rapid growth of its population in the mid 1970s. The current rate of growth in Thimphu is more than 8% per

year. In Phuentsholing and 18 other regional and provincial centers the growth rate is 3% or higher. This rapid urbanization started to strain the provision of basic urban services.

The monumental changes that Rinzin has observed were brought about by the government’s efforts to respond to the growing needs of the city dwellers. Under the Eighth FYP, 1997–2002, the government recognized the increasing migration to larger towns and cities and emphasized that improvements were needed to provide basic urban services. Under the Ninth FYP, 2002–2007 with its focus on poverty reduction, housing needs for low-income urban residents were addressed. As part of the government’s efforts to promote decentralization, the plan also introduced the concept of more public participation in local governments.

The Tenth FYP, 2008–2013 continued to improve the management of urban services by granting autonomy to the four class A municipalities, including Gelephu, Phuentsholing, Samdrup

Jongkhar, and Thimphu, through the Local Government Act 2010, and making them responsible for the provision of all municipal services. The plan warrants the improvement of urban services in five regional growth centers, including Nganglam Dungkha Administration, 16 district centers, 12 medium-sized towns, 23 small towns, and four corridors linking cities and regional centers.

To support the government’s efforts in urban development, ADB financed its first project in the urban sector in 1998, the Urban Infrastructure Improvement Project (\$5.7 million). According to a study conducted by ADB’s Independent Evaluation Department, the key outputs of the project included 12.5 km of improved roads and two bridges benefiting 36,000 persons, with 8,000 and 900 daily vehicle crossings recorded for each bridge; 13 km of drains benefiting 36,000 persons; 9.4 km of footpaths benefiting 32,000 persons; 6 km of river training works benefitting 28,000 persons; and 20,000 square meters of parking. Completed in 2005, the project helped improve traffic flows and reduce

the risk of flooding in two of the major urban centers. Since drains were regularly cleaned as part of the project maintenance, the build-up of roadside sludge was eliminated, reducing odor and making footpaths and sidewalks a lot cleaner.

Subsequently, ADB provided a much larger Urban Infrastructure Development Project, amounting to \$24.6 million, in 2006. This ongoing project entails improving, upgrading, and expanding urban infrastructure facilities and basic urban services in Thimphu, Phuentsholing, and one regional center, Dagana.

Thimphu Mayor Kinley Dorji lauded ADB for providing key support to Thimphu, particularly helping the city realize the five local area plans for South Thimphu, including Babesa, Changbangdu, Lungtenphu, Olakha, and Simtokha. "ADB has been very generous in providing financial support," says Dorji, "with which all the road network was put in place along with the sewerage network, the water

pipelines network, and even provisions for electric power lines in these five locations." ADB has also provided support for enhancing the drinking water supply in Chamgang and Megoipang areas, added Dorji, where each area has its own reservoir. "Once the water scheme is commissioned," he says, "we will absolutely have no problem with drinking water in South Thimphu."

In case of Phuentsholing, the Urban Infrastructure Development Project has improved roads, drainage, fire protection, and public recreation facilities, including sports facilities and public parks. It has also installed a pedestrian overpass and bridge as well as streetlights for the safety of pedestrians in the city.

"Without the generous support of ADB, it would have been impossible to execute urban infrastructure facilities in the city as per our structure plan," says Tsheten Dorji, mayor of Phuentsholing. "Not even 20% of our plan would have been done without ADB's assistance.

Kezang Namgay



Long-time Thimphu resident Rinzin Dema enjoys basic urban services such as drinking water, electricity, and good roads, which ADB has helped finance through urban development projects.



Kezang Namgay

Thimphu has been rapidly transforming into a modern capital, without compromising its rich cultural and religious inheritance.

Within 5 years, we will have achieved most of the planned development works. In the presence of an acute shortage of funds and a limited number of specialized engineers, ADB has been instrumental in providing technical know-how and other necessary assistance to accomplish our plans," he says.

In Dagana, the Urban Infrastructure Development Project is constructing a new water supply system, which will ensure the continuous availability of drinking water for the population.

The project also provides technical support for institutional strengthening and building staff capacity in urban management and service provision, as well as enhancing public awareness of public hygiene. The

accompanying Capacity Building for Urban Infrastructure Planning and Management TA project helped devise and undertake a solid waste management strategy and action plan for Thimphu, geotechnical and slope stability studies for Dagana, unaccounted-for-water reduction and water calibration, and land pooling and urban facility management advisory.

To help address the increasing urbanization in other urban areas in addition to Thimphu and Phuentsholing, ADB provided another loan amounting to \$19.9 million under the Urban Infrastructure Project in 2011. The project aims to help Phuentsholing, Samdrup Jongkhar, and Thimphu municipalities and Nganglam town provide improved urban infrastructure to their residents. The project will rehabilitate

and expand the water supply and sanitation infrastructure in Samdrup Jongkhar and Thimphu; improve mobility in Phuentsholing; strengthen urban management in Phuentsholing, Samdrup Jongkhar and Nganglam; and develop local capacity for project management in the four project areas.

"ADB's assistance is exactly what we need for our growing city," says Thimphu Mayor Dorji. "We need good roads, proper drainage systems, and safe drinking water. With ADB's assistance, all these will be available in the expanded area of Thimphu city. I think, once the ongoing projects are completed, the area will have what any other developed cities have. We will have water supply, a sewerage network, proper roads, and a clean environment. They are what we require for a place to qualify as a city."

The Way Forward

ADB's strategic involvement in Bhutan's urban sector over the last few decades has significantly contributed to urban infrastructure development, mostly in Thimphu and Phuentsholing where more than 130,000 residents have benefited from the improved quality of life, public health, and environment.

One of the recommendations made by the 2010 CAPE was that ADB should continue to support Bhutan in the urban sector, considering that other development partners plan to reduce participation in the sector to focus more on other areas of development in the country. This has underlined ADB as the principal partner of Bhutan in urban development initiatives.

The government's Eleventh FYP, 2013–2018 has a strong focus on urban infrastructure

development. Aligned with the government's development priorities, ADB will support the development of municipal infrastructure, with a focus on integrated urban water resource management to ensure water safety and security in key urban centers. This will be accompanied by support for institutional development, good urban governance, planning, and cost recovery.

Pritha Cawrse, urban development specialist in ADB's South Asia Department, said that for the urban sector of Bhutan, the challenge lies in how ADB could help the government make urban development plans more sustainable. "With ADB's past and ongoing projects, people will have improved access to basic services over time. But we need to start looking at a bigger picture in an integrated way to make our efforts more sustainable," she says.

According to Cawrse, there is a need for a more conceptual, integrated way of thinking to help Bhutan become self-sustainable by 2020. "ADB is starting to take that stand with most of our projects in the developing member countries that we are working with, and so that shouldn't be any different for Bhutan."

For old-time Thimphu residents like Rinzin, urban development is a welcome change. "When I look back," Rinzin says, "we have leapfrogged from an ancient time to a whole new modern world. Thanks to the efforts of the government and its partners, we live much better lives now than ever before."

Sharon Zhao/ADB



Rapid urbanization is transforming the skyline of Bhutan's capital.

Fueling the Engine of Growth

ADB's assistance over the last few decades and its responsiveness to emerging challenges in the financial sector have made ADB one of Bhutan's main partners in financial sector development.

Since the 1968 establishment of the Bank of Bhutan, the country's first financial institution, Bhutan's financial system has experienced rapid development.





Bhutan's financial sector has been experiencing rapid development, though still small and predominantly bank-based, since the establishment of the country's first financial institution, the Bank of Bhutan, in 1968. Recognizing that broad-based economic growth relies heavily on the development of the financial sector, the government has made significant efforts to establish banks and nonbank financial institutions through a series of FYPs. Under the Tenth FYP, 2008–2013, for example, finance was considered one of the three critical sectors for Bhutan's economic development, along with infrastructure and energy. This is the result of the role that the financial sector plays in facilitating private sector participation in economic growth. Poised to experience changing needs of the economy and people in the next decades, the government is committed to enhancing further development of Bhutan's financial systems.

ADB Assistance to the Financial Sector

The Bhutan–ADB partnership in the financial sector began in 1984 with the provision of the Industrial Sector Study and the Establishment of a Development Financing Mechanism TA project, which eventually led to the establishment of the Bhutan Development Finance Corporation, now called the Bhutan Development Bank Limited, the only development finance institution in the country.

Since then, ADB has played a pioneering role in the development of Bhutan's financial sector. Consistently, ADB has aligned its financial sector development strategies with the government's development agenda over time. The government and ADB have directed concerted efforts toward developing a well functioning financial



Eric Sales/ADB

system in Bhutan that can support private sector development, and a broad-based development model. ADB assistance has helped build (i) a sound legal and regulatory framework; (ii) functioning supervisory and member financial institutions; (iii) diversified financial products; and (iv) necessary market infrastructure to meet the country's economic development needs.

For example, ADB provided a sector development program, the Financial Sector Intermediation Facility Program in 1997, to support financial policy reforms in Bhutan. The program, consisting of a policy loan (\$4 million) and a development finance loan (\$4 million), supported the approval of a foreign direct investment policy, liberalized interest rates, and improved the legal framework for the financial system and private business. During the program implementation period, four laws were passed and two regulations were issued. These include the Moveable and Immovable Property Act, Bankruptcy Act, the Negotiable Instruments Act, the Amendments to Companies

Former Finance Minister Lyonpo Wangdi Norbu (left) and ADB director general for the South Asia Department Juan Miranda (right) sign the financing agreement of the Strengthening Economic Management Program at ADB headquarters, in March 2013.

Act, the Commercial Sale of Goods Regulations, and the Foreign Exchange Regulations. The accompanying TA project provided support to enhance the capacity of government agencies involved in the reform program, to strengthen the institutional capabilities of the financial institutions, and to improve private sector entrepreneurship and management skills. According to the program completion report, the Financial Sector Intermediation Policy Program was rated *successful*, since it brought about an important package of reforms and initiated the development of a sound and efficient financial system and a strong private sector in the country. Moreover, the 2005 CAPE notes that the program was instrumental in generating over 1,800 new jobs and helped expand the contribution of the manufacturing sector to GDP from 5% in 1985 to 7.2% in 2003.

ADB operations also covered various aspects of financial sector development and undertook a number of key initiatives, including the

conversion of the Unit Trust of Bhutan into a new commercial bank, namely the Bhutan National Bank Limited, to introduce competition and efficiency in the banking system; the restructuring of the Government Employees Provident Fund; the establishment and upgrading of a payment and settlement system; and the strengthening of the institutional capacity of the Department of Aid and Debt Management of the Ministry of Finance as well as the Royal Monetary Authority (RMA).

ADB has also promoted good governance in the financial sector through a series of capacity-building measures and institution-building activities. For instance, the Strengthening the Banking Supervision Function of the Royal Monetary Authority TA project enhanced the capacity of the RMA to conduct on-site and off-site examination of banks and other financial intermediaries through the training and manuals prepared and provided under the TA project. Some of the key outputs were enhanced prudential regulations and a revised

off-site examination manual. Similarly, the Strengthening the Capacity of the Royal Monetary Authority and Royal Securities TA project improved the RMA's autonomy and supervisory function and provided a legal and regulatory framework for capital market development and the supervision by the RMA of the financial sector, including the drafting of the Financial Services Act, RMA Act, and insurance regulations.

Deputy Governor of the RMA, Eden Dema, said that ADB's assistance was critical, since the Bhutanese financial system was at a juncture when the economy was developing at a rapid pace with an increased demand for financial services. According to her, in the absence of a financial sector master plan and financial experts in the country, the development of the financial system would not have reached the current level without ADB support. "In banking supervision, the immediate effects of ADB support can be seen from the financial indicators on the overall soundness of the

banks, in terms of capital strength, asset quality, improved corporate governance in the management of banks, and sustained levels of earnings.” says Dema. “In the insurance sector, the benefits have been in terms of having in place insurance regulations and a focused insurance supervisory methodology, which was nonexistent earlier.”

ADB’s more recent assistance has focused on, among other things, fostering a more stable financial sector and developing the private sector. The Financial Sector Development Program, consisting of a policy loan and a project loan (\$13 million), was provided in 2006 to fortify the governance of the financial system by adopting key regulatory and capital markets legislations, strengthening corporate governance, improving anti-money-laundering measures, and unifying accounting and reporting standards.

The program helped address the governance issue in the financial sector with the passage of the revised RMA Act in 2010 and the Financial Services Act in 2011. The revised RMA Act enhanced the RMA’s autonomy by allowing it to function as an independent central bank with a governance structure in line with international best practices. As for the Financial Services Act, it ensured that the country would have a complete legal framework for the entire financial sector, and empowered the RMA as its sole regulator. Key achievements under the program and accompanying TA project also include the establishment of a credit information bureau, the reconstitution of the Accounting and Audit Standards Board, and the issuance of new licensing regulations that facilitated the entry of two new commercial banks and one new insurance company.

“The establishment of a credit information bureau has significantly improved the financial system by making access to credit more efficient,” says Dema. “It has also provided a platform for people to access their credit history, enabling them to understand their rights while availing services from financial institutions. As a whole, the bureau has allowed the financial institutions to provide credit based on a person’s credit worthiness rather than the collateral he or she owns.” Dema also notes that the establishment of the Financial Intelligence Unit, together with capacity building support provided by ADB in the area of anti-money-laundering and combating the financing of terrorism, has immensely strengthened the capacity of the RMA to curb money-laundering activities in the country and cleanse the financial sector of such activities.

Former Finance Minister Lyonpo Wangdi Norbu says that the financial sector in Bhutan, although it is still predominantly bank-based, has experienced rapid expansion. He points out that the number of commercial banks has increased from one to four in addition to a special deposit-taking bank, two insurance companies, and one pension fund within the last 2 decades. “ADB has been instrumental in promoting the rapid development of the financial sector. It has helped Bhutan develop efficient and commercially oriented financial institutions by improving regulatory and legal frameworks.”

More recently, to promote economic and financial governance, ADB approved a JFPR-funded TA project in May 2012 to strengthen the RMA’s regulatory capacity for nonbank financial institutions. The TA project will

help formulate effective nonbank financial regulations and rules to support market development, while enhancing the stability of the Bhutanese financial system across the insurance, pension, microfinance, and securities subsectors. It will also enhance the RMA staff expertise both at the management level and the departmental level, in terms of drafting nonbank financial regulations and ensuring effective implementation of these regulations. Furthermore, staff of nonbank financial institutions will be trained to ensure effective implementation and compliance of the RMA’s new nonbank rules and regulations.

To strengthen financial resource mobilization in the country and to promote economic and financial governance, the Capital Market Development TA project was also provided in December 2012 to (i) enhance the enabling

environment for a deeper and more stable capital market by formulating a capital market master plan, establishing a regulatory and supervisory framework for a fund management industry and domestic credit rating agency, and strengthening public debt management; (ii) support the restructuring and improvement of the ICT capacity of the National Pension and Provident Fund; and (iii) support the implementation of the Strengthening Economic Management Program (see paragraph below).

In early 2013, in light of Bhutan’s buildup of domestic and external imbalances that resulted in the Indian rupee liquidity tightening, ADB developed a policy-based loan and grant, Strengthening Economic Management Program (\$35 million), to strengthen macro-financial management to ensure adequate and sound development financing. The



Kezang Namgay

program was designed to improve (i) budget and debt management systems; (ii) a revenue management system; (iii) a macro-prudential management framework; and (iv) external and internal audit operations. This program loan aims to maintain high, stable, and sustainable growth over the coming years by avoiding widening domestic and external economic imbalances.

Lending that Changes Lives

At the age of 69, J. B. Gurung is one of the most progressive farmers in his village. Gurung runs a small-scale poultry farm and a commercial fishery in Reserboo, a small village in Tsirang district. He started the farm after retiring from government service in 2005.

“Having worked in the machinery division of the Ministry of Agriculture and Forests for many years, I had a pretty good grasp of agriculture and livestock issues,” says Gurung. “As I had no source of income after retirement, I thought I might as well do something. Then, this idea was born.” With technical and financial assistance from the government, financed by ADB, Gurung was able to realize his dream. “I started with a capital investment of around Nu250,000 (about \$4,000), thanks to the gratuity I received during my superannuation, as well as assistance from a financial institution,” Gurung says. “I also received technical assistance and guidance from the *dzongkhag* (district) and *gewog* (village block) livestock officials, without which it would have been really difficult for me alone to start the poultry and fishery farms.”

Gurung’s poultry and fishery farms are thriving. He and his wife make over Nu30,000 (about \$480) a year from selling their produce

Access to credit allowed J.B. Gurung to start thriving poultry and fishery farms.

in Thimphu and other nearby districts. “Although the profit is not much, through the revenues from selling eggs and fish, I have been able to educate my children. All of them are employed now. It has helped me get by. Today it is a steady source of income for me and my wife.”

Gurung is one of the hundreds of beneficiaries of the ADB-supported Micro, Small, and Medium-Sized Enterprise (MSME) Sector Development Program approved in 2007. The program consisted of a program grant of \$6 million to promote policy reforms, a project grant of \$9 million to facilitate implementation and extend credit to MSMEs, and an associated TA investment of \$400,000 to strengthen the business-enabling environment for private sector development, through the introduction of a regulatory impact assessment.

Anqian Huang, finance specialist at ADB’s South Asia Department, says that “the most

important contribution of the MSME program was that the government now has a sound MSME policy, strategy, and action plan to take the national MSME development agenda to a new level. During the project implementation, the government exhibited the strongest commitment to implementing the program to achieve the desired developmental impact.”

Another key contribution of the MSME Sector Development Program was enhanced access to market-based finance. ADB’s credit line funded 1,900 subloans through the Bhutan Development Bank Limited, which increased its lending to MSMEs, constituting 35% of its portfolio at the end of 2012. A cost-sharing facility, also financed by ADB, funded business development services for 1,651 individuals and enterprises.

The program also made it easier for entrepreneurs like Gurung to set up a new business by simplifying the business

formalization process and reducing the days of processing from 62 days in 2006 to just 36 days in 2012.

The Way Forward

ADB’s financial sector support program to Bhutan has assisted a wide range of development challenges including policy formulation, institution and capacity building, legal and regulatory reform, and system infrastructure and product development. ADB is determined to provide continued support to Bhutan’s financial sector development process to meet Bhutan’s new challenges and support the country’s broad-based economic growth and poverty alleviation efforts.

Dema, the RMA deputy governor, notes that Bhutan’s financial sector has come a long way from being a very conservative and

Box 6 Advancing Economic Opportunities for Women and Children

ADB provided a Japan Fund for Poverty Reduction (JFPR) grant amounting to \$1.95 million in 2011 to improve the economic status of vulnerable women and girls in selected urban and rural areas by enhancing their capacity to access livelihood and employment opportunities. The project aims to enhance the gender mainstreaming and monitoring capacity of the National Commission for Women and Children, the Ministry of Labor and Human Resources, and gender focal points in selected line ministries. Similarly, nongovernment organizations are provided support to strengthen their capacity in promoting economic opportunities for women and girls. The project also aims to improve the livelihood and entrepreneurial skills of self-help groups to make their economic activities sustainable and enhance the employability of young people, especially girls.

“The project has contributed to giving the National Commission for Women and Children a greater and more visible role in fostering a partnership among the government, civil society, and private sector for the enhancement of economic opportunities for women and girls,” said Francesco Tornieri, principal social development specialist in ADB’s South Asia Department. “This will underline the importance of the commission’s mandate to promote women’s advancement in the context of economic development. The project supports the country’s ongoing efforts in improving the economic conditions of poor women and girls by building on the initiatives being undertaken in the country,” he adds.

continued on next page

conventional system to a modern and dynamic system. “However, a lot still needs to be done for the financial system in Bhutan to meet the changing needs of its people and the economy,” she points out.

ADB will continue to provide support to enhance the competitiveness and efficiency of the financial sector; strengthen the regulatory and supervisory capacity of the RMA; improve the corporate governance structure and operations of financial institutions; develop the MSME subsector; enhance capital market development; and strengthen fiscal, debt, and liquidity management.

box 6 continued

In Bhutan, one of the biggest constraints to starting a business, especially for female entrepreneurs in rural areas, is limited access to credit. Aside from the limited access to credit, a high collateral requirement is another key constraint to initiating a new business in Bhutan. Even for smaller loans, borrowers are often requested to provide land as collateral, the value of which is many times higher than the amount of money they would like to borrow. In response, the National Commission for Women and Children conducted a 2-day multi-stakeholder forum on the role and contribution of women in economic development with the theme “Access to Credit” under this JFPR-funded project. The forum, held in 2011 in Thimphu, was attended by officials from Bhutan’s government agencies, financial institutions, corporations, and representatives from the private sector, international organizations, and media houses.

Under the project, 61 self-help groups (of which 90% of members are women) have also been formed by the implementing nongovernment organizations, to engage in a wide range of microenterprises or other livelihood activities, particularly in the area of agriculture and horticulture. In addition, the Village Skills Development Program has been conducted for 103 trainees so far, the majority of whom are women, on tailoring, embroidery, electrical home appliances repair, and hairdressing. As for the Apprenticeship Training Program, it has been completed for 56 trainees and is ongoing for about 200 trainees in a wide variety of fields, including accounting, marketing, and front desk and office management.

Eric Sales/ADB



The Government of Bhutan and ADB are working together to help women and girls access livelihood and employment opportunities.

Imparting Skills for Life

ADB's pioneering work in developing technical and vocational education and training (TVET) in Bhutan has laid the foundation of the country's TVET system.

With the government's concerted efforts to improve the education system, Bhutan has achieved the Millennium Development Goal of providing education for all, ahead of the 2015 deadline.





In Bhutan, education is perceived as a means to fully draw out a human being's true potential. A holistic and transformative education should consider how people respond to their dynamic world. With this view, the government has been ardently pursuing the development of its education sector over the past 40 years. In the late 1950s, there were no secondary schools in the country and fewer than 450 children attended primary schools. The adult literacy rate was almost on the baseline, at an estimated 10% in 1970.

Today, Bhutan stands proud in achieving the Millennium Development Goal of providing "education for all" even ahead of the 2015 deadline. The Annual Education Statistics prepared by the Ministry of Education reveal that the country's gross primary enrollment ratio increased from 106% to 118% between 2007 and 2012 while the net primary enrollment ratio increased from 84% to 96% during the same period.

Building a Technical and Vocational Education and Training System

While consolidated efforts to improve access to high quality education at the primary, secondary, and tertiary levels are underway, Bhutan still faces the persistent challenge of reducing its shortage of skilled labor. Since Bhutan started to implement its FYPs, human resource development has remained one of the top priorities of the country. Over the Eleventh FYP period, about 120,000 youths are expected to enter the labor market, out of which 60% will be those who have completed grades 10, known in Bhutan as Class X, or above. Unemployment is very high for young people straight from schools without vocational qualifications. These youths need to obtain appropriate skills to be able to find a job upon graduation, jobs which at the moment often go to expatriate workers.



Eric Sales/ADB

The *Fast Track Initiative* (now called Global Partnerships for Education) *Appraisal Report: Education Sector Strategy*, issued in 2009, recommended that the government promote TVET in the country and encourage the youth to take up skilled and semi-skilled occupations as well as self-employment. The appraisal noted the need for the development of Bhutan's hydroelectric resources, an industry which could absorb many skilled Bhutanese. The appraisal supported plans for expanding vocational clubs in middle and higher secondary schools to increase the awareness among young Bhutanese of various career opportunities as they enter adulthood, and to teach them about TVET options available after they complete higher secondary schooling that will help them in their career development.

Under the Ministry of Labor and Human Resources (MOLHR), the Department of Human Resources is implementing vocational

ADB's support for Bhutan's technical and vocational education system has helped develop the foundations for a technically skilled human resource base for the country.

skills development activities at two levels, namely pre-service vocational education and training for those who are to be employed, and skills upgrading training for those who are already employed in the private and corporate sectors and would like to enhance their skills.

There are currently six public technical training institutes and two *zorig chusum* institutes across the country under the MOLHR. The *zorig chusum* or “thirteen crafts” refer to the traditional visual arts and crafts that the Bhutanese have practiced for generations. They include painting, carving, sculpture, calligraphy, casting, gold and silver smithy, leather work, wood turning, weaving, bamboo work, pottery, embroidery and appliqué, blacksmithing, and masonry. According to the National Human Resources Development Policy 2010, institutes of *zorig chusum* serve as the centers for preservation and promotion of both traditional and cultural arts and crafts of Bhutan.

Other interventions undertaken by the government include the accreditation of both public and private training providers for quality training and for the production of handbooks and manuals for various vocational skills, spearheaded by the Bhutan Vocational Qualification Authority. Vocational teachers and instructors are also being provided with in-country trainings to upgrade their skills, leading to a certification by the Bhutan Vocational Qualification Authority.

PPPs in technical training are also increasingly proving to be very productive and meeting the needs of both employers and trainees. As of March 2013, there are 79 public and private training providers in ICT, hospitality, construction, and arts and crafts, among other subjects, who have been registered with MOLHR as per the Regulation for Registration and Training Providers 2010.

Supporting the Development of Bhutan's Skills Base

In 1990, ADB provided its first TVET project in the country. The Technical and Vocational Education and Training Project, amounting to \$7.13 million, helped the government increase the country's technical workforce and improved the quality of TVET at the Royal Bhutan Polytechnic. One of the key contributions of the project was the provision of support to strengthen the institutional capacity of the Technical and Vocational Education Division of the Department of Education and to upgrade it to the National Technical Training Authority in 1999. The 2005 CAPE report notes that the TVET project enhanced the quality and effectiveness of the Royal Bhutan Polytechnic

Box 7 Skills for a Lifetime

As a result of the increased enrollment at the primary and lower and middle secondary education levels, and given the government's decision to raise the basic education to grade X, there has been a notable increase in the number of students continuing their education beyond grade X. According to the 2012 Annual Education Statistics report, the enrollment in grades XI and XII (both public and private) has increased from 6,691 in 2004 to 15,244 in 2012, with an average annual growth rate of 11.4% during this period. The top 40% of students who graduate from grade X are admitted to public higher secondary schools based on their performance in the board examination. Those students who do not qualify continue their education in private higher secondary schools, join vocational training institutes or enter the labor force.

Chencho Nidup, 24, is a mechanic working in a service center of the State Corporation of Bhutan Limited in Thimphu. After completing grade X, he joined the Thimphu Institute of Automobile Engineering in the capital. He underwent 2 years of rigorous training in automobile mechanics in this institution. He graduated in 2011 and since then he has been working in the service center. Chencho earns a monthly salary of Nu9,600 (about \$154).

Chencho said that without vocational skills, it is almost impossible for a grade X student like him to get a job, since even college graduates are finding it difficult to enter the labor market. He says, "I joined the institute to acquire some vocational skills. Also, I always had a fancy for automobiles, so much that one time I harbored ambitions of becoming a mechanical engineer. Although that dream did not come true, I am very happy that I have a job now. And a plus point is that I still get to work with the machines."

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training programs and increased the number of its technical and vocational graduates.

The National Technical Training Authority was an autonomous institution with the mandate to coordinate the development of the entire TVET system in Bhutan. It directly planned and administered the Royal Bhutan Polytechnic, the Royal Technical Institute, the *zorig chusum* institutes, and the National Drivers' Training Institute. It also regulated all other private TVET programs in the country.

One of the key objectives of the 2000 COS in the education sector was to develop the country's skills base to provide its population with access to more productive job opportunities. In line with this operational thrust, ADB provided another investment project in 2001, namely the Basic Skills Development Project of \$7 million, to establish an efficient, flexible, cost-effective, and sustainable basic skills training program.

box 7 continued

Chencho said that the 2-year training that he received in the Thimphu Institute of Automobile Engineering broadened his understanding of automobiles and made him what he is today. “The training program provided me with both theoretical and practical knowledge in automobiles. This combination has helped me become a better and more efficient mechanic compared to many others,” he adds.

But as Chencho rightly points out, there is a pressing issue facing Bhutan’s technical and vocational education and training system today. “In Bhutan, a lot of technical people, for instance mechanics or construction workers, are foreigners. Not many youth in the country consider such blue-collar jobs as viable career options.”

Despite the lingering social stigma against technical jobs in Bhutan, Chencho is proud of his career. The aspiring auto mechanic says, “I have learned so much about the dignity of labor. I appreciate it now more than ever. I have become more mature and respect people who dirty their hands to feed their family.”

With the help of the project, the National Technical Training Authority was reorganized as MOLHR in 2002. The TVET policy framework was prepared by MOLHR and later approved in 2006. One of the key objectives of the TVET policy framework was to ensure that all Bhutanese have access to quality TVET, enabling

them to work with pride, and allowing employers to find competent Bhutanese workers who would boost their business productivity and profitability. Under the TVET policy framework, MOLHR provided assistance to TVET providers in designing and marketing training courses that would raise the employability of the Bhutanese workforce.

Kezang Namgay



Chencho Nidup, a graduate of the Thimphu Institute of Automobile Engineering, found a job as an automobile mechanic and is proud of his career.



Eric Sales/ADB

The Basic Skills Development Project also financed the construction of new technical training institutes, specifically in Rangjung-Tashigang, Chumey-Bumthang, Khuruthang-Punakha, Samthang-Wangdue Phodrang and Thimphu. These additional training facilities resulted in an increase in enrollment from 400 persons in 2001 to 1,193 persons in 2008.

According to *Fifth Annual Report of Lyonchhen Jigmi Yoezer Thimley to the Tenth Session of the First Parliament on the State of the Nation*, a total of 580 trainees have graduated from technical training institutes and institutes of *zorig chusum* since 2008. In the same period, 2,640 trainees were enrolled in these training institutes, indicating a significant increase in enrollment compared to the previous FYP, as a result of the government's conscious effort to enhance the attractiveness of TVET in Bhutan. There are currently 1,017 students enrolled in the six technical training institutes and two institutes of *zorig chusum* across the country, with a total of 223 teachers serving the TVET

Tackling youth unemployment has been a key issue in Bhutan in recent years. Community e-centers are helping young people learn computer skills and programming.

system. While this growth is encouraging, there is both the need for, and room for, greater expansion.

“ADB’s assistance to Bhutan and particularly to MOLHR will remain as the most important intervention in developing TVET in the country,” says Karma Tshering, chief of the Vocational Education and Training Division in the Department of Human Resources at MOLHR. “The Basic Skills Development Project was so far the largest project in terms of funding in the history of TVET in Bhutan. It enabled the government to enhance access to TVET when there was huge demand for skilled workers on one side and an increasing number of school leavers with no skills entering the job market on the other side.”

Tshering pointed out that ADB’s support for Bhutan’s TVET has helped establish the foundations for a technically skilled human resource base for the country. According to her, the support has enabled the government to plan

and formulate policies and undertake activities related to TVET through its training institutions, including private training providers. Through ADB’s assistance, the government was also able to build its capacity to develop standards, undertake skills testing, provide certification, and initiate developing partnerships between the private sector and TVET providers.

The Department of Employment reports that over the past few years, unemployed youth are slowly but surely taking up technical jobs. Employment placement rates from TVET are high, with the 2012 MOLHR’s tracer study showing that 9 out of 10 TVET graduates in 2004–2010 found jobs.

With the overarching goal of reducing poverty, particularly in remote rural areas, ADB also helped the government extend the provision of TVET to far-flung villages under a \$2 million JFPR grant approved in 2007. This Rural Skills Development Project sought to increase the income of rural communities by providing basic training in construction skills.

According to Rudi Van Dael, senior social sector specialist in ADB’s South Asia Department, “the project contributed to building a strong physical and organizational infrastructure for skills development, especially technical education in rural areas. It supported the development of innovative training modalities at the village level to improve the employability of rural residents who were largely underemployed working on subsistence farming.” Van Dael said that the final evaluation of both projects showed that the beneficiaries were able to diversify their income sources and increase income by applying their acquired skills, reducing their vulnerability to poverty.

The Way Forward

ADB will continue to provide support for the enhancement of TVET. This is a sector that makes a significant contribution to social and

Box 8 Enhancing Opportunities for Women and Girls

ADB has contributed to promoting gender equitable access to basic skills development in Bhutan through the Basic Skills Development Project and the Rural Skills Development Project.

The Basic Skills Development Project aimed to improve the quality and relevance of the technical and vocational education and training (TVET) system to ensure that training delivers the skills required by the labor market. The project expanded access to TVET for new graduates, unemployed youth, domestic laborers, people in rural areas, and women. As for the Rural Skills Development Project, it helped address the problem of poverty in rural areas by developing income-generating skills of the beneficiaries. Complementing the government's Village Skills Development Program, the project taught villagers in 25 blocks in three rural districts basic modern skills such as carpentry, masonry, electrical wiring, plumbing, and construction planning. Under the Rural Skills Development Project, women were recruited and trained as trainers in basic modern construction skills.

ADB case studies on gender equality show that both the Basic Skills Development Project and the Rural Skills Development Project successfully mainstreamed gender by ensuring that all the project components incorporated an equitable access promotion policy. In the case of the Basic Skills Development Project, one of the project assurances was that the government would exert efforts to achieve an overall female enrollment ratio of at least 30% in its skills training program without resorting to a quota.

Both projects also emphasized women's participation in the improved TVET system. The gender equity provision in the TVET policy framework led to enhanced opportunities for women to become TVET trainers

continued on next page

economic development in Bhutan. With rising youth unemployment, fast improvements are needed. The need is greater than a simple expansion of the system, though that too is important. Additionally, TVET needs a better match between the aspirations of young people and the needs of the economy, and a better understanding from industry of the present and emerging skills needs of the country. Given the shortage of skilled Bhutanese workers, specifically in the construction and energy industries, efforts have to be made to integrate skills development in projects supporting the relevant sectors. ADB is planning to support the government to further develop its capacity to design an inclusive and forward looking approach to human resource development.

According to Gi Soon Song, senior social development specialist in ADB's South Asia Department, youth unemployment and skills mismatch in the labor market have been and will continue to be key issues for the national

box 8 continued

or teachers. Moreover, both projects incorporated policies that promoted gender equality, including the provision of service-sector skills courses that were attractive to young women and the establishment of training facilities in rural areas, where female residents lack access to skills training.

According to the Ministry of Education's Annual Education Statistics, a total of 1,017 students were enrolled in the eight vocational training institutes in the country in 2011. Out of this figure, only 323 were females. While the results of ADB's support was positive, current figures suggest that more efforts are needed to enhance female participation in the TVET system, by ensuring the provision of courses that would meet their needs. This would enhance women's access to economic opportunities and make Bhutan's economic growth more inclusive.

development in Bhutan. According to her, ADB and Bhutan could jointly work on upgrading and strengthening skills development in the country by developing interventions that respond to the market and systems that will promote the appreciation of skills among students, parents, and employers.

The adoption of the Labor and Employment Act in 2007 has, to a certain extent, addressed

the mismatch of skills in the labor market by ensuring that private employers improve working conditions and pay better wages and salaries to Bhutanese employees. The law also mandates employers improve job security, adopt and regulate retirement benefits, improve safety and hygiene, and take adequate measures against industrial accidents and compensation. Reasonable rules of employment are also being enforced in Bhutan's job market today.

Eric Sales/ADB



ADB-supported skills development projects promote gender equality and provide courses that meet women's needs, enhancing their access to economic opportunities, and making Bhutan's economic growth more inclusive.

Box 9 Picking up the Pieces

Bhutan stood resolutely united in the aftermath of a 6.1 magnitude earthquake that rocked the eastern region of the country in 2009. Buildings, monasteries, schools, and houses collapsed in the districts of Mongar and Trashigang, close to the epicenter of the quake.

The government quickly extended Nu3 million (about \$48,000) in assistance to the families devastated by the disaster. In addition, His Majesty's Kidu Fund gathered contributions—from ministries, corporations, nongovernmental organizations, private associations, groups and individuals—for disaster relief and reconstruction efforts in the eastern region.

A few months after the quake, ADB provided a \$3 million grant under the Japan Fund for Poverty Reduction-funded Upgrading Schools and Integrated Disaster Education Project. The project was designed to reconstruct four primary schools in Narang, Pam, Thangrong, and Yangneer, which were severely damaged by the earthquake. The project also enhanced people's disaster risk management capacity in the two most affected districts of Mongar and Trashigang.

According to Rudi Van Dael, senior sector specialist in ADB's South Asia Department, the constructed schools will provide better facilities compared to the previous ones and offer boarding and lodging facilities for students living in remote areas in order to grant them access to education. "Under the project", says Van Dael, "the Ministry of Education has also been trained to increase its capacity in construction quality management for earthquake-resilient buildings." This will enable the Ministry of Education to build or upgrade schools that are earthquake-resilient in the future.

The project is also training community members, teachers, and students on community-based disaster risk management. "Considering Bhutan's difficult terrain and increasing incidence of natural disasters, this initiative is helping the Bhutanese people to become more aware and prepared for disasters, and is saving their lives and properties," Van Dael says.

Under the Eleventh FYP, 2013–2018, the government aims to achieve self-reliance by 2020 based on an ICT-enabled green economy. As part of its efforts to build a knowledge-based society, MOLHR, together with a multisectoral task force, is finalizing the National Human Resource Development Master Plan (2013–2020). The plan will identify important skills required by the country by 2020.

ADB will continue working closely with the government to enhance Bhutan's TVET system, which will meet the demands of the labor market and ultimately help Bhutan sustain its high economic growth and facilitate the development of the country as a knowledge-based society.



A primary school damaged by the 2009 earthquake has been transformed into an earthquake-resilient building, which offers a safer and better environment for students in Pam.

A Greener Bhutan

With the expansion of economic activities in the country, Bhutan faces the challenge of sustaining the balance between environmental conservation and economic development. ADB has been working closely with the government to maintain the balance and address the emerging issues of climate change.

Bhutan's Gross National Happiness philosophy integrates environmental conservation in the country's drive for holistic development.





Lilly Yangchen, 14, is a student of Lungtenzampa Middle Secondary School in Thimphu. She is an active member of Go Youth Go, an independent voluntary youth-led organization that strives to bring about enduring positive social change. She is also her school's GNH captain.

"Bhutan's rich natural environment is a blessing for all of us living in this beautiful country," Lilly says while absorbing the calmness of the greenery surrounding her. "For me, the green mountains, the blue sky, and lush vegetation are the ultimate definition of beauty. It gives me a sense of rejuvenation."

The serene grandeur of Bhutan's verdant landscape is breathtaking. It has been hailed the "last Shangri-La," an exotic place that exudes a mysterious appeal and perfection, nestled in the southern slopes of the eastern Himalayas.

Bhutan's 38,394 km² are endowed with a rich biodiversity in varied ecosystems, with many endemic and rare species. Because of this, the Land of the Thunder Dragon is recognized as one of the ten global biodiversity hot spots.

"Our ancestors have handed down to us a pristine environment, which is the priceless wealth of our nation," says Lilly. "Today, we are receiving a lot of global attention because of our efforts in environmental conservation. It has attracted a huge number of tourists and it is benefiting our country a lot. Hydropower harnessed from our rivers is also generating big revenues for the government. We depend so much on Mother Nature," she says.

Stressing the importance of maintaining a fine balance between development efforts and preserving the environment, Lilly says, "sometimes it so seems that we are still not giving our environment its due."

Government Policies on the Environment Sector

Since the government embarked on its aggressive drive for development, it has been

equally committed to protecting its rich natural inheritance. In 1989, it established the National Environment Commission (NEC), a high-level policy making and regulatory agency mandated to lead the national environmental planning and management. NEC is responsible for the introduction of regulations, standards, and administrative procedures to control pollution, preserve natural resources, and achieve sustainable development.

Bhutan also adopted the Paro Resolution in 1990, committing to balance economic development with environmental protection and sustainable use of natural resources. During the Eighth FYP, 1997–2002, the NEC secretariat formulated the National Environment Strategy, designed to guide environmental conservation in Bhutan. The national environmental policy is to maintain 60% forest cover to ensure the preservation of its rich biodiversity. So far, the resource base has remained largely intact because of the diligent efforts of the government.

However, environmental problems and natural resource degradation are increasingly becoming apparent because of economic development, the growing population, and changing lifestyles brought about by rapid economic growth and urbanization. Even the younger generation is becoming more aware that the pristine environment handed down to them is now facing grave challenges.

Lilly, the young GNH captain, revealed her growing concern about the news of environmental degradation and its adverse impacts. “While our government has sound environmental policies, including the constitutional provision to preserve 60% forest cover for all times, there are examples of how we are destroying the environment for the sake of development,” she points out. “In building farm roads, we are destroying the forests. And we are also losing forest and agricultural land to urban sprawl in major towns. Due to an increasing volume of vehicles, our fresh air is

getting polluted. More people migrating to the towns has also resulted in an increased amount of garbage. There is a reason to be concerned.”

Working Together to Protect the Environment

Bhutan’s GNH philosophy integrates environmental conservation as a central component in the country’s drive for holistic development. In consonance with the nation’s development priorities, ADB has worked closely with the government and other major stakeholders in the environment sector through a series of TA projects.

ADB’s first TA project for the environment sector was approved in 1996, the Strengthening

Environmental Impact Assessment Capabilities and Preparation of Environmental Guidelines project, to support capacity development within NEC to improve environmental safeguards and compliance. The project resulted in the development of environmental assessment guidelines, procedures, and standards for the mining, roads, industries, hydropower, transmission lines, and forestry sectors. Adopted in 1999 by key sectors, the guidelines advise project proponents on the process of acquiring an environmental clearance for their projects and ensuring the integration of environmental concerns into the development process.

“The development of the environmental guidelines and codes of practice for various sectors had a direct impact on improving the implementation of environmental regulations, particularly for roads, highways, and power transmission lines,” says Karma Yangzom, environment specialist in ADB’s South Asia Department. “This has translated into better

implementation of environmental management measures at project sites.”

The Environmental Assessment 2000 was passed by the National Assembly in 2000 to legitimize environmental assessment procedures. Corresponding regulations, namely Regulations on Environmental Clearance of Projects and the Regulations on Strategic Environmental Assessment, were adopted 2 years later. However, because of the rapid economic growth and modernization of the country, developing additional guidelines for key sectors became a priority of the government.

To address this need, a follow up TA project, the Strengthening Environmental Sector Capacity project, was approved in 2003. The project updated the environmental assessment guidelines and produced new and updated guidelines for the forestry sector, the development of hydropower and transmission lines, new and existing industries including

Kezang Namgay



Lilly Yangchen, a Gross National Happiness captain at her school, spearheads cleaning campaigns and tree planting activities to promote a green school for a green Bhutan.



Eric Sales/ADB

mining and mineral-processing industries, and highways and roads. The guidelines were tailored to be more practical and functional. In addition, several environmental codes of best practices were formulated to support these environmental assessment guidelines. To assist the government's efforts in decentralization, the TA project also supported the capacity building of the NEC secretariat, line ministries, local governments, and the private sector.

The third ADB TA project, the Capacity Building to Implement Environmental Assessment Procedures project, took place in 2005. With sectoral environmental guidelines in place, Bhutan recognized the need to train environmental assessment practitioners, including those in line ministries, who would help project proponents complete environmental clearance procedures. As part of the decentralization efforts, NEC has delegated environmental assessment duties to line ministries. The project also responded to the need for a systematic way to monitor environmental assessment activities and improve efficiency of the process. Furthermore,

As a large share of the population still relies on agriculture for their livelihood, it is critical for Bhutan to mitigate and adapt to climate change.

efforts in raising awareness of environmental assessment requirements were made, targeted at key stakeholders and the general public.

Considering the significance of the country's hydropower resources in its economic development, it is also critical for NEC to mainstream climate change adaptation in environment management and protect its energy and water resources from climate change risks in the country. Responding to this operational challenge, ADB provided a TA project in 2009, the Capacity Building of the National Environment Commission in Climate Change project, funded through the Japan Special Fund, to enhance the capacity of NEC to manage climate change mitigation and adaptation.

This TA project enhanced the capacity of NEC to function as a designated national authority that manages climate change risks in energy and water resources development and to promote climate change mitigation and adaptation activities. For instance, it provided support for developing the capacity of NEC to manage CDM activities. In particular, it

has developed operational toolkits, including guidelines, manuals, and business procedures and responsibilities, to take into account environmental assessments and CDM appraisal, particularly in the hydropower, renewable energy, and transport sectors.

ADB's contribution to developing the government's capacity in the environment sector has also been taking place in its operational projects. Recognizing the importance of environmental and social safeguards for ensuring inclusive and environmentally sustainable economic growth, ADB has developed a comprehensive safeguard framework for its lending operations. This framework consists of three operational policies on the environment, indigenous peoples, and involuntary resettlement, which seek to avoid, minimize, or mitigate adverse environmental and social impacts.

ADB's environmental safeguards aim to ensure the environmental soundness and sustainability of projects and to support the integration of environmental considerations

into the project decision-making process. Through the safeguard policy statement, ADB requires its client countries to identify project impacts and assess their significance, examine alternatives, and prepare, implement, and monitor environmental management plans. The safeguard policy statement also provides a platform for participation by affected people and other stakeholders in project design and implementation.

Bhutan has diligently worked with ADB to ensure that operational projects adhere to environmental management plans. ADB has supported the development of the government's institutional and technical capacity to conduct environmental monitoring and reporting and to enforce strict compliance to government regulatory requirements, particularly with the Environmental Assessment Act.

In the transport sector, for example, ADB conducted trainings on the safeguard policy statement for the staff of DOR and on environmental management plans for DOR field staff, contractors, and supervision

consultants during the course of past, as well as ongoing, projects. Similar efforts are also being made in other sectors. These project-level interventions help ensure that environmental safeguards are integrated into project design and proper environmental management is implemented in project operations. Stressing the importance of such initiatives, Yangzom says that “capacity building programs that focus on educating government agencies and the public on the importance of protecting the environment will ensure a more genuine, hence sustainable, interest and involvement of all parties in environment conservation.”

According to Yangzom, Bhutan has a strict environmental regulatory authority and strong policies. However, some of the policies are relatively new and some are still being developed. She therefore points out that there remains a need to increase the public awareness of maintaining environmentally friendly habits in the midst of lifestyle changes brought about by consumerism and economic

growth. “This will reduce pressure on the need for strengthening the capacity to enforce policies and regulations,” she remarks.

The Way Forward

ADB’s ongoing operational strategies support the government’s efforts to enhance the development of hydropower and renewable energy and to increase power exports. ADB plans to provide assistance for adapting to climate change through integrated water resources management and environmentally sustainable urban development. In addition, climate change concerns and environmental protection will continue to be mainstreamed in future interventions.

NEC Secretary Ugyen Tshewang emphasized the importance of ADB’s support to the climate change related projects in the country. He says, “ADB had a fair amount of input in the development of adaptation to climate change

in Bhutan. In that way, ADB has helped NEC in fulfilling its mandates.”

Under the Eleventh FYP, 2013–2018, the government aims to mainstream conservation and sustainable management and utilization of the environment into sectoral programs and projects. It will ensure that projects are carbon neutral as well as green, and will promote climate-resilient development, sustainable utilization and management of natural resources, integrated water utilization and management, and improved disaster resilience and management. Says Tshewang, “ADB’s continued assistance will surely help NEC and Bhutan achieve its goals and objectives as in the past.”

As the GNH captain of her school, Lilly ensures that her school’s surroundings are clean. Lilly, together with her classmates, carries out cleaning campaigns and tree plantation activities. “We are working toward a green school for a green Bhutan. When our school is clean and green, our streets, homes, and surroundings are clean

and green. And eventually our country is clean and green," she says.

Deeply enshrined in Bhutan's constitution is the moral obligation of every Bhutanese to protect and conserve its natural resources. More Bhutanese, even young students, are now joining in to observe this cause. "I feel that the small efforts of our group will make a huge difference," says Lilly.

Eric Sales/ADB



In the Himalayas, Bhutan faces the challenge of climate change. The country has been developing ways to mainstream climate change mitigation and adaptation in environment management.

Deepening Regional Connectivity in Bhutan

Bhutan views regional economic cooperation as a viable strategy to bring about collective self-reliance and mutual prosperity in the region. Since the 1950s when it opened itself up to the rest of the world, engaging its neighbors bilaterally and regionally, Bhutan was able to diversify trade and established itself as an active participant in the South Asia region.

Bhutan has been an active member of the South Asia Subregional Economic Cooperation (SASEC) program. The Government of Bhutan hosted the SASEC Energy, Trade Facilitation, and Transport Working Group Meeting in Thimphu in November 2012.





Bhutan actively participates in the South Asia Subregional Economic Cooperation (SASEC) program, along with Bangladesh, India, and Nepal. The program was conceived in 1996, when four of the seven member countries of the South Asian Association for Regional Cooperation (SAARC), namely, Bangladesh, Bhutan, India, and Nepal, formed the South Asian Growth Quadrangle, with the primary objective of accelerating sustainable economic development among these countries. This subregional initiative was endorsed at the SAARC summit in Malé, Maldives in 1997. Subsequently, the four countries requested ADB's assistance in facilitating their economic cooperation initiative. This request led to the implementation of the SASEC program, a project-based initiative that promotes economic cooperation through the enhancement of cross-border connectivity and facilitation of trade among the four member countries.

As a landlocked country, SASEC's significance to Bhutan lies in the opportunities to exploit economies of scale and cost advantages resulting from the large regional market, thereby



Eric Sales/ADB

sustaining high economic growth and poverty reduction. Under the SASEC program, Bhutan has benefited from subregional investment and TA projects that ADB helps identify, finance, and implement as program Secretariat and a leading development partner. The priority areas of cooperation under the SASEC program include transport, trade facilitation, energy, and ICT.

Transport

While improving the regional transport system in South Asia is a formidable task, the benefits it can generate are significant in terms of promoting both intra- and interregional trade by unlocking economies of scale and increasing competitiveness, especially for small and landlocked countries such as Bhutan. Two important ADB-funded road projects in the country were the 2005 Road Network Project I and the 2009 Road Network Project II (including

Enhancing national and cross-border connectivity is a key to unlocking economies of scale and increasing competitiveness.

the construction of the southern East–West Highway) that have succeeded in improving economic prospects, living conditions, and quality of life for communities in the project catchment areas. The project strengthened 136 km of the Gelephu–Trongsa national highway and constructed 66 km of feeder roads, greatly facilitating the movement of people, freight, and business along national highways and providing better access for rural populations to social and economic opportunities.

Households in the vicinity of these feeder roads felt that the roads helped them sell their products at a higher price, either by eliminating the need for middlemen or by obtaining better prices from middlemen due to reduced transport costs. In addition, there was an increase in the number of shops along the roads and other nonfarm activities, such as transport services. Such benefits brought about by the construction of feeder roads resulted in an increase in income levels of rural households. The road project reduced travel times by an

average of 23%, vehicle operating costs by an average of 18%, and walking distance for villagers by 65%; and average vehicle speeds in the project area increased by up to 100%.

Lam Dorji, secretary of the Ministry of Finance, says that “enhancing road connectivity has been one of the key strategies for Bhutan’s socioeconomic development and poverty reduction. The economy relies heavily on the road network for movement of goods and services. Regional cooperation and integration (RCI) efforts will help Bhutan address limited road connectivity thereby promoting trade and improving the lives of the Bhutanese people.”

Trade Facilitation

Despite the improvements, the time and monetary costs of cross-border trade in South Asia are still relatively high when compared with other developing regions. Thus, ADB’s

Trade Facilitation Strategy for South Asia, 2011–2015 aims to enhance trade facilitation in five key priorities areas, including (i) customs modernization and harmonization; (ii) logistics services and facilities strengthening; (iii) integrated cross-border management; (iv) transit agreements; and (v) the simplification of procedures for business visas.

In November 2012, ADB extended a program loan of \$47.67 million to Bangladesh, Bhutan, and Nepal to support the SASEC Trade Facilitation Program. The program is envisaged to increase trade, including intraregional trade, among the SASEC countries by reducing or removing non-tariff barriers, specifically institutional, administrative, and technical barriers to trade. The expected outcomes include a more efficient, transparent, secure and service-oriented processing of trade in the subregion. To achieve this, the program will support activities in three thematic areas: (i) modern and effective customs administration and/or management; (ii) streamlined and

transparent trade processes and procedures; and (iii) improved services and information for private sector traders and investors, including women entrepreneurs.

For Bhutan in particular, the SASEC Trade Facilitation Program hopes to untangle and simplify the complex legal system that poses regulatory constraints and complicated procedures and formalities. Expected benefits to the country include; (i) time savings of 0.5 hours on import and 0.25 hours on export declaration lodgments on the part of freight forwarders; (ii) reduced processing time for customs resulting from automation, and potential increase in customs revenues due to reliability and better assessments; and (iii) time savings due to more efficient procedures and risk management in customs. Apart from the loan, ADB is already providing TA support to upgrade and modernize the Bhutan Automated Customs System.

Finance Secretary Dorji says that the requirements under the policy actions of the program are targeted to fine tune trade policies,

regulations, and coordination to facilitate more trade and commerce in the subregion. “After full compliance and implementation of the program, we have no doubt about the benefits that would accrue to Bhutan,” he says. “We foresee highly visible changes in the manner that trade and commerce will be conducted after the implementation of the program by the SASEC member countries.”

Similarly, Secretary of the Ministry of Economic Affairs Dasho Sonam Tshering, mentions that, upon the completion of the ongoing trade facilitation program, there will be enhanced coordination among authorities, improved trade facilitation infrastructure, and efficient management of land custom stations to ensure a smooth flow of goods in the subregion.

Energy

Energy resources within South Asia are not uniformly spread across the region and

hydrocarbon reserves, in particular, are limited. Lack of adequate and reliable energy is proving to be a major constraint to regional growth in production and productivity, and securing sustainable energy supplies to meet energy needs has become a major energy policy imperative for each country in the region. Regional energy cooperation could help ease energy supply constraints by removing trade barriers to create cross-border energy infrastructure.

In the energy sector, ADB focuses its RCI initiatives on (i) improving cross-border electricity transmission connectivity, (ii) boosting power trade; (iii) increasing cooperation in energy efficiency and clean power development; and (iv) developing capacity for effective management and efficient technical operation of the sector.

Bhutan, which is endowed with a great hydropower potential, has adopted policies to accelerate the development of its hydropower resources and promote regional energy trade.

ADB has been supporting government efforts by a series of technical assistance projects as well as the ongoing Green Power Development Project, under which the Dagachhu hydropower plant is being developed. The 126 MW Dagachhu hydropower project is aiming at exporting clean renewable energy from Bhutan to India making this the first certified cross-border CDM in the world. Almost 9,000 remote schools, health clinics, and community facilities in Bhutan will also have access to green electricity sourced from hydropower and solar energy. The Dagachhu hydropower project is the first PPP infrastructure project in Bhutan, supporting the government's strategy for developing medium-size and small hydropower projects through PPP arrangements.

Information, Communications, and Technology

ICT plays an important role in enhancing economic development and poverty reduction.

Kezang Namgay



Accelerating Bhutan's hydropower development and promoting regional energy trade will enhance energy security and efficiency in the South Asia region.



Eric Sales/ADB

By ensuring effective and efficient access to knowledge and information, ICT can help provide better access to key public services and enhance trade and commerce at the country and regional levels.

Basic telecommunication infrastructure connecting all four SASEC countries predominantly exists in the form of fiber-optic transmission and some digital microwave transmission. All countries have international gateways for voice and data, and network penetration in the region is widespread and expanding. Nevertheless, existing telecommunications networks, particularly broadband internet amongst the SASEC countries, remain fragmented, of low capacity, costly, and less reliable.

Recognizing the need to strengthen their ICT capacities, the SASEC member countries, through the ICT Working Group, guided the preparation of a SASEC ICT Development Master Plan. The plan outlines the strategy, framework,

Community e-centers help young people acquire computer skills in rural Bhutan.

and priorities for regional cooperation in the ICT sector for enhancing direct cross-border connectivity, expanding rural access, and strengthening human resources capacity.

To support the efforts of the SASEC countries to enhance ICT connectivity, ADB financed the SASEC Information Highway Project in 2007. The project has three main components, including (i) a regional network to establish high speed fiber-optic links among the four SASEC countries through a direct peering arrangement in India; (ii) a village network to expand broadband ICT access to 110 rural communities in the four countries, enabling local networking and information sourcing; and (iii) a research and training network to promote cooperation and knowledge-sharing among the ICT research and training centers in the four countries.

Dong-Kyu Lee, principal transport specialist in ADB's South Asia Department says, "in Bhutan, the target number of community e-centers to be

constructed is 205 under the SASEC Information Highway Project. As of March 2013, 122 have been completed and the remaining community e-centers are envisaged to be completed in 2014." Moreover, an optical fiber network has been established in all 20 districts and 110 village blocks, and the construction of the national broadband network through an optical fiber ground wire using the Bhutan Power Corporation's transmission network is ongoing.

The project is expected to enhance the benefits of ICT and regional cooperation for inclusive growth and poverty reduction by increasing the supply of affordable broadband, skilled ICT manpower and local content, and ICT software applications, particularly for the needs to the poor. Chronic impoverishment, particularly in rural areas, is often related to limited access to markets, employment opportunities, information, and basic public services, such as education and health. Rural community e-centers, known variously as information

kiosks, e-kiosks, village knowledge centers, or telecenters, have been tested and proved effective in addressing these challenges and improving the wellbeing of the rural poor. India's various rural community e-center models and Bangladesh's Grameen village phone are some of the pioneering and innovative examples of the use of ICT for rural poverty reduction.

The Way Forward

Bhutan's development strategy reflects its recognition of the benefits of regional cooperation and increased participation in international trade and the process of globalization. Bhutan has engaged increasingly with bilateral and multilateral partners over the years. Its partnership with ADB has remained strong since Bhutan joined ADB in 1982.

Since the external sector is critical for Bhutan's socioeconomic development, RCI will continue

to be an important part of its development strategy. With the deepening and widening of trade within South Asia and beyond, Bhutan should be able to take advantage of the opportunities provided by SASEC and other regional cooperation platforms to overcome the binding constraints posed by its geography and terrain through increased physical and ICT connectivity that could enlarge its market. Trade expansion and economic integration are realities that Bhutan have gradually opened up to, tempered, successfully, by its efforts to preserve its culture and heritage. To realize

the full benefits of integrating its economy with the region, Bhutan will need to pay equal attention to problems of inequality and human development.

“Through the RCI initiatives, we hope to cooperate with neighboring countries in addressing regional as well as global challenges that affect our economic growth and development,” Dasho Tshering says. He points out that “today, development in isolation is no longer possible and desirable. RCI provides a great opportunity for Bhutan

to promote economic development from a regional perspective.”

ADB is committed to support Bhutan in its journey, as a partner in development. ADB will continue to (i) play the role of committed broker; (ii) facilitate dialogue between policymakers and key stakeholders by supporting regular high-level policy forums; and (iii) help translate RCI ideas into viable regional projects through investment projects, TA projects for capacity development, and support for knowledge products.

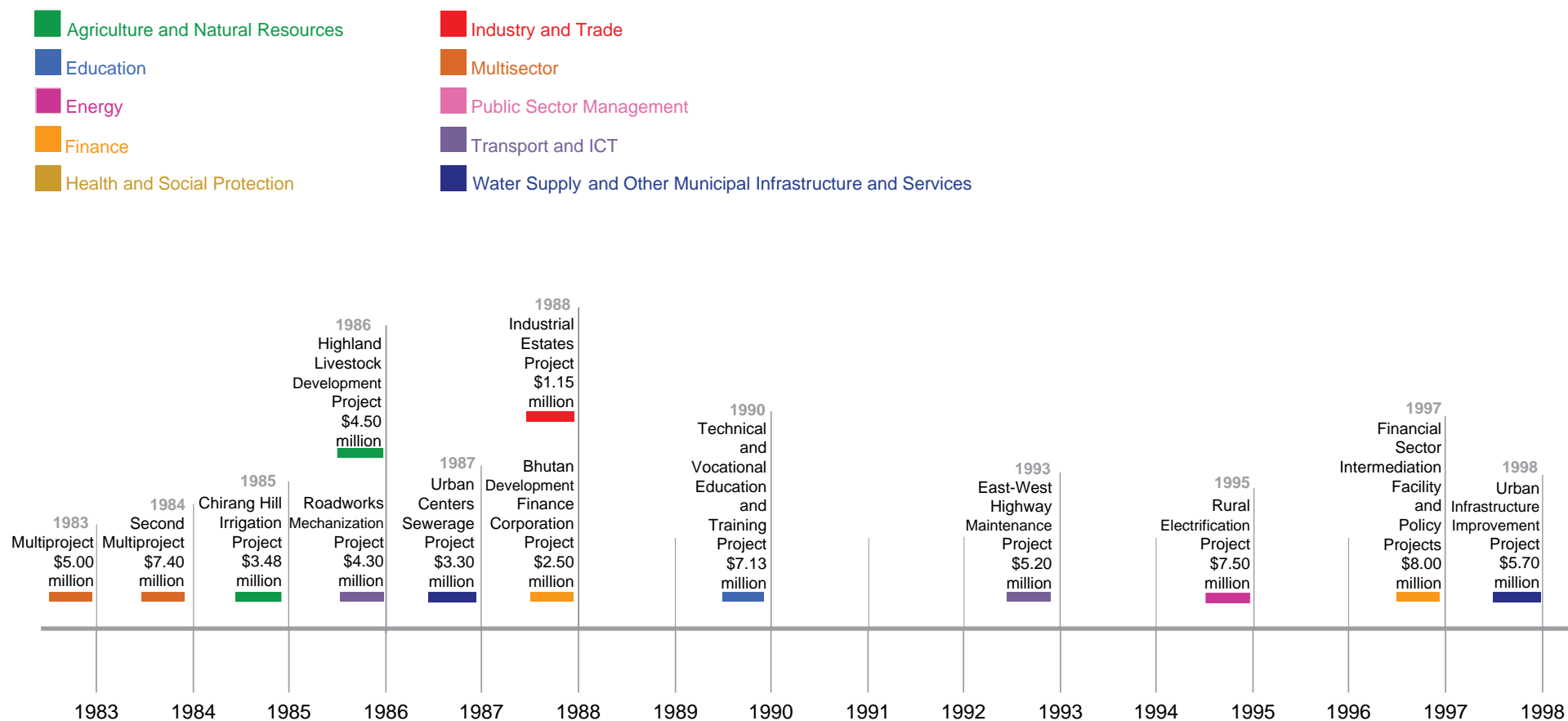


TRADE FACILITATION AND TRANSPORT WORKING GROUP MEETING SINGAPORE 29-30 OCTOBER 2013



ADB will continue working with Bhutan and other countries to promote regional cooperation and integration in the South Asia region.

Timeline: Asian Development Bank Projects in Bhutan



ICT = information and communication technology, SASEC = South Asia Subregional Economic Cooperation.

Source: Asian Development Bank.

