Review of Environmental Sustainability MULTIDONOR FUND FOR ACEH AND NIAS

FINAL REPORT

November 2008





In association with:



Pusat Pengembangan Agribisnis Centre for Agribusiness Development



Review of Environmental Sustainability

MULTIDONOR FUND FOR ACEH AND NIAS

- Final Report
- November 2008

Sinclair Knight Merz

Banda Aceh, Indonesia, Fax/ Tel: +62 (0)651 25098 E-mail: amehta@skm.com.au Web: www.skmconsulting.com Sinclair Knight Merz 100 Christie Street PO Box 164 St. Leonards, Sydney, NSW, Australia Tel: +61 2 9928 2100 Fax: +61 2 9928 2500 Web: www.skmconsulting.com

COPYRIGHT: The concepts and information contained in this document are the property of Sinclair Knight Merz Limited. Use or copying of this document in whole or in part without the written permission of Sinclair Knight Merz constitutes an infringement of copyright.

LIMITATION: This report has been prepared on behalf of and for the exclusive use of Sinclair Knight Merz Limited's Client, and is subject to and issued in connection with the provisions of the agreement between Sinclair Knight Merz and its Client. Sinclair Knight Merz accepts no liability or responsibility whatsoever for or in respect of any use of or reliance upon this report by any third party.



Table of Contents

Exe	cutive	e Summary	1
1.	Intro	oduction	9
	1.1	The Disasters and Impact	9
	1.2	Coordination of International Response	9
	1.3	The Multi Donor Fund for Aceh and Nias	10
	1.4	Review of Environmental Sustainability (RES)	13
	1.5	Objectives of the RES	14
	1.6	Team and Review Duration	14
2.	Appr	oach & Methodology	15
	2.1	Methodology	15
	2.2	Contextual analysis	20
	2.3	Constraints	21
3.	The	Reconstruction Context	22
	3.1	Context	22
	3.2	Development Characteristics	23
	3.3	Challenges Affecting Environmental Review	26
	3.4	Capacity Building	28
4.	Envi	ronmental Context	31
	4.1	State of the Environment	31
	4.2	Environmental Considerations	32
	4.3	The MDF Portfolio	36
	4.4	Establishing & Applying Environmental Safeguard Compliance	41
	4.5	Capacity Building	45
	4.6	Institutions, Community and Media	46
	4.7	Cross Cutting Issues	47
5.	Find	ings, Analysis and Discussion	50
	5.1	Strategic findings	50
	5.2	Overview of MDF Portfolio and Project	51
	5.3	Project Level Compliance during Design	53
	5.4	Project Level Compliance with Safeguards at Implementation	62
	5.5	Sustainability of the Environment	67
	5.6	Examining the Case Study Cross-Cutting Themes	68



6.	Summary: Analysis and Discussion		
	6.1	Background	78
	6.2	Environmental Management and Documentation	79
	6.3	Lessons Learned from Environmental Sustainability Practices	79
	6.4	Lessons Learned from Safeguards Compliance at Project Level	81
	6.5	Lessons learned from Safeguards Compliance at Portfolio Level	82
	6.6	Staff	82
	6.7	Remedial Works	83
	6.8	Longer Term Impact of the MDF	83
7.	Recommendations		
	7.1	Summary Conclusions	85
	7.2	Emergency versus Development	86
	7.3	Portfolio & Project Management	87
	7.4	Capacity Building	89
	7.5	Capacity in Governance in Aceh & Nias	92
	7.6	Future Initiatives	93



Annexes

Annex 1: Project Site Visits	99
Annex 2: Project Summary Sheets	113
Annex 3: Project Sampling Criteria	151
Annex 4: Technical Work Plan	153
Annex 5: List of Informant Meetings	154
Annex 6: Project Compliance Review	159
Annex 7: Terms of Reference for the RES	160
Annex 8: Bibliography	161



List of Tables

Table 1: Source of Pledges	11
Table 2: Project Sampling List	17
Table 3: Key Informants	18
Table 4: Categories of Guiding Questions*	20
Table 5: Characteristics of Development Themes over last Fifty Years	24
Table 6: Similarities and Differences in Safeguards Technical Capacity in NAD and Nias	28
Table 7: List of MDF Projects in NAD – Nias (2005-2010)	38
Table 8: Stakeholders and Implementing Agencies in NAD – Nias	40
Table 9: Safeguards Policy Applied by Partner/Implementing Agencies	43
Table 10: Screening Criteria Applied for Gol Projects	45
Table 11: Site Selection and Quality of Practice	55
Table 12: Documentation Findings from Site Visits	57
Table 13: Project Management Findings from Site Visits	59
Table 14: Sustainability Findings from Site Visits	68
Table 15: Capacity Building Issues from Site Visits	75
Table 16: Aceh Nias Recovery Progress, 31 July, 2008	78
Table 17: Potential Cross-cutting Project Initiatives	94



List of Figures

Figure 1: Processing of MDF Project Developed and Implemented	13
Figure 2: RES Methodology	15
Figure 3: Capacity Building Periods (2008-10)	29
Figure 4: Bapedal Offices and Hierarchy	31
Figure 5: Conceptualization of the MDF Project Portfolio	37
Figure 6: Environmental Management Framework	42
Figure 7: Comparison of GoI and WB Environmental Screening Provisions	44



List of Abbreviations

Acronym	Full name		
ADB	Asian Development Bank		
AFEP	Aceh Forestry and Environment Program		
AGTP Aceh Government Transition Program			
AM	Aide Memoire		
AMDAL	Analisis Mengenai Dampak Lingkungan (Environmental Assessment)		
ANDAL	Analisis Dampak Lingkungan (Environmental Impact Assessment)		
APBN	Anggaran Pendapatan dan Belanja Negara (Annual Government Budget)		
ArCLI	Architecture Learning Institute		
AusAID	Australian Agency for International Development		
BA	Banda Aceh		
Bapedal	Badan Pengendalian Dampak lingkungan Hidup (Environmental Agency)		
BAPEDALDA	Badan Pengendalian Dampak Lingkungan Daerah (Local Environmental Management Agency)		
BAPPENAS	Badan Perencanaan Pembangunan Nasional (National Development Planning Agency)		
BP	Bank Procedure		
ВРК	Badan Pemeriksa Keuangan (Agency for Financial Audit)		
BPN	Badan Pertanahan Nasional (National Land Agency)		
BRR	Badan Rehabilitasi dan Rekonstruksi (Rehabilitation and Reconstruction Agency)		
СВ	Capacity Building		
CSO	Civil Society Organisation		
DAK	Dana Alokasi Khusus (Specific allocation budget)		
DOM	Daerah Operasi Militer (Military Operation Zone)		
DPPL	Dokumen Pengelolaan dan Pemantauan Lingkungan (Environmental Management and Monitoring Document)		
DPRK	Dewan Perwakilan Kabupaten/Kota		
DPRD	Dewan Perwakilan Rakyat Daerah (Local Parliament)		
EA	Environmental Assessment		
EC	European Commission		
EIA	Environmental Impact Assessment		
EM	Environmental Management		
EMP	Environmental Management Plan		



EMtP	Environmental Monitoring Plan
ES	Environmental Safeguards
ESn	Environmental Sustainability
ETESP	Earthquake Tsunami Emergency Support Program
FFI-LIF	Flora and Fauna International & Leuser International Foundation
GAM	Gerakan Aceh Merdeka
Gol	Government of Indonesia
GP	Good Practice
GTZ	Deutsche Gesellschaft fur Technische Zusammenarbeit
IA	Implementing Agency
IBRD	International Bank for Reconstruction and Development
IDA	International Development Association
IEE	Initial Environmental Examination
IFRC	International Federation of Red Cross and Red Crescent Societies
ILO	International Labour Organization
INGO	International Non Government Organisations
IOM	International Organization for Migration
IPLT	Instalasi Pengolahan Lumpur Tinja (Night Soil Treatment)
IREP	Infrastructure Reconstruction Enabling Program
IRFF	Infrastructure Reconstruction Financing Facility
ISDS	Integrated Safeguards Data Sheet
ISO	International Organization for Standardization
ITB	Institute of Technology Bandung
JICA	Japanese International Cooperation Agency
KAP	Knowledge Attitude Practice
KDP	Kecamatan Development Program
KESBANGLINMAS	Kesejahteraan Bangsa dan Perlindungan Masyarakat (Community Welfare and Protection Agency)
KIMPRASWIL	Permukiman dan Prasarana Wilayah (Settlement and Regional Infrastructure Department)
KLH	Kementerian Lingkungan Hidup (State Ministry of Environment)
KRRP	Kecamatan-based Reconstruction and Rehabilitation Planning in Nias Project
LEDP	Local Economic Development Program
M&E	Monitoring and Evaluation
MDF	Multi Donor Fund



MDG	Millennium Development Goals		
MDTFANS	Multi-Donor Trust Fund for Aceh and North Sumatra		
MoF	Ministry of Forestry		
МоНА	Ministry of Home Affairs		
NAD	Nangroe Aceh Darussalam		
NGO	Non Government Agency		
O&M	Operation and Maintenance		
OD	Operation Directive		
OJT	On the Job Training		
OP	Operational Procedures		
OTDA	Otonomi Daerah (Local Autonomy)		
PAD	Project Appraisal Document		
PCN	Project Concept Note		
PEMDA	Permerintak Daerah (Local Government at Kota, Kabupaten or Province Level)		
PDAM	Perusahaan Daerah Air Minum (Local Water Supply Company)		
PDCS	Planning Design Construction Supervision		
PERDA	Peraturan Daerah (Local Regulation)		
PerMEN LH	Peraturan Menteri Lingkungan Hidup (Regulation of State Ministry of Environment)		
PMD	Pembangunan Masyarakat Desa (Village Community Development)		
PP	Peraturan Pemerintah (Government Regulation)		
PSR	Project Status Report		
PU	Pekerjaan Umum (Public Works Department)		
R&R	Rehabilitation and Reconstruction		
RALAS	Rehabilitation of Aceh Land Administration System		
REKOMPAK	Community Based Settlement Rehabilitation and Reconstruction Project		
RES	Review of Environmental Sustainability		
RKL-RPL	Rencana Pengelolaan Lingkungan-Rencana Pemantauan Lingkungan (Environmental Management and Monitoring Plan)		
Rp	Indonesian Rupiah		
SATKER	Satuan Kerja (Working Unit)		
SOP	Standard Operating Procedure		
SC	Steering Committee		
SPADA	Support for Poor and Disadvantaged Area		
SWM	Solid Waste Management		



ТА	Technical Assistance		
TIPERESKA	Tim Perencanaan Strategis Kehutanan (Team of Forestry Strategic Planning)		
TNI	Tentara Nasional Indonesia (Indonesian National Army)		
ToR	Terms of Reference		
ТРА	Tempat Pembuangan Akhir (Final Disposal Site)		
TRAFFIC-SEA	Traffic South East Asia		
TRG	Technical Review Group		
TRPP	Tsunami Recovery Port Program		
TRWMP	Tsunami Recovery Waste Management Program		
UKL	Pemantauan Lingkungan		
UNDP	United Nations Development Program		
UPL	Upaya Pengelolalaan Lingkungan		
UPP	Urban Poverty Program		
USAID	United States Agency for International Development		
UU	Undang-Undang (Acts)		
WB	World Bank		
WFP	World Food Program		
WTW	Water Treatment Works		
WWF	World Wildlife Fund		

Executive Summary



Background and Context

This Review of Environmental Sustainability (RES) has been completed for the Multi Donor Fund for Aceh and Nias (MDF) over a period of eight weeks during the months of July-October 2008.

The aim of this review was to assess the current MDF portfolio with a focus on environmentally sustainable development for the Indonesian provinces of Aceh and Nias. Embarking upon an assessment of the MDF portfolio impact on the Environmental Sustainability (ESn) was interpreted as an exercise that required oversighting the context in which the MDF was operating, as well as reviewing individual projects. Achievement of ESn needs to be seen in steps of graduated movement towards what can be viewed as a complex endpoint, components of which partially lie within the realm of the MDF, but predominantly resonate beyond the MDF, within the community in its broadest sense. Some of the recommendations therefore appear to fall beyond the scope of the MDF. As ESn is a critical issue for the MDF, the authors make no apologies for these recommendations.

A critical element of the RES was to determine the quality of MDF projects in terms of incorporating and applying good ESn practices during the implementation phase, along with assessing the results achieved to date. To achieve this, the RES completed a rapid 'snapshot' of the portfolio initiatives, all of which have been implemented in a challenging and highly dynamic context.

The RES was carried out within a very brief time frame with a small team which necessitated the use of a qualitative method of data collection, more so than an emphasis upon highly quantifiable methods. The authors acknowledge that the findings in these studies are therefore partial and combine the verifiable use of observations by respondents. In our view, however, they do provide interesting insights into the complex world of the tsunami response and MDF programming, and are thereby presented to contribute to the work of the MDF.

The findings and recommendations of this Review cover specific project and portfolio issues pertinent to the ESn of the MDF program, as well as pointing to the broader ESn agenda which may initially appear to be beyond the mandate of the MDF. It is expected that the results of this review will feed into the MDF mid-term review later in 2008. The review's critical findings fall into four simple categories, all of which aim to support the efficacy of the ongoing MDF contribution to the reconstruction of a better Aceh and Nias. At the time of the review, the MDF had a portfolio of 17 projects with a value of US\$ 492 million. These projects contribute to four reconstruction sectors: recovery of communities (including housing); infrastructure; rebuilding governance; and environmental management. At the commencement of the RES (July 2008), just over 80 percent of these projects have been implemented with the World Bank as a Partner Agency, 12 percent by the UNDP as both Partner Agency and Implementing Agency, and the WFP was the Partner Agency for one project.

The methodology applied to assess the performance of the current portfolio comprised; a) a desk study of the status, thoroughness and effectiveness of the project documentation; b) site visits to sample projects in different sectors and in different locations; and c) structured interviews with over 20 key informants.

Key Findings



- The operational environment facing the MDF has been one that has needed to encompass both 'emergency' and 'development' challenges. The context of the response has included many organisations and many differing interpretations of priorities. The post-conflict legacy in Aceh Province compounded many issues. In a situation of massive rebuilding and rehabilitation, the environment per se, has not been seen by all to have a high priority. For many organisations which have been contributing to the response, the monitoring and cognisance of environmental impact has not been an issue. The contribution by the MDF in promoting the importance of ESn was found to have made considerable inroads into the culture on some building sites has, in some projects strengthened community awareness and, in a situation of very low capacity, aimed to stimulate broad recognition by Gol agencies of the importance of ESn, specifically by adherence to ESn. The MDF has not been the only player promoting actions that contribute to ESn, but they have been a steady influence in the achievements to date.
- It was found that compliance with ESn cannot be looked at in isolation. The "crosscutting" nature of environmental issues introduced a level of complexity that has been part of an ESn learning curve which for many, including people and organisations associated with the MDF and those beyond.
- The RES finds that there has been an imbalance in the 'demand' for the goals of ESn, as opposed to the 'supply' of processes to assist achieving it. Given the context this is understandable. However, the process of securing ESn goals in program delivery will benefit from fostering a greater recognition of the importance of environmental issues, and how these issues manifest at the local, provincial, national and international level. Given the post-conflict situation in Aceh Province, it was found that there has been a considerable gap in environmental awareness. Nias was found to suffer due to other influences, such as geographic isolation. Sustainability was found to be linked to applying prescriptive ESn at the project level, combined with longer term programs that seek to cultivate changes in knowledge, attitude and practices (KAP) at Gol, private and community level.
- The MDF response was extensive and generally successful, given that the program's implementation occurred within a highly challenging context. The political and social demand on the BRR to deliver quickly and, at the same time perform the role of coordinator of over 600 organisations, was found to be a considerable constraint in the realization of comprehensive environmental safeguards compliance. The low capacity of the community and civil service within NAD and on Nias Island regarding environmental issues was also a contributing impediment to safeguards compliance.
- It was observed that the two environment sector projects have, overall, performed better than most. The RES found that this occurred for three reasons: a) in the case of AFEP, the project is still in an early and malleable stage and the implementing agency has been responsive to the supervision missions' messages; b) TRWMP had clear goals and was implemented off-budget, with clear emergency, intermediate and long-term planning components, developed by qualified consultants; c) TRWMP had strong ownership by the local Dinas and the local community who have now assumed control.
- In contrast to the above, many sub-project designs have shown deficiencies perhaps as a result of the common use of generic design documentation



commissioned and completed, with limited or no evidence that the design was completed with the benefit of any site visits. Contractors' skill levels were observed to be variable, and required strong supervision. Overall, completion of site works has been accelerated, and no budget available for variation orders, even when these were clearly needed. It was concluded that compliance with environmental safeguards under a regime of accelerated implementation can be difficult to achieve.

- There have been great strides in ES compliance as a result of the specific funding and technical support given to production of Environmental Management Plans (EMP) at the project level. However, this alone has not addressed all problems.
- Overall, WB projects have demonstrated strong skills in project preparation, design and supervision missions and all this work is well documented, while UNDP projects by comparison have far more skills mobilised at the project implementation level. UNDP's TRWMP was one project consistently applauded by informants. Its success is attributed to the fact that the UNDP is both a partner and implementing agency of the MDF and, as such, has been able to commit resources in a programmatic manner, responding to the dynamics with international skills, specification and design. By comparison the WB, which has Partner status in the MDF, is reliant on working directly in collaboration with Gol agencies, a situation which has presented challenges.
- Since April 2007, the WB Supervision Missions have identified serious problems with the ESn management on some infrastructure projects that have demonstrated deficiencies. The Supervision Missions have also repeatedly made recommendations to resolve these problems. In a number of situations cited, no effective action has been taken to implement the recommendations of these supervision missions.
- The positive side is that the MDF will now continue until 2012. This offers time to recognise the existing limitations and to apply appropriate measures to improve the overall performance of projects, with suitable emphasis upon environmental safeguards and environmental sustainability. Implementation will now need to graduate from collaboration through national partners to agencies at the Provincial and District levels.

Key Recommendations

Following are the key recommendations at the portfolio level (across projects) and project level; more details and justification for the recommendations are presented in Section 7 of this Report.

A: EMERGENCY V's DEVELOPMENT

The RES recommends that:

- A1 In future and for ongoing projects, there is no longer need for an emergency frame of reference. Full project cycles should therefore be followed from planning (including feasibility), design, safeguards, socialization, deploying community monitoring mechanisms and the building of capacity across all stakeholders.
- A2 There have been significant lessons learnt by the MDF and other agencies concerned with environmental management within the emergency response. Consideration should be given to preparing a set of standards for 'Environmental

Management in Emergencies' complementary to the Sphere Standards (an *internationally agreed set of standards for disaster response programs*) for ongoing and future projects.



A3 The programmatic themes recommended to strengthen the shift from emergency to A3 development include a strong emphasis upon livelihoods based upon addressing environmental issues, capacity building, environmental education and awareness raising. Specific projects could include livelihood benefits based upon forest protection and conservation including ecological restoration.

B: PORTFOLIO & PROJECT MANAGEMENT

The RES recommends that:

- B1 Improvements be made to project: (i) Planning & Design; (ii) Tendering; (iii) Transparency; and that (iv) Remedial works should be carried out urgently, within the ongoing MDF Portfolio.
- B2 Greater consistency should be applied to the MDF project documentation, and the PADs should state specifically which environmental standards the project intends to follow.
- B3 All UKL-UPL and AMDAL documents in the MDF portfolio should be reviewed and, where necessary, a remedial works program be developed as necessary. In some cases these remedial works would be best treated as new project activities, completed under new contracts. Any new environmental requirements should be followed up with appropriate changes to engineering designs and site practices.
- B4 Implementing Agency site staff should be informed of the findings of the MDF supervision missions relevant to their projects and an appropriate action plan prepared.
- B5 Every effort should be made to fill all vacant safeguards project positions (e.g. IREP) and that all necessary facilities (logistics, vehicles, expenses) be readily available for supervisory staff to visit and monitor project sites on a regular basis.
- B6 To ensure better compliance with safeguards at the implementation/site level: (i) environmental safeguards obligations must be explained to contractors at the tender stage; (ii) adopt realistic timelines to agree environmental safeguards compliance criteria; (iii) increase the number of site supervision staff; (iv) attract staff with appropriate environmental safeguard skills; (v) prepare technical literature for field teams in clear, unambiguous language; (vi) make greater use of locally based monitoring; (vii) take the opportunity on all projects to employ a specialist with effective public relations and general liaison skills.
- B7 A detailed assessment of all MDF project sites, particularly where infrastructure has been the major activity, needs to be conducted by suitably qualified personnel and funding be made available to rectify all faults identified. Specific examples which require attention include (a) sites where the MDF projects have built houses, they should upgrade their sanitation facilities to meet the standards endorsed by BRR and BAPEDALDA in February 2007; (b) programs in Nias should ensure that sanitation facilities which utilise sub-surface effluent flows be either modified to

ensure greater efficiency or replaced with effective wastewater management systems.

- B8 If the MDF is concerned that it should make effective inroads into addressing illegal logging activities, the RES supports the suggestions of various respondents that additional monitoring for illegal logging is required at all borders (whether at an official crossing point or not) by linking partners such as Traffic South East Asia. In addition, there is a need for livelihood proposals supporting a sustainable livelihoods model within forest dwelling communities.
 - B9 There is a need to: (i) determine a hierarchy of ecosystem and associated habitat vulnerability; (ii) identify and classify forest encroachment zones; (iii) support governance issues associated with regulating movement of timber across provincial borders (as flagged in 2007 Aide Memoir); (iv) pilot ecological reconstruction projects involving and supporting community livelihoods.

C: CAPACITY BUILDING

The RES recommends that:

- C1 The MDF program should aim at capacity building at both the Province and Kabupaten level, and manage local environmental issues effectively through partnerships with the BAPEDALDA offices.
- C2 Consideration should be given to an integrated natural resource rehabilitation program which incorporates both a steady environmental education component, as well as a livelihoods opportunity.
- C3 Consideration should be given to delivering an Aceh and Nias-based Executive Masters course, potentially drawing upon prospective candidates from within Gol agencies and the general public. Entry to such a course should be based on merit, and would aim to inspire participants through a well crafted and appropriate syllabus.
- C4 To achieve changes in KAP regarding environmental issues and thus contribute to ESn, importance is placed upon the role of facilitators who work at the village / community level. A number of informants have indicated that it is difficult to recruit and keep effective facilitators. Given the potentially important role such facilitators can play, particularly if such people were assisting communities in the understanding of ESn issues, there is a need to increase the profile and salaries of these people. This, in turn, will make the roles more attractive and effective.
- C5 Successful capacity building programs need to be based upon adult learning theories which emphasise that there is a need for flexibility which could involve action-based learning models, tailored to needs, moving at a pace matched to participants' competence. The MDF should continue supporting initiatives that raise the profile of the environment in the community, focusing projects on improving ESn by graduating to a slower timeframe which can allow for greater rigour and ESn quality compliance.
- C6 Programmes should engage beneficiaries, receptors, CBOs, NGOs and the media



more actively to assist in monitoring the activities of formal 'institutional' stakeholders by: (i) explaining to the community what impacts are likely and thus build understanding and increase tolerance of any disruption; and (ii) hold contractors to commitments not just by the formal contract mechanisms, but also by the empowered community and the media.

- C7 Project management and ESn could be enhanced through more rigourous monitoring and evaluation processes (M&E) that act as capacity building, livelihood and empowerment exercises. Subsequent project portfolios should put a high emphasis upon adoption of the M&E for which communities are paid. Projects could include basic environmental education, engagement with plans, designs and specifications as well as processes to monitor.
- C8 Communities have a valuable role to play in ensuring environmental compliance, working together with government institutions and enforcement authorities. Successful contributions to the sustainability of the role would entail the provision of greater training and empowerment of community groups in the ongoing and future MDF portfolio.
- C9 There is a need to support efforts toward improving the technical capacity on safeguards compliance, in particular environmental planning and management, at both Bapedal provincial, district and city levels.
- C10 Donors could: (i) provide technical training on the production, review and monitoring of AMDALs and UKL-UPLs; (ii) produce printed materials - practical documents that guide government in its work, but which could also be included into the curriculum for primary, secondary and tertiary level students, as well as being available for non-formal training; (iii) promote the collection of environmental baseline data and distribute the development of Environment's Management Plans at the Kabupaten/Kota level.
- C11 Raise awareness amongst provincial/local parliament members (DPRD Province and District/City) and local political parties and potential future leaders concerning the importance of safeguarding the environment. Support should also be provided for each Kabupaten/Kota to produce an appropriate Qanun on environmental safeguards and compliance.
- C12 Raise awareness in the court system and police institutions concerning the importance of safeguarding the environment. It would be useful to prepare materials that can be used for training, as well as practical guidelines for understanding the legal framework and its sanctions.
- C13 Support activities that would revitalize or facilitate interaction, coordination and communication, joint projects, sharing and cross fertilization of good practices between villages/Kabupaten/Kota and between organisations. It would be useful for all MDF projects to communicate regularly with beneficiary institutions (e.g. PDAM) as well as the implementing agencies (e.g. BRR, SATKER). The projects should also actively involve district level officials in all planning and design decisions, budgeting, quality control and environmental management of the works.



D: FUTURE INITIATIVES – PORTFOLIO & PROJECT LEVEL

The following recommendations aim to strengthen the Environmental Sustainability of the MDF portfolio. These recommendations aim to incorporate a long term perspective and, in doing so, identify opportunities for both specific sectoral initiatives and cross-cutting issues.

- D1 **Over-arching Environmental Sustainability Themes:** To enhance the ESn in the future MDF portfolio, the RES firmly recommends that there is a need to strengthen components of: (i) Livelihoods associated with non-timber forest resources; (ii) Ecological rehabilitation programs in estuarine, riparian and coastal regions affected by the tsunami and supported by long-term management and maintenance programs; (iii) Capacity building specifically in environmental education which includes basic awareness raising across all levels of the community); (iv) Adoption of programs which give a high profile to reconstitution and rehabilitation of existing infrastructure to improve energy efficiency of buildings (as opposed to new building).
- D2 **Revegetation/Ecological Restoration Initiatives:** A high priority be given to developing integrated environmental rehabilitation and revegetation projects along the tsunami affected coastline and implemented following a livelihood and community development support model.
- D3 **Cross-cutting:** Key cross-cutting initiatives continue to receive the full support of the MDF including: (i) Forestry / logging; (ii) Quarrying / sand / building materials; (iii) Energy efficiency; (iv) Solid waste management; and (v) Sanitation.
- D4 **Water Resources:** A major contribution could be made to the ESn of settlements in Aceh by commissioning a comprehensive Water Resources Planning study.
- D5 **Marine Resources:** There is need to work with fishermen and the Panglima Laot to identify marine zones of high conservation value, protect these sensitive areas by establishment of fisheries reserves and enhance existing fishing regulations.
- D6 **Coastal & Riparian Zone Initiatives:** It is imperative to stabilise soils and prevent further erosion and loss of valuable land as part of estuarine and riparian revegetation programs. More coastal morphology work is required, along the west coast of Aceh, to better understand coastal zone dynamics and inform development planning.
- D7 **Renewable Energy:** Renewable energy resources, including wind-power, ocean currents and geothermal energy should be investigated and implementation supported.
- D8 **Tambak:** Tambak's rehabilitation and construction should not be completed in isolation, but should be planned and implemented as a component of an integrated coastal forestry system and that appropriate silvicultural design guidelines be followed.

- D9 **Specific Project Initiatives:** The following initiatives should be further supported in future programming: (i) Sanitation upgrading; (ii) Waste management; (iii) Sustainable drainage; (iv) Timber plantations; (v) Construction materials: use of concrete block presses; (vi) Energy efficient buildings; (vii) Disaster resilient construction; (viii) Use of biogas from waste for domestic cooking; (ix) Use of carbon trading funds to support the above activities.
 - D10 Integrated Forest Resource Strengthening: The outcomes from the AFEP could be dramatically strengthened with an additional sub-project that: (i) determines a hierarchy of ecosystem diversity values and associated habitat vulnerability; (ii) identifies and classifies forest encroachment zones; (iii) supports governance issues associated with regulating movement of timber across provincial borders (as flagged in a 2007 Aide Memoire); (iv) pilots ecological reconstruction projects involving and supporting community livelihoods.

Further details on these Recommendations are presented in Section 7 of this Report.

Conclusion

SKI

The RES concludes that the MDF commitment to apply important ESn initiatives into the tsunami response to date with the aim of promoting best practice and ESn has been implemented within a climate of imbalance. It is clear that although there has been a constant 'supply' of standards, there has been varying 'demand', ranging from no concern to a limited understanding. To amplify this important point, it was found that much of the environmental concern was coming from the supply side, principally the major donors including the MDF, with little reciprocating demand from the broader community. To maintain a momentum that will contribute to ESn goals, the RES recommendations place great importance upon facilitating and strengthening greater capacity in dealing with environmental issues in the community, from influential decision makers across the public and private sector, as well as individuals.

1. Introduction



This section briefly describes the impact, challenges and response from the 2004 tsunami in Aceh Province and the 2005 earthquake on Nias Island. It also presents the objectives of the Multi Donor Fund for Aceh and Nias (MDF) and later presents the rationale for undertaking this Review of ESn (RES).

1.1 The Disasters and Impact

The 9.3 Richter scale tectonic earthquakes off the island of Simeleue on Aceh, Indonesia, and the following tsunami that hit the Indian Ocean on the morning of December 26, 2004, caused significant environmental damage and loss of lives on both sides of the ocean. In Indonesia, Aceh Province¹ bore the brunt of this natural disaster. Compounding the tragedy, another severe earthquake hit the region on 28 March 2005, resulting in extensive damage to Nias Island off the Aceh coast.

The scale of the combined disasters was unprecedented as more than 173,000 people in Indonesia died or remain missing, while hundreds of communities were washed away. The extensive loss of life also meant that many local governments effectively collapsed and ceased functioning, and normal social and economic life was devastated.²

The initial response by the humanitarian community, from both within Indonesia and internationally, was encouraging. In a very short space of time hundreds of organisations, large and small, arrived in Banda Aceh to offer assistance.

1.2 Coordination of International Response

In addition to the presence of the Government of Indonesia (GoI) staff on site, within days after the earthquake and subsequent tsunami international organisations collaborated with the initial relief work to provide crucial assistance for the survivors. It was immediately apparent that a structured system with strong coordination was required to address the complex issues of rebuilding the tsunami affected areas so that the people could soon rebuild their lives.

Coordination of the assistance to implement an efficient and strategic delivery of critical services was seen as a primary need. In May 2005, the Gol established the *Badan Rehabilitasi dan Rekonstruksi* (BRR: Agency for Rehabilitation and Reconstruction for Aceh and Nias), whose mandate was two-fold: (a) to coordinate the international response to assist the Gol, and (b) to lead the implementation of the Gol's reconstruction program. The BRR was set up in Jakarta to operate in Nangroe Aceh Darussalam (NAD) and Nias Island³. The Head of BRR – and its Deputies – were directly appointed by the President of Indonesia. With BRR operating as a body established under a Presidential Decree, its level of authority was at the same level of the Governor.

¹ The tectonic quake in March 2005 destroyed homes and public infrastructure, and also changed the coastal topography of Simeleu Island for the second time since the December 2004 quake.

² Reference: http://www.tokohindonesia.com/berita/berita/2005/tsunami/tsunami.shtml

³ With BAPPENAS playing a key role – as the institution most experienced in dealing with multi- and bi-lateral donors in Indonesia, the Blue Print for Aceh Rehabilitation/Reconstruction work was developed with the assistance of BAPPENAS.

SK

As a result, the BRR's main counterpart was the provincial government in NAD and Nias Islands⁴. The task given to the BRR was compounded by commitment that the life of the organisation would have a 'sunset clause'. Although the date of BRR's closure may change, the commitment by the GoI that it set limits to the organisations life has had both positive and negative implications.

1.3 The Multi Donor Fund for Aceh and Nias

In response to the Gol's request, the World Bank (WB) and several donors and agencies agreed to establish a Multi-Donor Trust Fund for Aceh and North Sumatra (MDTFANS / MDF) to support a post-earthquake and tsunami emergency rehabilitation and reconstruction program in Indonesia⁵.

The Multi Donor Fund for Aceh and Nias (MDF) was subsequently established in April 2005 as a partnership of the international community, Gol and civil society with the express aim to support the recovery following the earthquakes and tsunami. At the Gol's request, the International Development Association (IDA) of the WB Group also served as Trustee for the MDF.

Contributions to the MDF were sourced from the European Commission (EC), individual donor countries, and multi-lateral financing institutions such as the International Bank for Reconstruction and Development (IBRD), and the Asian Development Bank (ADB). The MDF fund has contributed to the recovery process by providing grants for quality investments that are based on good practice, stakeholder participation and coordination with others. In doing so, the MDF seeks to reduce poverty, (re) build capacity, support good governance and enhance sustainable development⁶.

The MDF is committed to efficiently and effectively contributing to the reconstruction of a better Aceh and North Sumatra following the earthquakes and tsunami. This goal reflects the BRR mission statement to "build back better". In this context, a "better" Aceh and Nias means not only improving infrastructure in accordance with the Government of Indonesia's Master Plan, but also adhering to social concerns such as reducing poverty, improving livelihoods, and increasing equity. This overall goal is being accomplished by:

- Pooling donor resources to support a mutually-agreed portfolio of projects and programs; with funds flowing through the Government budget (on-budget, or APBN⁷) wherever effective, and outside of the budget (off APBN) if the Steering Committee deems this more effective;
- Working through and within the Government's Master Plan for recovery; both partnering directly with the Gol as well as non-government institutions; and supporting bottom-up and demand-driven development of initiatives that are eligible for financing;
- Serving as a forum for donor coordination; and *supporting* a policy dialogue

⁴ This decision to establish BRR at the central level was initially driven by technical reasons given the circumstances that the local/provincial government had collapsed. However, the BRR's life span has from the onset been designed to be a temporary body lasting for 4 years, and that it will hand over its outputs and assets to the local government. However, the fact that NAD, prior to the 2004 earthquake and tsunami, had experienced a 20-year civil war, also meant that political and technical isolation from the rest of the country, has resulted in a rudimentary level of technical capacity for many of the government institutions in Aceh.

⁵ The Acronym Multi Donor Fund (MDF) refers to MDTFANS and will be used in the report.

⁶ Reference: http://www.multidonorfund.org/ " Mission statement of MDF"

⁷ Anggaran Pendapatan dan Belanja Negara (Annual Government Budget)

between the international community, civil society and the Gol on progress in the recovery process;

- SKM
- *Pursuing* opportunities to support the peace process (conflict sensitivity); *supporting* gender-sensitive activities; and
- Avoiding worsening regional disparities.

The goals of the MDF activities were articulated in the Recovery Assistance Policy and further detailed in the Implementation Policy⁸, a document which is built around eight quality criteria. These criteria were used to assess the quality of incoming project concept notes and of project appraisal documents. The eight criteria are: (a) enhance the quality of the recovery process; (b) use different capacities over time; (c) alleviate poverty; (d) support good governance; (e) pursue sustainable development policies; (f) promote gender equity; (g) geographical balance and avoid regional disparity; (h) conflict sensitive approach.

In addition to managing On-Budget funds that are generated from Gol's national and international sources, BRR is also mandated to coordinate all rehabilitation/reconstruction work in Aceh and Nias as contributed by other organisations. As at August 2008, BRR was responsible for the coordination of over 500 national and international organisations in the target areas.

1.3.1 MDF Stakeholders & Partners

The donors (listed in Table 1) have contributed to a portfolio of projects that have focused in four reconstruction sectors; (i) recovery of communities (including housing), (ii) infrastructure, (iii) rebuilding governance, and (iv) environment. All projects report to the MDF Secretariat which, in turn, aggregates information at the portfolio level against an overall MDF results framework.

Source	Total of Pledges (USD)	Percentage (%) Total of Pledges	
European Commission	\$ 282,240,000	40.1	
Netherlands	\$ 171,600,000	24.4	
United Kingdom	\$ 76,010,000	10.8	
Canada	\$25,800,000	3.7	
World Bank	\$ 25,000,000	3.6	
Sweden	\$ 20,720,000	2.9	
Denmark	\$ 18,030,000	2.6	
Norway	\$ 19,570,000	2.8	
Germany	\$ 13,930,000	2.0	
Belgium	\$ 11,050,000	1.6	
Finland	\$ 10,130,000	1.4	
Asian Development Bank	\$ 10,000,000	1.4	
USA	\$ 10,000,000	1.4	
New Zealand	\$ 8,800,000	1.2	
Ireland	\$ 1,200,000	0.2	
Total Contribution	704,060,000	100	
Source: http://www.multidonorfund.org/finance.html			

Table 1: Source of Pledges⁹

⁸ The Implementation Policy is detailed in Annex 7 of the Review of Environmental Sustainability - Terms of Reference.

⁹ Note that the USD figures are based on the source of pledges as of March 31, 2008 where the unpaid contributions are translated to the USD based on March 31,2008 World Bank exchange rate



The MDF Secretariat has the responsibility to monitor progress and report on results to the MDF Steering Committee. Included in the reporting is the expectation that an assessment of the application of the eight criteria across the portfolio will be tabled. The Secretariat relies on various methods to collect data/evidence in order to assess against these criteria: (1) compilation and analysis of project-level monitoring, evaluation and supervision findings; (2) financial monitoring, and analysis, (3) collection of first hand evidence through field visits and/or assessments commissioned by the Secretariat, and (4) review of the portfolio performance.

The MDF, in its support towards rebuilding Nanggroe Aceh Darussalam (NAD) and Nias Islands of the Province of North Sumatra, has collaborated with a number of national and international institutions. The list below is of the Implementing Agencies (IAs) within this MDF Portfolio:

- Central-Provincial government: BRR NAD/Nias
- Provincial Government of NAD-Nias (mostly the executive branch)
- Local Government in NAD-Nias (mostly the executive branch)
- Line Ministries: KimPrasWil/PU¹⁰, Ministry of Home Affairs (MoHA), Ministry of Forestry (MoF)
- Multi-lateral institutions: United Nations Development Programme (UNDP), The World Food Programme (WFP), and International Labour Organisation (ILO).
- Non-Government Institutions: International, National, Local Civil Society Organisations (CSOs) and the local communities

1.3.2 MDF Program and Projects

The massive destruction in the environment due to the December 2004 quake and tsunami meant that the loss suffered by the Acehnese (and Nias people, post the March 2005 quake) constituted not only their shelter, but also their livelihoods, which is translated into facilities to live, work, and interact socially. As this was clearly understood from the very beginning by the Gol, all efforts were directed at rehabilitating and reconstructing these lost or dysfunctional facilities on behalf of their citizens.

MDF and BRR, through the Steering Committee, agreed to implement projects that addressed these issues. Initially, projects were designed to address specific issues, but as time progressed, the MDF portfolio expanded to incorporate those cross cutting issues which can help integrate the response to the complex impacts of the quake and tsunami on people's lives.

At the end of its lifespan, the MDF expects to have contributed to the following goals in Aceh and Nias:

- Communities/ community infrastructure regenerated
- Poverty alleviated
- Livelihoods restarted
- Larger infrastructure repaired
- Governance rebuilt
- Environment sustained.

¹⁰ KimPrasWil - *Permukiman dan Prasarana Wilayah* (Settlement and Regional Infrastructure Department) and PU - *Pekerjaan Umum* (Public Works Department)

Partner Agency

organizes

description &

plan of project

detailed

The WB/MDF and GoI, through the Steering Committee, agreed on a number of projects that would be implemented and coordinated by BRR in NAD and Nias. The following diagram describes the process of how projects are developed and implemented.

MDF refers PCN

recommends to

to TRG then

reviews &

Steering

MDF SC

reviews &

endorses the

draft project, to

Partner Agency



Figure 1: Processing of MDF Project Developed and Implemented



Source: MDF RES Analyses, 2008

1.4 Review of Environmental Sustainability (RES)

The MDF Monitoring & Evaluation has identified a lack of information on the MDF's practices and achievements in promoting the sustainability of the environment, inclusion of and benefits for women, the poor and vulnerable groups, and the results of a conflict sensitive approach. The project identification missions of the WB also identified the need for greater information regarding the mainstreaming of 'cross-cutting' themes. These themes include environment, promoting gender equity, inclusion of vulnerable groups and conflict sensitivity. The MDF, in its Recovery Assistance Policy, has stressed the need to appropriately address such issues, however, it has been identified that project-level indicators do not always cover these issues adequately¹¹.

Therefore, it was considered appropriate to review the current MDF portfolio of projects in order to offer insights that could enhance the quality of reconstruction, in particular regarding environmental and social sustainability. Within the MDF portfolio, sustainable management of the environment pursues a two-fold approach: a) minimize negative impacts of reconstruction through application of environmental standards and policies; b) promote adequate public services in protection of physical resources, including for example, water, land, forest vegetation / habitat systems and waste management. Additional to the latter point, the MDF outlines that public awareness of environmental concerns emerges as a crucial topic to achieve sustainable impacts¹¹.

¹¹ Please refer to the Terms of References of the RES attached in Annex 8.



This Review of Environmental Sustainability (RES) aims to assess the current MDF portfolio with a focus on environmentally sustainable development, bearing in mind that MDF has provided significant resources into rebuilding Aceh and Nias post tsunami. Inevitably, MDF projects would have caused a degree of environmental impact (potentially both positive and negative), either as a direct or indirect result of the project activities¹¹.

1.5 Objectives of the RES

The specific objectives of the RES were to determine the: (i) quality of MDF projects in terms of incorporation of and application of good practice in project implementation; and (ii) results achieved to date. Sections 5 and 6 respectively present the findings of these specified objectives.

Specifically, the review set out to:

- 1. Assess the application of practices that support ESn within the MDF, both evaluating appropriateness and application of practices within projects, as well as the overall compliance with good practice;
- 2. Identification of intended and unintended positive and negative impacts and benefits in relation to the topic of this review;
- 3. Where appropriate, provide recommendations to improve the performance of projects and the portfolio as a whole against ESn;
- 4. Review existing indicators and issue recommendations for M&E to be used on project level (where appropriate) and for monitoring on portfolio level (results framework);
- 5. Discuss the need and recommend suitable methods for follow-up to this evaluation on the portfolio-level at a later point in time;
- 6. Identify lessons learned and challenges of mainstreaming cross-cutting themes in a reconstruction context, and more specifically in the social and cultural context of Aceh and Nias.

1.6 Team and Review Duration

A team from Sinclair Knight Merz (SKM) was commissioned by the World Bank/MDF Monitoring and Evaluation Unit within the MDF Secretariat in Jakarta to complete the Review of Environmental Sustainability (RES). The team (will be referred as RES team in the report) comprised of seven specialists (both International and National), each with expertise in the area of environmental management, water and sanitation, forestry, planning and, monitoring and evaluation. Administrative and logistical support staff were also involved in this assignment. The Focal point for the RES team has been the MDF Secretariat in Jakarta. The timing of the review was from July – October 2008.

2. Approach & Methodology



This section provides a brief overview of the methodology adopted during the three stages of the RES which included: a) Inception & Field Work Preparation; b) Field Work; c) Draft Reporting, Presentation and Final Reporting. It also presents key challenges in undertaking the review within the project resources available.

2.1 Methodology

As per the agreement between the Focal Point for the review and the RES team during the Inception meeting, the approach for undertaking the RES incorporated four stages: (i) documentation review (secondary data); (ii) consultation with key informants (primary data); (iii) field visits to project sites; and (iv) reporting. The documentation review utilised a number of templates to assist in summarizing the portfolio and each project, with specific emphasis upon the complicity with the environmental safeguard frameworks of other partners. (Refer to the Annex 4 for the work plan and Annex 8 for bibliography).



Figure 2: RES Methodology

2.1.1 Document review and data analysis

Figure 2 offers an illustration of the RES methodology and the key steps taken to complete the assignment.

Step 1: Undertake a thorough reading, review and analysis of the body of documentation for the 17 projects and develop a summary of the key trends, understanding of the emphasis, focus and range of lessons learnt. In addition to the documents provided by MDF Secretariat, the team also searched and collected other project data and literature

that were relevant to this assignment¹².



Step 2: Select 9 projects to review and sample, based on the stratified sampling criteria agreed during the inception period to best represent the project/portfolio¹³. Documentation of the 9 projects was summarised and scrutinised for conformity against MDF standards, with particular interest in environmental standards.

Step 3: Selection of four other projects to undergo a rigorous investigation, both for indepth document review and documentation.

2.1.2 Sample Projects

As noted above, it was difficult to investigate all the MDF portfolio of 17 projects by the RES team. To evaluate projects with a degree of thoroughness and rigour, considering the logistical difficulties involved for such a relatively small team in the few weeks available, was challenging in both Aceh Province and on Nias Island. Physical, geographical, demographic and political differences across the two Provinces presented a challenge, as the 17 projects fitted into the context in a complex variety of ways.

In collaboration with the MDF Secretariat, the list of projects to be potentially reviewed in the field was selected based on criteria which considered specific project activities, the life of the project, along with the time and budget constraints of the RES. The projects with greater relevance to the key guiding questions were selected based on the stratified sampling approach. A list of 10 projects and the methodology(s) applied for the review of respective projects is presented in Table 2.

2.1.3 Relevant Literature and Policies

There is a strong body of documentation that precedes and support project design and implementation, monitoring and evaluation and technical issues. The WB offers a set of procedures which carefully detail how bank staff are to proceed with completion of project supervision missions. The following offers a summary of these procedures:

- 1. The objective of these procedures is to provide guidance to staff in processes on project supervision and make sure the WB funds (grant/loan) are to be spent according to the approved project objectives.
- 2. The Operational Procedure (OP) document relevant to the specific sector into which the project falls provides guidelines for supervision throughout the project cycle (planning and reporting).
- 3. Supervision phases are divided into start-up, implementation and operating phase. The OP provides guidelines for project site visits regarding preparations, field visits and follow-up activities.
- 4. The OP does not have a detailed explanation or technical guidelines specific for environmental projects. These are more logically determined on a sectoral and project specific basis.

¹² Please refer to the bibliography in Annex 8 regarding the types and details of documents for each sample project. To assist in the documentation review two dedicated laptop computers were loaded with the entire MDF project documents. Each of these two computers had the "Google Desktop" search program installed allowing for the documents to be interrogated by topic, project name, key word, dates, etc

¹³ The sampling criteria and the summary of the 10 project visits are detailed in the Annex 2.

- 5. The OP prescribes that the Task Team which implements supervision should have sufficient skills or experience necessary for the specific project context.
- 6. A Project Status Report (PSR) includes the project data, project performance ratings, project component ratings, critical risk ratings, compliance with safeguard policies and compliance with legal covenants.
- 7. The OP provides a sample of a PSR in which projects are classified on compliance with environmental and social safeguard policies The Project Status Report also addresses/classifies safeguard management performances within the project performance ratings.

Table 2: Project Sampling List

Project Name ¹⁴	Documentation Desk Review	Field Visit	Intense document Review
Kecamatan Development Project (KDP)	Х		Х
Banda Aceh Flood Mitigation Project (BAFM)	Х		Х
Resource-based Rural Road Rehabilitation (RRRR)	Х		
Tsunami Recovery Waste Management Programme (TRWMP)	Х	Х	Х
Aceh Forest and Environment Project (AFEP)	Х	Х	Х
Community-based Rehab & Recon of Settlements – Aceh (REKOMPAK)	Х	Х	
Urban Poverty Project (UPP)	Х	Х	
Kecamatan-based Reconstruction Project for Nias (KRRP)	Х	Х	
Infrastructure Recon. Enabling Project (IREP)	Х		
Infrastructure Reconstruction Financing Facility (IRFF)	Х		
Total	10	5	4

Source: Result of the sampling methodology undertaken by the RES team and after discussion with the MDF Secretariat, 2008. 'X' signifies the type of method used for RES

The WB's environmental and social safeguard policies were designed to avoid, mitigate, or minimize adverse environmental and social impacts of projects supported by the WB. The Bank encourages its borrowing member countries to adopt and implement systems that meet these objectives while ensuring that development resources are used transparently and efficiently to achieve desired outcomes. The Bank encourages the development and effective application of such systems and thereby focuses on building borrower capacity beyond individual project settings.

The purpose of the MDF ESn policy, along with the related assessment procedures, is to ensure that proposed development options are environmentally sound and sustainable and that any potential impacts are recognized early and taken into account in project design. A dedicated section of each Project Appraisal Document (PAD) identifies and elaborates which of the environmental (and social) safeguards the project triggers.

¹⁴ The Support for Poor and Disadvantaged Area (SPADA) project was listed by mistake in the inception report. It was recommended by the Focal Point of RES MDF Secretariat to be omitted from sampling as the project focused on "Governance' and it was not mutually considered feasible to include as a sample project.

2.1.4 Key Informants



Primary information and data collected were a crucial part of this review. The team prepared a select list of key informants who were knowledgeable, as well as holding key positions within the partner institutions. The key informants were selected both from the projects (as contractors, implementing agencies, and donors) as well as from those who were affected by the projects (both directly and indirectly). The selection of key informants was based on the level of involvement, knowledge, decision making influence, understanding of ES compliance, and for being part of the community that would experience (or had experienced) environmental impacts caused by MDF funded projects. These informants were considered able to make a strong contribution as a result of their lengthy involvement with any, or all of the three phases of the disaster response

The range of key informants were selected from the BRR, MDF, Project Team staff, WB environmental safeguards staff, Gol departments, key bilateral organisations including the GTZ team in Banda Aceh, a number of representatives of international NGOs and some national Indonesian consultants. To attain a better understanding of how ESn was impacting at the site level, it was a high priority of the RES team to conduct interview(s) with contractors who had been required to adopt implementation procedures that incorporate safeguards. Table 3 provides an illustration of the stakeholders interviewed during this review.

Location	Institution	Title/Position
Jakarta	• MDF	Secretariat Office, M&E Officers
	• WB	Environmental Safeguards Officer
	• EU	Environment Unit Officers
	• DFID	Second Secretary
Banda Aceh	• WB	Environment Officer & Infrastructure Engineers
	• BRR	Director for Infrastructure
	• UNDP	Program Director
	• ADB	Resident Representative / Environmental Safeguards
	• GTZ	Resident Representative
	• IREP	Safeguards staff / PDCS team
	• CRS	Resident Representative
	• ILO	Resident Engineer

Table 3: Key Informants

Source: RES Team, 2008. Refer Annex 5 for a complete list of interviewed informants.

As part of the code of ethics in research that could have repercussions to individuals voicing valid concerns, a number of key informants quoted in specific findings were not named. Others have inputs that were incorporated into this report, particularly when their opinions were considered public knowledge and/or could be verified in other reports.

2.1.5 Research and Guiding Questions

The scope and framework of the RES was supported by a series of key guiding questions developed by the MDF Secretariat. These questions, assembled as three groupings, provided a comprehensive platform for enquiry, leading and assisting the review.



- Questions A: Mitigation of Negative Impacts of Reconstruction. These guiding questions concern four categories of inquiry: (i) the impact of projects at the village level; (ii) whether the agreed approach of adopting a "negative list" of no-go activities, taken by the MDF partners, has been adopted and integrated into the individual project designs and implementation, and how this approach compares with other donor funded projects; (iii) do MDF projects deploy similar environmental protection standards, how have they been assessed and are these assessments consistent with the current Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) frameworks; and (iv) identify and assess effectiveness of strategies used by MDF projects to reduce use of illegal timber and compare these with good practice recommendations by BRR and environmental NGOs.
- Questions B: Promotion of Environmental Services. This component concerns the contribution that the various MDF projects and specific TA's have made to promote environmentally sustainable reconstruction, waste management, awareness raising and capacity building concerning environmental issues and the environmentally sustainable management of natural resources.
- Questions C: Implications of the Reconstruction Context. This component concerns (i) challenges beset by projects requiring quick implementation, the (ii) chronology, relevance, and efficacy of the frameworks which have been adopted to promote environmental sustainability, (iii) a comparison of the guidelines adopted by the MDF judged against the approach taken by other donor-funded projects and (iv) the capacity of local environment agencies to handle the EIA and EMP assessment process in a timely and appropriate manner and whether this could be improved.

The research questions were used as a tool in investigating how projects complied with ESn and ES. During the inception period, the MDF Secretariat advised the team that a major focus of the research questions was to be centred on ES.

In addition to the research questions, the MDF Secretariat and the team agreed (during inception phase) on dividing the guiding questions into three groups, as a means of providing team members with a comprehensive platform for enquiry. This group of questions also led to a better formulation of findings in this review (Refer Table 4).

2.1.6 Field Survey

The field visits provided the opportunity to test the findings from the documentation review and the issues raised by the informants in pursuit of the answers to the guiding questions. Field visits incorporated a selection of project implementation sites in four different areas. Input from community/beneficiaries of MDF projects was also collected during field visits. This input focused on determining the benefit of the project, environmental impacts of the project, and the community involvement in the project. Key project officers on project offices/sites were interviewed to verify project reporting, and/or check on compliance with environmental standards in the field and comment on environmental sustainability of the projects.

The visit to project staff aimed to answer pertinent questions regarding compliance, the contribution of safeguards and the specific contribution, and negatives or positives of the operational context. Visits to specific sites were either identified by informants or randomly selected by the RES team in light of the aide-memoirs and project reports.

SK

Table 4: Categories of Guiding Questions

Questions A	Questions B	Questions C	
Did Project comply with safeguards?	What contributions did the MDF make to promote environmentally safe reconstruction?	What was the impact of the emergency-response context?	
 Compliance - Does this project conform to the safeguards? 1. Is the team familiar with the relevant safeguard policy? 2. Is the detailed safeguard framework established? 3. If yes, does the framework conceptually cover the entire process? 4. How do you find the WB Operational Procedure useful for your project? 5. Is the core team made aware of the benefit of the safeguards? 	 Safeguards Promotion: What changes have occurred as a result of the safeguards? 1. How did the project promote environmentally sustainable reconstruction? 2. Would you say that the safeguards have helped in promoting environmental awareness? 3. Are there specific ways in which the project actually contributed to capacity building? 	 The MDF and other programs have been operating in a context where the largest ever humanitarian emergency is being played out. 1. Have you found any challenge in implementing the Environmental Safeguards given the context? 2. Have you found any significant lessons learned on implementing safeguards? 3. What would be your further action to improve it? 4. Do you have any recommendation for the further actions? 	
Has your project contributed to a greater awareness of compliance with the contractors who have been			

Has your project contributed to a greater awareness of compliance with the contractors who have been implementing the work? Would you like to indicate a number of sites in the region, where we could observe and assess project implementation?

In hindsight now, what changes would you make which would have made a substantial difference to environmental safeguards over the life of the project?

Are there any recommendations which you consider could be included in a next phase of MDF activity?

Source: RES Team (inception phase), 2008

To support and strengthen the RES, three case study themes were explored. Each of these case study themes were directly related to the ToR of this RES. The three themes were the issue of: (a) solid waste management; (b) the supply and management of building materials (specifically timber but also the quarrying of sand for masonry); and (c) the management of forests¹⁵. Tables to assist technical field assessment of, for example, infrastructure projects, were derived from the list of guiding questions in the ToR.

A list of example questions to be directed at respondents was also produced to guide the survey team in the field. This questionnaire was developed to assist the meetings with, for example, the engineering team leader of an infrastructure project.

2.2 Contextual analysis

To put the MDF RES into perspective, relevant literature that were not produced by or for the MDF Project Portfolio were also investigated. A number of key informants who were not directly involved with MDF projects, yet were either knowledgeable from firsthand experience (such as other donor for NAD-Nias, or contractors, division heads within BRR), were also interviewed. Furthermore, an abundance of articles from both local/national

¹⁵ Tsunami Recovery Waste Management Program (TRWMP) selected for solid waste management and Aceh Forestry and Environment Program (AFEP) was selected for supply and management of building materials

media as well as from MDF and BRR websites were researched and analysed.



All of the above helped the team in putting the MDF RES into perspective. Since the MDF projects generated an impressive number of reports and documentation, the analysis would have been less significant when completed without looking at the bigger picture of the operational environment within which the development efforts in NAD-Nias post-tsunami occurred.

2.3 Constraints

Due to the time constraints of the project, counterbalanced against the breadth of the MDF project activity, a sampling approach was undertaken.

The major constraints that posed a challenge to the RES team included:

- Time: It was apparent from the beginning that the short period and timing of the RES may not have successfully coincided with the availability of relevant people associated with the projects. To get best value from each site visit, it is ideal to have a technical person conversant with project activities involved. The RES team has had a strong representation of such people.
- Geographical spread: The limited time allocation for field work in the RES has meant that teams needed to move quickly and that field work did not incorporate the complete geographical spread of MDF project activity.
- Weather. It was wet season during the review where rain and wind are quite prominent, visiting project sites across both Aceh and Nias presented some logistical, as well as safety issues, particularly as heavy rains made forestry roads, and those communities that live there, difficult to visit.
- Availability of key informants: While meetings were generally held with all those individuals specifically identified by the MDF M&E team, access to some people identified as potential key informants by the team presented some problems due to their being on leave, out of communication contact, or not offering alternate staff to act as their proxy. Where such a situation arose, the team themselves identified alternative informants.
- Large body of documents/literature: The abundance of project and portfolio documents that were not pooled in one clearing house presented a limiting factor to the team in their endeavour to conduct a thorough literature review. Two dedicated research assistants were hired specifically to do this task.

Despite the constraints listed above, the Team felt confident that the RES was conducted in an efficient manner and yielded productive findings for the MDF Secretariat. The tasks and timing for the RES are presented in Annex 4. Series of revisions to the draft report were undertaken to address clarifications from the MDF secretariat and the teams whose projects were visited.

3. The Reconstruction Context

SKM

The following section presents the reconstruction context for the MDF response by highlighting key institutional, technical, financial, and geographical challenges and opportunities in NAD and Nias.

3.1 Context

The scale of the devastation across the eastern and part of the western coast of NAD was so massive, that first and foremost, it created a massive logistical challenge that not one single large organization would have been able to address at the time. Roads and bridges were destroyed, coastlines pushed back by over 100 metres after the seas "claimed" it, new wetlands formed or destroyed and ports damaged. These were just some of the challenges faced by the logisticians in trying to move emergency supplies and/or building materials to where rehabilitation/reconstruction work was to be undertaken.

All the major actors involved in the post-tsunami activities (including and foremost, BRR and their international partners) were faced with various challenges in their working environment, as described below in this section.

3.1.1 Political Uncertainties

During the reconstruction context, the political process was considered unstable and there was an urgent political need to build back quickly, as visible progress on the ground was essential to stabilise the peace process. Governance in Aceh rapidly evolved from a Military Operation Zone (DOM) through the post-tsunami transition to a democratically elected provincial authority. BRR entered this arena with a centrally driven implementation program. It is hardly surprising that attempts to increase local ownership and management lead to political and technical tensions that would have implications on post tsunami projects. In Aceh Province, power struggles still follow the peace accord, even after the election/formation of new provincial and local government administrators. The political constellation includes a coalition of ex-GAM political components and technical/administration people.

3.1.2 Technical Capacity

When the tsunami hit in 2004, the technical capacity was further reduced because the casualties also included government civil servants as well as their immediate family members. It is understandable then that during the first few months after the tsunami, it was foreseen that with loss of family members as well as shelter for government civil servant/employees, much of their energy was understandably focused on rebuilding their own lives.

The remaining local staff and counterparts in NAD and Nias Islands lacked adequate technical capacity to undertake their work perhaps, in the case of NAD, partly due to their 'isolation' from the rest of the country during the military occupation or civil war in that province. In addition to the inadequate technical capacity of the human resources, project coordination and implementation at the scale experienced in Aceh has been an enormous task, to say the least.

In the case of Nias Island, while the situation with respect to technical capacity of human resources is to a certain degree similar to Aceh province, the circumstances leading to the low capacity of governance are dissimilar. The remoteness from the main island of Sumatra, compounded by the relatively low economic contribution to North Sumatra



Province, meant that they may not have received the same level of government attention as their counterparts in Indonesia in general. The geographic location of Nias further limits its development with many villages only accessible by foot. Logistics costs are high and the small boats and planes that service the island are highly dependent upon unpredictable weather conditions. The population is spread widely, making it hard to provide services to all. As a remote island it is reported to have never received appropriate development funding from the Provincial or National Government. Indeed the BRR reported that they had major difficulties in delivering their program in parts of the Island. Cultural differences, poor governance and remoteness discouraged outsiders to work in Nias and often the skilled local people leave.

In addition to the logistical challenge, many of the initial workers and staff for BRR and other organisations were neither from NAD nor Nias. As a result differences in language and culture sometimes hindered their work in the field.

3.1.3 Dynamic Structure of BRR

BRR's local counterpart was the provincial government in Banda Aceh/Sumut. As mentioned above, its mandate was to coordinate and implement the rehabilitation/reconstruction activities in the resulting "vacuum" until the province regained its full capacity at both the provincial and local government levels. As an institution that had a high profile program combined with time limits to its organisational life, the BRR operated with a sense of urgency that put an emphasis upon getting things done quickly. In the words of one senior BRR staff member the phrase *"fast track management"* was used to describe the management approach. Part of BRR's approach towards this style of management saw a number of restructuring processes aimed at equipping the team with greater suitability for new developments in the field. While this is considered appropriate considering the fast track management system, it also has been seen as an obstacle in linking projects and safeguards compliance in a meaningful way.

3.2 **Development Characteristics**

The topic of how to approach a complex humanitarian emergency such as that in Aceh and Nias is of major importance. In such a situation it was difficult to coordinate so many players in a short time with so much needing to be done. One way to theoretically assess the approach taken is to examine the philosophical position of development assistance over the past 60 years which is promoted in the literature. Six stages of evolution are seen to have occurred in the way that programs are delivered. While it is generally accepted that few development assistance projects enjoy an easy adoption of both the software and the hardware that donors may have, it is acknowledged that projects and programs have improved in their mode of operation. The following table outlines the changes in delivery over the period.

Decade	Development Characteristics
1950-60s	Do development to the people
1960-70s	Do development for the people
1970-80s	Do development through the people
1980-90s	Do development with the people
1990-00s	Do development to facilitate empowerment
2000-	Development belongs to the people and projects aim at: Facilitation of Development

Table 5: Characteristics of Development Themes over last Fifty Years

Source: Sarma 2002

SKI

An amalgam of definitions of development can interpret it as being a process that aims at the constant improvement of the well-being of the entire population and of all individuals on the basis of their active, free and meaningful participation in development and in the fair distribution of the benefits that result from this process.

3.2.1 Decision Making & Phases in a Crisis Response

Generically, the importance of maintaining the sovereign rights of the host nation in a crisis response is well understood by the international community and set out in the Paris Declaration on Aid Effectiveness. In Aceh, the relationships between provincial, national and international governments have passed through several stages as the tsunami response developed:

- Immediate crisis response an emergency phase (December 2004 to March 2005) to meet the immediate survival needs of victims: food, water, medical care, shelter, clearing rubble and bodies; in this period Indonesia opened its borders, foreign military forces were allowed in and visa regulations were relaxed
- Transition phase (mid 2005) both the MDF and BRR were established and the Government of Indonesia took ownership of the response; donors prepared large scale programs;
- August 2005 The Helsinki Peace Accords were signed;
- Reconstruction and Rehabilitation phase (2006-2008) marked by large-scale housebuilding and infrastructure delivery programs; many NGO activities peaked;
- December 2006 election of a new, devolved Provincial Administration;
- Longer term development (2008 onwards) as BRR withdraws and hands over to the Provincial Administration; most NGO's exit but long-term bilateral development programs continue.

Through all these phases, international agencies need to be seen to be responding to the expectations of their constituency, be it multilateral, bilateral or within the United Nations community. So while outsiders may feel that the way ahead is clear, it is still imperative that the response does not undermine governance of the host.

The body of contemporary literature on the topic of crisis response and management is considerable and one theme explored concerns what organisations and individuals experience through the life of any response. Organisationally there is concern regarding the sequencing of appropriate decision making. In addition there is the emerging

assumption that it is necessary to be aware that there will be cycles of intensity and achievement, followed by periods of reflection and reassessment.

SKM

Tiered structures of coordination have been proven to be optimal in organising a highly dynamic emergency response. Such tiers are well recognised and used in the cluster system of the Inter Agency Standing Committee for Humanitarian Disaster Response. This system recognises that there will be Phases in the response, and that systems may need to remain in place till no re-escalation can happen (i.e. 'the fire is out').

The system takes into account the fact that doing strategic planning from a great distance does not work¹⁶. The weakness, though, remains that often the presumption of reliability is made ('we have learned to coordinate'; 'this emergency is the same as Rwanda/Bam/Gujarat/Aceh') and with such a synopsis it is possible for the specific characteristics of the situation to be masked.

Reliability of outputs depends on appropriately addressing issues including trained compliance and reliability behaviour which is only found in well prepared organisational constellations, trained to avoid collective panic and heedless/mindless actions¹⁷. To get through a disaster and use it as an opportunity for change needs extreme preparedness. Planners who walk in and want to expose the opportunity as a rational concept most often fail. Associated with this issue is the phenomenon of informal cycles of action and then reflection, regrouping and assessment, followed by agreed changes in mode of operation or even perhaps a slight alteration in direction. Organizations which have contributed to disaster response, including Aceh and Nias, will recognize such cycles in hindsight.

From an ESn perspective, it can be difficult to position a genuine focus on environmental issues at the early stages of an emergency response, particularly when there are competing priorities. While careful planning and scheduling of the critical issues and safeguards is fully recognised, there will be a prioritising that resists seeing the cross-cutting profile of environment on the same plateau as more clearly defined and immediate sectoral issues such as the provision of shelter, as well as access to health facilities and food. The challenge in such a delegation of importance is to know how and when the profile and integration of appropriate actions which ensure the intentions of environmental planning and management are enabled.

3.2.2 SPHERE Standards

One document that offers some benchmarks and endorses minimum standards for response to humanitarian emergencies is the "Humanitarian Charter and Minimum Standards in Disaster Response"¹⁸, commonly referred to as the Sphere Standards. The Sphere Project was launched in 1997 by a group of humanitarian NGOs and the Red Cross and Red Crescent movement. Sphere is based on two core beliefs: first, that all possible steps should be taken to alleviate human suffering arising out of calamity and conflict, and second, that those affected by disaster have a right to life with dignity and therefore a right to assistance. Sphere is three things: a handbook; a broad process of collaboration; and an expression of commitment to quality and accountability.

¹⁶ MINZBERG, H. (1994) The Rise and Fall of Strategic Planning, Harlow : Pearson Education Ltd. (Prentice Hall Europe)

¹⁷ WEICK, K., SUTCLIFFE, K. (2001) Managing the Unexpected, Assuring High Performance in an Age of Complexity. San Francisco : Jossey-Bass (Wiley)

¹⁸ <u>http://www.sphereproject.org/</u>


The need for the Sphere handbook was born out of the perceived shortcomings from the response by NGO's to the humanitarian emergency work in Rwanda and Bosnia. "Humanitarian agencies committed to this Charter and to the minimum standards aim to achieve defined levels of service for people affected by calamity or armed conflict, and to promote the observance of fundamental humanitarian principles" (Ibid). The standards cover specific topics including:

- Water, Sanitation and Hygiene Promotion
- Food Security, Nutrition and Food Aid
- Shelter, Settlements and Non-Food Items
- Health Services

3.3 Challenges Affecting Environmental Review

Three years into the recovery effort, Aceh still presents as a complex reconstruction environment. Although, the 2005 Peace Agreement brought hope, regional elections of 2006 and 2007 have given the Acehnese people a much greater say in the shape and direction of their future.

As BRR took on the challenge of implementation, it faced significant additional challenges. Many major political and institutional changes have occurred in NAD since the BRR inception. Subsequently, a number of issues that emerged afterwards are closely linked to the structure of BRR and have become politically contentious. These include:

3.3.1 Institutional Issues

- There was power shift from NAD provincial level (as the main government counterpart of BRR) to decentralised local government (to reflect the decentralisation/OTDA¹⁹ in the rest of the country), implying that local autonomy and ownership of projects are at the Kabupaten/Kota levels.
- When decisions are made in Jakarta with limited consultation processes with the beneficiaries and/or local partners in the region, the ownership of the project became weak. Many people that met the RES team found it difficult to discern who built what and where. For many Acehnese, BRR was responsible for everything, even if works were contracted by an NGO or bilateral donor.
- As a part of its exit strategy, the BRR decided to introduce a "soft closing" of their offices meaning that the BRR would not process any payment for projects after that date. This soft closing was initially scheduled for 31st October 2008, prior to official closing of its existence in April 2009. The soft closing has now been moved to December 31, 2008. Contractors, already overstretched, have had to put extra resources into finishing and delivering their outputs ahead of schedule. In some cases it is physically impossible to complete projects to this accelerated timescale.

3.3.2 Technical Issues

 The RES found that the profile of ESn was not seen as a priority by a number of informants (including project staff, communities and BRR advisers), and some

¹⁹ Otonomi Daerah (Local Autonomy)

considered it as a "luxury", "of no consequence", "not appropriate", and "something any good engineer sees as common sense".

- SKM
- Three years is a relatively short time to build the capacity of provincial/local government institutions which were already weak, even before the tsunami. There is much eagerness towards a stronger "ownership" of projects at a local level, but the corresponding capacity to run projects (that require strict ES compliance) is essentially absent.
- After the tsunami, construction activities scaled up by as much as 30 times over a vast geographic area. This increase put demands upon the delivery of EIAs. As a result, the Gol issued a *PerMen* (308/2005) which was fundamentally aimed at accelerating the delivery and improving the quality of EIAs. However, one informant during the review was adamant that the *PerMen* 308 did not actually speed up the process *"there was a lot of talk about it, but we still observed the same AMDALs".* This situation according to the same informant discouraged stakeholders from following environmental safeguards. The limitations of the AMDAL process are discussed further in Section 5.
- Feasibility studies and the exercise of assessing options were notable by their absence. Many projects proceeded directly to (a flawed) detailed design while environmental screening processes became unclear.
- A few implementing agencies (such as ILO) regard good environmental practices to be an integral part of their work. But most contractors did not consider environmental management to be an integral part of their work, even though it is legally required under Indonesian law. However, it was observed that given additional funding, contractors were willing to carry out environmental management.
- Compliance requires commitment, dedication, and a high level of technical skill. If environmental skills are not valued, staff shortages and high staff turnover will continue to plague safeguards management.
- With this backdrop, of many MDF projects was not always implemented as planned. Furthermore, there are distinct differences between NAD and Nias that add more challenges to the working environment.

SKI

Issues	NAD	Nias
Bapedal Office	 Institutions exist (Bapedal Province, Bapedal Kabupaten, and in some local government Dinas, though there may be some that only have Units under other Dinas) 	• Environment office at third tier, i.e. unit under a local government office/Dinas (see diagram on Bapedal),
Technical Capacity	Capacity varies, but mainly still weak	 tWeak in authority and low on capacity
"Isolation"	Political, due to the Aceh civil war	 Remote island, access not reliable
Interactions linked to technical capacity	• Except for the major cities with high economic activities, (e.g. Banda Aceh and Meulaboh), there was the opportunity for experience to be obtained which resulted in stronger capacity of technical people/institutions	 Nias' main economic exports are not considered priority revenues for North Sumatra as a province, therefore the island not considered economically attractive. Hence less attention from the administration

Table 6: Similarities and Differences in Safeguards Technical Capacity in NAD and Nias

Source: Analyses, RES Team, 2008

3.3.3 Stakeholders' Coordination and Relationship

- BRR was mandated to co-ordinate rehabilitation/reconstruction activities, an enormous challenge given that there were over 500 organisations involved. These organisations ranged from large bi- and multi-laterals (such as WB/MDF, ADB, USAID, AusAID etc.) through to small NGOs and numerous local organisations
- BRR simply did not have the resources to actively manage all its partners. Instead, they relied on the commitment of these organisations to provide information to them.
- Co-ordination across a technical sector was extremely difficult, given the huge number of stakeholders spread across a large geographic area.
- Many projects claimed that their small size exempted them from undertaking environmental management; however numerous small projects together can have a very considerable environmental impact; as will be discussed under cross-cutting issues below.

3.4 Capacity Building

Capacity building has been a major topic of discussion from numerous informants and it is perceived as a rapid evolutionary process by which the civil service, community and individuals have benefited through "learning by doing". One extensive capacity building needs assessment which has been conducted post tsunami by the ADB – ETESP 32²⁰ outlines a plan which found that local Parliament (DPRK), PEMDA and the relevant organisations of local government face challenges to implementing suitable environmental management, while developing the infrastructure needed to support sustainable economic development. For most Kabupaten and Kota offices, the inherent responsibilities for environmental management requirements, particularly when dealing with the international donor community, will be new and capacity building is needed to bridge this gap. The assessment conducted by the ADB – ETESP 32 identified the relative needs between

²⁰ Conducted by ADB Capital Work Program Planning & Management of Project Cycles for Government Planning & Public Work Agencies – ETESP 32 (2008) specifically for East coast Kabupatens.

BAPPEDA and Dinas and found that capacity building is required at different levels. The analysis provided the basis for a recommended program for each Kabupaten/Kota.

SKM

It is important for the Kabupaten/Kota to demonstrate a coordinated approach to environmental management and that individual Kabupaten/Kota programmes and plans are consistent in supporting provincial and national strategies and policies, in a manner that incorporates donor-specific requirements for environmental and social safeguards for example.

Another dimension of capacity building programming has been that of the GTZ work with the Banda Aceh Kota whereby young local civil servants were asked to apply for an intensive Masters course in Public Administration. This course has included subjects in understanding core environmental issues, thus paving the way for a greater "demand" in environmental services.

Coordination of the capacity building within the local governments must be considered as a high priority for a program to be effective. Of the numerous ways to achieve this could include having technical assistance supporting a Capacity Building Coordination Team or Project Implementation Unit. Another way could be to have a more broadly focused Office of Capacity Development Coordination at the provincial level, with a work unit responsible for the infrastructure sector.

The key approach to capacity building that is strongly recommended includes structured On-the-Job Training (OJT) complemented with workshops and focused information sessions involving real life projects, particularly during the transition period. Implementation of the IREP program at Kabupaten/Kota level would be ideal for this. OJT is ideally suited to the capacity building needed in BAPPEDA and Dinas because the objectives are the ongoing development of skills needed to perform the exact roles for project implementation. Such an approach would focus on developing core and specialized skills of people involved. The core skills include those in for various categories of people involved in environmental management, development planning and programming and project management.



Figure 3: Capacity Building Periods (2008-10)

Source: Capacity Building for Economic Development Programming, Planning and Management of the Project Cycle – A Recommended Approach, ETESP-Package 32, 2008

There are several other approaches to developing skills which appear to have promise within the infrastructure sector including job rotation, secondments or temporary assignments to other divisions, sector organisations or institutions and the use of the working model project concept.

3.4.1 Humanitarian Community



It is significant that much work was done post tsunami by organisations that, according to one senior staff member from the BRR, had little understanding of *"the complexity involved in compliance standards; environmental, structural and legal issues"*. Indeed, as another respondent reported, *"it was a significant learning curve for everyone and some organisations simply could not effectively integrate technical, physical, social and logistical components all at the same time"*. Another RES interviewee, when talking about the challenges that beset the response, described many of the *'well intentioned NGOs as a last bastion of amateurism'*. Along with a massive contribution during the early emergency phase, combined with a sustained contribution to projects with communities in difficult situations all over both Aceh and Nias, NGO's from many parts of the world comprised the greater number of the 500 organisations involved in the response. Despite all these shortcomings, numerous respondents cited the good work that was achieved through the efforts of these organisations.

However, lot of work was also executed in the name of rapidly rebuilding "people's lives" – including second rate house building which was seriously deficient in basics such as health standards, including the presence of an accessible water supply and sanitation. Housing in some areas has already collapsed due to structural inadequacies. Very few NGOs were aware of the need for environmental safeguard compliance and few were familiar with EIA as a tool to contribute to quality outputs. Additional work that was closer to the RES ToR is in evidence in the mangrove replanting work carried out by a small number of NGOs. Much of this work has failed and has major shortfalls in site analysis and implementation.

One BRR Director was amazed that some expatriates that came to build structures in Indonesia had no experience of building in their home countries. Unfortunately, some long-term expatriates were unaware of recent and rapid developments in the environmental sciences and are still promoting outdated technologies.

It was mentioned by a number of respondents that many international NGO staff had minimal knowledge of environmental management, and indeed, some with very limited knowledge and first-hand experience of the tasks they were involved with (e.g. building houses). Most environmental NGOs concentrate on advocacy, virtually none had any experience in environmental management and almost all felt their inputs were small and exempted them from any environmental responsibility. Few, if any NGOs were assisting local government or communities with environmental compliance issues.

It was generally reported – across all organisations - that it was hard to find people with professional environmental skills, there was a limited pool and those that were available were not generally happy to relocate to either Nias or Aceh.

A requirement that contractors had to hire locally for construction was difficult, as the skills were generally very low, compromising the project. One respondent offered that there are plenty of well qualified and experienced Acehnese technical people and, as a result of the decades of civil conflict, many of them can be found in Malaysia and Singapore. Poor quality work can lead directly to pollution incidents (e.g. chemical sludge will leak out of cracked storage ponds, into the river and onto coral - Sabang Water Treatment Works). There was therefore an additional challenge for the contractor to "train the trainer".

4. Environmental Context



The following section presents the state of the environment in NAD and Nias Island, the work undertaken related to ESn and sensitivity mapping, and lists the environmental safeguard framework. It also presents briefly the MDF Portfolio of projects and presents the key cross-sectoral elements for the review.

4.1 State of the Environment

Whilst there are a number of implementing agencies/partners involved in this MDF portfolio of projects in NAD and Nias, Bapedal (Propinsi, Kabupaten/Kota) plays an integral role in the whole rehabilitation/reconstruction activities.

The figure below presents the links and hierarchy at the different level of Bapedal offices. It illustrates how budget availability, influence, and technical capacity are all linked to the institution's position within the provincial/local government.



Figure 4: Bapedal Offices and Hierarchy



The state of the environment in Aceh province both pre- and post-tsunami was different to the rest of Sumatra. At the time of the tsunami, large tracts of highly valued contiguous forest remained intact and, along with that forest, the habitat and associated fauna are considered to be well represented. However, not all the forest can be classified as 'Primary' or undisturbed from earlier times²¹. It would be incorrect to view Aceh Province as being in some pristine environmental state pre-tsunami. Coastal forest and mangrove clearance, particularly along the east coast, had been quite pronounced during the 1980's and earlier was reportedly completed in the name of timber harvest (18th & 19th century), increasing rice production (early 1990's) using delicate fresh water-harvest techniques from tidally affected rivers and, more significantly, as part of the introduction of commercial *tambak* ponds (1980's and 1990's).

Although the Aceh province had harvested considerable resources from the oil and gas

²¹ At time of writing of this report several projects aimed at an assessment of forest resources in Aceh were in the process of implementation.

SK

reserves along the east coast, exploitation of natural resources in the hinterland had been limited. Timber needs for Aceh province were considered to be very conservative. The concentration of population along the coastal areas actually assisted to further minimize the negative effects of settlement, rural or otherwise, on the physical environment in the interior.

Ironically, the 25 years of conflict-related issues in Aceh prevented the advancement of forest conversion practices, e.g. into palm oil plantations, as has been happening in other parts of Sumatra in the past 30 years. Large scale forest clearance specifically for the high value timber resources has occurred. Coral reefs and sea grass communities in both the east and west coast areas are reported to have been victims of cyanide bombing and intensive bottom trawling for fishing during the 1990's.

Population along much of the west coast, directly facing the Indian Ocean, could have been described as pursuing subsistence level livelihoods. A large proportion of the population preferred to live within one kilometre of the coast. This is because of the bad soil condition and undulating topography coupled with the military activity inland during the civil war pushed the people to live adjacent to the coast. Although population numbers have dropped post-tsunami there are still tendencies for people to concentrate close to the coast²².

4.2 Environmental Considerations

The MDF Portfolio and projects were designed to address specific issues that arose due to the tsunami, but also were means to assist the government and people of Aceh in improving their governance capacity. These projects have been categorized into: (a) recovery of the community; (b) recovery of larger infrastructure; (c) rebuilding governance; and (d) sustaining the environment. All of the activities within projects have undoubtedly affected the physical and socio-environmental status within each project site.

While some of the environmental and social impacts of MDF projects may have been small or negligible locally, when dozens or hundreds of these individual sub-projects are located within a bigger ecosystem or habitat, the cumulative environmental impacts could be very significant.

The environmental considerations that need to be considered for the MDF projects have been carefully identified in each project, and included in each Project Appraisal Document (PAD)²³. The WB operating procedures are automatically triggered during project design stage if certain elements or activities are involved, i.e. ports, rivers etc. (listed in the Project Sheets in the Annex).

The environmental considerations include:

- Requiring a thorough and accurate environment assessment study.
- Affecting Natural Habitats, Forests (OP/GP4.36), Cultural Property (OPN 11.03), and Indigenous Peoples (OD 4.20/OP 4.10)
- The use of pest management.
- Potential or Causing Involuntary Resettlement (OP/BP 4.12)

²² Reference: ADB ETESP Kecamatan Action Plans, Package 6

²³ Also stated as "safeguards triggered by the project" in the PAD.

- Safety of dams.
- Projects carried out in disputed areas and on international waterways.

SKM 4.2.1 Environmental Sensitivity

The term environmental sensitivity is a verbal abbreviation or abstraction for particular features of environmental stress-response relationships. Any environmental safeguards must take into account the range of possible stressors, responses, stress-response relations and the significance of each. This is done essentially by comparison with similar environmental units elsewhere where the actual responses of particular stresses are already known.

Indicators of such sensitivity can be based on the importance of biodiversity, critical habitat, vegetation communities, soil type and slope particularly, as the later relates to vulnerability to erosion. Where there is variety in geographical character including varied terrain and climate, as well as a land / water interface, there will be a higher biological count and therefore a greater sensitivity. Fresh water systems, particularly where they transition to salt water, including estuarine and riverine reaches, are highly valued for the role they play as a nursery and as a food source for aquatic species.

Establishing or identifying physical areas that are more vulnerable or sensitive to environmental degradation can be of considerable importance in any program which aims to rehabilitate and reconstruct human-made or built structures (including houses, ports, roads and bridges, fishponds, sewerage systems, water treatment plant, and so forth).

For literature comparative purposes only, a component of the ADB post tsunami 'Spatial Planning' contributions has produced an Environmental Sensitivity map^{24.} The map highlights a graduation in sensitivity in the area. The level of precision attainable in an environmental planning map depends on the extent and relevance of information available for comparison on the degree of similarity between the ecosystems and stresses where the responses are known and those for which the map is being prepared. The collection of environmental data from the area concerned, by aerial and ground survey, is of course also essential, but such data is of limited value without the background information required to predict the consequences of particular actions in the course of development. Some values used to create such a map are subjective, but this should not rule out its intrinsic value as a planning tool. The benefit of being able to identify critical areas can be most useful during the project planning phase.

Within the MDF Portfolio projects, to a certain extent, environmental sensitivity had been taken into consideration, as can be seen in the Project No-Go Negative List. (Section 5 offers greater details on the list). The no-go list applied to community recovery projects and determined that the following would not qualify for funding:

- Environmentally destructive or harmful: including mining or excavation of live coral, alterations to river courses, land reclamation larger than 50 ha, activities related to the manufacturing or use of environmentally harmful products, activities using, producing, storing or transporting hazardous materials and wastes;
- Health hazard materials: including procurement of any products containing asbestos, pesticides or herbicides; production, processing, handling, storage or sale of tobacco or products containing tobacco;

²⁴ Ref: <u>http://www.adb.org/Projects/ETESP/etesp-fact-sheet.asp</u> (ADB ETESP – Environmental Fact Sheet)

SKI

- Encroachment into protected areas: any activities within a nature reserve or any other protected area designated by the Government of Indonesia for the management and/or protection of biodiversity except with the prior explicit and written approval of the government agency responsible for the management and/or protection of that area; activities related to logging;
- Trans-national boundaries: water resources developments on rivers which flow into or out of other countries;
- Non-compliance fisheries: activities related to fisheries that are not in accordance with standards set by the Recipient's Fishery Service Agency.

4.2.2 Environmental Sustainability

ESn can mean many things to different people. Recognition concerning the accelerating deterioration of the human environment and natural resources and the consequences of that deterioration for economic and social development which follows has been well documented. Ensuring that use of resources does not undermine opportunities for future generations' maybe a further qualification. However, a difficulty in promoting a workable definition is that ESn is a complex topic.

At one extreme, sustainability can be distorted so that it considers only human interests, and at the other end, it can be defined based on equity for all species along with their ecological requirements; a reversal of anthropocentric values which can culturally require a great deal when subsistence level households rely solely on forest resources for income. For some, sustainability can be viewed from a holistic ecological point of view and at the same time a way of ensuring development will not compromise the future irrevocably.

From a development perspective, policies which support sustainability may challenge, diverge or contradict the mainstream thinking. Such policies may promote technologies and practices which require low inputs, aim for a small ecological footprint, promote energy efficiency and exploit renewable resources. Such a model can be labour intensive, can encourage local resourcefulness and can require comparatively low recurrent operation and maintenance budgets.

At the international level, the adoption of the UN Millennium Development Goals has seen the promotion of one specific goal dedicated to ensuring environmental sustainability. The interpretation is complete and embodies integration between economy and ecology (promoting that economic decisions to have regard to environmental consequences); intergenerational obligation (current decisions and practices to take account of their effect on future generations); social justice (everybody have an equal right to an environment in which they can flourish); environmental protection (conservation of resources and protection of the non-human world); quality of life (a wider definition of human well-being beyond narrowly defined economic prosperity); participation (institutions to be restructured to allow all voices to be heard in decision making)²⁵.

The challenge to measure and to develop and apply ESn indicators is considerable. In fact, nearly 40 national reports published mention difficulties with applying and measuring the MDG 7²⁶. The targets identified for The MDG7 promotes four targets: (a) influencing

²⁵ Connelly and Smith, 1999.

²⁶ Lee and Ganimé, 2003



national policies by integration of ESn into programs and reverse the loss of environmental resources; (b) reducing biodiversity loss, and achieving, by 2010, a significant reduction in the rate of loss; (c) reducing by half the proportion of people without sustainable access to safe drinking water and basic sanitation; (d) achieving significant improvement in lives of at least 100 million slum dwellers, by 2020²⁷. Of these four targets, the last three offer some specific quantifiable indicators which aim to pinpoint the success in the management of air, land, water, flora and fauna species. The last of these indicators acknowledge the problems associated with large urban centres.

Ecological sustainability is a term that could be used to describe the condition where a system has reached a state of equilibrium or balance; where inputs and outputs are in stable coexistence over a variable set of conditions. Such a system can be assumed to be 'closed' and not dependent upon any external inputs, a situation simply characterised in a macro sense by the global hydrological cycle. On the other hand micro examples may be an isolated freshwater wetland system which incorporates recycling of nutrients, and provides a food source for micro biota, aquatic and terrestrial fauna and flora. Such systems can be hyper sensitive to impacts, and often support endemic species.

Because knowledge of the intrinsic value of such a system may not be well known, or if it is, not well articulated by those that live in the surrounding area, it is critical that awareness-raising be a part of any sustainability program. Where these same people have their livelihoods directly linked to the vitality of an eco-system, it is imperative that 'development' opportunities seek out ways to explore livelihood alternatives linked to raising environmental awareness.

In this respect the philosophical intent behind Agenda 21 is highly relevant, whereby governments internationally recognize that the facilitation of understanding and conviction within local communities of the need to protect and possibly enhance the physical environment on which their livelihood may depend, is cornerstone in achieving sustainable goals. What is assumed in such a scenario is that the community has knowledge of the importance of the issues and has guidance as needed with regard to physical resource management, has a collective voice which has standing within the political and legal frameworks, and has support and the resources available where needed to defend detrimental exploitation of the environment. Absence of any of these elements can undermine ESn.

A large number of dedicated Technical Assistance (TA's) missions which have specifically aimed to positively promote environmental awareness have been completed as a part of the combined tsunami and earthquake response. A collection of the subsequent reports associated with these missions can be accessed on the BRR web site²⁸. The RES did not appraise this material.

4.2.3 Relevance of Environmental Sustainability to the MDF Portfolio

From the MDF point of view, ESn can be interpreted in a number of ways including immediate project specific initiatives and longer term strategic approaches. The MDF Implementation Policy²⁹ specifically states the importance of 'pursuing sustainable development policies' which it further determines should occur in '*key sectors for recovery*

²⁷ http://www.unmillenniumproject.org/reports/goals_targets.htm

²⁸ Ref: <u>http://rand.brr.go.id/</u> (RAN - Recovery Aceh - Nias Database Indonesia)

²⁹ http://www.multidonorfund.org/faq.html



such as housing, coastal zone management, road construction, agriculture, and water resource management². The Implementation Policy further states that 'To ensure environmental sustainability in such sectors, the SC [Steering Committee] should support environmental assessments, as and when required in accordance with Government and Partner Agency policies². In recognition of the potential for the response to place unsustainable demands upon forest resources the Implementation Policy specifically endorses the importance of the *"Timber for Aceh" initiative, 'so as to avoid environmental* degradation and deforestation².

ESn also implies that processes are followed to elevate the importance of resource stewardship in the public and private sector, and promote the responsibilities that go with resource conservation and protection. The MDF Implementation Policy is clear in its endorsement of this stewardship, as per its statement; '*Short-term benefits are usually swamped by long-term costs when sustainability is ignored*'.

The Implementation Policy draws a strong link between social sustainability and ESn. It follows that integration of these key elements of the Policy would see the MDF supporting greater community understanding of environmental issues and thus promoting a culture of 'demand' and expectation from the community at large that individuals, organisations and the programs they are responsible for will care for resources. Such steps assist in minimising the impact of project activity on the environment.

Sustainability practices would include transparent project review processes which aim to explore the various options that may be available for any given scenario, placing a high value on the examination of proposed initiatives from an EIA perspective, as well as cultivating use of appropriate and environmentally benign technology. ESn would also seek to establish reference to baseline natural resource data.

4.3 The MDF Portfolio

In collaboration with the stakeholders, the MDF portfolio has placed major emphasis upon the re-establishment of physical structure. In theory, the MDF has anticipated that whilst the bulk of the projects are focused around the reconstruction and rehabilitation of built infrastructure, environmental considerations have been actually incorporated or mainstreamed into the project design.

The Figure 5 illustrates the conceptualization of the MDF portfolio, as demonstrated to the RES by the Director of Infrastructure from the BRR³⁰. The figure illustrates the overall MDF program, emphasising that the logic behind the program saw the importance of addressing land ownership issues (RALAS) at the base, and building on that certainty to future economic development at the top. The structure includes recognition of the importance of community strengthening which is allied to 'environment and conservation', inclusion of major infrastructure in rural and urban situations, as well as strengthening the coordination abilities of the BRR.

³⁰ It is of specific significance to the RES that there are differences in the way that various organisations and projects view their inputs. Of note with Figure 5, are the variations in how projects are categorized. For example, the UNDP view the TRWMP project as fitting an "Environment" category, where as the Figure as demonstrated from the BRR office, interprets it as a 'Major Infrastructure Development'.



Figure 5: Conceptualization of the MDF Project Portfolio



Source: Director of Infrastructure - BRR, 2008

**CRS were involved in the Lamno-Calang Road Project at one stage and later on UNDP was the implementing agency

Table 7: List of MDF Projects in NAD – Nias (2005-2010)



	Project	Sector	Partner Agency	Implementi ng Agency	Duration	Funds (million US\$)	Budget
1	Lamno-Calang Road Maintenance Project	Infrastructure	UNDP	UNDP	Oct 2007	1.5	Off Budget
2	TRPRP (Ports Redevelopment Programme)	Infrastructure	UNDP	UNDP	Dec 2007	3.8	Off Budget
3	Technical Assistance to BRR	Cross-cutting support	UNDP	UNDP	May 2009	14.7	Off Budget
4	Banda Aceh Flood Mitigation Project	Infrastructure	WB	Muslim Aid	Jun 2008	4.5	Off Budget
5	RALAS (Rehabilitation of Aceh Land Administration System)	Community recovery	WB	National Land Agency (BPN	Dec 2008	28.5	On Budget
6	KDP (Kecamatan Development Project)	Community recovery	WB	Min. of Home Affairs	Dec 2008	64.7	On Budget
7	Resource-based Rural Road Rehabilitation	Infrastructure	UNDP	ILO	Dec 2009	6.4	Off Budget
8	REKOMPAK (Community- based Rehab and Recon of Settlements – Aceh)	Community recovery	WB	Min. of Public Works	Feb 2009	85.0	On Budget
9	IREP (Infrastructure Recon. Enabling Project)	Infrastructure	WB	BRR	Oct 2009	42.0	Off Budget
10	UPP (Urban Poverty project)	Community recovery	WB	Min. of Public Works	Dec 2009	18.0	On Budget
11	KRRP (Kecamatan-based Reconstruction Project for Nias)	Community recovery	WB	Min. of Home Affairs	Dec 2009	25.7	On Budget
12	TRWMP (Tsunami Recovery Waste Management Programme)	Environment	UNDP	UNDP	Dec 2009	24.4	Off Budget
13	CSO Strengthening Project	Governance	UNDP	UNDP	Feb 2010	6.0	Off Budget
14	Sea Delivery and Logistics Project	Infrastructure	WFP	WFP	Feb 2010	24.7	Off Budget
15	IRFF (Infrastructure Recon. Financing Facility)	Infrastructure	WB	BRR	Jun 2010	100.0	On / Off Budget
16	SPADA (Support for Poor & Disadvantaged Areas)	Governance	WB	Min. of Disadvanta ged Areas	Jun 2010	25.0	On Budget
17	AFEP (Aceh Forest and Environment Project)	Environment	WB	LIF & FFI	Jun 2010	17.5	Off Budget

Source: MDF Website, March 2008

Table 7 also lists how project funds are provided to the GoI: on-budget (APBN) or offbudget (non-APBN). In an on-budget grant, funds provided by donors are integrated into the GoI national budgeting and expenditure system (APBN), therefore all project procurement, disbursements, book keeping and reporting has to comply with the Indonesian GoI accounting system. For instance, payment for contractors and consultants will only be approved upon a signoff from BRR as the implementing agency. All on-budget projects for BRR (which, in the case of the MDF, includes IREP & IRFF) also have to be audited by BPK (Agency for Financial Audit).

 An off-budget grant, however, does not go through the same rigorous financial and accounting procedures as that of their on-budget project counterparts, particularly since off-budget grants are not integrated into the APBN. In theory, off-budget projects would have a lot more flexibility in how the projects are implemented, especially when



remedial action or modification of project design were deemed necessary, to address challenges and dynamics in the field. From the ESn perspective, the off-budget grant can potentially be more flexible to address potentially negative environmental impact that may have been caused by either a flawed design or inferior quality of construction work. However, much of this is highly dependent upon the technical capacity of people involved directly with the project.

4.3.1 Partner Agency & Implementing Agency

Table 7 on MDF projects lists the 'partner agency' and 'implementing agency' responsible for each of the projects funded by MDF in 2005 – 2010. It is important to establish the distinction between MDF Partners and MDF Implementing Agencies. The MDF Operations Manual³¹ offers the following definitions:

IDA or other international development institutions (such as the ADB and selected agencies from the United Nations Group) may be endorsed by the GOI and designated by the Steering Committee as Partner Agencies to be responsible for the appraisal, supervision, and monitoring and evaluation of a project, and for the administration of any grant from the Multi Donor Fund to finance such project (Para 57).

Partner Agencies may not be the same as Implementing Agencies for the projects financed by Multi Donor Fund unless the Partner Agency is a UN Agency that is able to internally separate the functions of the Implementing Agency (implementation of the project) and the Partner Agency (appraisal, supervision and monitoring of the project). It is also possible for one agency within the UN Group to be designated the Partner Agency while a different agency within the UN Group is designated as the Implementing Agency (Para 58).

In Indonesia, the ES standards and compliance has been regulated by the Ministry of Environment and Bapedal in Jakarta. The relevant regulations apply to all projects – public or private sector, large and small – in particular if they have implications and impact to the environment and the people living around it. These regulations also have to be adhered to by all projects under the auspices of Ministry of Forestry, Mining and Energy, Trade and Industry, Housing and Public Works, Tourism and Industry, and all other relevant ministries.

In summary, while Bapedal in Jakarta is the policy/regulating body for ESn compliance, Bapedal in the provincial and Kabupaten/Kota regions is mandated to process and supervise EIAs and monitor any project activities to ensure environmental safeguards compliance.

Among the agencies, some have their own standards of environmental compliance. Partner Agencies (PA) include the WB, UNDP and the WFP while Implementing Agencies (IA) includes the UNDP and the Gol agencies. In effect however, it can be seen that (as per Table 9), the MDF Implementing Agencies actually used the Gol standards for safeguard compliance.

³¹http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/AFRICAEXT/SUDANEXTN/EXTAFRMDTF/0,,c ontentMDK:21171592~menuPK:3292439~pagePK:64168445~piPK:64168309~theSitePK:2193668,00.html

Agonev

Table 8: Stakeholders and Implementing Agencies in NAD – Nias



Agency		compliance				
Government of Indonesia	Policy on environmental safeguard	S				
BRR NAD/Nias	Coordinator Implementer	Implement projects with environmental				
Line Ministries		based on technical				
○ KimPrasWil/PU	 Implementing Agency 	institutional capacity				
o MoHA	 Implementing Agency 					
 Min of Disadvantaged Areas 	 Implementing Agency 					
 MoForestry 	 Partner/Observer 					
 Provincial Government of NAD-Nias 						
o Executive	o Partner/recipient					
o Legislative	o Observer					
o Judiciary	o Observer					
 Local Government in NAD-Nias 						
 Executive 	o Partner/recipient					
o Legislative	o Observer					
o Judiciary	o Observer					
Multi-lateral institutions						
o UNDP	 Partner & Implementing Agency 					
o WFP	 Partner & Implementing Agency 					
o ILO	 Implementing Agency 					
o WB	 Partner Agency 					
Non-Government Institutions		Technical capacity on				
o International	 Implementing Agencies 	environmental				
 National/local 	o Beneficiaries	is not a core strength				
 Civil Society Organizations 	o Beneficiaries					
Local communities	 Beneficiaries (direct and indirect) Receptors (direct and indirect) 					
Source: DES team 2008						

Pole in Pehab/Pecon Safeguards

Source: RES team, 2008

4.3.2 National and Local Stakeholders

By their very nature, MDF projects need to interact with a wide range of stakeholders, i.e. communities, NGOs, local and national government departments, Implementing Agencies, and Partner Agencies. They may not have any formal, contractual relationship with many of these parties, yet building good relationships may be the key to success of the project.

It is important to understand the Gol's project delivery system in this regard. An operator may propose the need for a project, but it is then handed over to another agency (such as BRR, PU and SATKER³²) for implementation. On completion the works are handed back to the operator (e.g. PDAM). Nevertheless, to ensure sustainability, and good EM, MDF projects need to continue their dialog with the operating authority throughout the project cycle.

³² Satuan Kerja (Working Unit)

4.4 Establishing & Applying Environmental Safeguard Compliance

4.4.1 Environmental Management



Environmental management in Indonesia is governed under Bapedal. Bapedal is the first national specialised environmental regulatory body to be established in Indonesia with implementation powers to monitor pollution and the negative impacts of development on the environment. As a government body at the national level, Bapedal is a regulating agency which can approve environmental safeguards plans for projects, but since it has neither mandate nor authority to issue business permits, it automatically cannot directly revoke licenses from activities that have been proven to be non-compliant. It can, however, file a complaint report to the Police authority on any violations or non-compliance. Subsequently, sanctions can then only be applied after completion of due legal process through the court system.

The Figure 6 illustrates that while environmental management and safeguards compliance has a legal framework, the culture (institutional as well as in the community) and its enforcement (by the implementing organization as well as by the police or the judicial institution) system needs strengthening.

It is understood that law enforcement agencies have very little understanding of safeguard compliance, so to take up and deal with any complaint can take a long time. Forestry issues for example are not strongly linked to the Bapedal at the Provincial level as the staff have limited mobility.

The agency responsible for actual protection of the environment is the Ministry of Forestry (MoF). However, it could be viewed that there is a need for that department to perform contradictory roles as the department is responsible for both exploitation of forestry resources (timber) as well as protection.

In Aceh, the Logging Moratorium appears to have been a strong political move in the right direction, but lacks clear guidance and alternatives for the people directly (and indirectly) involved in logging.

Figure 6: Environmental Management Framework



Source: RES Team, 2008

In Nias, the environment is represented by the *Kesbanglinmas* (*Kesejahteraan Bangsa dan Perlindungan Masyarakat* - Community Welfare and Protection Agency) in Kabupaten Nias Selatan, and in Kabupaten Nias by *Pembangunan Masyarakat Desa* (PMD). These are junior (4th level) departments with limited power to challenge any higher level decisions. One correspondent described the leadership on the island as presiding over "a very feudalistic situation". Unfortunately, environmental concerns have not been found to rate with any prominence under the existing governance regime of Nias.

4.4.2 General Quality Control Issues

BRR, under their Phase I TA BRR (MDF) Project, designed and applied compliance checklists which they use to supervise and monitor their contractors. Whilst these checklists focus heavily on the quality assurance factors of built infrastructure, they were mainly used as an administrative tool towards payment and disbursement requirement for the contractors. In other words, while non-compliance check boxes were made available, the follow up on any comments or environmental impact recommendations were outside the jurisdiction of the BRR supervision teams. Having said that, non-compliance which incurs financial repercussions to contractors, can potentially have greater impact on project implementation and so it is in the interest of the contractor to comply.

4.4.3 Safeguards Framework

It is recognised that theoretically, there are a range of standards that can be deployed to ensure that environmental safeguards are upheld. The RES team identified that the MDF partners and the projects they supported routinely worked in synergy with Gol agencies and that standards basically have very similar characteristics. A summary of the framework as employed by the various Implementing Agencies (outside the Gol) is as follows:

Table 9: Safeguards Policy Applied by Partner/Implementing Agencies



Partner Agency	Implementing Agency	Safeguards Policy
WB	-	Lists of OP/BP/GP/OD, issues are identified & what each potentially represents.
UNDP	UNDP	Government of Indonesia
WFP	-	Government of Indonesia
-	ILO	Government of Indonesia

Source: RES Team, 2008

However, sovereignty is recognised by all international stakeholders. Therefore, the safeguards standards applied throughout projects by Implementing Agencies are that of the GoI, an important step in collaboration and a position which has been officially endorsed by the MDF Steering Committee. The WB has its own Safeguards system which is seen to compliment and collaborate with the GoI system.

Summary:

- The characteristics of Environmental Assessment (EA) of both the Gol and WB are similar.
- Gol regulation EA is divided into 3 categories: AMDAL Environmental Impact Assessment (EIA) that consists of 2 sections, i.e. ANDAL and RKL-RPL; UKL-UPL, Initial Environmental Examination (IEE) and Environment Management and Monitoring Document (DPPL).
- Categorisation of EAs follows a screening process based upon State Ministry of Environment Regulations: No 11/2007 and No. 308/2005. The latter document aimed to accelerate the approvals process for Aceh and Nias emergency projects.
- WB EAs are divided into 3 categories: "A", "B" and "C".
- WB category A states that a comprehensive environmental assessment should be carried out, with environmental management (EMP) and monitoring plans (EMtP); this is equivalent to the Gol's AMDALs
- The "B" category is similar to Gol's UKL-UPLs.
- As an exception for MDF-BRR IREP/IRFF projects: If a project does not have significant impacts and its scale is less than the UKL/UPL criteria based on State Ministry of Environmental Regulation: No. 308/2005 & Regulation Ministry No. 17/2003, then the IA need only provide an environmental SOP. All projects under IREP/IRFF should produce an environmental plan for their operations and maintenance.

Figure 7: Comparison of Gol and WB Environmental Screening Provisions



ENVIRONMENTAL ASSESSMENT CATEGORIZATION

- **Government of Indonesia Regulation**
- Act No 23 year 1997
- Goverment Regulation No. 27 year 1999
- Regulation of State Ministry No. 27 year 2007
- Regulation of State Ministry of Environment No. 11 year 2006
- Regulation of State Ministry of Environment No. 308 year 2005; Specific for Rehabilitation & Reconstruction in Aceh & Nias

EA CATEGORIZATION:

1. AMDAL, consist of ANDAL & RKL-RPL

ANDAL (Environmental Impact Assessment - EIA):

ANDALis an accurate and in depth assessment regarding magnitude and significant impact of a project and/or an activity. **RKL-RPL:**

RKL: Environmental Management Plan (EMP) is an initiative on handling magnitude and significant environmental impact which created from an project and/or an activity. RPL: Environmental Monitoring Plan (EMtP) is an initiative on monitoring environmental component affected by magnitude and significant impact caused by an project and/or an activity

2. UKL-UPL (Intial Environmental Examination - IEE)

The project which is scale less than as mentioned on the regulation will be proceeded by UKL-UPL is more simple than AMDAL procedure. However, a type of project and/or activity plan which is not listed on the regulation should carry out screening process in order to make decision whether the activity should be proceeded by AMDAL. The screening criteria is shown on Appendix of the Regulation (PP 11/2006).

3. DPPL (Dokumen Perencanaan danPengelolaan Lingkungan)

The activity or project proposed to be undertaken, where there has been no EA but project has been completed, BAPEDALDA may requested that proponent should prepare the DPPL (document of environmental management and monitoring) AMDAL is similar with Category A, but screening process is based on Gol PerMen LH 308/2005

UKL-UPL is similar with Category B which does not have EMP and continued with EAP. Screening process is based on Gol PerMen LH 308/2005 World Bank Environmental Assessment Policy

- BP 4.01: Environmental Assessment
- BP 4.02: Environmental Action Plan
- BP 4.04: Natural habitats
- BP 4.36: Forests

EA CATEGORIZATION:

 Category A Potential for adverse environmental impacts, therefore an environmental assessment should proceed and environmental management plan.

2. Category B

The concept review identifies whether an environmental management plan (EMP) will be required

3. Category C

Projects in this category are deemed to very limited or no potential for adverse environmental impacts

Specific case for MDF-BRR-IREP:

For activity and project which does not have significant impacts and project scale less then UKL/UPL criteria based on PerMen No. 308 year 2005 & Regulation Ministry No. 17 year 2003, should follow Environmental SOP provided by IPM, e.g.: SOP for bridge construction, road, flood control and sea wall. All project under IREP should be completed by utilization environmental action plan.

Source: Gol Regulations, WB Environmental Assessment Policy

Under both Gol and WB procedures, projects are screened according to a number of objective criteria that should flag the magnitude of possible environmental impacts. These criteria may include:

- The number of people affected
- The area of the development
- The nature of the area under development
- The duration of the impact
- The permanence or reversibility of the impacts
- Whether the project is an innovation or a reconstruction/rehabilitation

Table 10: Screening Criteria Applied for Gol Projects

Sector and projects	Full EA	UKL/UPL (EMP)
Regional Infrastructure Sector		
Development of new Housing/settlement Metropolitan city, extent area	≥ 25 ha.	2-<25 ha
Big city, extent area Medium and small city, extent area	≥ 50 ha > 100 ha	2 - < 50 ha 2 - < 100 ha
Would in and small org, extent area	- 100 Hu	

Source: PAD RECOMPAK, Pg 60.

4.5 Capacity Building

Ensuring environmental safeguards compliance is linked to the understanding and readiness of individuals and institutions. In a similar manner, creating the preconditions for ESn is one where there needs to be a 'demand' from the community for compliance. Where there are gaps, the way to address the issue is through an appropriate capacity building program which can be presented in a formal and informal sense.

Government departments, individuals, and commercial organisations can aim to generate positive change in the way things are considered, produced or implemented by supporting staff through a process of "on-the-job training. The term capacity building is popularized as a phrase to describe large and small programs that have successfully brought about effective change. Essential elements for Capacity Building (CB) include a tailoring of the approach to suit the situation, one which can change dramatically from situation to situation, incorporating adult learning, mentoring and extension approaches.

One difficulty with capacity building projects is that, depending upon the preconditions, the resources available and the complexity of the topic, *"a building program" can take"*, in the words of one respondent, *"5 minutes, 5 months, 5 years or 5 decades to complete the steps necessary"* in actually changing an individual's knowledge, attitudes and practices. All three steps in the KAP need to be completed for real change to occur.

Implementing or applying new skills, particularly in a hierarchical government agency, relies upon an enabling environment, on having confidence in applying skills, which in turn can be the product of appropriate knowledge, experience, training and commitment from colleagues who can be collaborators, supervisors and subordinates. Without all these variables working together toward common goals, all the best intended and well resourced capacity building projects in the world will not make a difference.

Governance and technical capacity are two phrases that are closely interlinked. Within the Gol institutions, these are represented by the technical capacity of each office responsible and involved in ensuring that environmental safeguards compliance are in place. It is recognized that the technical capacity of an institution also largely depends on the individuals employed as well as their institutional organizational system.

The civil service in Indonesia is governed under the system under the Ministry of State Apparatus. The number of positions and job descriptions (for both technical and administrative) are predetermined. Any changes in the local office structure have to be approved by the Ministry of State Apparatus. On the other hand, within the private sector and non-government organisations, such changes could be easier to facilitate whenever deemed necessary (as driven for example, by market demand).

The theory behind capacity building indicates that the primary starting point in addressing issues is to first identify who the stakeholders are and what their role is, and then assess

SINCLAIR KNIGHT MERZ

5 6

the existing personnel skills. In the case of post tsunami Aceh and Nias, it has been argued that there is a need for capacity building to take place from the senior management to the operational levels at both the Kabupaten and Kota levels of government. Other public and private sector stakeholders may also benefit from capacity building in complementary areas.

4.6 Institutions, Community and Media

The Figure 9 illustrates the role of stakeholders involved in formal contractual engagement of the MDF projects, and those that are outside it. The phrase "watch dog" is used in a very broad sense to define a role of "informal monitor" on safeguards compliance. However, it also implies that a level of its understanding on compliance and response to or impact of non-compliance is also required.

The formal institutions are mainly the project implementers or Implementing Agencies (e.g. BRR, PU/KimPrasWil; MoHA, Provincial Government and offices under the Local Government/SatKer). Within their role as an implementing partner of the MDF projects, their mechanism for ensuring environmental safeguards is standardized and applied across the board for all projects. i.e. supervision consultants recruited by the IA but placed within the Contractor's organization, and report their safeguards compliance to the IA. Any recommendations regarding environmental safeguards compliance is to be followed up by the IA. The Supervision Consultant is effectively the official "watchdog" of the IA.



Figure 9: Illustrating the role of informal actions on monitoring

Formal

Non-form al

Outside of the formal institutions, there is another group of "watchdogs" present. These include members of the communities, the beneficiaries (direct and indirect), receptors of any environmental changes (also direct and indirect), CSOs (Civil Society Organizations), as well as the Media (print, non-print / broadcast). Their role as watchdogs is informal, and is that of a rights based role as citizens of this country. The media, therefore, has a meaningful role for empowering the people in their role as watchdogs, in raising the awareness on safeguards compliance. In fact, the media is also important for both the IA and the public. For the IA, coverage by the media may alert them of issues not raised by their supervision consultants. For the public, it becomes a means to educate themselves and a means to voice their concerns.

Targeting capacity building for these different stakeholders then would require different approaches to different target audience with different understanding and comprehension of safeguards compliance. This is a long term development plan, and needs to be approached thoroughly with clear indicators on feasible achievements, particularly in an environment where understanding as well as technical capacity of environmental safeguards compliance is weak in NAD and Nias.

4.7 Cross Cutting Issues



Issues that could be used as both indicators of the impact of the tsunami and products of the combined reconstruction response included a number of key cross-sectoral elements. A huge solid waste problem presented itself from day one and was an urgent need as the waste potentially included hazardous waste including decomposing bodies. Building materials were needed in large quantities and the potential impact of this need was well understood.

4.7.1 Forestry

The status and value of forestry resources across Indonesia has been a major issue discussed at national and international level. In various forums, the conviction of the Gol to support their peers in wanting to protect and conserve forest resources is well demonstrated. The Bali Declaration (2001)³³ and likewise the ASEAN community (2007) have made statements to state that they are "deeply concerned of the adverse impacts on forest resources brought about by illegal logging and its associated trade" however the difficulty in management and protection of forests, in particularly the practice of illegal logging, has been a constant issue over time and it has proven to be a very difficult issue to address.

Regarding the forest resources across the province of Aceh a number of sources have observed that a positive influence of the civil war was that it locked up the resource, capped the demand for timber resources. In Nias it has been observed that even the 'protected' areas have been logged, with virtually no primary forest in evidence. Such a situation places by default, importance on the need to ensure forest resources are protected for their biodiversity, habitat, hydrological, down-stream environmental services. It is within this context that donors were concerned that the tsunami response did not generate a greater impact upon resources than could be avoided.

4.7.2 Building Materials – Sand Quarrying & Logging

The potential impact of supplying materials for the reconstruction was an issue well flagged by donors in early material. Recycling of materials was considered to be a valuable opportunity and programs in the initial emergency phase incorporated community based work schemes to collect and store material. The need for sand, gravel, rock, site fill from borrow sites was expected and presented a considerable logistics issue.

A number of organisations (GTZ, ADB, IFRC, WWF), invested resources in promoting well tried alternative building technologies. These technologies were invariably sympathetic to environmental safeguards following parameters of being more energy efficient, strategic in aiming to lessen environmental impact, and supported of local livelihoods.

4.7.3 Waste Management

Solid waste management (SWM) consists of the collection, transport, and final disposal of household and industrial waste materials. SWM also handled a vast quantity of additional tsunami waste, consisting of degradable wastes, debris and sediments.

A vast quantity of waste material had to be removed immediately to prevent public health

³³ This Ministerial Declaration is an agreement in which participating nations would "take immediate action to intensify national efforts, and to strengthen bilateral, regional, and multilateral collaboration to address violations of forest law and forest crime"

problems. However, SWM facilities and dumpsites were severely damaged by tsunami and earthquake, and heavy equipments was lacking to transport tsunami wastes to dumpsites. Additional waste generated by the huge rehabilitation and reconstruction effort put further pressure on SWM.



As a result, damaged dumpsites had to be rapidly improved under emergency conditions to mitigate negative environmental impacts. This was followed by an interim phase, where the SWM system was improved with simple technology and new facilities provided by government. Individual and communal containers were provided and socialised to communities.

Today, the SWM system is moving out of the emergency recovery phase and seeking long term solutions. Final disposal should be in a controlled dump or fully engineered landfill. Operator training is necessary as this is a new technology, replacing the uncontrolled open dump systems commonly used in NAD.

Community participation is essential to ensure that household waste is collected and revenues are maintained. Communities in Banda Aceh have seen the benefits of Dinas Kebersihan's SWM.

Since they understand its positive impacts, there is a willingness to pay and they will participate actively in pilot projects (such as composting). A Local Regulation (Quanun) has been introduced to govern revenue collection.

A new sanitary landfill is proposed for the year 2012. This will incorporate waste separation, a livelihoods activity already implemented in several Banda Aceh suburbs.

This is an ambitious project, given its limited success in other parts of Indonesia. Skilled operators are needed and operational and maintenance costs are high. Nevertheless a joint SWM secretariat has been set up between KBA and Aceh Besar with the full support of the Governor.

4.7.4 Sanitation

Sanitation is the means of collecting, treating and disposing of excreta and liquid wastes in a hygienic way so as not to endanger the health of the community and damage the environment. Across Indonesia, 45% of the population lack adequate sanitation, resulting in an estimated 50,000 premature deaths each year. Economic losses are estimated at \$6.3bn, or 2.3% of GDP³⁴.

Sanitation in Aceh has historically been poor. Each child under 5 falls sick more than 2.3 times per year with diarrheal illnesses. Toilets and septic tanks were often not used in rural communities, instead the population defecated outside housing areas e.g. in paddy fields, rivers and beaches. Although there is a fair understanding that poor sanitation affects the community, experience during socialization programs suggested that there was a lack of awareness of better alternatives.

In Nias, many communities defecate in open areas around their houses. Sanitation programs in Nias would need to incorporate hygiene promotion into their activities, explaining the public health benefits of proper sanitation. Such health promotion activities are an integral part of any sanitation initiative; any program that simply constructs toilets

³⁴ Refer WB Economic Impacts of Sanitation in Indonesia, Research Report, Aug 2008

without engaging the community are invariably unsuccessful. The reconstruction of over 120,000 homes in Aceh and Nias presented an opportunity to raise sanitation standards in the community. As over 100 organisations were involved in house reconstruction, GTZ and UNDP took the lead in developing practical sanitation guidelines for the reconstruction effort.

It was suggested that a piped sewerage system could be installed in Banda Aceh leading to a sewage treatment works. However, successful experience of these first world technologies elsewhere in Indonesia is limited; and operational costs were a major concern. It was decided that household sanitation using septic tanks and secondary treatment was a more realistic solution and was also environmentally sound.

In Aceh, high water tables, flooding and a lack of drainage falls complicated the sanitation effort. In most, but not all cases, sufficient land was made available for septic tanks, but the huge scale of the reconstruction effort meant that the skills required to build waterproof tanks on-site were lacking. The guidelines therefore recommended the use of prefabricated tanks, with secondary treatment in subsurface flow wetlands or vegetated leach fields.

A sanitation conference was held in February 2007, attended by BAPEDALDA, BRR and many NGOs in the housing sector. The guidelines were adopted at the conference and then used on numerous housing project sites across the province. One supplier alone provided over 6000 fibre glass septic tanks to Nias.

Quality sanitation is not cheap, costing as much as 4M Rp or more per house. Many international agencies were willing to fund this cost (especially as it was a one off capital expenditure that would leave the community with minimal operating expenses). However some national agencies, and even some BRR departments, were reluctant to provide funding at this level for their housing projects.

The thousands of new septic tanks must be maintained and desludged periodically. Livelihoods programs have been initiated, providing desludging pumps to participants and a septic sludge treatment plant (Instalasi Pengolahan Lumpur Tina / IPLT) is under construction for the city of Banda Aceh and surrounding areas. Nevertheless there is an ongoing need to monitor the operation and maintenance of all the new sanitation.



5. Findings, Analysis and Discussion



In order to understand how projects have performed regarding Environmental Safeguard (ES) compliance it has been necessary to look at the whole project cycle; feasibility, design, implementation and monitoring. From a broader perspective, there is also a focus on the issue of ESn, a status that the RES argues, can only be established over time and with constant reflection on the context. This section will repeatedly refer to limited analysis in design and thus construction inadequacies, both of which then impact upon ES compliance. This section focuses on the key activity of infrastructure construction.

5.1 Strategic findings

The RES identified weaknesses in the implementation of MDF Environmental Safeguards across Aceh and Nias. While some projects have been implemented satisfactorily, overall there has been a culture of rapid deployment, which has in turn contributed to shortfalls in compliance. The WB's own Supervision Missions have repeatedly highlighted these problems as far back as April 2007.

A major partner for the MDF, certainly in terms of construction, has been the BRR and therefore that institution's approach, skills, response and culture has played an enormous role in the delivery of the MDF infrastructure program, particularly where co-financing of activities has the organisations coinciding and collaborating on delivery. Almost all the detailed findings that follow arise because the BRR faced political constraints that prevented it from effectively implementing ES. The political reality on the ground has overridden BRR's aspirations to implement the detail and spirit of the MDF safeguards.

Some Implementing Agencies (IAs) have responded promptly to concerns raised in Aide Memoires (AMs), for example AFEP and TRWMP. In the case of IREP, the Infrastructure Project Management (IPM) consultants did follow the advice of the AMs and recruited more safeguards staff, but the beneficial impact remains limited as their Planning Design Construction Supervision (PDCS) counterparts left the program. Knowledge of safeguards amongst site staff on many IREP/IRFF sites remains weak; incorrect and inadequate safeguards documents have been produced lately; and many unnecessary environmental impacts continue to occur³⁵.

Another issue that resonates through the findings is that quality compliance is a product of an integrated systematic approach and, without such an approach, ES will be the victim. A critical difference has been found in the effectiveness of ES delivery between those projects where partners are directly involved in implementation (e.g. UNDP) compared with where Partner Agencies contractually delegate the implementation including oversight to others (e.g. WB) while maintaining routine monitoring missions. It is recognized by numerous informants that the TRWMP has been one of the more successfully implemented projects in the post tsunami response, as a result of a greater profile and impact of IP skills at the field level.

The WB documentation, with some exceptions, can be described as being detailed and rigourous. However, the RES observed that such paper work did not necessarily ensure successful delivery of program activities in the field. As an Implementing Partner the UNDP, in the case of TRWMP, delivered a project in the field with excellence due to

³⁵ Box 11 in the Annex 1 and the Project Summary Sheet in Annex 2 provide more information on the findings from the review.

combination of factors including the presence of highly skilled professionals working along with all, facilitating strong collaboration with stakeholders, a situation which has, in turn, led to the successful handing over of the project to the relevant Dinas.



Low skill levels and the need for integrated and appropriate capacity building is a major issue and, while numerous organisations have contributed, there is a significant amount to be done. This issue can be best explained using the supply and demand analogy; the MDF and other donors have brought with them expectations regarding how projects and general interventions are prepared and implemented, however the review observed that there is not an equal demand for the collective package being delivered. Such a situation is difficult to resolve within a short time frame.

5.2 Overview of MDF Portfolio and Project

5.2.1 Application of Practices and Environmental Impact Assessment

Compliance is everyone's business. To ensure compliance, the private sector and individuals together should be in a position to be empowered and respond, but it was clear that the status of environmental awareness in Aceh, and particularly Nias, was very low.

The issue of quality in AMDAL EIA in Indonesia has been critiqued by numerous quarters, one of which appeared in the newspaper, *Kompas*, during the RES³⁶. The report alleged that even though AMDAL production commenced 22 years ago, most of the documents produced are inferior, the product of a lack of, or weak planning and reviewing, in the process. *Kompas* stated that AMDAL document content, of which 78% was deemed to be inferior, can be simply copied from other AMDAL's, with only the time and location changed. The report further cites a common uncertainty in documents as to which arm of government should be seen to be an effective watchdog or environmental supporter.

In an attempt to speed up the process of developing EIA's, a variation on the AMDAL law was created, and regularly referred to by the numeric title of the law; Regulation 308 / 2005 or '308'. This regulation was seen by a number of informants as having made negligible impact, and although EIA delivery was potentially reconfigured to be a more efficient process, the end effect was not seen to be due to any great modification of regulations. Additional observations by informants suggested that the documents were not comprehensive enough and that efficiency in delivery was '*simply a product of more consultants being involved*'.

Box A: Example of an Inappropriate EIA Practice

The North Nias Provincial Road (IREP project RR02) crosses a floodplain. There was no Environmental Assessment that had been conducted. As a result the initial road design was unable to protect the road from flood damage. The RES team during the field survey found that when a PDCS consultant proposed remedial works (raising the road by one metre) they were told that no budget was available.

In contrast to the informant's review of regulation 308, the WB recently completed a study on EIA in Indonesia which, although it delivered some negative findings, was positive on a number of issues. The WB AMDAL Study³⁷ addressed the core issue of adapting

³⁶ Reference: <u>http://www.tekmira.esdm.go.id/currentissues/?p=785</u> – *Isu Terkini* (current issues)

³⁷ Reference: <u>http://www.tekmira.esdm.go.id/currentissues/?p=785</u> – *Isu Terkini* (current issues)



regulatory regimes for environmental management to the changed circumstances of decentralisation. The study entailed a combination of analytical studies, regional pilots, and policy dialogue at both national and sub-national levels. Two province-level pilots (in West Java and East Kalimantan) investigated how the current centralized AMDAL system could be 'varied', so that priorities in different regions could be addressed based on specific environmental condition, the existing capacity of people and institutions, along with the needs.

Good environmental management assists decision making. It ensures that the best design options are selected, that designs are resilient and saves money by avoiding costly remedial works. Unfortunately the WB AMDAL Study found that many respondents viewed EM as an administrative procedure; *'a box to be ticked'*. EM was often started late in the project cycle, without sufficient safeguards staff, after the project budget had been set. As a result attempts to bypass environmental safeguards led to quite unnecessarily project delays. Variations that were clearly needed (to avoid imminent pollution events, and protect human life) could not be funded.

Similarly, the quality of some UKL-UPL documents reviewed was also extremely poor with incorrect site information and no detailed information regarding recommended management procedures. For example, Sabang Water Treatment works lies on a new earthworks platform, at the toe of a steep slope, next to a forest, alongside a river. Nevertheless the UKL-UPL denied that there were any rivers, forests or slopes nearby, and claimed no earthworks were taking place.

As compared to other Middle Income Countries, the WB study found that the Indonesian case study experience is weak in relation to environmental screening and EIA study content, but is relatively strong in relation to coordination issues, AMDAL review and public participation. However, to put some comparative context on the work, the study also suggests that EIA implementation remains characteristically weak across all countries.

One output of the WB report was a request by the Ministry of the Environment (*Kementerian Lingkungan Hidup – KLH*) which proposed that the WB collaborate on revising the existing policy and institutional framework for *AMDAL* and so a further study exploring reform of the *AMDAL* system in the context of decentralization³⁸. The aim of that study was to investigate how to make environmental impact assessment work more effectively in the newly empowered regions.

The reasons given in the WB AMDAL Study for much of the poor performance of AMDAL were:

- 1. Despite the substantial investment in environmental policy and staff development the actual implementation of rules and procedures was poor.
- 2. Many provinces and districts [across Indonesia] were making new interpretations of existing rules, or else developing entirely new regulatory procedures. While some of these innovations were seen to strengthen environmental controls, the study indicated that many relaxed them or bypassed national standards entirely.

³⁸ AMDAL Reform and Decentralization: Opportunities for Innovation in Indonesia (2005)



The outcome has been that there is potentially a more dynamic and flexible AMDAL system which can be applied from a decentralized perspective. However, it also explains why the RES findings of environmental negligence on the island of Nias. In Nias, environmental governance is often ignored as there is no BAPEDALDA presence. The RES has found that although the Provincial BAPEDALDA office in Medan has responsibility to approve AMDALs and UKL-UPLs for major projects, but in practice it has been found that few developers bother. In recognition of this situation, the UNDP offered to fund all the expenses involved for Nias based civil servants to fly to Medan for consultation with the BAPEDALDA office regarding EIA and UKL-UPL, but at time of the field visits there had been no limited response to the offer. On the other hand, the IREP/IRFF project has set a positive example by submitting its UKL-UPL documents to BAPPEDALDA office in Medan and gaining their approval.

5.3 Project Level Compliance during Design

Conceptually it has been found that the attention to detail by the WB documentation at pre-implementation stage is rigorous and is superior to that of almost all other donor bodies³⁹. There are inconsistencies as numerous PAD documents state that a project intends to follow environmental standards, without specifying which standards are relevant. It is difficult to measure projects objectively when they refer vaguely to 'following good practice'. There are a number of standards which have been cited as being in use:

- Indonesian National Standards and Gol Regulations
- World Bank Operational Policies and Bank Procedures
- ISO 9000 and 14000 standards
- Other national or international standards

The two outstanding projects in terms of compliance and response to the supervision system of the MDF / WB teams were the two projects categorised as "environment"; the TRWMP and the AFEP. Community Recovery projects also were seen to perform well.

With respect to infrastructure, considerable detail was put into the design of the 17 MDF projects. However, there was dramatic contrast with the approach taken by IAs as design of sub-projects was often very poor (with no justification, feasibility, cost benefit, outline design, poor EIA/EMP documents as an afterthought, and no EMPs). Baseline studies were notably absent from the MDF portfolio – an orthodox EIA methodology would identify the need to carry these out.

Engineering is recognised as a profession that adopts repeatable intelligent systems to foster, recruit and adopt new technologies as they assist systematic management of a situation. However, the engineering response in the IREP designs has generally been one that demonstrated limited innovation, with a tendency to rely on stock off-the-shelf designs generated undertaken remote from the site. Although and emergency response is not perhaps an appropriate time to be trialling untested technology, it is clear that the imperative to complete works at an accelerated pace meant adoption of innovative, appropriate, and well tested technology did not occur. In several instances, EIA and ESn compliance was applied after the implementation commenced, whereas best practice

³⁹ Details regarding the status of documentation are presented in Annex 2: Project Summary Sheets.

would recommend that good design was integral to the compliance process.



WB internal documents (e.g. Integrated Safeguards Data Sheets and Aide Memoirs) were generally thorough, but unfortunately their impact in the field appears to have been compromised. There was however, in some instances, no clear document trail and sometimes there were inconsistencies.

Box B: Two Examples demonstrating inconsistencies

KRRP:

The Integrated Safeguards Data Sheet (ISDS) claimed that an EIA is required, but it was observed that none had been produced as project components considered it too small.

IREP/IRFF:

Some sub-projects were recorded by the IPM consultants as Category A (requiring an AMDAL) but it was observed that a UKL-UPL had been produced (as if the project were Category B). When the RES team asked why no AMDAL had been produced, it was claimed that the project category had been changed at a meeting. However, no record of any such meeting, or authority to change project screenings, was found in the MDF documentation.

There was no central repository of information; and WB and site staff, are often unclear where information can be found. Supervision mission reports are thorough, most particularly on infrastructure but also on AFEP. However, their recommendations for infrastructure projects were not communicated well to field staff, and not followed up.

Field staff reported that WB Supervision Missions looked at construction issues and social issues, with considerable emphasis upon management, logistics and administrative issues, but did not examine environmental issues (hydrology, biology, geomorphology, geology). The AMs did actually document these issues, but their findings were clearly not communicated effectively to site staff.

The RES found that feasibility studies are almost non-existent, which, once again, was attributed to the need to hasten implementation. The absence of feasibility studies unfortunately resulted in the loss of the opportunity to systematically explore project design alternatives, assess possible location variations in site works, examine opportunities to introduce technological changes and, in short, avoid many negative project impacts.

Table 11: Site Selection and Quality of Practice

Good Practice

SKM

Options: Lhokseumawe drainage project carried out a thorough environmental screening of alternatives options. The project was identified with District Level Government who had strong ownership in the project. The IREP Environmental and Social Safeguards (E&S) specialist had strongly influenced project development, managing to change the layout of the works to preserve mangroves and a bird sanctuary.

Issues followed-up: The AMDAL for Lhokseumawe Drainage project was thorough and issues identified were followed up. For example, implementation was only allowed to proceed once a satisfactory, claylined site was found for disposal of contaminated sediments.

Bad Practice

Ignore the Importance of EIA: UNDP carried out a feasibility study of Port Redevelopment Options, and an UKL-UPL was prepared. However, the Bupati decided to change the port location at the last moment, a step which logically would require the commissioning of a new, site specific EIA. To the knowledge of several informants, this has not occurred.

Issues not followed-up: In Sabang WTW⁴⁰ the UKL-UPL was deeply flawed and bore no resemblance to the site in question; the document was not even written until 6 months after construction started. Effects on livelihoods, water resources and potential landslides were completely ignored. Chemicals will pollute the adjacent river and, as a consequence, damage the existing highly valued coral beds in Sabang Bay as soon as the plant is commissioned. Remedial works should be carried out urgently.

Table 11 highlights the importance of strong leadership prepared to collaborate with appropriate technical procedures which adopt feasibility, site analysis, attention to detail and logically argued advice based upon sound science. The RES found that, in the words of a number of informants, there is a low level of interest by politicians on the issue of the environment. This position reflects the generally low community understanding. The Aceh Governor's stand on the logging moratorium is therefore commendable, but there is a long way to go before the culture change necessary occurs across the community and in the civil service. In this respect, the RES finds the need to promote well informed dialogue on the issue of forest and natural resource protection in general.

It was found that considerable work is being done to change understanding and culture at various levels. For example, associated with the Governor's Moratorium in Aceh is a forestry design team, referred to as the TIPIRSK (*Tim Perencanaan Strategis Kehutanan*), which is assisting in developing strategy to realign the activities and outputs expected of the civil service.

⁴⁰ WTW (Water Treatment Works).



Water projects, on the other hand, would benefit from more resources planning before implementation commences, to avoid potential future usage conflicts. According to a Jakarta based consulting engineer with over 20 years senior field experience, some water resource planning was carried out by the ADB before the tsunami, but the conflict prevented access to many areas, and few projects could be implemented at that time. With free access and numerous water projects now underway, a comprehensive water resources strategy should now be developed.

5.3.1 Project Management issues

The RES examined project management issues from the point of view of documentation and then site visits. Both these steps offered findings featuring different characteristics.

Table 12 below outlines findings that are both positive and negative. While Finding 3 indicates that Implementing Agencies have carried out some environmental assessments, Finding 8 indicates that some project operators had never seen project EM documents nor did site supervision staff know who carried out the design.

Management associated with environmental compliance of donors other than the MDF was also variable in performance. Some donors constructed roads and ports without any environmental assessments, and most housing providers rebuilt housing estates without UKL-UPLs (which are, by law, needed if the area of the reconstruction site is greater than 1 hectare). On the other hand, donors such as USAID carried out rigorous environmental assessments and have been upheld as an example of best practice in Aceh.

There were some useful findings as to how documentation has contributed to compliance. The most significant was the repetition of messages from the AM's of WB supervision missions, and how there were, in cases witnessed by the RES, only minor changes as a result. This is not effective for the supervision process and no doubt for some PDCS consultants too. Some projects delivered regular scheduled reports, some did not, but the bulk of the materials delivered in reports focused on the management, logistics and administration, and the social safeguards of projects. Some built capacity and some did not. The IREP safeguards team in the IPM had additional staff hired as a result of the identified need. Annex 2 provides comparative sheets for the projects and these are summarised in a table at the start of that Annex.

SKI

Table 12: Documentation Findings from Site Visits

Doo Pro Fin RES	cumentation to assist eject Management dings from the S Site Visits	RP Nias	0	compak	WMP, Nias	MMP, B Aceh	MMP, Meulaboh	ang WTW, IREP/IRFF	II WTW, IREP/IRFF	ias Road, IREP/IRFF	ulaboh Rd,	ę.	Jaboh Port, UNDP	ang Port, UNDP	okseuemawe drainage P/IRFF	
No.	Findings	KRF	ЧР	Rek	TRV	TRV	TRV	Sab	Sigl	N N	Met	AFE	Met	Cala	Lho IRE	
1	The MDF/WB Operational Procedures are not well understood by field staff			Y	·			Y	Y				Y			
2	Some environmental documents (UKL-UPL, AMDAL, RKPL) required by MDF/WB / Gol procedures were not prepared	Y	Y					Y				Y				
3	IA carried out (at least some of the) environmental assessments in accordance with MDF/WB / Gol procedures				Y	Y	Y	N		Y	Y		Y	Y	Y	
4	No justification given for project environmental screening category & (in opinion of RES team) category might be incorrect							Y	Y							
5	IA assumed that as works were small scale & aspired to improve environment, no EM documents were required		Y									Y				
6	EM documents prepared too late in the project cycle to be useful	Y						Y	Y	Y	Y				Ν	
7	Useful technical guides not available to those who could benefit from them	Y														
8	The project's operator has never seen the project EM documents							Y	Y							
9	Site supervision staff did not know who carried out the design							Y	Y							
10	BRR has completed similar projects without any EM									Y	Y				Y	
11	Other donors have completed similar projects without any EM	Y		Y							Y		Y		Y	

= this statement was found to be directly applicable to this site

= the opposite of this statement was found to be directly applicable to this site

this statement was not a key finding for this site - i.e. it may not be relevant to this sector, or the project may not yet have reached this stage at the date of the RES

The significance of finding 2 on Table 12 needs to be tempered by the fact that environmental documentation requirements do relate to the size of specific projects. For example, as sub-projects proposed and implemented with the UPP financing are smallscale, site specific and community-driven with an investment of less than USD 5,000, none of them need UKL/UPL. However, the RES were informed by the UPP team that use is made of the negative list in preparation of any proposal. As is stated in the (UPP Aceh) PAD:



Most of the infrastructure investments consisted of minor road/bridge repairs, footpaths, tertiary drainage, and sanitation public toilets, which have contributed to improving environmental conditions in most cases. Any adverse environmental impacts under this project are therefore expected to be limited and highly localized, and these can be readily mitigated through the project's negative list or through standard operating procedures and guidelines. Environmental Guidelines/Checklist have been agreed and included in the Project Implementation Manual and Technical Guidelines of Infrastructure.

The screening criteria and negative lists were developed based on the WB and Gol standards. Such a step can anticipate potential environmental-related impacts and ensure that potential impacts will be addressed during the subproject implementation and beyond.



Table 13: Project Management Findings from Site Visits

		*Si	te vis	sits v	vith	this	find	ing								
Project Management Findings from the RES Site Visits		RP Nias	ЧĊ	ekompak	KWMP, Nias	tWMP, B Aceh	XWMP , Meulaboh	ibang WTW, IREP/IRFF	gli WTW, IREP/IRFF	Nias Road, IREP/IRFF	eulaboh Rd,	EP	eulaboh Port, UNDP	alang Port, UNDP	iokseuemawe drainage EP/IRFF	bastal Defence, Sabang
No.	Findings	X	5	Ř	F	Ē	F	ů	Si	z	ž	A	ž	Ü	≚ב	Ŭ
1	the contractor to implement					Y		Y		Y	N			Y	Y	
2	Project has good environmental planning regardless of whether or not an AMDAL or UKL-UPL was actually carried out				N	Y		N	Y						Y	
3	PDCS consultant unhappy with a BRR sponsored design, but cannot change it. In some cases the PDCS has formally withdrawn from sub-project design work.							Y	Y	Y						Y
4	The contractor sees a commercial benefit in EM to win more work									Y						
5	Acceleration of works by BRR is likely to cause contractual difficulties									Y					Y	
6	Investigations into the environmental sciences that were needed were not carried out							Y	Y					Y	N	Y
7	The budget is inadequate to complete the works in an environmental sound manner			Y				Y		Y						
Y = this statement was found to be directly applicable to this site N = the opposite of this statement was found to be directly applicable to this site																

= this statement was not a key finding for this site - i.e. it may not be relevant to this sector, or the

project may not yet have reached this stage at the date of the RES

Table 13 indicates a range of findings attributed to good management practices across the projects visited. This includes initiatives such as the budget being available for both the development and supervising the implementation of environmental management plans at site level. This is one of the most positive steps in the right direction and for a number of respondents a real watershed in the struggle to get EM on the agenda. Under such a regime, contractors have been willing agents in improving site management. A further issue of note was the demonstrated ability of the PDCS consultants to improve upon the design given to them. On the negative side it was observed that three projects did not have thorough investigation of a range of environmental science issues.

5.3.2 Negative List – No go



Various MDF projects had a "no-go" list to prevent unacceptable project impacts at the design stage. These included specifics that assisted in the "community recovery" category of projects (KRRP, KDP and REKOMPAK). An intention behind the list was to ensure, for example in the case of KRRP, that most of the money would be used to support locally prioritized infrastructure needs like drainage rather than engage in environmentally destructive activities. The negative list also placed a ban on MDF money paying civil servant salaries, or for the purchase of weapons. In contrast, the KDP and REKOMPAK projects feature negative lists that were more specific.

Box C: Bans Identified from a Combination of Two Negative List

- any activities within a nature reserve or any other area designated by the Government of Indonesia for the management and/or protection of biodiversity except with the prior explicit and written approval of the government agency responsible for the management and/or protection of that area;
- procurement of any products containing asbestos;
- procurement of pesticides or herbicides or activities related to the manufacturing using, storing or transporting environmentally harmful or hazardous materials and waste products;
- production, processing, handling, storage or sale of tobacco or products containing tobacco;
- mining or excavation of live coral;
- activities related to logging;
- expenditures intended for military or paramilitary purpose;
- civil works for government administration or religious purposes;
- water resources developments on rivers which flow into or out of other countries;
- alterations to river courses;
- land reclamation larger than 50 ha;
- new irrigation larger than 50 ha; and
- activities related to fisheries that are not in accordance with standards set by the Recipient's Fishery Service Agency.
- construction of water retaining or storage structures of capacity greater than 10,000 cubic metres.

While the above negative no-go list provides certainty in some areas, it did not recognise any distinction between areas of varying environmental sensitivity apart from the first bullet point item above, which is very non-specific, and assumes that there are no areas beyond those areas previously determined as being sensitive.



The RES has found contradictions between MDF projects. The same activity may be banned on one project, but carried out on another. For example IREP/IRFF projects (at Sigli and Sabang) carried out alterations to watercourses, an activity banned by KDP and REKOMPAK. In the view of the RES team, watercourse alterations may sometimes be needed, but they do require detailed environmental assessments (i.e. a full AMDAL) as there is considerable potential for negative impacts. Some project team members have argued environmental screening was a substitute for an AMDAL (it is not) Unfortunately AMDALs were never carried out.

The ADB ETESP program also aimed to spatially define "no-go" areas. Other BRR consultants (e.g. Sea Defence Consultants) produced hazard risk maps in an attempt to influence planning, but according to informants, these maps were widely ignored. One respondent offered that 'there was so much technical assistance activity and material available but although there were efforts at coordination, the tendency was for organisations to work in isolation. There was no tool to promote the good works of others – what you might call knowledge brokering. Such a mechanism was not understood and considering how things were being played out, would most probably have been undervalued'.

5.3.3 Comparison with other Donors

As has been outlined previously, the MDF Partners have been working in a challenging situation with many other donors. The constant shortfall for some projects has simply been how these safeguards manifest in the field. The RES has found that the MDF ES standards were as good if not better than most, but as one senior informant pointed out, you cannot get an *'accurate comparison of performance without actually examining the work of others using a closely controlled method'*. It was not within the RES ToR, nor in the resources to do this.

The ADB, also a member of the MDF but with a separate implementation program, applied its own safeguards while at the same time brokering a single step EIA / AMDAL system in collaboration with BAPEDALDA, one which would satisfy both the Gol and the in-house ADB requirements. The Aceh based ADB ESn office indicated that the ETESP project teams had grown in understanding of ES over the life of their program and that also on-site compliance had comprised a steady learning curve for some. This ADB experience is not unique as many organisations involved in construction during the response had not dealt with Standard Operating Procedures (SOP) or compliance with ESn before.

Two projects which were not associated with the MDF but which were drawn to the attention of the RES were the Calang-Meulaboh road funded and completed by Japanese International Cooperation Agency (JICA), and the reconstruction of the main Meulaboh cargo port funded by the Singapore Government and implemented with supervision by the Singapore Red Cross. It was identified by one respondent before the RES field work commenced that neither of these two large projects were required to complete an AMDAL/EIA. Both projects were therefore briefly reviewed by the RES field teams and both were observed to have had issues for which an AMDAL should have been required. The first of these, according to informants, is the Meulaboh Port for which an AMDAL/EIA would be mandatory under normal circumstances including size, expected use of hazardous materials etc, regardless of the fact that it was argued as simply a reconstruction; the port is of far greater size and capacity than previously, and informants have argued that greater detail should have been required at the design stage.

The second project was the new corridor for the Calang-Meulaboh road which established through existing forest vegetation and passes through a peat dome for approximately 3


km. Aside from the issue of contentious logging of existing forest cover, construction on peat domes is known to be extremely hazardous, leading to acid sulphate soils, which in turn can emit hazardous acidity levels potentially harmful to freshwater systems, and turning soils into a non-productive medium. This type of destruction is evident in other parts of Indonesia, where similar forest logging exercises were undertaken. From a technical perspective, the conversion of peat domes for construction is also technically illogical as the oxidizing soil profiles will exhibit ongoing subsidence and thus there will be a need to lock into a constant cycle of road maintenance. This issue again highlights the need for greater planning in design as there were clear alternatives for the position of this road which, it was reported, were not explored.

5.3.4 Environmental Management in Emergency Situations

The RES found that there is a need for programs to be developed to raise environmental awareness amongst the humanitarian community. It was considered that as a pivotal long term organisation in the tsunami response the MDF is well placed to support such an initiative. Although the ideal timing for such an exercise would have been during 2005, it would still be of value to support an appropriate Partner to develop such a tool. Areas relevant to the sectors in which NGO's are most active include issues of planning projects, investigating feasibility, understanding the systemic need for impact assessment and mitigation of possible effects. The following points summarize those issues:

- Positioning of projects to avoid environmentally sensitive areas;
- Disaster risk reduction in flood plains, coastal zones and landslide areas;
- Disaster resilient construction;
- Environmental impacts of construction;
- Waste management and improved sanitation;
- Water resources management;
- Agricultural development avoiding soil erosion;
- Improving forestry and mangrove projects;
- Raising International NGOs awareness of local governments' approach to environmental matters.

5.4 **Project Level Compliance with Safeguards at Implementation**

Some PDCS supervision staff claimed to have never heard of SOPs. In some cases, when they were prepared, they were widely ignored (e.g. at Sabang and Sigli Water Treatment Works sites). IRFF contractors reported to their supervising PDCS consultant that they would not produce SOPs (even though they are required under GOI law) as no budget was allocated for SOPs in their (BRR-drafted) contracts.

Some IREP PCDS supervision consultant teams were understaffed and key safeguards positions remain vacant. Site visits were infrequent and the quality of supervision suffered. One informant referring to the haste of much of the program offered that *'environment documents were invariably completed after the tender or construction phase'*. As a result, many EM recommendations could not be implemented, as designs and budgets had already been fixed. Completing EM documents late may be complying (in a compromised way) with the letter of the law, but is not within the spirit of the law.

Many UKL-UPL documents were of poor quality, and many bear no relation to the site in question; one highly experienced respondent offered that many AMDAL or even UKL/UPL's were, *'cut and paste documents, the product of a brief search on Google Earth*

and some clever re-arranging of names and dates'.



Some PDCS staff were unaware of what documents were needed for compliance with ESn and where the documents could be found. Several PDAM directors reported that they had never received copies of ESn documents for their projects that would be handed over to them.

In some cases the incorrect type of document was prepared (e.g. in the case of Sabang and Sigli water treatment works, UKL-UPL's were prepared for Category A and C projects – they are meant for Category B projects). In both cases it was claimed that the projects' environmental screening category was changed at a meeting, but no record of any such meeting was found in the MDF documentation

It was found from field visits that, in common with many NGOs, some partner staff interpreted that the small component size of the project exempts it from WB safeguards. In actual fact *PerMen* Decree 308/2005 states that all housing reconstruction sites over one hectare in area require a UKL-UPL. Few, if any housing organisations heeded this rule.

In UPP and AFEP, it was mistakenly believed that their aspirations for good environmental impacts exempt them from WB safeguards. Even projects such as AFEP that aspire to support environmental good practice may have project components that have potential negative impacts; (i.e. Aide Memoirs pointed out that building two aircraft landing strips would require UKL/UPL but to date these documents have not been made available). UPP's sanitation and drainage works may indeed provide some environmental improvements, but even more benefits might have accrued if they had followed the sanitation guidelines approved by BRR, BAPEDALDA and the sustainable drainage techniques promoted by ITB.

The focus on tangible outputs has caused wider safeguards problems for a number of MDF partners such as no socialisation or ownership, limited explicit emphasis upon livelihoods, shortfalls in operations and maintenance and thus overall compromise on project quality.

EM documents should address the environmental impacts of operations, maintenance and decommissioning. This was omitted on some IREP/IRFF projects (in particular water treatment works projects); little attempt was made to minimise fuel needed to run pumps; to evaluate alternative power sources and, in the case of Sabang WTW, no plan was developed to dispose of chemical wastes from the water treatment processes. In Sigli and Sabang, the works operator (PDAM⁴¹) reported that they had never received a copy of the UKL-UPL document – an unfortunate example of the limited sharing of information within projects,

One respondent suggested that large contractors can tend to have greater capacity and, as a result, are better positioned to successfully collaborate with clients that insist on effective Safeguards Management. In particular, international clients (inwards investors to Indonesia) may be keen to protect their environmental reputation. The RES team met one large contractor (working on an IREP/IRFF project) that was actively enhancing its environmental management skills in order to win overseas work. Small contractors, on the other hand, are unlikely to be swayed by such considerations.

⁴¹ Perusahaan Daerah Air Minum (Local Water Supply Company)



The RES found that there is already a culture of ES understanding, among some companies focused on activities such as road construction, so the standards are easier to apply in these situations. Funding to support upgrade of road specifications on Nias could also be found by shortening the road length. This is a very good compromise and makes a positive contribution the important issue of ESn. In the view of the RES along with a number of respondents, a short length of well built road – that survives the next rainy season – is better than a long length of road that is immediately washed away. Such economies are obviously not possible in all projects, particularly in component based works such as water treatment schemes.

Where appropriate, the RES team specifically asked about the WB supervision missions and the questions they asked on mission. At field level, the site staff reported limited or negligible questions from the WB regarding ES. This finding may be due to staff turn-over or people on leave when the field team visited, but overall it has been found that the messages and the commitment in ES reduces as it descended down the WB 'chain of command' to the field staff.

5.4.1.1 Role of Project Staff

All MDF projects interact with communities to a greater or lesser extent; whether they were direct beneficiaries as passive recipients or as employees, or as project facilitators. However, one IRRP contractor interviewed freely admitted that he would rather not engage with the community, and wished someone else could handle them on his behalf.

Some project personnel simply did not have the skills to work in a role that had them liaising with the public. In this regard, as two respondents offered in one meeting, 'the difference between a good project and a bad project can invariably be people' – 'yes it is the people that can make the difference, particularly in dealing with communities, and I have seen many unsuitable people here during my time'. This issue of people skills as being a generator of good project delivery was also referred to by a senior staff member from the BRR, when he pointed out that 'only 10% of the consultants that I have witnessed here have actually made a positive contribution – a lot just confused the work or were lost, not knowing what to do'.

A critical issue in ensuring sound implementation involves staff retention, and it was found to be a major difficulty for projects. IREP in particular had an ongoing and acute skills shortage. Only four safeguards specialists were recruited by the PDCS consultants and only one was still working at the time of this review. The WB office in Banda Aceh reported that PDCS teams should theoretically be adequately staffed, however the turnover, particularly of ES personal was very high. One informant considered that the *'project managers must learn to value their environmental specialists' skills and then they will retain staff'.*

5.4.1.2 Role of Communities

One message to the RES was that, combined with the operational approach of the BRR, the outputs of many donors, in the words of one respondent, 'never belonged to the people but was the domain of the donors'. Routinely it has also been reiterated by informants that to successfully develop local ownership, projects are reliant upon skilful facilitation. Facilitation not only establishes with the community a clear pathway for implementation, but also creates a dynamic communication link which strengthens the day to day operations. Without facilitation, projects which aspire to community involvement can fail, and ironically the feedback can be that outputs from these projects were not addressing the community's needs, an objective they specifically set out to achieve.

Individual projects had a different chemistry and the REKOMPAK, KDP and UPP projects, which were focused upon community recovery, in particular expounded the value of community facilitation and ownership. The implementation documentation, and the RES field visits found these projects to be well facilitated, fostering ownership and thus greater sustainability.

However, there can be various levels of ownership. It is acknowledged in contemporary development literature that communities can successfully play a major role in monitoring projects and ensuring compliance with social and environmental safeguards. Some NGO's (IOM) and ADB ETESP Package 2 successfully deployed community based monitoring to foster greater ownership and contributing to guality outputs. The RES found that KDP, AFEP and UPP were the only MDF projects which have explicitly sought community support in this monitoring role and KDP, which has a detailed structure for community monitoring including the "3-6-18" committees of women who monitor materials delivery; village cross-visits; and KDPs 'Community Oversight Evaluations'. KDP also originated community audits and community cross audits before the tsunami which has now been copied in other provinces. While the Community Recovery orientated projects like REKOMPAK mentioned previously fostered very good relations with the community, the MDF could have made greater use of the potential that community monitoring of projects could deliver. Such a concept aims to bridge the "hard" environmental approach to project delivery with that of a "community development approach. Unfortunately such a model needs time and steady facilitation, two things that were in short supply for many projects.

An associated difficulty is that good facilitators are in short supply. This issue is, in part, highlighted on Nias where, according to the WB team members, the KDP project has had a great difficulty in securing the services of capable facilitators. As the KDP is working with a Partner Gol agency, there is a need for salaries to be linked to the standard civil service categories. Under such a scheme, whether these facilitators are working in Nias or Jakarta, the base salary is the same with some "remote" benefit on the top. Generally speaking, facilitators are recruited from Java and it was explained to the RES that capable ones are in demand and, even though there is an estimated 18% bonus for facilitators to work in NAD, it would appear that as a group they are not particularly attracted to working in neither Nias nor Aceh⁴².

The RES found that the Gol civil service could better recognize the value of contributions by local people. Without the strong link to the community and socialization of messages that such skilled people can promote, many project activities can flounder. Socialisation can raise village and Desa level expectations, and there is a need to ensure that any commitments made can actually be met. Therefore there is an even greater reason to ensure that messages, relationships and commitments are upheld and it is only through sound facilitation that this will occur.

Communities can also be the receptor of environmental damage – they may lose land, water and forest resources. However the RES found that communities may have little interest in environmental problems – even when those problems are badly affecting their health. Some communities reacted constructively to environmental problems (for example, actively participating in waste collection) whereas in other cases their response could be more confrontational (e.g. west coast road demonstrations at BRR). It is a basic tenet that



⁴² For example, remuneration for a UPP facilitator in NAD is higher than other areas. Salary in NAD per month is IDR 2,900,000 (USD 290) and in non-NAD is IDR 2,400,000 (USD 240).

good socialization is the key to success and this is a function which requires clever facilitation. The changing of attitudes and involving the community simply takes more time.



BAPEDAL tried to set up a complaint service so the community has a point of contact. Such a move is a positive response but a high value should also have been placed on strong communication earlier in the project cycle. The RES team requested a focus group of local people in Banda Aceh to give their response regarding going to the Governor's office or BAPEDAL to collect free of charge information generated for their benefit. We were told that they were reluctant to ask for such documents,

Box D: Environmental Awareness

The RES has found that environmental awareness in remote communities remains extremely low. A respondent who has been working as an international consultant on the island of Nias reported that the community cleared the forest above their irrigation scheme, unaware that this might affect their water resources in any way. The community are now suffering from food shortages. Associated with addressing such a situation the USAID ESP project has been working with 2 communities to specifically improve understanding of how groundwater quantity and quality can be affected by vegetation, an input which goes a long way to highlighting issues around ESn.

5.4.1.3 The Role of Media

To assess the profile of media reporting regarding the MDF projects, a general search was completed of the newspapers and websites. The search also identified the information pages of donors and blog sites. This search was undertaken using key words including 'community recovery', 'recovery of larger infrastructure', 'rebuilding governance', 'sustaining the environment', etc. The tendency has been to see critiques of projects that have covered basic needs.

Hamdan, as the Coordinator of the Committee for Housing Rehabilitation, *Amanah Pusong Baru*, said on August 2006 that REKOMPAK was already commencing the socialisation of the program and promises to send a team for a feasibility study. But there was no action for the realization (Translated from *"Warga Pusong Pertanyakan Janji REKOMPAK"*, Serambi Indonesia, Rabu /31 January 2007).

The article "*RP 450 Juta Dana Pemeliharaan Pelabuhan Simeulue Ditahan*" notes that the UNDP as the partner as well as executing agency was collaborating with BRR on final development stages for the Simeulue port⁴³. The program had technical specification problems during the construction stage including engineering design for Simeulue's port which had a design weakness in determining the depth of foundation. That weakness affected the project schedule and also caused penalties to the contractor.

Much reporting has routinely noted community displeasure with the response. Interestingly this reporting has not attempted to dispel the prevailing community attitude that all problems are the responsibility of the BRR. The BRR offices have routinely had groups demonstrating, the south Nias office was burnt to the ground, and respondents have indicated that this has been a difficult issue for that partner organisation to handle. It would appear that although the media may make reference to other partners such as the UNDP, the community are not interested in understanding the complex relationships and joint partnership which has been a major component of the response.

⁴³ The article "Rp 450 Juta Dana Pemeliharaan Pelabuhan Simeulue Ditahan," (31/05/07) http://www.acehrecoveryforum.org/library/download/kliping_koran/B03/%5B310507%5DRp%20450%20jut a%20dana%20pemeliharaan%20pelabuhan%20Simeulue%20ditahan.pdf

5.5 Sustainability of the Environment



It is perhaps a reflection of the reconstruction context, and the limited mandate of BRR and its international partners, that the long-term sustainability of projects has been addressed in a variable manner. Some projects (such as TRWMP) have grappled with difficult issues of sustainability, and in particular communities' willingness to pay for environmental services. While it has been previously outlined that there have been a major step in the right direction through the funding of EM plans at the site level, unfortunately some IREP/IRFF sub-projects observed (Sabang) neglected to consider operational costs, and have not developed any plans on how to handle potential 'down stream' effects in a sustainable manner.

The structure of the Government of Indonesia's Project Management Units may not help the sustainability of infrastructure works. Works are designed by and commissioned by a works unit (SATKER⁴⁴) who may have little interaction with the agency responsible for operations and maintenance (e.g. PDAM). In many cases the PDAM had never seen project EM documents and were most concerned they could not afford to operate infrastructure that was going to be handed over to them.

Communities can also be the receptor of environmental damage and the sustainability of projects is in direct correlation with commitment and conviction by the community regarding outcomes. That is why awareness raising and empowerment is a critical element and this has been seen to require considerable more resources committed over time.

Appropriate project planning and design, with the assumed exploration of various options and technologies is certainly one method to strengthen sustainability, but it has been seen that only one of the projects visited actually benefited from extensive prior commencement review. Sustainability linked to project level financial resources is a key consideration for the sustainability of projects. Recurrent spending for maintenance of infrastructure can be a huge burden upon Gol agencies and unless a balance between income and outgoings can be established, will unfortunately contribute to project weakness.

In reference to finding 4 of the Table 14, it was mentioned by respondents from the TRWMP that it is perhaps misleading to indicate that the revenue collected directly from households is not enough to sustain the project. Whilst the statement by itself is correct, few waste management systems in the world operate entirely on direct charging. All districts also receive funding from the government and the TRWMP sponsored initiatives to increase household charging are intended only as a supplement to government funds and to raise both the level of service and awareness in the community. TRWMP sponsors construction of new infrastructure if, and only if, it passes a sustainability assessment and a written guarantee is obtained from the relevant Bupati to provide adequate operational budget over the long term.

⁴⁴ Satuan Kerja (Working Unit)

Table 14: Sustainability Findings from Site Visits

CV	

		51			urun	STITU	ing									
Sustainability Findings from the RES Site Visits		RP Nias	da	kompak	wwP, Nias	WMP, B Aceh	WMP, Meulaboh	bang WTW, IREP/IRFF	gli WTW, IREp/IRFF	Nias Road, IREP/IRFF	eulaboh Rd,	EP	sulaboh Port, UNDP	llang Port, UNDP	okseuemawe drainage EP/IRFF	astal Defence, Sabang
No.	Findings	Ϋ́	Ы	Ř	TF	Ë	Η	Sa	Si	z	ž	AF	Ň	ပိ	는 또	ö
1	Sanitation on MDF housing sites does not meet the standards adopted by BRR and BAPEDALDA in 2007.	Y		Y												
2	Facilities provided were not being maintained	Y	Y					Y								
3	There is a willingness to pay for environmental services				Y											
4	Payments raised for services are not enough to sustain the project				Y	Y		Y	Y							
5	The community are actively involved in composting and waste management activities				Y	Y										
6	The MDF project has caused collateral damage to other infrastructure	Y						Y		Y						
7	Project / RES staff report that better water resources planning is needed				Y			Y	Y							
8	Site infrastructure is likely to be damaged by environmental risks (e.g. floods, landslides)	Y						Y	Y	Y						Y
9	Contractors camp was dirty with litter and poor sanitation								Y	N						
10	Project implementation has only proceeded once serious environmental problems have been resolved							N		N					Y	
11	Poor quality work will lead directly to a pollution incident		Y	Y				Y	Υ							
12	The project has a negative effect on local livelihoods							Y								Y
* Noto	s on site visit numbering															

this statement was found to be directly applicable to this site

the opposite of this statement was found to be directly applicable to this site

this statement was not a key finding for this site - i.e. it may not be relevant to this sector, or the project may not yet have reached this stage at the date of the RES

5.6 Examining the Case Study Cross-Cutting Themes

The reconstruction effort combined with the ecological devastation caused by the tsunami was inevitably going to have a significant impact on the sustainability of Aceh's environment. Strategic management of these impacts was complicated by the large number of organisations running small projects. Strategic guidance was needed to mitigate their combined impacts, a point highlighted in early TA inputs (Bennett 2005).

The response required massive amounts of building materials, immediate management of the solid waste and debris from the tsunami, and, by default, the number of players



involved was found to be a logistical nightmare. One respondent from one of the major UN coordinating organisations offered that 'I was working 80 hours a week in Jan and Feb 2005, organizing the cleaning of the city, removing dead bodies and providing basic shelter and the last thing on my mind was thinking about environmental safeguards and/or BAPEDALDA. It was just not a time for thinking about these issues – in the context perhaps they are just luxuries'. It is understandable then that within a cross-cutting context, the profile of environment had to take a low profile and some respondents have suggested that it continues to occupy a lowly place in the minds of many.

Indicators reveal that some natural resources, both pre-tsunami and post, are in a disturbing state. For example, studies⁴⁵ indicated that without a dramatic change in practices, Aceh's in-shore fish resources will be seriously depleted within 10 years. It was found that there was unfortunately no effective co-ordination and no initiative to regulate NGO programs that were delivering assistance to fishing and aspire to ensure sustainability. Individual organisations simply built bigger, more powerful boats to replace those lost in the tsunami and it was widely reported through 2006 that dozens of boats were produced and handed to communities where previously few had operated.

As the largest donor, MDF had a unique opportunity to address these themes on behalf of the wider humanitarian community. In practice, the UNDP TA and GTZ took a leading role in managing Solid Waste and Sanitation, while the effects of quarrying for building materials was studied by GTZ (*Bennett, 2005*) and timber issues were addressed by AFEP and supported by ADB and the World Wildlife Fund.

In all these sectors there was a need to deliver practical solutions that could be implemented quickly, otherwise would be ignored. For example, the sanitation guidelines⁴⁶ included drawings and specifications that could be inserted directly into construction contracts are an excellent tool enthusiastically taken up by some NGO's involved in construction. But even relatively successful initiatives could be compromised when major players (such as BRR itself, UPP and REKOMPAK) did not follow the guidelines that BRR and BAPEDALDA promoted. UPP have in fact contributed to assisting infrastructure best practice to others by publishing a best practice book and placed infrastructure best practice on the UPP web-site. However, as a part of their site visit, the RES team found that, on the specific site they visited, the UPP were not following best practice with regards to sanitation, drainage and flood controls.

5.6.1 Forestry

There is no doubt that the issue of timber supply consumed a significant amount of the time of human resources in the response. Several key informants offered their thoughts on this issue. One was a senior staff member from the BRR and the two others were members of the Shelter Working Group representing two different NGO's. *"We did what we could to reduce the timber needs per house and pretty much that was all we could do". "What needs to be understood is that the issue was never environmental but political and at times blatantly criminal". "Timber was available but forces were at work to ensure that delivery was difficult". According to respondents and project workers in UPP, <i>'the problem is still there and the same powerful forces are at work'.* According to one respondent it could be considered naïve of project designers on Nias to allow more than a minimal use of timber due to the extensive variation in the quality of timber available (there are only a small number of tree species on Nias which yield timber for construction activities). An

⁴⁵ Long, B (et al) (2006) Marine and Coastal Resources Management Project

⁴⁶ Guidelines for the selection and implementation of sustainable sanitation systems across Aceh and Nias, GTZ et al

option for construction in this case could have been concrete block construction, which, according to the source, was not adequately researched.

SKM

Monitoring of the procurement procedures for the light aircraft in the AFEP project offers a clear example of the difficulties projects can experience in their implementation, most particularly when they are involved in the issue of monitoring illegal logging. Several informants were keen to mention to the RES team, and the message is reinforced in AM's from the WB teams, that for eighteen months two micro-light aircraft (purchased for effective surveillance of illegal logging practices over the Aceh forests) have been reportedly sitting in a customs warehouse in Singapore, presumably unable to move due to "incorrect paperwork". The RES are led to understand that this impasse is clearly not a Customs problem, but perhaps a determined manoeuvre to ensure these aircraft do not get to perform the intended work due to security issues. If such a problem cannot be solved, then the potential impact of the project itself would appear to be highly compromised.

The RES team visited the AFEP project team who provided some simple figures on the economic opportunity which besets villages. For (i) an illegal logger and secondly the (ii) trader who sells on the logs the practice can be very attractive. A logger can presently make approximately Rp 500,000 for one week or about Rp2 million per month. On the other hand a trader can make approximately Rp 20 Million or per month, a figure which was verified in the FFI Bulletin 2008. These amounts are well beyond the normal income opportunity for rural based community people. The work of AFEP is thus very challenging as the economic imperative is high. AFEP works with these communities and views them as both players and as a potential target group for wardens / forest guards' roles.

Some informants were vocal in outlining that the Gol department which is charged with both management of forestry timber production and, simultaneously, the protection of natural resources could be a victim of classic contradiction in purpose. The same department interprets 'protection' of resources as a link to tourism *'which manifests as a blatant money making exercise'* according to one informant.

Carbon trading potential for the forests of Aceh was being promoted in a very enthusiastic manner, though the potential is yet to be determined. The AFEP project in collaboration with others stakeholders was completing some initial exploration of this issue by gathering key baseline data concerning the resource. However, to be effective such work needs to be implemented with strong collaboration with those involved in cutting down trees.

There were examples of where "phantom projects" were able to clear forest which provides timber potential (e.g. development works for the *Calang* 'new town' has seen a large area of forest cleared). The *Calang-Meulaboh* road - generously cleared by the TNI⁴⁷ during the emergency period - passes through peat forest and is, at best, an example of over enthusiastic and perhaps ignorant support during the emergency response, or at worst, a fine example of *'how to successfully log the forest in the name of road building'*.

One respondent related to the RES that a WB mission completed the rapid post-flooding analysis on the east coast of Aceh during November and December 2007. The mission spoke with school children who lived in communities affected by the flooding. The children were keen to relate that the cause of the flooding was logging in the forests above settlement. The team checked the satellite imagery for the up-lands upon returning and

⁴⁷ Tentara Nasional Indonesia (Indonesian National Army)



found no evidence of logging, and concluded that generic messages were actually getting through to the classroom even, when in the case in point, there was limited factual evidence to support the children's claim. However, it may appear that messages linking the occurrence of flooding as a bi-product of logging catchments in uplands, a strong AFEP message, is getting through at the school level. Regardless of this positive anecdote, there is still a need to foster greater understanding of the need for forest protection.

5.6.2 Building Materials

In theory all building materials which were mined or quarried for use on MDF projects required an official permit. This included sand, gravel, site fill as well as timber. The harvesting of this material was a massive exercise – up to 2 million cubic metres of material would be required for 120,000 new houses. In theory, contractors' Standard Operating Procedures should have explained how they intended to source this material; however many contractors' did not produce any SOPs.

- In Aceh there are rules and regulations as to where and how you can extract from rivers, however no such rules exist in Nias; *Bennett* (2005) completed a Strategic Environmental Assessment (SEA) for management of the *Kreung Aceh* basin and found that while licences were to be issued for sand, gravel and river rock extraction there was limited supervision possible to ensure compliance and negative impacts managed. While Bennett foresaw the need for a master plan framework to contribute to improved management of the river basin, he also targeted the importance of a local action plan, one of which was to manage river quarrying. Unfortunately the RES team could not find any such local action plans.
- Site fill material has been excavated from numerous new temporary quarries (referred to as 'borrow sites') on land surrounding Banda Aceh and Meulaboh. Little evidence of remediation plans could be found for these sites (except for one site in Nias where a new church is planned). Best practice would require that former quarries are rehabilitated as a part of a 'whole-of-building-cycle' management approach. Examples of rehabilitation would be for quarry sites to be formed into wetlands or parks, a net positive environmental benefit.
- The use of the traditional clay brick was found to be less energy efficient when compared with concrete blocks.⁴⁸ Several publications have clearly stated this fact (WWF, ADB) but limited traction was given to support the active promotion of concrete blocks. Although some projects actively promoted the use of concrete blocks, others were more conservative, and without guidance and leadership stayed with the known 'high energy-use technology'.
- GTZ promoted production and use of concrete blocks through Architecture Learning Institute (ArCLI) although they were seen as a difficult alternative to promote due to a local negative perception that they were not a viable alternative and that transportation per unit is more difficult than clay units. However, at time of reporting, the operation has successfully seeded an NGO which is producing good quality blocks and making profit which is a very positive outcome.

⁴⁸ As per several independent estimates (ADB, WWF, FAO Forestry Consultant) it is estimated that due to inefficiency of the firing process, clay brick production requires 2.5 times as much timber used a fuel, compared to the timber requirements for a conventional wooden house.

SKI

- Concrete bricks were filled with sand in order to stop bullets a scenario unexpected by outside designers and a product of a war mentality. ILO changed their methods of mixing and applying asphalt to reduce negative environmental impacts.
- There were attempts to rationalise materials to minimise negative environmental impacts and a number of NGO's (e.g. WWF) were very active in promoting alternatives. Minimising timber use in building by introducing steel trussing has been positive but the KDDP project in Nias was still having difficulty obtaining even the reduced amount of timber still required. One informant who had contributed to addressing the timber issues outlined that the WB safeguards team had negotiated with numerous stakeholders, including the Ministry of Forestry to try to overcome the shortages of timber experienced, for example, by the UPP project. But when the field team visited Nias, there were still timber shortages. Although Nias is in Sumatra Utara Province, the Governor's Moratorium in Aceh was said to be a contributing reason for limitations in timber availability.

5.6.3 Waste Management

The Solid Waste Management (SWM) project, TRWMP, has been a success story of the recovery in terms of completion and adherence to safeguards. The project enjoyed high profile, efficiency of implementation, incorporation of work for community people and graduation to a well constructed land fill site. It resulted from the obvious need immediately after the tsunami and the fact that all the planning, design and environmental management measures was managed "off-budget', and the implementation was then completed on-budget with careful supervision and skilled TA intervention.

However, independent of the success of the TWRMP, the solid waste management program involved a wide variation in environmental standards. In Banda Aceh, many organisations co-operated to find interim and permanent solutions to the waste management problem. UNDP's site selection which was originally commenced by the GTZ was based on sound environmental criteria and gained the support of Kota Banda Aceh and Aceh Besar local government. Indeed, this project can be seen to be the product of many positive elements working together. Leadership, community involvement, achievable technical standards and appropriate levels of funding were all mobilized.

In Nias, at the time of the RES site visit, the Bupati was opening a new landfill site. This was occurring even though the RES team understood that the UNDP were in the process of selecting the most environmentally appropriate location for a new landfill. The site chosen by the Bupati, and shown to the RES team was considered inappropriate by the UNDP's field staff.

Polluted water supplies, dangerous fumes and other serious environmental impacts all occurred at the old landfill site on Nias, the product of negligible technical capacity in the civil service in the past. It was related to the RES that local government did follow UNDP's technical advice in so far as they agreed to close the old, unsatisfactory site. However, there were difficulties in selecting a new site that met the best environmental practice criteria.

Waste management on IREP/IRFF construction sites was also seen to be erratic. One IRFF contractor burns his waste, or scatters it around the site. In Sabang, a plan was not developed to dispose of chemical sludge generated by the water treatment processes. However on Nias, the IRFF road contractor was planning to reinstate their camp, and hand it over to the community as a site for a new church. This type of co-operation between the contractor and the community is exemplary and other contractors should be

encouraged to follow this example.

5.6.4 Sanitation



It was found that the REKOMPAK were not following the sanitation guidelines⁴⁹ adopted by BRR and BAPEDALDA in 2007. Poor quality septic tanks had been built from concrete rings – these invariably leak wastes which contaminate groundwater. No secondary treatment (such as leach fields or sub-surface flow wetlands) had been built, and grey water from kitchens enters the storm drains.

KRRP were also using concrete ring septic tanks and claimed to be building subsurface flow wetlands. However, to date, there are no signs of the wetlands actually being constructed on the KRRP housing sites which the RES team visited in Nias.

The sanitation on MDF housing projects falls well below the environmental standards set by BRR and BAPEDALDA at the Sanitation Conference in February 2007. Other organisations (such as IOM and IFRC) had shown it is possible to meet these standards in community based housing programs in Aceh.

5.6.5 Capacity Building

For many people in Aceh and Nias, the tsunami has brought positive change on capacity building through the interaction with the programs and projects from the collective donor activities. This has occurred mostly at the informal level but has also included a major program to strengthen schools, specific vocational training facilities for adults including ex-GAM, the university and the polytechnic in Aceh. Individuals have benefited through the interaction of a complex response and new livelihood opportunities have resulted. However, within this positive context it has been seen that capacity, in the broadest of sense, remains low in the civil service. Unfortunately this is the case also across the wider community, from management and administration and technical issues, there are in the words of one respondent, *'large gaps that need to be filled before there can be development'*.

For many there is a very low understanding of the core issues involved in the RES; the need to systematically manage environmental resources to ensure sustainability. The RES field work found that this deficit occurs at the senior and the lower levels of the decision making tree, across government departments, at the Provincial BAPEDALDA level⁵⁰ but also particularly at Kabupaten levels. As previously noted, Nias had negligible bureaucratic capacity on environmental issues, paradoxically a situation which, as a result of the push to decentralization, is difficult to manage. Due to the low understanding, the position and influence of environmental issues is very low.

During the course of the combined tsunami response, MDF and other donors have been responsible for a large number of TA missions dedicated to capacity building specifically on environmental issues. The TA's have been initiated by 'single sector' NGO's (ie Water Aid), the BRR, bilateral programs, multi-laterals as well as the MDF. The content of these TA's have ranged from strategic, project and sectoral planning, integrated exercises including coastal zone management, TA's for fishpond, coral and coastal forest

⁴⁹ Guidelines for the selection and implementation of sustainable sanitation systems across Aceh and Nias, GTZ et. al.

⁵⁰ Key informant involved in capacity building program in BAPEDALDA.

rehabilitation and revegetation programs, promotion of energy efficiency and alternative building materials, EIA/AMDAL production etc. One output from these TA's has been the volume of environmental and development information generated by MDF projects.

SKM

Some highly relevant literature on best practice for construction, which includes references to ES, has not been available at the field level. Correspondents suggested that this was because:

- the WB did not have enough funds to print sufficient copies of its 'Picture Book of Infrastructure – Good and Bad' for all its KRRP facilitators;
- guidelines on sustainable building materials took over a year to be approved by the donor by which time most of the building was complete;
- there were simply too many websites, with too much information available;
- key staff were too busy to attend co-ordination meetings and learn about the environmental initiatives of other organisations;
- information was provided electronically to government offices where there were no computers.

The best environmental information is of little value if it is not made available (in a suitable format) to the practitioners who need it.

Table 15: Capacity Building Issues from Site Visits



		*Sit	te visi	ts wi	th thi	s find	ling									
Capacity Building Findings from the RES Site Visits		KRP Nias	dd	Rekompak	FRWMP, Nias	FRWMP, B Aceh	FRWMP , Meulaboh	Sabang WTW, IREP/IRFF	Sigli WTW, IREP/IRFF	V Nias Road, IREP/IRFF	/leulaboh Rd,	AFEP	Aeulaboh Port, UNDP	Calang Port, UNDP	Lhokseuemawe drainage REP/IRFF	Coastal Defence, Sabang
	The community, with its different educational	-						07	07	~	~		~	Ŭ		
1	backgrounds, struggled to understand the MDF/WB Procedures.			Y												
2	Bupati selected project sites without regard for environmental studies carried out by MDF implementing agencies				Y								Y			
	Community members found to have little															
3	interest in environmental problems, even if				Y							Ν				
	Administrativo changos (o g. duo to															
4	decentralisation) can complicate				Y	Y							Y			
	management of environmental services															
5	The contractor is familiar with WB / Gol					γ		N		γ						
Ű	environmental procedures															
6	socialisation work	Y				Y		Y								
7	Co-ordination between Government Departments was weak & has adversely affected this project's sustainability				Y		Y	Y	Y			Y			N	
8	The IA has successfully raised environmental awareness in the community						Y					Y				
9	Unmanaged waste is present in and around the site						Y		Y							
10	Project information was on display and shared with local communities	Y											Y	Y		
11	The IA / RES team felt that the community would benefit from environmental education	Y										Y				
12	There is a shortage of staff with environmental skills in the project location	Y						Y					Y	Y		
13	The contractor has ISO 9000 and/or ISO 14000 certification								Y	Y			Y			
14	Local government officials have never seen any AMDAL or UKL-UPL documents in their careers	Y							Y							
15	Supervision consultants (PDCS) were not on site frequently enough (in their own opinion)							Υ						Y		

^{*} Notes on site visit numbering:

=

=

= this statement was found to be directly applicable to this site

the opposite of this statement was found to be directly applicable to this site

this statement was not a key finding for this site - i.e. it may not be relevant to this sector, or the project may not yet have reached this stage at the date of the RES

Table 15 presents a range of findings from the site visits. In many cases the RES team found that Gol agencies had had limited exposure to international best practice, but were interested in learning how things can be done better and how a responsive civil service could act.

Unfortunately many agencies did not know what specific documents are for, why they are developed and what to do with them. Changing the dynamic within Provincial and

Kabupaten levels of government is important and the fundamental resource, the people, requires skills strengthening. A culture of transparency and openness – encouraging civil servants to share information more freely – is also lacking. Local residents simply do not expect local government to share information with them.



One informant has offered that it needs to be recognised that community members in Aceh and Nias (and even for contractors) are more at ease with oral communication and learning than through printed material. For this reason he further offered that *'even some* of the best reports and relevant documents go unread. It is frustrating but that is the way things are'.

The RES finds that developing literature to assist in message dissemination can be a flawed exercise unless local knowledge and skills are used to communicate effectively. In particular the local language, Bahasa Aceh will be needed to communicate with many rural communities whose understanding of Bahasa Indonesia may be limited.

While clever use of graphics can help with simple message dissemination and skilled facilitation can foster community understanding and mobilization, documentation presents as another challenge. It is needed for technical specifications on many issues. As previously noted, the RES found that critical thinking skills regarding the need for EM has not had a high profile in Aceh and Nias and cultivating understanding will take time.

The need for a response to the additional capacity building requirements was a constant topic among key informants. An unstated, but implied theme has been the understandable but general lack of demand for the issues associated with ESn, ES's, and the broader quality control mechanisms used to apply them. Put simply, there is no demand for quality outcomes, including ES, due to a lack of awareness and the capacity to do anything about it.

One of the significant capacity building success stories occurred through the targeting of contractors with funds to support developing EMP's and employing technical skills to apply them. One correspondent reported that this was the first time in Indonesia that he had ever encountered dedicated funds being allocated to contractor's site environmental management plans. However, all the following environmental issues (mentioned below) have at their root cause a combination of a lack of understanding by those involved, contradiction within government departments regarding their role, inadequate governance to manage and a low threshold of community understanding.

- illegal logging⁵¹
- quarrying for building materials in rivers
- the presence of uncontrolled borrow sites
- the low profile of SWM in the smaller towns
- the general low state of sanitation

This whole picture is compounded by livelihood practices and opportunities for poorer more remote communities, and no awareness of the appropriate techniques and technologies which could make a difference. Building capacity is critical if such practices are to change.

⁵¹ Obidzinski & Suramenggala, Edmunds & Wollenberg, Kaimowitz

SKM

• While there may have been an improvement in processing there has not been a guantum leap in the guality of documents'

Approaches taken to capacity building as a function of the response, has been seen to be varied. The building of capacity to fast track the production of AMDAL within the

• 'anything has been better than nothing at all'

Provincial BAPEDALDA has received mixed reviews, for example:

 'Regulation 308/2005 was supposed to speed up the process – it has really made limited impact that I can see, documents may have been produced a little faster perhaps, but the quality of these is not good'.

As previously noted, an exhaustive study of capacity building needs was carried out across seven Kabupaten and two Kotas along the East coast of Aceh. This study aimed to assess in a preliminary way the particular needs at the Dinas level, and then conceptually devise appropriate programs. Apart from all the limitations in technical, administrative and management skills, it was specifically found that in all offices there was a serious lack of knowledge regarding environmental safeguards⁵².

There have been many short TA's to build capacity but 'without the benefit of long-term action based learning approaches where people are involved in an applied way, it will have small impact – the adult learning that is necessary has to do more than just fill up the vessels – there is a culture change that is needed, one should aspire to a civil service that actually makes a positive differences'. This theme of culture change was strong with contractors who preferred to employ labourers from outside Aceh due to the reported work ethic of local people. One NGO informant offered that 'along the West coast you can predominantly see a subsistence level of livelihood and it has not conformed to workplace routines'. For example, one informant offered that 'a combination of factors have contributed to agriculture activity of low productivity; the civil war, a stagnant economy pre tsunami, but most of all the low capacity of people – anyone with any initiative got out during the war'.

The RES was referred by several informants to the high commendation that has been given to the GTZ program which is working at the Kota level in Banda Aceh. This program has placed importance upon 'building a demand within the civil service to provide improved skills and services'. The course has offered an intensive Masters course in public administration.

⁵² Capacity Building for Economic Development Programming, Planning and Management of the Project Cycle – A Recommendation Approach for the North and East Coast Region Local Governments, East and West Coast In Infrastructure Development Program. (2008) ADB, Manila.

6. Summary: Analysis and Discussion



Section 6 provides a summary view of the key findings, and discusses these to support subsequent conclusions and recommendations.

6.1 Background

The political imperative to 'do something' to maintain the peace momentum must be acknowledged. In that sense the recovery was a success. A large amount of work has been done in a relatively short period of time⁵³. Despite the challenges encountered during the emergency response phase, inputs on a massive scale were implemented over a relatively vast and at times remote and narrow geographic area in what has been described by one informant *'under a politically very uncertain situation'*. It is clear that kudos has indeed been earned by all stakeholders involved in this rehab/recon effort, both in NAD and Nias.

Permanent houses built	114.281 units
IDPs that still live in barracks	1.471 HH
Health facilities built	810 units
School facilities built	1.090 units
Teachers trained	26.538 people
Roads built (all types)	2.596 Km
Bridges built	255 units
Airport/air strip built	12 units
Ports built	19 units
Small medium enterprise supported	117.193 units
Religious facilities built	1.649 units
Source: BRR, 2008	

Table 16: Aceh Nias Recovery Progress, 31 July, 2008

Table 16 details the significant achievements of the combined post tsunami response. There are problems cited in this report but there is no doubt that there has been remarkable achievement as well. Many questions about quality and sustainability remain. Some see this as inevitable in the circumstances, suggesting that the best approach now is to discreetly carry out all the remedial works required. Other donors are presently engaged in remedial works and resources are in place, and the MDF too could consider how to enable a remedial works program. Indeed, certain RES correspondents saw remedial works as inevitable in this type of disaster response scenario – and they can be sensitively presented as a 'project enhancement', 'project strengthening' or 'a new project phase' as appropriate.

⁵³ BRR website http://www.e-aceh-nias.org/home/

6.2 Environmental Management and Documentation



A number of respondents did not understand the usefulness of Environmental Management as a process to improve project and programme designs. WB documents (e.g. Integrated Safeguards Data Sheet) note whether or not a safeguard is triggered. They do not state whether the documents required to manage that safeguard have actually been produced. Even when the documents are produced by the IA, they can be so inaccurate as to be worthless.

Many AMDALs / UKL-UPLs were prepared late in the project cycle (some after construction had started) making it impossible to correct poor planning or feasibility errors. Opportunities to optimise projects and avoid / mitigate / compensate for environmental impacts were frequently missed as a result (e.g. Meulaboh Port, Road RR02, Sabang WTW). Environmental problems later emerged during detail design or even construction, causing additional budgeting and contract management problems that could easily have been avoided.

There is minimal transparency in EM in Aceh and Nias. Consultants and contractors' staff are unaware of safeguards which were rarely, if ever, communicated to communities. EM information could be freely available on village notice boards and on the Internet.

Community based monitoring (as successfully applied in both the AFEP and KDP) can be very effective but has been unfortunately under-utilised. Community monitoring of infrastructure could supplement overstretched PDCS supervisors. While seasoned engineering staff may baulk at such an innovation, it has been extremely efficient on infrastructure projects elsewhere in SE Asia.

6.3 Lessons Learned from Environmental Sustainability Practices

The ESn practices of different donors were highly variable. Most bilateral organisations (e.g. USAID, JICA, GTZ, AusAID and the Singapore Government) worked "off-budget" and maintained more control of their programs, something that the RES observed as offering large advantages toward some but not all environmental sustainability goals. This enabled organisations like USAID and GTZ to enforce rigorous safeguards compliance on their projects. However, in contrast to the JICA funded section of the west coast road, the USAID has faced many delays as difficult land and environment issues have been dealt with.

JICA and Singapore Govt. may not have followed such rigorous environmental management standards, but were able to deliver new projects rapidly (such as Meulaboh Port and the Calang-Meulaboh road). These two projects were completed without EIA's or AMDALs, which may have contributed to their speed of implementation.

The MDF worked in Partnership with the BRR in the spirit of the Paris Declaration on Aid Effectiveness. Major WB projects were "on-budget" with contractors paid following an authorisation by BRR. This gave BRR authority over project management and constrained WB's efforts to enforce safeguards, as. RES found that the contractors were sometimes paid even if they did not apply environmental safeguards. There could be more effort in linking contractors' payments to effective safeguards compliance. One interviewee described this as *'the Bank working with one hand tied behind its back'*.

The lessons learnt from regarding ESn practices is that a number of projects have demonstrated what could be interpreted as a strong first step in the right direction by having budget to commission and supervise the implementation of EM plans for specific sites. As far as could be ascertained, this is a first within Indonesia and something which

has raised the issue of quality control and standards as they relate to the environment in particular.

SKM

A resonating lesson learnt throughout the combined response to the tsunami regarding environmental concerns is that achievements, small and large, take time. The RES has interpreted that so much of what has been occurring in the various projects incorporates either explicitly or implicitly the phenomena of capacity building and associated with this theme is that for many involved in the post tsunami response it was from a situation of limited experience in similar programs.

A further lesson to learn is that to ensure ESn in projects is a complex issue, supported in a large way at the field level by ESn and compliance with it. However, a further and crucial lesson is that much of what has been observed in the name of ES has been "supply driven' (ie donor driven rather than as a result of a demand from the community or agencies), a characteristic that does not unfortunately contribute to ESn.

6.3.1 Sustainability by Involvement of People

Under the conventional Gol project design system, beneficiaries might suggest the need for a project, but may have little involvement in its design, construction, testing or environmental management. The works are then handed back to the proponents on completion. Under such a system, the operator may have insufficient funds to complete or operate the works and numerous projects – in particular IREP WTW projects - are unfortunately in such a situation.

IAs must engage more fully with project beneficiaries (e.g. PDAM), even if the latter are not part of the formal GoI project management system. To facilitate sustainability, beneficiaries should always be involved in the EM of any project.

Links between ESn and other sectors were not well understood. Issues such as choice of building materials were handled well by the BRR (use less timber) but on Nias – KRRP faces the dilemma that people want timber houses but timber was and is in a very slow supply pipeline. Concrete block was an option but unfortunately do not seem to have been successfully promoted in the name of ESn. Overall, but for a few vocal but influential people, EM was considered a 'luxury'. What is not understood is that poor EM invariably leads to financial, livelihood, social and safety problems.

6.3.2 Development of Sustainability Indicators

As has been previously noted, the literature on the topic if ESn measurement, even at the MDG level, is considered difficult and problematic. It follows that the shorter the time frame, the greater the challenge to obtain accurate data. Regardless of the international agreements, standards or regulations, attaining levels of ESn is a goal that is simply difficult to definitively measure and achieve in the short term. In a situation of so much concentrated activity over such a short space of time it is even more difficult.

Indicators however can show trends and the RES finds that there are many positive signs of change on the horizon in NAD and Nias regarding ESn. Sustainability indicators that could be helpful over the next four years could be:

1. **Sanitation:** The percentage of sanitation facilities introduced as a part of the tsunami response, regardless of the donor, that have been rigorously checked to ensure they are not contaminating groundwater nor creating a health hazard.

2. **Maintenance:** The percentage of MDF infrastructure projects which are well maintained by teams of local people who have the know-how and the appropriate resources at their disposal.

SKM

- 3. **Facilitators:** The number of articulate, well remunerated and mobilised facilitators who work with the teams performing the above 2 tasks to outline to the community why this work is being done.
- 4. **Livelihoods:** The number of alternative jobs or sources of household / food security that are created for people whose existing livelihoods are dependent directly or linked to exploitation of logging and forest resources.
- 5. **AMDALS:** The number of AMDALS that are produced which have a determining influence upon the position, the size, the quality and the technology used in given projects.
- 6. **Environmental Education**: The number of people in urban and rural areas who have changed their understanding and opinions regarding the importance of environmental issues as a result of a well crafted, comprehensive, household and community based program of information sharing and awareness-raising which is linked to explaining both local, national and international issues.

6.4 Lessons Learned from Safeguards Compliance at Project Level

It is clear that documentation concerning environmental compliance cannot be looked at in isolation from implementation. Good WB documentation systems need to be followed up with good safeguards implementation on the ground. WB officers in Banda Aceh outlined that a conventional WB loan would see almost complete delegation of responsibility for project delivery to IA and then contractors. In a situation of low capacity like Aceh and Nias, the WB increased the number of technically skilled personnel but the RES has found that this innovation is operating at arm's length from the compliance difficulties.

There are dramatic differences between the attention to detail and rigorous design of the majority of the MDF program, particularly when compared to the minimal attention to basic details (including ES issues) that went into the design of many sub-projects. It is clear some of WB's partners did not see the merit of feasibility studies, options assessments or environmental safeguards. The counter position by senior staff at the BRR is that '*local government was always expected to play a role in completion of projects*'. Many respondents however concur with the ADB east coast study of capacity building needs that Kabupaten skills are extremely low.

6.4.1 Safeguard Strengths at Project Level

It is logical that contract packages need to be large enough to be attractive to the construction community and the larger companies have been seen to be more conversant with safeguards. One of the larger IREP contractors in Nias was promoting environmental management in order to win overseas work. The company recognized that by raising their standards they would enhance their reputation and commercial opportunities would follow; subsequently the same company is now bidding for their first overseas project.

As previously noted under Lessons Learnt, by funding of EMP's and providing technical skills, it has been found that the best IRFF sub-projects could act as a catalyst for improving EM skills in Indonesia. Certain contractors and their staff are applying EM for the first time on MDF projects, which is a highly commendable achievement



Where there was a clear and urgent need for a project – such as SWM – stakeholders have come together and delivered a successful project. TRWMP can be seen as one that conceptually benefited from a balanced supply / demand equation. A virtuous cycle exists when a program such as TRWMP promotes it services to the community who respond well, contributing to the program's overall success.

In contrast, when environmental services are not promoted to beneficiaries, they remain uninterested and environmental problems persist, and the project is not sustainable.

6.5 Lessons learned from Safeguards Compliance at Portfolio Level

- MDF wanted to follow safeguards, but due to the political pressure, BRR instigated the rapid delivery of outputs. As such, this operational climate makes it difficult to address safeguards appropriately.
- Good environmental management follows from enlightened political leadership and a community that is knowledgeable, has a voice and is not prepared to accept low standards. These preconditions were not in place in Aceh and Nias.
- Too many managers view safeguards as a bureaucratic procedure rather than a tool to improve the quality of their projects.
- Few IAs regard EM as an integral part of their work (ILO is an exception). Even though EM is required under Indonesian law, contractors will only comply if they are paid extra.
- Offering funding for environmental management in IREP was considered to be one of the most positives steps in EM in Indonesia for many years.
- There is widespread misunderstanding of ES at the field level. Without feasibility studies the geology, hydrology, the flora, climate, habitat and terrain are rarely examined. When such a study is completed, a window is immediately opened to the complexity of the critical considerations required to manage the environment.
- Invariably environment is still seen as a 'no-win' situation (delays, costs, bureaucracy) not a 'win-win' (better quality, more sustainable, healthy, long term cost-reduction).
- Funding for environmental restoration, protection and management remains one of the biggest gaps in the recovery process⁵⁴

6.6 Staff

EMPs are only useful if there are sufficient skills available to implement them (e.g. soils testing may be specified, but there may be no soils scientists available to carry out the tests). Sufficient budgets must be allocated to recruit specialist EM professionals.

It is clear that there was a high turnover of skilled professional staff consultants on some IREP projects. As a result knowledge was lost, compliance records were hard to find and environmental management suffered as a result. This was exacerbated when PDCS firms were rotated and little institutional knowledge remained. The RES enquired why staff, particularly ES staff, were changing, and why people had been resigning. The informants

⁵⁴ Reference: <u>http://e-aceh-nias.org/upload/Pendanaan%20oleh%20Multilateral30102007104326.pdf</u>

mentioned that the positions were very difficult. Theoretically there were sufficient PCDS positions to adequately supervise the projects. However with so many positions vacant, site supervision and environmental safeguards standards inevitably slipped.

SKM

Clearly there was a need for better human resources management which includes; a) recruitment of more skilled staff, b) having adequate resources (time, money and respect) to work successfully in a post-conflict, post-disaster situation, c) better manage stress levels, and d) human resource policies could focus on staff retention.

One PDCS staff stated: "we just build things according to the drawings - we are responsible for supervision only, not design". EM compliance cannot be taken for granted in Aceh and Nias. One correspondent did not see the need for environmental management because 'a good engineer would know that" and that 'we don't need environmental specialists to tell us our job'. However the RES found that a professional person should not automatically assume that others will always be motivated to address environmental issues.

Overall there was a strong conservatism regarding the acceptance of technologies and approaches that were highly appropriate and have been successfully applied elsewhere. Some correspondents felt that this was not the right moment to test new ideas, ideas that would for example contribute to greater ESn or cut the demands on budget. Others saw opportunities for a "new beginning," rebuilding a society anew; but their vision gained little support.

6.7 Remedial Works

Many problems arose from BRR commissioned designs which were weak. As 80% of the IREP sub-projects have not yet been completed at the time of this review, there is still time to review designs and make necessary changes.

MDF housing programs (REKOMPAK and KRRP) do not meet BRR and BAPEDALDA agreed sanitation standards but remedial work could easily be applied using the community based model.

The quality of AMDAL's and UKL/UPL's must improve. Greater rigour and peer review of the actual documentation is required. One EM document developed for IREP Sabang Water was simply incorrect in much of its detail, because the writer never visited the site.

6.8 Longer Term Impact of the MDF

There are many reasons why the future can look positive for Aceh and Nias. The levels of support from external donors theoretically can provide the community with infrastructure that will make a critical difference. At the same time, from an environmental perspective, there is a very positive climate emanating from the Provincial governor's office in Aceh. If this enjoys the success that is warranted, the province could become a positive beacon and a leader for Indonesia, demonstrating how a community can respond to the environmental challenges of the early 21st century. The 'Aceh Green' plan combined with the Moratorium on logging, means that this Province will be committing to some sound directions.

While there are a great number of capacity building needs, any programs will take time to accomplish the enhancement of skills and cultural shift that is required. Sustained and a systematic commitment is what will be required to foster change.

Strategically the Province of Aceh and the island of Nias present as two extreme case

studies. Aceh is the victim of the civil war and the loss of skills, without limited interaction with the rest of the country. Nias is a typical example of a remote island, with governance challenges undermining much of the best efforts of donor programs and their explicit and necessary environmental agenda.



The MDF is well placed to give consideration to finding greater synergies with the evolving 'green' movement in Aceh, and at the same time, is aware of the expected governance project proposed for Nias. Significant achievement will take time but positive preconditions are present.

The particular themes which are most appropriate for any future programming include livelihood development, environmental rehabilitation and sustaining (rather than building) new infrastructure.

SKI

7. Recommendations

Section 7 concludes this report and details the recommendations from the RES team. These recommendations are outlined following four themes: Emergency Versus Development; Portfolio & Project Management; Capacity Building and Future Initiatives – Portfolio & Project Level.

7.1 Summary Conclusions

- The operational environment facing the MDF has been one that has needed to encompass both 'emergency' and 'development' challenges. The context of the response has included many organisations and many differing interpretations of priorities. The post-conflict legacy in Aceh Province compounded many issues. In a situation of massive rebuilding and rehabilitation, environment per se, has not been seen by all to have a high priority. For many organisations which have been contributing to the response, monitoring and cognisance of environmental impact has not been an issue. The contribution by the MDF in promoting the importance of ESn was found to have made considerable inroads into the culture on some building sites, has in some projects strengthened community awareness and, in a situation of very low capacity, aimed to stimulate broad recognition by Gol agencies of the importance of ESn, specifically by adherence to ESn, but they have been a steady influence in the achievements to date.
- It was found that compliance with ES cannot be looked at in isolation. The "crosscutting" nature of environmental issues introduced a level of complexity that has been part of an ESn learning curve which for many, including people and organisations associated with the MDF and those beyond.
- The RES finds that there has been an imbalance in the 'demand' for the goals of ESn, as opposed to the 'supply' of processes to assist achieving it. Given the context this is understandable. However, the process of securing ESn goals in program delivery will benefit from fostering a greater recognition of the importance of environmental issues, and how these issues manifest at the local, provincial national and international level. Given the post-conflict situation in Aceh Province, it is found that there has been a considerable gap in environmental awareness. Nias was found to suffer due to other influences including the results of geographic isolation. Sustainability was found to be linked to applying prescriptive ESn at the project level, combined with longer term programs that seek to cultivate changes in knowledge, attitude and practices (KAP) at Gol, private and community level.
- The MDF response was extensive and generally successful, given that program implementation occurred within a highly challenging context. The political and social demand on the BRR to deliver quickly and, at the same time perform the role of coordinator of over 600 organisations, was found to be a considerable constraint in the realization of comprehensive environmental safeguards compliance. The low capacity of the community and civil service within NAD and on Nias Island regarding environmental issues was also a contributing impediment to safeguards compliance.
- The positive side is that the MDF will now continue until year 2012. This offers time to recognise the existing limitations and to apply appropriate measures to improve the overall performance of projects, with suitable emphasis upon environmental safeguards. Implementation will now need to graduate to collaboration through

national partners to agencies at the Provincial and District levels.



- Subsequent project initiatives can graduate from the present "emergency" status to one of an integrated more rigorous development approach. This will apply design and compliance standards that aim to achieve higher quality outputs, and incorporate greater capacity building and "community development" models.
- Since April 2007, the WB Supervision Missions have identified serious problems with the Environmental Safeguards management of projects. The Supervision Missions have also repeatedly made recommendations to resolve these problems. In a number of situations cited, no effective action has been taken to implement the recommendations of these supervision missions. Compliance with ESn cannot be looked at in isolation. The "cross-cutting" nature of environmental issues introduced a level of complexity that has been part of a learning curve for many.
- BRR has been time and a resource constrained, and therefore has not implemented ESn in some projects, such as the IREP Water Treatment Works in Sabang and Sigli, and part of the North Nias Road (IREP Sub-Project RR02). There has been a variation in emphasis by some partners regarding ESn. On the one hand there appears to be too many tiers of players in project delivery, and paradoxically on the other, there is not enough skills at the project level to ensure ESn delivery.
- There needs to be fundamental agreement on the value of safeguards between the MDF and its future co-financing partners. If this does not occur, the specific recommendations outlined in this section will be difficult to implement. This includes agreeing that ES will be given prominence as a part of project feasibility studies and the decision making processes, and thus be integrated into project planning from the very start of the project cycle.
- There have been great strides in ES compliance as a result of the specific funding and technical support given to production of EMP's at the project level. However, this alone has not addressed all problems.

The recommendations which follow are outlined following four themes:

- A: EMERGENCY versus DEVELOPMENT
- B: PORTFOLIO & PROJECT MANAGEMENT
- C: CAPACITY BUILDING
- D: FUTURE INITIATIVES PORTFOLIO & PROJECT LEVEL

7.2 Emergency versus Development

There are no ongoing MDF projects that could genuinely be described as 'emergency' work so long after the tsunami. Many of the stakeholders consulted during this review referred to the pressures to deliver during an emergency, post-conflict situation, and how this was not conducive to thorough and rigorous environmental management. However, it was clear that there were several instances where environmental procedures were bypassed, and critical design issues were missed. As a direct result, project budgets were underestimated and the ensuing contractual problems led to significant delays. As the MDF program moves into medium and long-term development work, time and resources will become more readily available, the MDF and Gol's safeguards should be applied more rigorously.

A1: In future and ongoing projects, there is no longer need for an emergency frame of reference. Full project cycles should therefore be followed from planning (including feasibility), design, safeguards, socialization, deploying community monitoring mechanisms and the building of capacity across all stakeholders.

Most environmental international NGOs work in advocacy and few organisations have any practical experience of environmental management associated with construction at the project level. Awareness of practical measures that can enhance the ES component of NGO field programs has been found to be very low, although some larger NGO's admit to having learnt huge lessons as a result of the tsunami response. Of the 522 active agencies which were recorded as being involved, few organisations would claim to have systematically identified their projects' environmental impacts, and actively manage their work to avoid, mitigate or compensate for negative impacts. The interviews with several informants, including those from international NGO's and UN coordinating bodies involved in the Shelter Working Group verified that the few managers who have heard about environmental safeguards regard the process as a bureaucratic hurdle and do not understand how to integrate ES into their programs to improve performance.

Over the course of the tsunami response in Aceh and Nias there have been lessons learned by all organisations and individuals. Indeed, a number of informants including senior BRR staff members offered that along with their achievements the lessons learnt have been significant.

A2: There have been significant lessons learnt by the MDF and other agencies concerned with environmental management within the emergency response. Consideration could be given to preparing a set of standards for 'Environmental Management in Emergencies' complimentary to the Sphere Standards (an internationally agreed set of standards for disaster response programs) in ongoing and future projects.

A3: The programmatic themes recommended to strengthen the shift from emergency to development include a strong emphasis upon livelihoods based upon addressing environmental issues, capacity building, environmental education and awareness raising. Specific projects could include livelihood benefits based upon forest protection and conservation including ecological restoration.

7.3 Portfolio & Project Management

Greater rigour is required in project designs which incorporate feasibility, optioneering55, site analysis incorporating use of environmental data, detailed design and peer reviews. In many cases consideration of all different design options would have led to significant project cost savings, as well as better environmental management. It is invariably cheaper and quicker to avoid environmental problems than attempt to rectify mistakes after the event.

The need for Environmental Safeguards should be drawn to the attention of all MDF contract tenderers. They should be reminded that these safeguards are required under the Laws of Indonesia and asked to confirm in writing that they intend to implement them. Tenderers should confirm whether their overheads (e.g. for mobilisation) include the necessary costs for implementing safeguards, otherwise a specific sum should be agreed for EM. This sum should only be paid by the client once the contractor has completed



⁵⁵ Optioneering is a term used increasingly in industry when management needs to be confident of a course of action and applies a process of evaluating alternatives)

EM. Funds already allocated for EM should be audited.



Remedial works are urgently needed in some projects (especially in IREP) to prevent imminent pollution events, safeguard human life and ensure sustainability of the works. Funds should be made available for the necessary variation orders, if insufficient funds were originally allocated. ES best practice would suggest that where EIA's / AMDALS, UKL/UPL EMP's have been completed, these should be made available to the public in the interests of transparency.

B1: Improvements can be made to project (i) Planning & Design, (ii) Tendering (iii) Transparency, and that (iv) Remedial works should be carried out urgently, within the ongoing MDF Portfolio.

The detailed document review showed that generally, the quality and quantity of project documentation varied considerably between MDF projects, and many inconsistencies were found within the documents. Project documentation should clearly state which environmental standards against which the project will comply. Reporting frequencies within one project can be erratic (e.g. on the Banda Aceh Flood Mitigation Project), and different documents might not be consistent about (i) name of the project, (ii) quantity of deliverables, (iii) project emphasis, (iv) environmental screening categorisation, and (v) responsibility of different actors for different project phases.

B2: Greater consistency should be applied to the MDF project documentation and the PADs should state specifically which environmental standards the project intends to follow.

When a large project like IREP has numerous sub-projects, commitments have been made to recruit consultants to carry out detailed AMDALs or UKL-UPLs for each sub-project. However, the quality of a sample of UKL-UPL documents in the MDF portfolio was found to be extremely poor (e.g. IREP Sabang Water Treatment Works).

B3: All UKL-UPL and AMDAL documents in the MDF portfolio should be reviewed and where necessary a remedial works program be developed as necessary, and communicated to all ongoing projects. Any new environmental requirements should be followed up with appropriate changes to engineering designs and site practices.

7.3.1 Compliance and Remedial Works at Site Level

The Aide Memoirs of WB Supervision Missions repeatedly reported upon shortfalls in the design and implementation directly and indirectly associated with environmental issues. Reports have regularly indicated the need for greater compliance with environmental safeguards.

Assuming that this program can now move into a more stable, developmental mode, the challenge remains for encouraging a collegiate and collaborative approach ensuring quality outputs. Missions should also involve local government departments (e.g. PU, PDAM, BAPEDALDA) in monitoring projects, and ensure quality before payment is certified. The following are recommended:

B4: Implementing Agency site staff be informed of the findings of the MDF supervision missions relevant to their projects and an appropriate action plan prepared.

B5: Every effort be made to fill all vacant safeguards project positions (e.g. IREP) and that all necessary facilities (logistics, vehicles, expenses) be readily available for supervisory staff to visit and monitor project sites on a regular basis

SKM

B6: To ensure better compliance with safeguards at the implementation/site level, (i) environmental safeguards obligations must be explained to contractors at tender stage (ii) adopt realistic timelines to agree environmental safeguards compliance criteria, (iii) increase in the number of site supervision staff (iv) attract staff with appropriate environmental safeguard skills (v) prepare technical literature for field teams in clear, unambiguous language, (vi) Make greater use of locally based monitoring, (vii) Take the opportunity on all projects to employ a specialist with effective public relations and general liaison skills

Small samples of 16 MDF project sites were visited. Several project sites required remedial works to (i) achieve the original project goals i.e. supply water (e.g. Sabang and Sigli WTW), (ii) protect people from hazards such as landslides and flooding (e.g. Sabang WTW)), (iii) protect health (sanitation and drainage) (REKOMPAK and KRRP), (iv) protect livelihoods (i.e. avoid damage to coral and tourism activities) (v) prevent imminent pollution events (e.g. chemicals from poorly constructed tanks entering watercourses) (Sabang WTW). Based upon this sample, it is likely that many other MDF projects not visited as part of this evaluation have fundamental environmental faults.

B7: A detailed assessment of all MDF project sites, particularly where infrastructure has been the major activity, needs to be conducted by suitably qualified personnel and funding be made available to rectify all faults identified. Specific example which require attention include (a) sites where the MDF projects have built houses should upgrade their sanitation facilities to meet the standards endorsed by BRR and BAPEDALDA in February 2007; (b) programs in Nias should ensure that sanitation facilities which utilise sub-surface effluent flows be either modified to ensure greater efficiency or replaced with effective wastewater management systems.

A number of informants (TIPARESKA, FFI) indicated that illegal logging continues with reports of logs being shipped nationally and internationally via the Straits of Malacca. Activities of the AFEP project should be strengthened with additional monitoring. Consideration should be given to involvement of additional appropriate partners for the implementation of environment projects

B8: If the MDF is concerned that is should make effective inroads into addressing illegal logging activities, the RES support the suggestions of various respondents that additional monitoring for illegal logging is required at all borders (whether at an official crossing point or not) by linking partners such as Traffic South East Asia. There is in addition, a need for livelihood proposals supporting a sustainable livelihoods model within forest dwelling communities.

B9: There is a need to (i) determine a hierarchy of ecosystem and associated habitat vulnerability, (ii) identify and classify forest encroachment zones, (iii) support governance issues associated with regulating movement of timber across provincial borders (as flagged in 2007 Aide Memoire), (iv) pilot ecological reconstruction projects involving and supporting community livelihoods.

7.4 Capacity Building

Few donors are carrying out similar environmental evaluations of their portfolios. As a result it is difficult to compare in detail how the MDF portfolio performs against similar donor activities. However, the MDF portfolio can be described as aiming to address an

intermediate to longer term development agenda. This is in contrast to many other donor programs which have been focused on smaller unit sized projects.



The combined ESn work could focus at Province and Kabupaten levels, specifically regarding the activities of BAPEDALDA, particularly as the latter assumes responsibility for environmental safeguards.

C1: The MDF program should aim at capacity building at the Province and Kabupaten level, and manage local environmental issues effectively through partnerships with the BAPEDALDA offices.

Capacity building projects that work well have been tailored to the needs of the specific client group. The approach taken by the previously cited infrastructure project (ETESP Package 32) on the east coast is a best practice model for skills enhancement whereby a needs analysis provided the basis for project activities.

C2: Consideration be given to an integrated natural resource rehabilitation program which incorporates both a steady environmental education component as well as a livelihoods opportunity. Such a program requires activities which include coastal ecological reconstruction, coastal forestry, tambak construction with a strong silvicullture design. A combination of such programs, supported with the involvement of schools, has been seen elsewhere to have positive community development dividends from the economic, social and environmental.

One recurring message was the need to assist decision makers contribute to enhanced governance by educating on the broadest range of administrative, managerial and technical issues. It is only by fostering greater understanding of these issues at the senior level that change can occur in understanding the importance of ESn and the broader environmental agenda.

C3: Consideration be given to delivering an Aceh and Nias based Executive Masters course, potentially drawing upon prospective candidates from within Gol agencies and the general public. Entry to such a course should be based on merit, and could aim to inspire participants through a well crafted and appropriate syllabus.

There is a considerable perception gap concerning environmental issues, across all levels of the community. The approach of the KDP model has been a strong philosophical rallying point, and a precursor for greater levels of project success. The opportunity is there to apply explicit capacity building programs, potentially reinforced using the KDP facilitator approach across the broad community, but most particularly at peri-urban and rural communities.

A number of projects with effective facilitation (REKOMPAK) have been a positive force in assisting project delivery. At the same time other projects have had great difficulty in recruiting facilitators, due to the perceived difficulty of working in some places. This situation is difficult for GoI Partners whose staff receives low salaries.

C4: To achieve changes in knowledge, attitude and practices (KAP) regarding environmental issues and thus contribute to ESn, importance is placed upon the role of facilitators who work at the village / community level. A number of informants have indicated that it is difficult to recruit and keep effective facilitators. Given the potentially important role such facilitators can play, particularly if such people were assisting communities in understanding of ES issues, there is a need increase the profile and salaries of these people. This in turn will make the roles more attractive and effective.

7.4.1 Raising the Profile of Environmental Issues in the Community



There are numerous initiatives where environmental safeguards and broader environmental education could be incorporated into projects. A few examples of these include; a) a new heritage project being developed in Nias could incorporate 'natural heritage' (i.e. environment) education as well as cultural heritage, b) schools programs in environmental education be increased across Aceh, c) health education programs could clarify the links between environment degradation and poor health, d) the media is a powerful tool for environmental education; building good practices in the wider community and reporting environmental abuses. BRR already uses articles from Serambi in its websites.

Communities need to be involved to a much greater extent and gain an understanding of the systemic characteristics of environmental management. Gaining such an understanding will inevitably be a long term project.

C5: Successful capacity building programs need to be based upon adult learning theories which emphasise that there is a need for flexibility which could involve action based learning models, be tailored to needs, move at a pace matched to participants' competence. The MDF should continue supporting initiatives that raise the profile of the environment in the community, focusing projects on improving ESn by graduating to a slower timeframe which can allow for greater rigour and ES quality compliance.

7.4.2 Role of Community in Compliance

If communities are genuinely concerned about environmental issues, then they participate actively in project monitoring and can help ensure compliance with environmental safeguards. Many communities appear to be unworried about potentially serious environmental problems. For example, residents next to a landfill site in Nias were not concerned about potentially toxic gasses. Without appropriate education, they may not realise their health could be at risk and may not take any action.

C6: Programmes should engage beneficiaries, receptors, CBOs, NGOs and the media more actively to assist in monitoring the activities of formal 'institutional' stakeholders by (i) explaining to the community what impacts are likely and thus build understanding and increase tolerance of any disruption, and (ii) hold contractors to commitments not just by the formal contract mechanisms, but also by the empowered community and the media.

As has been noted and discussed previously the RES has found that monitoring and evaluation of MDF projects from the ES perspective is theoretically very strong but in practice could be strengthened. Strategically improved monitoring could focus upon expanding three main steps: (i) natural resource stewardship and protection, (ii) adoption and promotion of appropriate energy efficient and well specified building performance, and (iii) community involvement in individual project design and implementation processes.

Having successfully collaborated with a local Acehnese NGO to introduce community cross-audits and community audits in Aceh even before the tsunami, the KDP project within the MDF already offers a strong model on harnessing the involvement of community. The longer term issue of changing the KAP in the community, particularly regarding ESn, needs to apply the three steps outlined above as starting points. The ES of the MDF have been seen to contribute to the task of generating an enabling environment at the project and contractor levels. Assuming community engagement with projects, the consultation and implementation processes should facilitate a strong association with the issues.



C7: Project management and ESn could be enhanced through more rigourous monitoring and evaluation processes (M&E) that act as capacity building, livelihood and empowerment exercises. Subsequent project portfolio should put a high emphasis upon adoption of the M&E for which communities are paid. Projects could include basic environmental education, engagement with plans, designs and specifications as well as processes to monitor.

Socialisation can elevate village and Desa level expectations and so there is a need to ensure that any commitments made can be met. Additional monitoring resources can be invaluable, especially when formal stakeholders are under-resourced. It may be impractical to expect BAPEDALDA to act as the environmental police force, but they should be able to follow up on credible reports of non-compliance from concerned members.

C8: Communities have a valuable role to play in ensuring environmental compliance working together with government institutions and enforcement authorities. Successful contributions to the sustainability of the role would entail the provision of more training and empowerment for community groups in the ongoing and future MDF portfolio.

7.5 Capacity in Governance in Aceh & Nias

At the formal institution level, governance involves the executive, legislative and judicial branches, each of which have defined roles, capacities, and jurisdiction. The following recommendations are directed specifically toward these arms of the government, notwithstanding that MDF may face constraints in partnering with these institutions. The ultimate objective is to enhance the capacity of each targeted institutions that was found to be weak.

Any recommendations concerning governmental institutions must recognize the shift in governance from the provincial level to the local government (District and City level). They must also recognise that compliance will only occur if there is effective enforcement and sanctions against non-compliance. In the case of Nias, capacity building challenges were found to be much greater due to its isolation from mainland Sumatra. Any such project on Nias would need extra effort and resources.

7.5.1 Technical Implementation: Executive Body Institutions

The policy of decentralization has promoted a shift of authority and governance from provincial to local government. Of foremost importance is project planning and implementation, which rests at the District/City levels under the new local autonomy framework. Specific offices that would benefit from support to mainstream environment issues include Dinas Mining and Energy, Dinas Tourism, Dinas Forestry, Dinas Transportation, Dinas Marine and Fisheries, Dinas Tax and Revenues. Given the current government civil service tenure system whereby people gain office through political as well as technical considerations, donors should expect any initiatives at local government level will require long-term programs if they are to have appropriate impact.

C9: There is a need to support efforts toward improving the technical capacity on safeguards compliance, in particular environmental planning and management, at both Bapedal provincial and district and city levels.

C10: Donors could (i) provide technical training on the production, review and monitoring of AMDALs and UKL-UPLs, (ii) produce printed materials - practical documents that guide government in its work but which could also be included into the curriculum for primary, secondary and tertiary level students as well as being available for non-formal training, (iii)

SK

Promote the collection of environmental baseline data and distribute the development of Environment's Management Plans at the Kabupaten/Kota level.

7.5.2 Political Support: Legislative Institutions

Under the decentralized local government, safeguards compliance will be governed by a legal framework (*PerDa/Qanun*). Support is required to institutionalise compliance by all stakeholders.

C11: Raise awareness amongst provincial/local parliament members (DPRD Province and District/City) and local political parties and potential future leaders concerning the importance of safeguarding the environment. Support should also be provided for each Kabupaten/Kota to produce an appropriate Qanun on environmental safeguards and compliance.

C12: Raise awareness in the court system and police institutions concerning the importance of safeguarding the environment. It would be useful to prepare materials that can be used for training, as well as practical guidelines to understanding the legal framework and its sanctions.

7.5.3 Enhancing & enforcement: Integrated Governance & Judiciaries

It is essential to build the capacity of the judicial system to enforce sanctions against violations or non-compliance. The specific target audience of this would be judiciary and police personnel⁵⁶. Otherwise DPRD Bapedal and local government policies will simply remain 'guidelines' that can be ignored.

Too many projects are operating in a "wheat silo" condition - when projects are designed and implemented as a highly specialized initiative, completely "isolated" from any integration with related sectors. Good governance requires mainstreaming of environmental safeguards compliance, where the terms environmental safeguards, sustainability and compliance will become household phrases for all stakeholders involved.

C13: Support activities that would revitalize or facilitate interaction, coordination and communication, joint projects, sharing and cross fertilization of good practices between villages/Kabupaten/Kota and between organisations. It would be useful for all MDF projects to communicate regularly with beneficiary institutions (e.g. PDAM) as well as the implementing agencies (e.g. BRR, SATKER). The projects should also actively involve district level officials fully in all planning and design decisions, budgeting, quality control and environmental management of the works.

7.6 Future Initiatives

7.6.1 Portfolio Level

As Aceh and Nias move from disaster recovery into a more conventional development scenario, it is essential that the emphasis of the MDF project portfolio adjusts to reflect the new reality. Once BRR is disbanded, the MDF can expect to be working directly with a range of project partners including provincial government. There may be a number of

⁵⁶ Please Note that in this regard the police are present at district and city levels, while the court system (which is part of central government) may only be present in provincial capitals.



different departments seeking support across a wide spectrum of activities, requiring the MDF to focus on the most critical macro-issues. To date a greater proportion of the portfolio has concentrated on infrastructure rehabilitation (in particular roads, water supply and shelter) with some livelihoods and forestry components. The following recommendations aim to strengthen the Environmental Sustainability of the MDF portfolio. These recommendations aim to incorporate a long term perspective, and in doing so identify opportunities for both specific sectoral initiatives and cross-cutting issues.

D1: Over-arching Environmental Sustainability Themes: To strengthen the ESn of the future MDF portfolio, the RES firmly recommend that there is a need to strengthen components of (i) Livelihoods associated with non-timber forest resources, (ii) Ecological rehabilitation programs in estuarine, riparian and coastal regions effected by the tsunami and supported by long-term management and maintenance programs, (iii) Capacity building specifically in environmental education which includes basic awareness raising across all levels of the community), (iv) Adoption of programs which give a high profile to reconstitution and rehabilitation of existing infrastructure to improve energy efficiency of buildings (as opposed to new building).

The primary tsunami impact coincided with areas of high environmental sensitivity causing wholesale environmental degradation. However, those areas of high environmental vulnerability, specifically along the tsunami affected coastlines where they coincide with estuaries and river mouths, have received negligible attention in the post tsunami program and that work which has been implemented has commonly lacked rigorous planning and ongoing maintenance. It is important that a far higher priority be given to environmental management in these areas than in the tsunami response to date.

D2: Revegetation/Ecological Restoration Initiatives: Priority be given to developing integrated environmental rehabilitation and revegetation projects along the tsunami affected coastline and implemented following a livelihood and community development support model.

7.6.2 Cross Cutting Issues; Forestry, Building Materials, Waste Management

There is a comparative advantage that the major donors can bring to cross-cutting issues. Investigation of the three case-studies, cross-cutting issues highlighted that there were specific topics where leadership and stakeholder co-ordination is essential; it simply is not practical for each, small, individual NGO or IA to make a significant difference. Major donors such as the MDF can use their Partners' safeguards frameworks to ensure that a common, sustainable approach is adopted by numerous stakeholders. The donors are also in a position to assist local government more effectively, and explain policies to senior officials. The following list highlights the potential cross cutting project initiatives which programs could consider.

Themes	Initiatives
Forestry	 Provide alternative livelihoods to persons engaged in illegal logging; Promote timber plantations on land already degraded; Promote rehabilitation of degraded land & introduce ecological restoration as a livelihood activity; Create forum for dialog on forest protection, from community level up to parliament.
Quarrying	 Promote planning of quarries and highlight potential benefits of quarry site rehabilitation; Strengthen the licensing of guarries in Aceh and Nias;

Table 17: Potential Cross-cutting Project Initiatives



	 Agree and define no-go areas for quarries.
Energy	 Promote the use of energy efficient materials in reconstruction; Support and socialise buildings that are energy efficient; Support for renewable power such as wind-power, tidal currents and geothermal energy, using carbon credits where appropriate.
Solid waste	 Monitor the implementation of Banda Aceh sanitary landfill; Expand the SWM program to provide similar facilities to other cities and towns in Aceh; Socialisation at the community level to use waste collection facilities; Support to livelihoods from waste handling and recycling; Optimise cost-recovery to minimise government subsidies; Raise local government awareness of negative impacts of poor waste management;
Sanitation	 Promote the importance of sanitation at community and local government level; Support livelihoods related to desludging and reuse of sludge as fertiliser; Research to reduce the cost of sanitation units; Promotion of sustainable drainage techniques

D3: Cross-cutting: Key cross-cutting initiatives should continue to receive the full support of the MDF including (i) Forestry / logging, (ii) Quarrying / sand / building materials, (iii) Energy efficiency (iv) Solid waste management (v) Sanitation.

7.6.3 Project level

7.6.3.1 Irrigation and Water Resources

Despite the massive post tsunami response by way of technical skills, there remains a need for integrated water resources planning across Aceh, at both the domestic and agricultural level. The last detailed study cited by informants was carried out in 1988 and major demographic and environmental changes have occurred since then. Efforts made in the 1990s and early 2000s were hampered by the conflict and a lack of access to project areas.

Many large water resource projects are presently in the pipeline (e.g. dams, irrigation schemes, catchment transfers and water supply projects) and it is a critical sustainability issue to identify supply and demand in the various catchments and include ES in the calculations. Those consulted in local government expressed support for water resources planning, to ensure sustainability of supplies and pre-empt potential usage conflicts. It is essential that water needs and water resources are managed effectively to pre-empt conflicts between different user groups. Some critical irrigation schemes have been repaired since the tsunami, but many others remain unserviceable. Increasing the area of irrigated agriculture could create many sustainable livelihoods for rural communities, particularly in a period of rising food prices.

D4: Water Resources: A major contribution could be made to the ESn of settlements in Aceh by commissioning a comprehensive water resources planning study across NAD.

There are numerous project areas that would benefit from further support and development. Project initiatives that aim to contribute to sustainable futures are given high prominence below.

7.6.3.2 Ecosystem / Forest / Timber / Livelihoods

Each of the following initiatives should be further supported in future programming (i)



Sanitation, (ii) Waste management, (iii) Sustainable drainage, (iv) Timber plantations, (v) Construction materials - use of concrete block presses, (vi) energy efficient buildings, (vii) Disaster resilient construction, (viii) Use of biogas from waste for domestic cooking, (ix) Use of carbon trading funds to support the above activities.

D5: Marine Resources: There is need to work with fishermen and the Panglima Laot to identify marine zones of high conservation value, protect these sensitive areas by establishment of fisheries reserves and enhance existing fishing regulations.

D6: Coastal & Riparian Zone initiatives: It is imperative to stabilise soils and prevent further erosion and loss of valuable land as part of estuarine and riparian re-vegetation programs. More coastal morphology work is required, along the west coast of Aceh, to better understand coastal zone dynamics and inform development planning.

7.6.3.3 Energy and Tambaks

The access to and continuity of power has been a major issue in Aceh and with the rising cost of energy, there is a need to explore alternatives. It is further understood that development projects in this sector could benefit from international carbon credit funding.

D7: Renewable Energy: Renewable energy resources, including wind-power, ocean currents and geothermal energy be investigated and implementation supported

Tambaks could be constructed and rehabilitated in a much more environmentally sensitive and operationally cost effective way given the right incentives and strengthening livelihoods.

D8: Tambak: Tambaks rehabilitation and construction be viewed as a component of an integrated coastal forestry system and that appropriate silvicultural design guidelines be followed.

7.6.3.4 Promising Innovative Technologies

The technologies listed below have been successfully applied in Aceh during the emergency reconstruction phase. To successfully introduce "new" ideas, a considerable amount of socialisation is required to convince conservative officials, technicians, engineers and communities. Given adequate support and project development, these technologies could be applied more widely across Aceh and Nias contributing to sustainable livelihoods, improving health and supporting local livelihoods. It is recommended that each of the following initiatives should be considered for support in future programming.

Environment

- Sanitation, particularly secondary treatment (vegetated leach fields and subsurface flow wetlands) that fertilise gardens and provide additional food. Livelihood opportunities based on de-sludging septic tanks and the sale of fertiliser are possible.
- Waste management and the development of livelihoods for urban waste collection combined with the expansion of the waste management program into rural areas;
- Sustainable drainage the use of swales and retention ponds instead of more expensive concrete drains – these have been successfully used in Java and are actively promoted by ITB (Bandung)

 Timber plantations – small scale plantations – growing trees on land already cleared of forest - is reported to be profitable and could provide a legal alternative supply of timber.



Infrastructure and Building

- Construction materials: Use of concrete block presses (i.e. ArCLI program) for house construction – the technique proved economical, less energy intensive, and provided sustainable livelihoods;
- Design of energy efficient buildings such as the new polytechnic in Banda Aceh
- Disaster resilient construction buildings designed to be unaffected by flooding, earthquakes or (small) future tsunamis – (e.g. Uplink Housing at *Peukan* Bada)
- Use of biogas from waste for domestic cooking (e.g. Austcare Nias)
- Use of carbon trading funds to support the above activities.

D9: Specific Project Initiatives: The following initiatives should be further supported in future programming (i) Sanitation, (ii) Waste management, (iii) Sustainable drainage, (iv) Timber plantations, (v) Construction materials: Use of concrete block presses, (vi) energy efficient buildings, (vii) Disaster resilient construction, (viii) Use of biogas from waste for domestic cooking, (ix) Use of carbon trading funds to support the above activities.

D10: Integrated forest resource strengthening: The outcomes from the AFEP could be dramatically strengthened with an additional sub-project that (i) determines a hierarchy of ecosystem diversity values and associated habitat vulnerability, (ii) identifies and classifies forest encroachment zones, (iii) supports governance issues associated with regulating movement of timber across provincial borders (as flagged in a 2007 Aide Memoire), (iv) pilots ecological reconstruction projects involving and supporting community livelihoods.

7.6.4 Conclusion

The RES concludes that the MDF commitment to apply important ESn in the tsunami response to date, with the aim of promoting best practice and ESn, has been implemented within a climate of imbalance. It is clear that although there has been a constant 'supply' of standards, there has been varying 'demand', ranging from no concern to a limited understanding. To amplify this important point, it was found that much of the environmental concern was coming from the supply side, principally the major donors including the MDF, with little reciprocating demand from the broader community. To maintain a momentum that will contribute to ESn goals, the RES recommendations place great importance upon facilitating greater importance (through capacity building) on environmental issues in the community, from influential decision makers across the public and private sector, as well as individuals.