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Rebuilding a Better
Aceh and Nias
Stocktaking of the Reconstruction Effort

Brief for the Coordination Forum Aceh and Nias (CFAN) - October 2005

for the People of Aceh & Nias

BRR NAD – Nias

Badan Rehabilitasi & Rekonstruksi

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Together with the International Donor Community

Foreword

In the immediate aftermath of the earthquake and tsunami on 26 December 2004, an unprecedented national and international humanitarian effort was galvanized to support the hundreds of thousands of victims in Aceh and North Sumatra. The basic needs of food, water, shelter and health were rapidly met. This effort, led by the government, NGOs and international donors, prevented additional suffering in what was a human tragedy of unspeakable proportions.

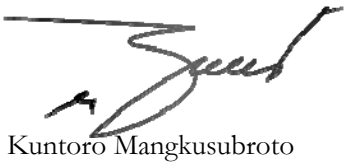
Nine months later, a vital transition is occurring. Most activities moved beyond immediate relief into support for long-term recovery. This transition entails getting people out of tents and into permanent shelter, restoring legal rights, transitioning emergency water supplies into permanent facilities, re-establishing agricultural land and markets, re-building schools, restocking educational supplies. It means moving from cash-for-work to restoring livelihoods and the local economy. It entails institution building and physical reconstruction on a massive scale. Most of all it is about reviving shattered communities and restoring hope and self-sufficiency to the people of Aceh and Nias.

This report, coming nine months after the terrible disaster, is intended to inform the October 4 "Coordination Forum for Aceh and Nias" (CFAN) and takes a snapshot of progress on the reconstruction efforts. It documents achievements thus far and, learning from experience over the past nine months, identifies key gaps and challenges to be addressed in the coming period.

The report is a collaborative effort between the BRR and the international donor community. It has drawn on the expertise and input of countless partners in the Indonesian government, local universities and among local and foreign NGOs.

This report substantially updates an earlier version that was produced in June 2005 for the six months' anniversary. This report also includes a new section that looks at the implications of the peace process in Aceh. New information and analysis has been incorporated into all chapters and most recent data have helped to particularly inform the sectoral, economic and financial dimensions of the reconstruction process.

We hope that this report will serve as a basis for making programming decisions and turning plans into concrete achievements on the ground to build back a better Aceh and Nias.



Kuntoro Mangkusubroto
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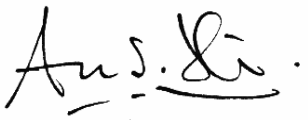

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on behalf of the donor community

Acknowledgements

This report was prepared by a joint team of the Badan Rehabilitasi dan Rekonstruksi (BRR) and the World Bank with enormous participation and contributions by many government and donor agencies. The teams were led by Sudirman Said (BRR Deputy, Communication and Stakeholder Relations), John Clark, Matt Stephens and Wolfgang Fengler.

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A larger multi-agency group contributed valuable input and direction into the report, for which the core team expresses its thanks and gratitude. This group included colleagues from the following organizations:

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The team also benefited from the insight of a number of staff from various other central and local government agencies: Aida F. Umaya-Reksodirdjo (Bappenas), Anas M. Adam (Dinas Pendidikan, NAD Province), Ari Sumarsono (Directorate General of Primary and Secondary Education), Djamaluddin Abubakar (Bappenas), Irhamudin (Dinas Pendidikan, NAD Province), Nugroho Utomo (Bappenas), Pungky Sumadi (Bappenas), Salusra Widya (Bappenas), Renani Pantjastuti, (Directorat General of Primary and Secondary Education), Sarwo Pelbar (Ministry of Public Works), H. Sayuthi (Former Head of Badan Pemberdayaan Masyarakat, NAD), Sujana Royat (Bappenas), Suprayoga Hadi (Bappenas) and Dr. Teuku Azwar (Dinas Kesehatan NAD Province).

Pictures were taken by Amy Sim, Arif Ariadi (BRR), Matt Stephens and Poriaman Sitanggang.

To all of these contributors the team would like to express their deepest thanks and appreciation. Any follow-up questions, or request for additional information should be directed to Wolfgang Fengler (wfengler@worldbank.org) or John Clark (jclark1@worldbank.org).

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Glossary

Adat	Social custom or tradition
ADB	Asian Development Bank
AMM	*Aceh Monitoring Mission*
AusAID	Australian Agency for International Development
Bapel	Executing Agency of BRR (Badan Pelaksana)
BAPPENAS	National Development Planning Board (Badan Perencanaan Pembangunan Nasional)
Barat	West
BPM	Community Development Agency
BPN	National Land Agency (Badan Pertanahan Nasional)
BPS	Statistics Indonesia (Badan Pusat Statistik)
BRR	Reconstruction and Rehabilitation Agency (Badan Rehabilitasi dan Rekonstruksi)
Bupati	District Head
Camat	Sub-District Head
CDA	Community Driven Adjudication
CDC	Centers for Disease Control and Prevention
CDD	Community Driven Development
CGI	Consultative Group for Indonesia
CIDA	Canadian International Development Agency
CoHA	Cessation of Hostilities Agreement
CoSA	Committee on Security Arrangements
CPI	Consumer Price Index
CRS	Catholic Relief Society
CSO	Civil Society Organization
Desa	Village
Dewan Pengarah	Advisory Board
Dewan Pengawas	Oversight Board
DfID	UK Department For International Development
DHWS	Directorate for Housing, Water and Sanitation
Dinas	Provincial Sub-Project Management
Dinas Bina Marga	Regional Road Offices
Dinas Sosial	Social Department
ECHO	European Commission Humanitarian Office
ECLAC	Economic Commission for the Latin America and Caribbean
EIA	Environmental Impact Assessment
EMIS	Education Management Information System
ETESP	Earthquake and Tsunami Emergency Support Project
FAO	Food and Agriculture Organization
GAM	Free Aceh Movement (Gerakan Aceh Merdeka)
GeRAK	People's Movement for Anti-Corruption
GDP	Gross Domestic Product
GIS	Geographic Information System
GOI	Government of Indonesia
GPS	Global Positioning System

GTZ	German Cooperation Agency (Gesellschaft fuer Technische Zusammenarbeit)
HIC	Humanitarian Information Center
ICW	Indonesia Corruption Watch
IDP	Internally Displaced Person
ILO	International Labor Organization
IOM	International Organization for Migration
JICA	Japan International Cooperation Agency
JICS	Japan International Cooperation System
Kabupaten	District
KDK	Emergency Humanitarian Committee, (Komite Darurat Kemanusiaan)
KDP	Kecamatan Development Project
Kecamatan	Sub-District
Kelurahan	Village
Kerap	An elected local committee that handles and monitors reconstruction funds under the urban poverty project
KfW	German Development Bank (Kreditanstalt fuer Wiederaufbau)
Kota	City District
KPK	Anti-Corruption Commission, (Komite Pemberantasan Korupsi)
LC	Land Consolidation
LCS	Logistics Coordination Service
LCT	Landing Craft
LDR	Loan and Deposit Ratio
LEI	Eco Labeling Institute
LRWG	Livelihood Recovery Working Groups
MDTF(ANS)	Multi Donor Trust Fund (for Aceh and North Sumatra)
Mesjid	Mosque
MFI	Micro Finance Institutions
MoNE	Ministry of Education
MoRA	Ministry of Religious Affairs
MOC	Ministry of Communication (Departemen Perhubungan)
MOU	Memorandum of Understanding
MPW	Ministry of Public Works (Departemen Pekerjaan Umum)
NGO	Non-Governmental Organization
NPL	Non-Performing Loan
OCHA	Office for the Coordination of Humanitarian Affairs
OECD	Organization of Economic Coordination & Development
P3JJ	Project of Planning & Supervision Roads and Bridges (Proyek Perencanaan dan Pengawasan Jalan dan Jembatan)
PDAM	Government-Owned Water Enterprises, Perusahaan Daerah Air Minum
Perpu	Regulation in Lieu of Law, (Peraturan Pemerintah Pengganti Undang Undang)
PHC	Public Health Center
PHO	Public Health Observatory
PLN	The National Electricity Company, Perusahaan Listrik Negara
PMU	Program Management Unit
Posko	Coordination Post (Pos Koordinasi)
Puskesmas	Health Center at Sub-District Level (Pusat Kesehatan Masyarakat)
R3MAS	Rencana Rehabilitasi & Rekonstruksi Masyarakat Aceh dan SUMUT

RALAS	Reconstruction of Aceh Land Administration System
Rp	Indonesian Rupiah
SAKERNAS	Labor Force Survey (Survey Tenaga Kerja Nasional)
SAMAK	People's Anti Corruption Solidarity, Solidaritas Masyarakat Anti Korupsi
SME	Small & Medium Enterprises
SNREA	Strategic Natural Resource and Environmental Assessment
SST	Telephone Subscribers (Satuan Sabungan Telepon)
SUMUT	North Sumatra (Sumatera Utara)
Syariah	Islamic law
TELKOM	State-owned Telecommunications Company
TNI	Indonesian Military, (Tentara Nasional Indonesia)
TSAD	Socialization Team for Peace in Aceh (Tim Sosialisasi Aceh Damai)
UN	United Nations
UNDP	United Nations Development Program
UNEP	United Nations Environment Program
UNHAS	United Nations Humanitarian Air Service
UNICEF	United Nations Children's Fund
UNJLC	United Nations Join Logistics Center
UNOCHA	United Nations Office Coordination Humanitarian Affairs
UPP	Urban Poverty Project
USAID	United States Agency for International Development
USO	Universal Service Obligation (here: public phone)
WFP	World Food Program
WHO	World Health Organization
YIPD	Center for Local Government Innovation, (Yayasan Inovasi Pemerintah Daerah)
yoy	year-on-year

Executive Summary

After reeling from one of the harshest calamities the world has seen in decades, the national and international response has shifted gear from coping with the emergency to helping the people of Aceh and Nias piece back their lives. The December 26 tsunami disaster and the March 28 earthquake that affected Nias, Simeulue and the southern parts of Aceh caused immense social, economic and environmental devastation and hence recovery will be a slow and painful process. Visitors to Aceh are struck by the scenes of utter devastation, from which full recovery will take years. But they now see palpable evidence that recovery is underway as the disaster survivors, along with the staff of 124 international NGOs, 430 local NGOs, dozens of donor and United Nations agencies, various government agencies and many others are working round the clock trying to "build Aceh and Nias back better.".

One of the most important milestones for building back better has been the signing of a peace accord in Helsinki between the Government of Indonesia (GoI) and the Free Aceh Movement (GAM) on August 15th ending a 30 year conflict that had caused almost 15,000 deaths. Past accords have not held, but lessons from these have been learnt and the current agreement is the best chance for peace in many years. The reconstruction effort presents an opportunity to strengthen the peace by bringing entire communities together to plan for their future.

The purpose of this report is to take stock as we proceed – to describe the many facets of reconstruction in Aceh and Nias, how they connect, and how, with common resolve, the pieces might be assembled to provide a coherent picture. It asks how has the reconstruction effort progressed, what are the plans going forward, and what are the key issues still to address?

PROGRESS AS OF OCTOBER

The pace of reconstruction following a disaster of such great magnitude is never fast enough, given the lives that have been disrupted. In Aceh and Nias, great areas of urban landscape remain nothing but rubble; while tens of thousands of people still remain living in tents – which are now rotting with mould; almost half a million people are dependent on food aid. Unresolved land rights, poor coordination and unclear policies still impede recovery. And the rainy season approaches fast, which will cause more misery for those without permanent homes. Rapidly rising prices are a serious concern. Destroyed road networks caused transport prices to increase by 23.8 percent during the first 8 months of this year. High marketing and delivery costs led food prices to soar by 28.2 percent since the beginning of the year

Yet there is also good news. Some 500,000 people now have a solid roof over their heads (albeit most are living with friends or relatives, and few who lost houses as yet have permanent replacements); more than 1000 new houses are being built each month, and the pace of housing starts has accelerated to 5000/month in October. It has been a triumph of humanitarian effort that there has been no serious outbreak of disease or malnutrition despite the disruption.

The speed of reconstruction remains frustratingly slow but there is no doubt it is accelerating. In some sectors, rehabilitation progress has been swift:

- Almost all children are back in school. The new school year started relatively smoothly; most of the displaced children have been moved to other or temporary schools (such as the "schools in a box" or tented schools).
- The construction of permanent schools is also underway as well as the supply of contract teachers, books and teacher training, although significant gaps still remain.
- Reconstruction of health facilities and service has been completed in more than 40 percent of damaged health centers and sub-centers.
- More than 80 percent of damaged fish markets have been rehabilitated.
- More than a quarter of the destroyed prayer halls and mosques have been rebuilt.

However, the challenges still outweigh the achievements. An estimated 67,500 still live in tent camps, many more live in soulless barracks far from the place they still call "home'. Probably many will still be living in tents or unacceptable conditions come the first anniversary of the tsunami. But some problems are much more challenging. When the tectonic plate moving northwards rode over the plate on which Sumatra sits, it caused last December's enormous tidal wave, but it also pushed down the whole coastal shelf such that parts of southern Aceh, especially around Singkil, are now fully 1.5 meters lower than prior to the tsunami. This means that much land is flooded every high tide, some of it all the time. Rebuilding in these areas does not make sense without complex coastal protection.

Furthermore, today's reconstruction could grind to a snail's pace as the coming rainy season further disrupts transport routes, especially along the west coast. The Indonesian Army quickly built temporary roads to replace the many areas of the former coastal highway that the tsunami had carried away. But parts of that interim artery are now crumbling into the ocean and will be highly vulnerable in heavy rains. Since a number of ports along that coast were also victims to the wave, bringing in the thousands of tons of supplies needed for reconstruction will be a gargantuan task. Only beach-landing crafts can serve many locations, but they can only unload at certain times in the tide – and few cranes and other equipment are yet available to help with the task. These are just some of the logistical nightmares.

THE STATE OF THE ECONOMY

Rebuilding the economy and livelihoods is a great challenge, but one best served by starting physical reconstruction as swiftly as possible. Unemployment – projected to be 25 to 30 percent – is well above the national average even though up to 35,000 people have been employed in temporary work schemes, mostly related to clean-up operations. Aceh's economy is projected to contract by about 14 percent in 2005, which would lead to an additional 600,000 people falling below the poverty line.

The construction boom could help revitalize the economy by offering at least 100,000 new jobs, but there would be a penalty. The anticipated construction boom coupled with the presence of so many international agencies, and transport bottlenecks are likely to keep inflation rate running at high levels. Inflation is currently at 23 percent compared with 7.8 percent elsewhere in Indonesia.

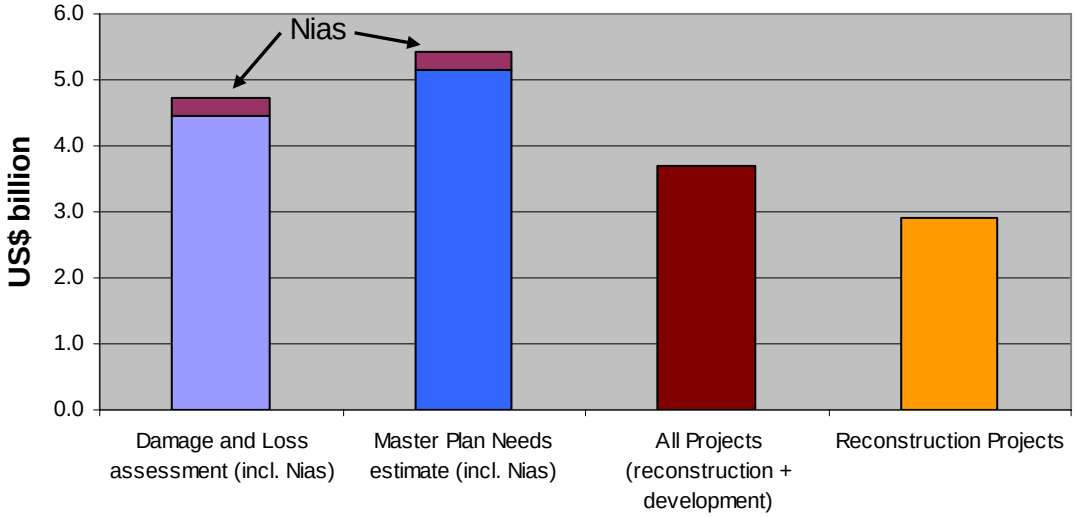
The banking sector is slowly getting back on its feet. Basic payment operations were restored during the first weeks after the disaster. Customers' access to their accounts has been largely granted without major difficulties, with banks allowing for an easy identity verification process. However, few entrepreneurs have access to capital markets and this severely constrains economic recovery. Despite the quick response from banks to restore basic services, lending operations have not yet resumed on a significant scale. The tsunami has left many debtors incapable of repaying loans, which has reduced the income of banks and increased the number of non-performing loans. Commercial banks are reluctant to provide credit to tsunami-affected businesses that lack collateral, and there is no coordinated strategy for non-performing loans or for debtors who have no ability to repay because their assets were destroyed by the tsunami.

THE RECONSTRUCTION PROGRAM

The Government's Master Plan estimated total reconstruction needs at US$ 5.1 billion (excluding the Nias earthquake damage). While the amount is similar to the January damage and losses estimate of US$ 4.5 billion, the composition of these two assessments differ significantly. While both estimate similar 'replacement costs', the Master Plan allocated – as a policy decision – significantly less to compensate for private losses (businesses, vehicles, buildings etc), and much more for public assets and infrastructure (education, health, roads etc). This represented the Government's desire to rebuild much higher quality services and infrastructure then before the tsunami. Thus only about half the funds are for reconstruction, or 'building back', in the strict sense. The rest is to address long-standing problems and for 'building a better' Aceh and Nias. Overall resources would be just enough to meet the core needs, as long as donors honor their pledges and local authorities demonstrate that the funds can be well used.

There are three main sources of financing for the reconstruction program: Domestic resources, donor contributions and voluntary contributions, mainly channeled through NGOs. The Indonesian government, donors and NGOs have each approximately US$ 2.5 to 3 billion to spend until 2009. Many of these pledges have translated into reconstruction programs and projects. So far, in addition to funds for relief, an estimated US$ 2.9 billion has been programmed for reconstruction projects and another US$ 770 million dollars for broader development programs (see figure 1). These funds are enough to 'build back' but not 'better'. Some sectors (such as education and health) are well provided for by existing pledges, while others still have substantial gaps (such as transport, housing and flood control).

Figure 1: Reconstruction needs compared to existing projects
(by end-September 2005)



While humanitarian aid flowed relatively easily, and the international NGO community has by and large demonstrated dexterity and flexibility, many programs have started slowly, particularly when they have hinged on government agencies and on-budget funding. Hence the implementation of US$ 3.7 billion worth of projects has been extremely slow. It is sure to say that less than US$ 500 million have been disbursed, although a significant amount of projects has been procured in recent weeks, so that an acceleration of disbursements can be expected. The largest contribution to reconstruction to date has been made by NGOs.

Reconstruction does appear to be accelerating now, but the frustration of those who lost their homes is also mounting. Cutting corners on the planning and coordination processes, however, would lead to intractable problems down the road – hence the pivotal importance of the specially-created agency to lead the recovery.

THE REHABILITATION AND RECONSTRUCTION AGENCY (BRR)

The Agency for Rehabilitation and Reconstruction has been up and running for five months and has helped to instill more coherence, leadership and momentum into the reconstruction process – though it still remains frustratingly slow.

The BRR comprises a high-level Advisory Board to guide the reconstruction strategy, an Executing Agency (Bapel), headed by Kuntoro Mangkusubroto (a former Minister of Mines and Energy), plus an Oversight Board to monitor activities, handle public complaints, and conduct audits. All three report directly to the President. From the outset, BRR has emphasized safeguarding programs from corruption – no easy challenge in a province where the problem is rife.

BRR's first priority has been to provide some order and basic quality control to the programs of myriad NGOs and donors. These programs are widely scattered, with very poor coordination, haphazard targeting, widely varying quality control, and often few checks and balances to guard against bad practices. Hence BRR has put in place a fast-track but

comprehensive vetting and approval process designed to ensure that donor programs are compatible with overall recovery priorities and that they meet basic minimum standards

BRR has sought to promote a holistic reconstruction strategy – building on the individual contributions of the wide array of partners but identifying where these efforts need complementing, where new programs need to be developed, and how best to sequence and bring every component together so that the pieces of the mosaic fit together

There is general confidence that micro-level infrastructure is best taken care of by citizens themselves through community-driven development. This approach is being used to build houses, carry out livelihood programs, and restore or recognize land ownership to allow the reconstruction of housing. At the other end of the spectrum, the large-scale infrastructure projects – despite the large gap remaining in transport – are gradually being picked up as turnkey operations by the larger donors.

However, there are coordination and funding gaps concerning middle-level infrastructure needs at the kabupatens and kotas, such as district-level roads, dykes, sewerage and water-supply. These are beyond the scope of most NGOs and require planning and implementation systems that do not yet exist. Such improvements are normally the preserve of local authorities, but district governments in both Aceh and Nias do not have the capacity for the task, or perhaps the motivation.

Low capacity and poor control mechanisms and governance mean that it is unlikely that district governments would be able to tackle these needs at present, even if the necessary funds were made available. Hence a major current BRR preoccupation is to make the district government systems work, especially using the government funds that are now starting to flow through BRR to district and provincial level (not least as a result of a moratorium on part of Indonesia's external debt). It is proposed that block grants be made available for schemes local governments identify, but at the same time BRR is offering intensive guidance in the technical and procurement aspects of the recovery projects and is creating a system for monitoring and quality assurance. If local governments fail to perform well, BRR is likely to undertake a more direct management role in reconstruction.

ENERGIZING LOCAL GOVERNMENT

Local governments were hit by the tsunami but they also managed to return to their pre-disaster level of capacity relatively fast. Their failure to be decisive players in the relief and reconstruction program owes more to their previous weaknesses than to this disaster. Their budgets are large but not yet focused on the recovery and reconstruction needs, mainly due to poor planning and the expectation that donor, NGO, and central government funds would pour in. They generally are displaying little urgency to respond, partly because of expectations that the funds needed for recovery will come from abroad. Hence capital expenditures comprise a much lower proportion of overall budgets than they did in 2004, in spite of record needs.

There are notable exceptions where enthusiastic district heads and many highly motivated sub-district heads are playing a leading role in their own recovery. Many teachers and health workers have demonstrated great commitment to re-opening their facilities, and each

household has been able to get an ID card – which is the starting point for any compensation claims.

If local governments are to play their part in the effort and be responsible for managing significant reconstruction resources, their capacities need to be strengthened considerably. Meanwhile, alternative funding channels must be used. But struggling to make local governments effective partners is an important goal, not least because when the BRR and all the foreign agencies have gone, it is only local governments who can maintain the public facilities and deliver basic services.

RESTORING PROPERTY

The most basic aspiration of those displaced is to return to a new home on their old land. Surveys show that less than 20 percent want to move somewhere else. This easy wish is fraught with layers of complexity and confronted by challenges. About 300,000 land parcels were affected by the tsunami, of which only some 60,000 were secured by title certificates. In communities where the devastation was not total, and rehabilitation clean-up has been minimal, the boundaries between properties are still relatively easy to discern. Also in those areas where there are enough survivors to provide a reliable "human archive" of who lived where and who owned what, the immediate aim is to have the community certify, through collective agreement, what they believe to be the true record of property rights. Even in these cases, disputes may arise, caused by opportunistic land grabbers, or due to uncertain inheritance rights when the parents have perished (6,000 inheritance cases were filed in just three months). But where old foundations are deeply buried and where there are no traces of land parcel boundaries, restoring property rights is even more complex.

Innovative "community-driven adjudication" processes are helping citizens reconstruct prior land possessions prior to rebuilding, and these will be later authenticated by the National Land Agency. More difficult will be agreeing alternative sites for those who must move, either because their original land is subject to inundation, unsafe or simply eroded away. Restoring original possession is also a starting point for land consolidation or wholesale movement. Speed is of the essence in this complex process, to avoid land-grabbing and to act before any further visible signs of boundaries vanish, and before new houses are built. Particular attention is needed in the case of widows and orphans' land rights.

REBUILDING HOUSES

Early assessments estimate 127,000 houses were destroyed in Aceh, and up to 14,000 in Nias, but the number of replacement homes required will be less – perhaps 100,000 in total according to a recent BRR estimate. Pledges from over 60 donors and NGOs total 102,901 units, which is sufficient to meet this need. These agencies are mobilizing US$632 million for the task (US$ 261 million from NGOs, US$ 335 million from donors and US$ 36 million from domestic sources). However increased stocktaking and coordination is required to ensure that donors follow-up on their commitments.

Progress to build permanent housing has been slow, and undeniably frustrating for the homeless. Confusion on housing policies, slow disbursement of funds, poor coordination, and delays in carrying out priority community work (community mapping, spatial planning,

etc) all contributed to the holdup. But some of the key housing bottlenecks are now being addressed. Community settlement and land policy is less ambiguous and should continue to improve with RALAS now on the ground. Further, the capacity of the BRR for managing and coordinating the housing programs is improving.

A number of NGOs have started, and preliminary estimates show June housing starts at 1,000 units, and increasing to 5,000 units in October. It is estimated that 10,000 homes have been completed, with 13,000 under construction. While this is a small fraction of the total needs, the pace of housing construction is expected to increase. Nias and Simeulue remain less well-served than Banda Aceh and west coast of Aceh.

Moving ahead and improving past performance will require addressing several unresolved issues. Donors, NGOs, and the BRR need to improve coordination – this will ensure pledges are being met, the needs of Nias and Simeulue are taken care of, and that housing standards and land policy are able to be followed. Housing construction needs to be better integrated with basic infrastructure services -- this will require improved spatial planning and additional resources for technical engineering skills. Equity must continue to be addressed to ensure consistency and quality, and to meet the needs of renters. Supplying the growing demands for building materials is already a problem, especially providing legally felled timber. Finally, given the slow start of housing, temporary shelters need to be upgraded and more built immediately for those still in tents. Incentives for host families to house IDPs should also be established.

MEETING TRANSPORT NEEDS

Major road works financed by the US, the Japanese, and others have already begun, and existing commitments should meet the long-term needs for all new national roads. Within a year, significant stretches of the west coast road should be in good condition, and emergency repairs to key ports should be finished. However a year is a long time for people living in tents, and without transportation to the damaged communities, recovery will continue to be disrupted.

The extensive repairs made to the road network after the disaster allowed relief operations to reach remote areas. But the repairs were quick fixes, and with the onset of the rainy season, access to areas along the western coast could again be cut off if emergency maintenance is not quickly carried out.

To date, $430 million has been committed for transport projects, the majority from bilateral agencies ($320 million). This is a sizeable program but most of it is allocated towards rebuilding the crucial Banda Aceh-Meulaboh road. The new road will be a better road. This explains why a further $323 million will be needed just to meet core needs. Port rebuilding is particularly under-funded, with the total short and long term needs estimated between $13 and $117 million. Also while there are donor pledges for the national roads, few resources are yet pledged for Kabupaten and secondary urban roads.

PROVIDING WATER AND SANITATION

Relief operations in the sector were sufficient to avoid any major health crisis, and the basic needs of affected communities were generally met. Water and sanitation work is being

delivered through a decentralized and ad hoc approach, with much of the work accompanying settlement reconstruction. At present this is weakly coordinated and is being outpaced by accelerating housing starts – leading to serious planning gaps in water and sewerage networks in urban and peri-urban areas. Project implementation is hampered by the slow pace of local level spatial planning, lack of accurate topographic maps, and the need for additional technical experts to prioritize, plan, review, and manage projects To date, US$175 million has been allocated to projects in the sector ($95 million from NGOs and $80 million from donors). While this is more than the original estimated losses in the sector, it is unlikely that these resources will meet all sector needs cited above.

RESTORING EDUCATION

Around 2,000 schools were damaged by the earthquake and tsunami in Aceh and a further 350 in Nias. About 2,500 teaching and non-teaching staff were killed. Consequently about 150,000 students lost their education facilities and had to be provided with alternatives. The response was to meet needs by moving students into neighboring schools and providing temporary schooling in tents. The GoI and UNICEF recruited and trained more than 1,500 new teachers to start teaching in July 2005.

Donor pledges for education appear to cover immediate reconstruction needs but not the totality of the amount programmed in the Master Plan. Various estimates suggest that up to 10% of damaged schools are undergoing rehabilitation, but most schools have not yet been adopted by donors and many schools that have, do not have funds for equipment, materials, scholarships or books.

BUILDING BACK HEALTH SERVICES

The earthquake and tsunami caused widespread physical injuries and left hundreds of thousands traumatized. The disaster also destroyed much of the health system in areas where victims were located. Various local and international agencies helped to reestablish health services through the provision of staff, medical supplies, field hospitals or restored services at existing facilities. Relief efforts appear to have been largely successful and prevented widespread disease and famine.

Reconstruction of health facilities and service are now underway in about half of damaged health centres and sub-centres. The resources for this (more than half from NGOs) appear to be more than enough and may overwhelm the management and implementation capacity of provincial and district level heath offices. These are now paying greater attention to the development of coordinated strategic plans but are hampered by sketchy estimates of the numbers and locations of populations and cumbersome information systems. Many of the conditions that promote increased rates of disease transmission remain and surveillance systems and active programs against communicable disease are needed. There will also be a continued need for programs to tackle mental health problems which are more complex and longer-lasting than physical injuries.

RESTORING LIVELIHOODS

Cash-for-work, financed by many donors and NGOs, has played a vital role in providing safety nets and revitalizing the economy. UNDP alone has injected over US$10million into the local economy in this way, and various NGOs and donor agencies combined have employed 29,000 to 35,000 people. But these programs are now being phased out, as more housing construction projects and other regular employment activities are being launched.

The vital question is whether those jobs will be where the people needing work reside. If people are to be employed rebuilding their own communities – the preferred outcome for all – the logistical challenges outlined above need to be solved. And until they are, humanitarian assistance will still be needed. The transition from relief to reconstruction needs to be managed carefully, a lesson learned in many previous disasters. The 12-month humanitarian phase is expected to be followed by reconstruction. In this regard, the fact that the World Food Program, which currently provides food aid to 500,000 people, has at yet no budget for Aceh beyond the year's end is a matter of serious concern.

Helping the farmers, fishermen, traders and small entrepreneurs to reestablish their livelihoods is a pressing concern, which many agencies are now turning to. It is estimated that 7,200 boats were lost to the tsunami. To date, about 4,400 new boats have been built and delivered and a further 1,500 are pledged. However the quality of these has been questioned and there is a risk that a high proportion of the new vessels will be unusable within 12 to 18 months due to poor craftsmanship and the use of substandard materials.

THE IMMEDIATE CHALLENGES

Though there has been much progress, the challenge of rebuilding Aceh and Nias is as daunting as it was after the disaster. All donors and levels of governments need to be pressed to demonstrate commitment, urgency and probity. If local governments fail to rise to the challenge then BRR might need to assume a stronger role in project management.

A large amount of resources is available and some projects have begun to make an impact on people's lives in Aceh and Nias. The most important challenge is to implement projects amounting to US$ 3.7 billion, most of which have not yet started. If these projects are delivered quickly and efficiently, they will greatly improve the lives of the people in Aceh and Nias. Many sectors, like transport, housing and flood control also need more projects and financial support.

The peace accord signed on 15 August appears to be holding and all national and international efforts need to help maintain the peace. If fighting restarts it will greatly hamper tsunami recovery; and if recovery programs do not emphasize equity, they could trigger tensions and even spark renewed fighting. But the peace itself compounds the recovery program. Thousands of ex-combatants and conflict-displaced people are also returning to their home communities – stretching yet more thinly the resources to cope.

The next three months are very important for Aceh and Nias. The rainy season will soon start and on December 26 the affected areas will face the psychologically important one-year anniversary. Six priorities need to be urgently addressed before the end of the year:

- **Provide temporary houses:** It is likely to take two years to build all the new houses needed; people cannot be expected to remain in tents that long – especially tents that are rotting. BRR has asked the UN and Red Cross Movement to lead a rapid operation to import, distribute and erect temporary house units sufficient for all IDPs. NGOs are also urged to contribute to the aim of ensuring that everyone has a solid roof over their head come the tsunami anniversary.
- **Take care of renters:** Some of the poorest IDPs were renters rather than owner-occupiers. As yet they have few legally defined benefits, and until recently few agencies considered their plight. BRR has now asked UN Habitat to draft a policy for this most vulnerable constituency.
- **Tackle the transport logistics:** The temporary west coast road needs urgent repairs; many temporary bridges are failing; most ports remain badly damaged and there are few ships available that can make beach landings. Unless these problems are tackled the recovery will falter. BRR has asked the World Bank to lead a program of urgent infrastructure reconstruction to meet these needs.
- **Retain safety nets:** At present many safety nets remain un-funded beyond the year's end and may have to close. Although reconstruction will offer many jobs, it is dangerous to assume that IDPs will not crucially depend on food aid and humanitarian services in 2006 and perhaps beyond. BRR has asked World Food Programme and others to mobilize the budgets needed to continue their programs.
- **Resolve policy problems:** Many housing programs faltered in early months because of inappropriate or contradictory policies (including a "maximum price" per house that was too low). Many of these have now been ironed out, but recovery is beset by bottlenecks and obstacles, which BRR is charged with resolving. BRR is asking all agencies to help identify such blockages and work with them to identify solutions.
- **Get local government programs moving and on the right track:** On-budget funds are now available, through BRR, for district and provincial government programs. So far, these governments display little sense of urgency in this task, and the plans they submit for funding are often virtually unrelated to reconstruction. BRR is establishing urgent systems to advise and press local authorities regarding high quality and responsible recovery programs, to offer technical assistance, and to monitor closely these programs.

Part I: Social and Economic Conditions 6 Months after the Disaster

1.1 Beyond the Barracks – Coping with the Impact of the Tsunami

THE IMPACT

The tsunami and earthquake which hit Aceh and North Sumatra in December 2004 and March 2005 have come to represent the worst natural disaster in living memory. In Aceh, over 131,000 are dead and at least another 37,000 missing.[1] Of the survivors, an estimated range of 68,000 to 110,000 people have been made homeless. One in six of Aceh's 4.2 million people have become direct victims. In Nias 900 people died and 20,000 are now displaced.[2]

The disaster has left no one in the region unaffected. Countless survivors have lost relatives, friends and colleagues. Many have lost their homes, businesses and livelihoods. Extraordinary tales of loss, grief and survival are commonplace. The shock of the tragedy has left many traumatized.

Nine months after the tsunami, the results of how the people of Aceh and Nias coped with the horrific impact have been mixed. A largely successful relief effort prevented the death toll from escalating further. Basic needs of food, water and shelter were, and continue to be met.[3] Amidst the tragedy, examples of tremendous resilience and success are emerging. Some people have begun to return to their homes and rebuild their communities and livelihoods, but the majority remains in temporary shelters and are yet to return on the path to normality. Most of the major reconstruction work is yet to take hold.

On top of the tsunami reconstruction, the August 15 peace agreement between the Government of Indonesia and the Free Aceh Movement has added another layer of complexity to an already massive task. Nonetheless, an end to the violence creates the prospect of a truly sustainable recovery from the tsunami and the long-standing conflict. The international and national aid response must now work also to deliver a "peace dividend" to the people of Aceh in order to operationalize the peace accord and help to make it successful (see chapter 2.6).

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[1] Aceh data from was drawn from OCHA and HIC Situation Reports, May 19, 2005.

[2] Nias IDP data was drawn from OCHA, 21 June 2005. Nias is somewhat unique in that while 20,000 are IDPs, large numbers of people are living in tents on their own land, next to houses which remain habitable, for fear of another earthquake. These people require humanitarian assistance, but are not counted as IDPs.

[3] Some key achievements during the emergency phase: 1,094,033 children aged 6 months to 15 years (90% total) were immunized against Measles; 170,000 bed nets and 12,500 malaria testing kits have been distributed; 3 psycho-social support centers opened (5 more are to open soon); 53,953 MT of food have been dispatched by WFP from Medan and Jakarta; In May, 720,000 people were receiving food; The school supplementary feeding program reached 150,000 children by the end of May, and is expected to reach 340,000 by August; 4667 "schools-in-a-box" have been distributed as well as 668 school tents.

This report, updating an earlier draft version released six months after the tsunami, attempts to take stock of the current status of reconstruction and to outline the way forward to address what will be a five to ten-year process of rebuilding a better Aceh and Nias.

This chapter briefly recounts in human terms how the victims have coped with the physical, psychological and social losses they have suffered.

Box 1: "No one left": Devastation in Peukan Bada

Ibrahim Rahmat was out fishing at sea when the tsunami hit his village of Kampung Baru in the coastal sub-district of Peukan Bada. Two days later when he returned home, only two of the more than 800 people in the village that day were still alive. Not a single building remained standing. His village had become a wasteland.

The road through Peukan Bada is now dotted with signs, roughly daubed on salvaged, splintered wood, all pointing towards villages that physically no longer exist. Before the tsunami, this was a densely populated urban area. Now, virtually all that remains are tiled patches from living room floors, marking out where houses once stood.

Ibrahim, the Kampung Baru village head, points in the direction of the ocean, lapping gently just a hundred meters from where he sits. "See that? I was at sea on a four-day fishing trip when we felt the earthquake. Even out in the middle of the ocean, everything shook. We turned to each other and said, 'Wow, a quake that size, there goes Baiturrahman (the main mosque in Banda Aceh)!' We didn't think that there could be a tsunami, we had never heard of them before.

Two days after we felt the earthquake, we turned back to the mainland. That was when we started to come across bodies – one, two, three, more, floating in the water. We were afraid that they were victims of the conflict, so we just prayed over them and hurried on.

The coastline had changed. As we approached the shore, we could not see any of the familiar landmarks, houses, piers, trees. Everything was gone, flattened, washed away, all the way up to the mountains. We could not even tell where our houses had been, where our village was. Everywhere was deserted and silent. We saw many, many bodies, but their faces were black and we could not recognize any of them.

We thought that the people of our village must have fled, sought refuge away from the coastline and the ruin, so we set out along the main road to look for them. Still, there was no one on the roads, no one to be seen anywhere. Finally a police truck came along, and we asked them, 'Where has everyone gone? Where are all the survivors?'

'Survivors?' they asked in reply. 'Where on earth have you been for the past two days?' We explained. 'Then you don't know. You're from Kampung Baru, you say? That part of the coastline was totally destroyed. I'm not sure there were any survivors at all.'

In fact, just two people who were in our village at the time of the tsunami survived. Only two, both women. One of them was pregnant, but she miscarried from the shock. It was the same in villages all along here. No one left."

THE RESPONSE

The devastation wreaked upon Kampung Baru and towns and villages for hundreds of kilometers along the Sumatran coastline was met with an unprecedented response. The disaster mobilized tremendous levels of domestic and international support, with over 200 agencies active in the relief effort to provide emergency shelter, health, education, water

supply and sanitation and nutritional services to the victims.[4] The relief phase is widely hailed as a success. Mass outbreaks of disease were prevented, starvation was avoided, the homeless were provided shelter and the clean-up of the massive amounts of debris which the tsunami left behind proceeded rapidly.

Early into the relief phase, the Government of Indonesia launched an integrated process combining central, provincial and district governments, supported by local universities, donors and civil society to produce a 'Master Plan for the Rehabilitation and Reconstruction of Aceh and Nias'.[5] The Master Plan sets out a program to address the social, economic, institutional and financial needs for rebuilding a better Aceh and Nias.

However, the transition from relief into rehabilitation and reconstruction has progressed slowly thus far. The majority of victims remain living with host communities or in temporary barracks and tents in camps for internally displaced persons (IDPs). Assistance remains largely humanitarian in nature. Limited funds are flowing to meet long-term needs to restore destroyed communities and livelihoods. Victims are starting to be dissatisfied with the level of assistance provided.[6]

There are multiple reasons for the slow progress, some of which are unavoidable. The sheer scale of the disaster and the challenge of coordination across so many different institutions, coupled with the need to establish mechanisms for participation, accountability and transparency are at the core of the problem. There are trade-offs between the need for speed and the need to ensure adequate consultation with local communities. Ongoing serious problems with disbursement of the Government of Indonesia budget and unwieldy bureaucracies on the part of donors and government are also at fault. Irrespective of the cause, the pace has left many frustrated. Many communities remain unclear about how to access support. As Kampung Baru village head Ibrahim Rahmat explained,

> *"The population of this village used to be 1010, now it is less than 200. We are building barracks here and about thirty people are living in them now. A local NGO promised that we would have houses by the end of April, but although we had meetings, back and forth, so far all they have built is one prototype. No one in this village has got their jadup (government subsistence allowance) since the first month.*
>
> *We see the banners and logos of all these NGOs and foreign organizations, but we don't know who to ask for help or where to go for information. We need mattresses and other household essentials, so we wrote a proposal to the housing NGO because they said they would help us. We haven't heard anything about it since.*
>
> *You must understand what people here are like. We won't keep asking for ever. Better to make do with what we have, than be rejected over and over again."*

[4] As of 16 May 2005, there were 457 institutions active in the recovery and reconstruction of Aceh and Nias.

[5] Regulation of the President of the Republic of Indonesia Number 30 of the Year 2005 on the Master Plan for Rehabilitation and Reconstruction for the Regions and the People of the Province of Nanggroe Aceh Darussalam and Nias Islands of the Province of North Sumatra.

[6] International Organization for Migration, "Settlement and Livelihood Needs & Aspirations Assessment", May 2005

Local resilience

Despite the scale of the tragedy, with the support of mostly foreign donors and NGOs, communities are beginning to restore their homes and their lives. The tight social fabric of Acehnese society, based primarily around Islam in Aceh and the Church in Nias, is at the core of community revitalization. Communities in Aceh who choose to leave the barracks and return to the dusty, desolate remains of their homes inevitably commence reconstruction with a *meunasah* or mosque. Tents and temporary shelters nestle around the mosque as the centerpiece of the new beginning. Reflecting the social nature of the locals, quite often a coffee shop will be next.

Above all, the strength and commitment of local leadership, communities and individuals is the basis on which the reconstruction effort is founded. Stories of extraordinary resilience abound – the government official who lost sixty-five members of his family but continues to work; the Bupati in the completely destroyed city of Calang who went back to work on December 27, despite the loss of his wife and two sons; community groups who trawled swampy wastelands searching for bodies of the dead.

Box 2: "We want to do it ourselves"

When the tsunami hit Aceh, Lia was in Jakarta visiting her sick mother. She returned three days later to her village of Kampong Keuramat to mountains of dead bodies; houses and roads buried by fetid debris. Lia's family survived, but their house was badly damaged.

What Lia mostly wanted to do was to help. "My heart aches because I wasn't able to join everyone in their fighting against the tsunami. So I've decided to help everyone, because now we are all the same. All of us are one family now," says Lia.

She cleared ditches, went door-to-door to offer well-cleaning services for free, and approached NGOs for food. Her rehabilitated house now serves as a bread-collection centre. Residents around her neighborhood go to her house everyday to collect free bread delivered by a Turkish NGO. The supply of 600 loaves of bread feeds around 180 families a day.

Lia's efforts have earned the respect of her neighbors. They encouraged her to join the *Kerap,* an elected local committee that handles and monitors reconstruction funds under the Urban Poverty Project. "People trust me, so I can't refuse them. I've only got a high school education; I'm not a leader, just a helper. [But] I'm not working, so I have time to help," she says. Now as a *Kerap* member, she is helping vital land mapping sessions in her village. Her *Kerap* plans to complete the mapping within one week.

"The morale of our people is very high. I don't see a problem gathering everybody for reconstruction." Lia's only worry now is she has heard rumors that the construction work of Kampong Keuramat has been tendered to contractors. "We don't want the contractors; we want to do it ourselves. We have the expertise and we want to create jobs for our people."

Other stories of resolve and ingenuity abound across the affected areas:

- Teuku Ahmad Dadek, the head of Johan Pahlawan sub-district in Meulaboh, is known as the 'fixer in the uniform'. Faced with multiple aid agencies working in the field, he plots the involvement of every organization active in Meulaboh on a matrix that details who precisely is working on what and where. He also holds regular sector coordination meetings. In other parts of Aceh, NGOs have set up operations

based primarily on their own assessment, but in Meulaboh Teuku Ahmad guides them by pointing out gaps and suggesting where they can be of most use, matching the aid to the people who need it most.

- In Jantho Baru village in Aceh Besar, displaced fishing communities from Pulo Aceh are moving towards self-sufficiency. Six months since the tsunami, they have resettled and successfully planted and harvested new crops. Humanitarian assistance which was previously required weekly now only needs to be delivered on a monthly basis.
- Boat-builder Surya Daud from Bireuen has employed twelve people and, with the support of the NGO Save the Children, is training another twenty to build boats, simultaneously restoring his own livelihood and the fishermen who desperately need to return to sea.

THE CHALLENGES AHEAD

Despite the stories of resilience, nine months after the tsunami, the challenges ahead remain enormous. The primary aim for all communities should be the same: to get past a short-term dependency on relief and into the reconstruction program. The majority of victims wish to return to their original locations. This is where they own land, hold strong ancestral and emotional ties and have the best opportunity to return to the livelihoods they know best.

The graduation from emergency conditions to recovery is currently sporadic and geographically dispersed. For thousands of victims, this transition remains months away, if not more. Along the west coast, entire communities have been subsumed by the sea. What was once land has now become ocean. Survivors still require resettlement, new land with clarity of legal status, support for housing and basic needs and, potentially, re-training in a new livelihood. These processes must be based on full consultation with affected communities and cannot be rushed. For these reasons, humanitarian relief will remain many victims' reality for the foreseeable future.

There will be inevitable trade-offs between the need for rapid rebuilding and the need for placing the people of Aceh and Nias at the heart of the reconstruction. Nonetheless, the speed of the effort needs to increase. Fundamental to this is clarification of land rights, followed by housing and livelihoods.

The basis of a program to revive and restore land rights is firmly in place. The Land Administration Agency and NGOs supporting community-driven adjudication of land rights must scale up their efforts as a matter of priority. Once land usage rights have been restored, village spatial plans can be completed and genuine reconstruction commence. Housing is the key immediate need. Donor pledges still need to be turned into reality on the ground. Of the estimated 100,000 houses required in Aceh (including the islands of Nias and Simeulue), only 6,033 have been completed thus far. A lack of labor, both skilled and unskilled, and shortages in construction supplies will complicate this massive effort.

In essence, local communities have coped with determination, tempered by frustration and occasional helplessness. The cooperation between aid organizations and local communities has facilitated coping and provided time for preparation and coordination of the longer-term reconstruction. While outcomes are less predictable in demand-driven programs, these cash-based programs form an essential support to communities, once the large reconstruction

programs commence. There should be further and additional efforts to institutionalize coping:

- *Coping through guaranteed humanitarian support.* Humanitarian assistance will remain necessary for an extended period, likely to last from 18 months to two years, particularly for vulnerable groups. Policies will be required in order to prevent dependency.
- *Coping through a reliable environment of different aid and development services.* The rush of different aid organizations (multilateral, bilateral, NGOs) to do all similar work is worrying. There will be a need to provide differential forms of support over an extended period: physical macro-level and meso-level reconstruction, community rebuilding, urban rebuilding, care for victims and vulnerable groups, support to re-investment and innovation.
- *Coping through more mature political representation which is responsive to community expectations and needs.* Strengthening local institutions and building genuine public participation in local governance is essential for long-term recovery.

More and more examples of restoration and hope show that once villages have reestablished formal and informal leadership, are provided with access to information on assistance available, successfully re-assert rights to land and reconfigure their village spatial plans, and are provided with housing and livelihoods support, the people of Aceh and Nias are ready to move beyond the barracks and back into their homes.

As Bahrum, a victim from the district of Pidie said, "just give us money and support and we will get on with it ourselves."

1.2 The State of the Economy in Aceh

The relief effort, the strength of social cohesion and aid directed at the grassroots helped the victims cope in the short-term. Cash-for work programs that focused on the immediate need to clear up tsunami–affected sites generated the bulk of much needed employment opportunities during the initial phase after the tsunami. Yet long-term recovery relies on economic growth and stability, the key elements of which are a functioning financial sector, access to capital and, most of all, jobs.

OVERVIEW

Nine months after the tsunami, the economies of Aceh and Nias are still suffering from the terrible human and physical costs inflicted on their people. Current economic conditions in Aceh and Nias are challenging. The picture is one of increasing but still limited economic activities and employment opportunities, rising inflation and a banking system only slowly re-emerging to begin lending operations.

The cash-for-work programs are currently being phased out, as more housing construction projects and other regular employment activities are being launched. However, the shift to the reconstruction phase of the recovery will increase the demand for semi-skilled and skilled labor. More than 1,000 workers per week are now being placed in jobs due to the increase in demand for construction workers. This will require an increased emphasis on skills-enhancement training.

Rapidly rising prices driven mostly by supply constraints is a serious concern. Destroyed road networks caused transport prices to increase by 23.8 percent during the first 8 months of this year. Food prices increased by 28.2 percent during the same period. Food aid – via Dolog's market operations and food-aid program of agencies such as WFP – seems to have stabilized the prices of major food staples such as rice. But food markets are still suffering from high marketing and delivery costs, which explain the continuous high food-price inflation.

Lack of access to capital markets severely constrains economic recovery. Despite the quick response from banks to restore basic services, lending operations have not yet resumed on a significant scale. By end-July 2005, the outstanding volume of credits, in real terms, was still 5.4% lower than pre-disaster volume. The tsunami has left many debtors incapable of repaying loans, which has reduced the income of banks and increased the number of non-performing loans. Commercial banks are reluctant to provide loans to tsunami-affected businesses that do not have the required collateral. One of the largest concerns in the banking sector is the lack of a coordinated strategy to deal with non-performing loans and to treat debtors who have no ability to repay because their assets were destroyed by the tsunami.

It seems to be clear that the key to economic recovery is more rapid progress with reconstruction. This would generate badly-needed stable income-generating activities for communities, particularly once the rehabilitation phase is over. Development assistance is playing a vital role in the reconstruction process, but greater coordination among donors and governments – both at central and local levels – is required to ensure smoother aid flows.

Sector-level initiatives by several donors aim to provide financial support to acquire productive assets, such as boats and fishing gear. It is vital that during the initial phase of rehabilitation and reconstruction such support be provided in the form of grants. Micro-credit facilities will play a more important role in the subsequent reconstruction phase to facilitate investment activities.

THE IMPACT

Indonesia compared to other tsunami-affected countries. The total economic impact across all affected countries is estimated at 9.9 billion US dollars, of which almost half has been borne by Indonesia. The total impact relative to the overall size of the economy in Indonesia is approximately 2 percent; this figure is significantly lower than in Maldives (83.6 percent) and Sri Lanka (7.6 percent). The estimated ratio of damage to gross capital formation, another indicator of the extent of reconstruction needs, situates Indonesia as the third most affected economy. The losses-to-GDP ratio, which indicates the impact of the tsunami on national production, is 0.7 percent for Indonesia. The disaster is predicted to reduce the rate of economic growth for 2005 by 0.2 percentage points (Table 1).

The statistics at the national level presented above do not provide insight into the localized impact of the disaster within the affected countries. Provincial-level statistics reveal that reconstruction and economic recovery requirements are equivalent to nearly the size of some provincial economies. In particular, Aceh comes up as having the highest impact-to-GDP ratio (97 percent), followed by Phang Nga province in Thailand (90 percent), the entire Maldives (84 percent), and Krabi and Phuket in Thailand (68 percent each). Given such high relative magnitudes, the negative impact of the tsunami can only be overcome through considerable assistance from the central governments and the international donor community.

The overall impact of the disaster on the economy depends not only on its aggregate scale and geographic or spatial distribution but also on its sectoral distribution. The bulk of damage in Indonesia has been in the housing and human settlements sector, which accounts for 47.9 percent of the total damage. This percent is much higher than in any other affected country (Table 1). This implies that the reconstruction may take longer to be completed, since construction of new dwelling units takes time. Furthermore, relocation of certain housing areas to other locations due to changed landscape or safety reasons will entail additional economic and social costs. At the same time, relative damage to productive sectors in Indonesia has been substantially less severe than in other affected countries.

Table 1: The demographic and economic impact in the disaster-affected region: cross country comparisons.

	India	**Indonesia**	Maldives	Sri Lanka	Thailand
Demographic impact					
Population, million	1,064.4	**214.7**	0.293	19.2	62.0
Population loss (incl. missing)	16,389	**221,291**	108	35,386	8,221
Population loss (incl. missing), % of total population	0.002	**0.103**	0.037	0.184	0.013
Population loss in the most affected province, % of total province population	n/a	**3.0**	n/a	2.7	1.5
Economic impact					
GDP per capita, US$	564	**970**	2,440	950	2,306
Total damages and losses (D & L) from tsunami, US$ million	1,224	**4,451**	603	1,454	2,198
Total D & L from tsunami, % of GDP	0.2	**2.0**	83.6	7.6	1.4
Pre-disaster forecasted GDP growth rate for 2005, %	7.2	**5.4**	7.5	6.0	6.0
Estimated change in the 2005 GDP growth rate due to the disater	n/a	**-0.2**	-9.2	-0.6	-0.3
Private vs. public sector D & L					
Private sector, US$ million	891.0	**3,168.0**	374.0	1,060.0	2,137.0
Private sector, % of total	72.9	**71.2**	62.1	72.9	97.2
Public sector, US$ million	332	**1,283.0**	228.0	394.0	61.0
Public sector, % of total	27.1	**28.8**	37.9	27.1	2.8
Damage vs. losses					
Damage, US$ million	575	**2,920**	450	1,144	508
Damage, % of total D & L	47.0	**65.6**	74.6	78.7	23.1
Damage, % of annual gross capital formation (GCF)	0.5	**7.1**	217.0	28.1	1.5
Losses, US$ million	649	**1,531**	153	310	1,690
Losses, % of total D & L	53.0	**34.4**	25.4	21.3	76.9
Losses, % of GDP	0.1	**0.7**	21.3	1.5	1.0
Sectoral composition of damage, % of total damage					
Housing	*33.6*	***47.9***	*20.9*	*36.0*	*4.3*
Physical infrastructure	*13.6*	***21.8***	*27.3*	*23.9*	*5.3*
Transport	6.1	**14.0**	16.2	19.7	1.4
Water supply	-	**0.9**	10.0	2.7	0.2
Electricity	-	**2.3**	1.1	1.5	0.8
Other infrastructure	7.5	**4.5**	0.0	0.0	3.0
Social sectors	*1.9*	***9.5***	*7.3*	*7.2*	*1.8*
health	1.9	**3.8**	2.7	5.0	1.8
education	0.0	**5.7**	4.7	2.2	0.0
Productive sectors	*46.1*	***12.1***	*28.4*	*31.8*	*88.6*
Fisheries	40.0	**3.5**	3.1	9.1	13.2
Tourism	0.0	**0.0**	22.2	21.9	73.8
Agriculture	2.6	**2.9**	2.4	0.3	1.6
Industry and Commerce	3.5	**5.7**	0.7	0.5	0.0
other	*4.9*	***8.8***	*16.0*	*1.1*	*0.0*
Provincial level impact*					
Total impact (D & L), % of provincial GDP	4.0	**97.0**	84.0	90.0	8.0
Damage, % of provincial GDP	1.9	**63.6**	62.7	70.8	1.8
Losses, % of provincial GDP	2.1	**33.4**	21.3	19.2	6.2

Source: compiled based on the data from the Asian Disaster Preparedness Center.
Note: * - most affected province in each country; for Maldives the data refers to total country.

Income and poverty. The projected aggregate impact of the tsunami on Aceh's GDP and poverty rates has been well documented by the Government's Master Plan.[7] Due to data limitations the impact of the tsunami on Aceh's income growth and poverty headcount index is presented as a range (Table 2). A moderate scenario, which is most likely to materialize, predicts a 20 decline in Aceh's non-oil and gas GDP in 2005.[8] Accordingly, Aceh's economy would contract by 13.9 percent and an additional 600,000 people would fall below the poverty line.

Table 2: Growth and Poverty Impact Scenarios

	Scenario 1 (Minor)	Scenario 2 (Moderate)	Scenario 3 (Worst)
Impact on Growth			
Aceh's Non-Oil and Gas GDP Declines by 1/ (%)	10.0	20.0	40.0
Aceh's Growth Rate (%)	-7.0	-13.9	-27.8
Impact On National GDP Growth (%)	-0.1	-0.2	-0.4
Revised GDP Growth Forecast (%)	5.3	5.2	5.0
Impact on Poverty			
Impact On National Poverty Headcount Index (%)	0.1	0.3	0.5
Increase in Number Of Poor (million)	0.2	0.6	1.1

Source: Master Plan for Reconstruction and Rehabilitation, March 2005, World Bank Staff Estimates.
1/ Based on *estimated* 2004 GDP

Employment. Based on the Government's Master Plan estimation of 20 percent contraction of Aceh's non-oil and gas GDP, the unemployment rate would increase from 9.3 percent in 2004 to 27.5 percent in 2005.

It is important to bear in mind that these figures are *aggregate* approximations; that at the moment there are no estimations available at sub-provincial levels; that growth rates would likely differ across tsunami-affected and unaffected districts; and that this analysis does not take rehabilitation and reconstruction activities into account. In addition, experience from other post-disaster situations shows that official unemployment rates do not always fully reflect the complete picture of prevailing social conditions.[9]

Employment during the initial phase after the tsunami has been mainly generated by cash-for work programs, mostly run by CSOs such as Mercycorps or Oxfam. These activities focused on the immediate need to clear up tsunami–affected sites. Daily wage rates paid by these

[7] Data on Aceh's economic performance in 2004 is still scarce, thus making new projections difficult. For instance, provincial GDP data for Aceh are published with a considerable time lag. Currently only 2004 Aceh GDP data are available. Data for GDP Q1 2005 are not expected to be circulated before end 2005. Moreover, results of the August 2005 Census are expected to be released in mid-November 2005. The data collected in the census will provide the baseline data needed for the aid community and the government to devise their action plans. Except aggregate damage estimates (see chapter 1.1. and 3.2) economic data on Nias was not available.

[8] Summary table of damages and losses (page. iii of the Master Plan) puts estimated losses in the next 4 years at US$1.5 billion (roughly Rp. 14 trillion). Assuming that about 40 percent of losses would be observed in 2005, estimated losses of non-oil and gas would be Rp 5.5 trillion. This is about 20 percent of Aceh's non-oil and gas GDP.

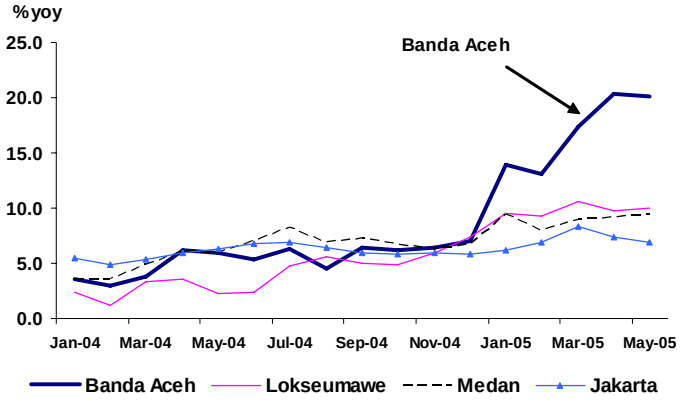
[9] Many may not have access to formal employment, but engage in informal work to secure basic incomes.

programs were generally set in the range of 35,000 Rp for unskilled, 45,000 – 50,000 Rp for semiskilled and 50,000–75,000 Rp. for skilled labor.[10] Anecdotal evidence suggests that most donor agencies and CSOs have followed these informal wage guidelines. However, these programs are currently being phased out, as more housing construction projects and other regular employment activities are being launched.

The cash-for-work programs played an important role by providing income-generating opportunities for a broad scope of the population. The shift to the reconstruction phase of the recovery will increase the demand for semi-skilled and skilled labor increasing also the need for additional skills-enhancement programs.[11] Several of such initiatives are being currently undertaken by Catholic Relief Mission, ILO, and other donors. Some examples are on-the-job training for construction workers, product-based courses (e.g., how to construct a door frame), and longer-term courses that are needed to build more elaborate skills. ILO is working on identifying the skills shortages in the market so as to better target the training programs. It might be expected that the reconstruction phase will first increase demand for brick layers, carpenters, electricians and plumbers.

Inflation. Since the tsunami, inflation has risen significantly in Banda Aceh and Lokseumawe, the areas in Aceh for which data are available. Up until December 2004, the inflation pattern followed the national pattern, whereas after the tsunami, supply constraints resulted in higher inflation rates. In Banda Aceh, the year-on-year (annual percentage change) price growth jumped to from 7 percent in December 2004 to 14 percent in January 2005. The inflation rate continued to increase reaching 22.8 percent (year-on-year) in August 2005 (Figure 2).

Figure 2: CPI Trends, various cities



Source: BPS, World Bank Staff calculations

Supply and distribution constraints (indicated by soaring transport prices), are the prime causes behind the drastic food price increase in January. The annual percentage change in food prices rose to 19.6 percent in January 2005 (compared to 4.7 percent in December 2004), and continued to increase until August, peaking at 33 percent (Figure 2). Month-on-month inflation figures, however, show a less steep increase: after accounting for 13 percent in January, average month-on-month inflation stood at 3.3 percent from February to August. Food aid – via Dolog's market operations and food-aid program of agencies such as WFP –

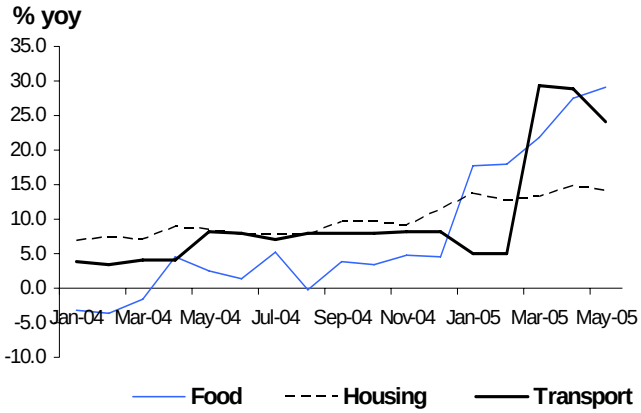
[10] The government-established monthly minimum wage level for Aceh is 620,000 Rp, which translates into a daily wage of 31,000 Rp (based on 20 working days).

[11] For instance, a reported 400 trained Aceh-based engineers are having difficulties finding jobs as they have no or very limited work experience.

seems to have stabilized rice prices relatively quickly. [12] But food markets are still suffering from high marketing and delivery costs, which explain the continuous high food-price inflation.

Damaged and destroyed road networks caused transport prices to increase dramatically. The annual percentage change in transport price index averaged 21 percent during the first 8 months of this year (Figure 3). Prices for one-way transportation between Banda Aceh and Meulaboh jumped from 30,000 Rp in December 2004 to 350,000 Rp in January 2005, before declining again to 150,000 Rp in April and further to 100,000 Rp in August (Figure 4). Apart from the supply constraints after the tsunami, national fuel price increments in March may also have contributed to the already soaring transport prices.

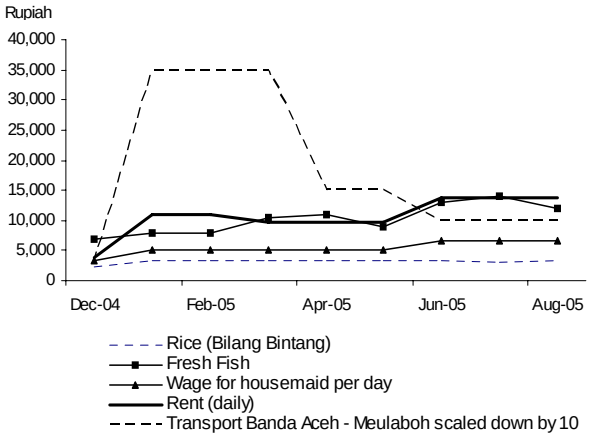
Figure 3: Selected CPI Items in Banda Aceh



Source: BPS, World Bank Staff calculations

House rents also jumped dramatically by almost 200 percent during the first two months after the tsunami, before stabilizing at an average of 9,600 Rp from March to May. But June saw another 42 percent jump in daily rent prices to 13,700 Rp. Rent prices stayed at this level until August (Figure 4).[13]

Figure 4: Nominal prices, Banda Aceh



Source: BPS, World Bank Staff calculations

A comparison across selected cities (see Table 3) shows that the closer the location to the tsunami-affected areas, the higher its inflation rate. This observation reflects the supply constraints in the immediately affected areas (Banda Aceh and Lhokseumawe). Prices also increased in Medan, which serves as a regional hub for aid and government agencies. Thus, the CPI for Banda Aceh has

[12] A report by the Indonesian Center fro Agro Socio Economic Research and Development (ICASERD) reports that dramatic rice price increases occurred only within the first three weeks of the Tsunami, but stabilized relatively quickly afterwards.

[13] BPS reports annual rents for houses. Daily rents are calculated by dividing the reported rent by 365 days. However, the rent prices reported are under-estimated, since BPS' sample of houses has rent contracts fixed for one year and therefore does not capture fully the price trends in the housing market. The average price of a good quality room in a guesthouse is now around 300,000 – 350,000 per night.

increased at an average yearly rate of 18.3 percent from January until August 2005, more than 10 percentage points higher than price trends in Jakarta. Even more striking is the food-price inflation disparity, with a 19 percentage point gap between Banda Aceh and Jakarta.

Given that many communities have lost their property and incomes, and are only having limited access to income-generating activities, these price increases are likely to have serious poverty implications.

Table 3: Selected CPI Items (January-August 2005)

	General	Food	Non-food
	(average inflation year-on-year)		
Jakarta	7.3	5.8	8.0
Medan	9.1	9.3	8.8
Lokseumawe	9.2	9.1	9.5
Banda Aceh	18.3	24.4	12.9
National	7.8	7.0	8.3
	(average inflation month-on-month)		
Jakarta	0.7	0.6	0.7
Medan	0.9	1.0	0.9
Lokseumawe	0.6	0.7	0.6
Banda Aceh	2.2	3.3	1.2
National	0.7	0.6	0.7

Source: BPS, World Bank Staff calculations

The banking system. The banking system, led by Bank Indonesia, has responded quickly in the aftermath of the tsunami. Basic payment operations were restored during the first weeks after the disaster. Customers' access to their accounts has been largely granted without major difficulties, with banks allowing for an easy identity verification process. Bank Indonesia issued a regulation[14] to provide the legal umbrella for banks to facilitate banking and lending operations in Aceh. In another effort to restore a functioning payment system, Bank Indonesia has issued new bills worth 550 million Rp. in exchange for damaged bills at the end of March 2005. None of the Acehnese commercial banks requested liquidity support from Bank of Indonesia. When liquidity was needed, the local banks received it from their respective central (headquarters) offices.

Total assets of the banking system declined by 10% in the immediate aftermath of the tsunami. By end-June 2005 they recovered to their pre-tsunami levels in nominal terms, but remained below the pre-tsunami levels in real terms (Table 4).

Table 4: Main Banking Indicators (in billion Rp.)

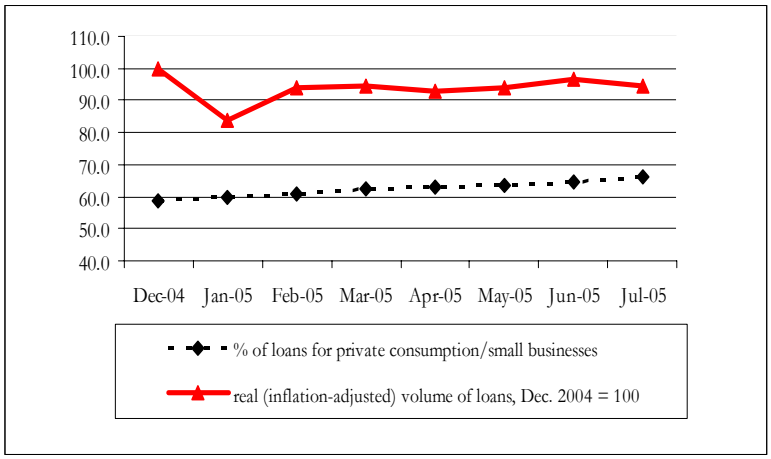
	Dec-03	Dec-04	Mar-05	Jun-05
Total Assets, billion Rp. (in current prices)	9879.9	10782.9	10061.4	11092.3
Total Assets, billion Rp. (in Dec. 2004 prices)	10225.7	10782.9	9160.0	9754.1
Outstanding Credits, billion Rp. (in current prices)	2123.1	3200.7	3327.0	3514.0
Outstanding Credits, billion Rp. (in Dec. 2004 prices)	2197.4	3200.7	3028.9	3090.1
Deposits, billion Rp. (in current prices)	7656.4	7951.7	8297.7	9464.9
Deposits, billion Rp. (in Dec. 2004 prices)	7924.4	7951.7	7554.4	8323.0
LDR, (%)	27.7	40.3	40.1	37.1
NPL, (%)	2.7	2.8	6.7	10.0

Source: Bank of Indonesia

[14] No.7/5/PBI/2005. The regulation allows for easier criteria to calculate non-performing loans (NPL). Loan restructuring efforts will be facilitated by considering only one criterion to evaluate debtors: past principal/interest payment records. The other usual criteria needed to obtain loans - overall prospects of business and cash-flow/financial performance records - will be reneged until 2008. However, commercial banks are unwilling to lighten up borrowing requirements and continue to require that 100% collateral is provided by debtors.

Total deposits, which consist of demand deposits, savings, and other deposits, increased by 10.2 percent in real terms during the second quarter of 2005 as the money from donors started to flow in. However, this increase in deposits has not yet kick-started significant lending activities. The amount of credits extended by banks during the second quarter increased in real terms by only 2 percent. Thus, the loans-to-deposits (LDR) ratio decreased from 40.1% in March 2005 to 37.1 percent in June 2005 (Table 4). By the end of July 2005, the outstanding volume of credits, in real terms, was still 5.4% lower than pre-disaster volume (Figure 5).

Figure 5: Total outstanding volume of bank loans and % of loans for private consumption/small businesses, Dec. 2004 - July 2005



Source: Bank of Indonesia , World Bank Staff calculations

However, the share of small-scale loans (credits for private consumption and small businesses) in total lending increased from 58.5 percent pre-tsunami to 66.3 percent in July 2005 (Figure 5). The volume of such credits has also registered an increase in real terms by 5.4% during the second quarter of 2005. This increase is mostly driven by small-scale entrepreneurs buying stocks of goods.

Despite the quick response from banks to restore basic services, lending operations have not yet resumed on a significant scale, mostly because many businesses do not have the collateral to secure loans. As was to be expected, the tsunami disaster has left many debtors incapable of repaying loans, which has reduced the income of banks and increased the number of NPLs. The percentage of non-performing loans increased significantly from 2.8 percent in December 2004 to 10.0 percent in June 2005 (Table 4).

One of the largest concerns is the lack of a coordinated strategy at the government level on how to deal with non-performing loans and how to treat debtors who have no ability to repay because their assets were destroyed by the tsunami. Bank of Indonesia submitted a proposal in this regard, but it has not been considered yet. A possible strategy would be a complete write-off of debts for tsunami-affected areas, as this would allow many entrepreneurs who are currently on the "black" list of non-repaying debtors to become eligible for new credits. However, as the write-off will affect the balance sheets of commercial banks, this action should come with support from Bank of Indonesia to recapitalize affected banks.

Access to capital is also a major concern for the many small entrepreneurs in displaced communities. A survey carried out by the International Organization for Migration (IOM) revealed that provision of capital was the most immediate concern for displaced people to re-engage in economic activities and to revive the local economy. Consequently, the demand

for micro-credit schemes and grants is increasing at the grassroots level. CSOs such as OXFAM or Mercycorps are currently playing a vital role in this regard by providing links to sources of funding as well as issuing guarantees of up to 85-100 percent of the amount of credits extended by commercial banks.

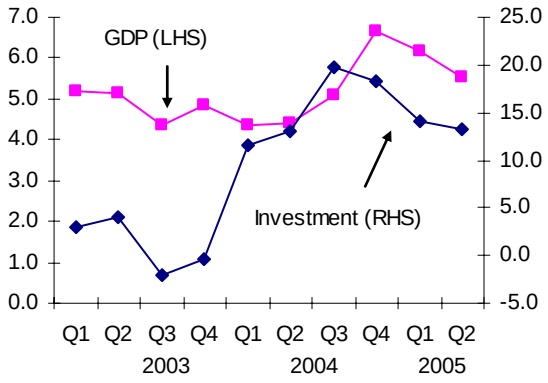
The dilemma for both the formal commercial banking sector and CSOs is to carefully balance sound business principles and humanitarian aspects in the provision of micro-finance. Aid agencies and CSOs have to carefully design the right mix of loan and grant elements in providing financial aid at the village level.

It is worth noting that the banking environment has changed dramatically as the local banks are facing an increasing competition from CSOs providing grants, and from international micro-credit institutions which are ready to extend credits to small businesses on much more flexible terms. The local banking sector will need a considerable readjustment of its practices to keep afloat in the new capital markets' environment.

THE OUTLOOK

National macroeconomic conditions have become less favourable since the second quarter of 2005. Annual growth in the second quarter has declined slightly, but its level remains considerably high at a solid 5.5 percent. Encouragingly, investment continues to grow strongly at 13.2 percent, signalling continued investor confidence (see figure 6). However, the recent slide of the Indonesian Rupiah has forced the government to pursue tighter monetary and fiscal policies resulting in higher interest rates and higher fuel prices (by gradually phasing out fuel subsidies). These measures will most certainly dampen growth prospects for the remainder of the year. Continued high international oil prices should benefit Aceh in terms of higher revenues from oil and gas, which constitute 43 percent of Aceh's GDP. However, the higher fuel prices could also hamper the reconstruction process by further inflating input costs. In all, three main macroeconomic issues are of immediate concern: creating employment, controlling inflation and re-building the financial sector.

Figure 6: National GDP and investment growth
(year-on-year growth rate, percent)



Source. BPS, World Bank staff

Starting construction projects on a large scale is certainly the most effective way to create jobs. At least in the short to medium term, this should also help to mitigate the poverty impact and reduce social dislocation. In the initial phase, donors have initiated cash-for-work programs which are now in the process of being phased out as the reconstruction phase kicks in. There is a need for a common daily wage structure between various support initiatives so as not to induce competition.

Ensuring equilibrium between demand and supply of labor is vital for the recovery process. Thus, authorities and donors need to strengthen efforts to provide local workers with the necessary skills so as to limit the number of workers that need to be brought in from outside Aceh. Several skill-enhancing initiatives are being currently undertaken by some donors, while there is an increased recognition that more needs to be done in this area as efforts shift from relief efforts to sustainable reconstruction and development.

In the long term, the employment-creating potential of the many self-employed individuals and SMEs, particularly in the agricultural sector, has to be used to maximize the number of jobs in the economy of Aceh and Nias. Such a policy emphasis will enable people to work themselves out of poverty.

In the initial phase after the disaster, no employer has been registered with the Department of Manpower, which resulted in the non-payment of taxes and lack of protection (including health insurance) for workers. There is a time now to put this issue on the agenda, and the Department of Manpower has recently issued a directive which stipulates steep fines for employers who have not registered.

Soaring inflation is a threat, but seems unavoidable at this stage. Supply and distribution constraints have contributed most to inflation in the initial phase. The growing presence of national and international agencies has also further pushed up prices, especially in Banda Aceh. Noteworthy, wage inflation is not considered to be a prime driver of overall inflation. To date, demand for labor generally met sufficient supply, especially with regard to unskilled labor. However, once reconstruction projects are launched on a large scale, additional inflationary pressures are expected to build up. There is a concern that this can significantly increase the cost of reconstruction and of doing business in Aceh and Nias. Authorities need to carefully balance the need to control inflation with output and employment concerns. At this stage, the priority is to get the real economy going.

A functioning financial sector is a key condition for economic recovery. At this moment, there seems to be a 'two-track' financial system. On the one hand, the formal commercial banking sector is only slowly stepping up lending operations. On the other hand, CSOs move quickly on the ground to provide financial access to village communities. There is an urgent need for a coordinated strategy to deal with non-performing loans of the banking system and to lighten up borrowing requirements as assets that could be used as collateral have been lost. Altogether, greater overall coordination is vital in delivering financial support to individuals and enterprises.

Part II: Key Issues in the Recovery

2.1 Managing the Recovery: The Master Plan and the Reconstruction Agency

Thanks to unprecedented generosity and commitment from within Indonesia and around the world, significant resources are available for reconstruction. The success of the recovery will therefore be mainly determined by how it is managed. Indonesia recognizes that the management of the reconstruction process will also have a strong impact on how it is perceived globally, particularly in terms of good governance.

THE REHABILITATION AND RECONSTRUCTION AGENCY

On April 30, 2005, the government established a Rehabilitation and Reconstruction Agency (*Badan Rehabilitasi dan Rekonstruksi,* BRR) with authority to "plan, implement, control and evaluate" the process. The BRR reports directly to the President and was set-up to implement the recovery process effectively and efficiently,

The Government set up BRR as an independent agency to allow for comprehensive, efficient, and transparent implementation of a governance and management framework to ensure the integrity of the use of the billions of dollars pledged by citizens, organizations and governments around the world. However, this option also entails significant coordination challenges with central line ministries, local governments, and donors, who need to adapt to dealing with the new agency.

Role. The mission of the BRR is: "To restore livelihoods and strengthen communities in Aceh and Nias by designing and implementing a coordinated, community-driven reconstruction and development program with the highest professional standards." The agency is in charge of the whole reconstruction program but its primarily function is to coordinate and ensure that the reconstruction program is consistently implemented. BRR was not designed to execute all rehabilitation and reconstruction projects in Aceh and Nias (although it may expand into an implementing role).

The agency strives to ensure that high standards are met by all agencies contributing to the recovery program. It also facilitates implementation by other stakeholders, and collects and disseminates information on all aspects of the rehabilitation and reconstruction process. A primary focus is on preventing corruption and misuse of funds (see chapter 2.2.)

Institutional Set-up. BRR consists of three bodies:

- The **Reconstruction Agency (*Badan Pelaksana* or Bapel)** is the full-time organization that is primarily responsible for delivering on the mission of the BRR. It has a broad range of functions from coordinating the rehabilitation and reconstruction of Aceh and Nias, implementing selected reconstruction and capacity-building programs, to overseeing financial flows for such programs and communicating with the public and the donors on the progress of rebuilding the affected communities. The Director of the Reconstruction Agency, Dr. Ir. Kuntoro Mangkusubroto, has ministerial rank and broad authority to assemble a professional team from all relevant sectors.

- The 17-member **Advisory Board (*Dewan Pengarah*)** sets out the general policy directions for the BRR and is composed of central government ministers, provincial governors, district heads and prominent members of Aceh and Nias' civil society. The chair of the Advisory Board is the Coordinating Minister for Political and Security Affairs, the board's secretary is the chairperson of the National Development Planning Agency (BAPPENAS).

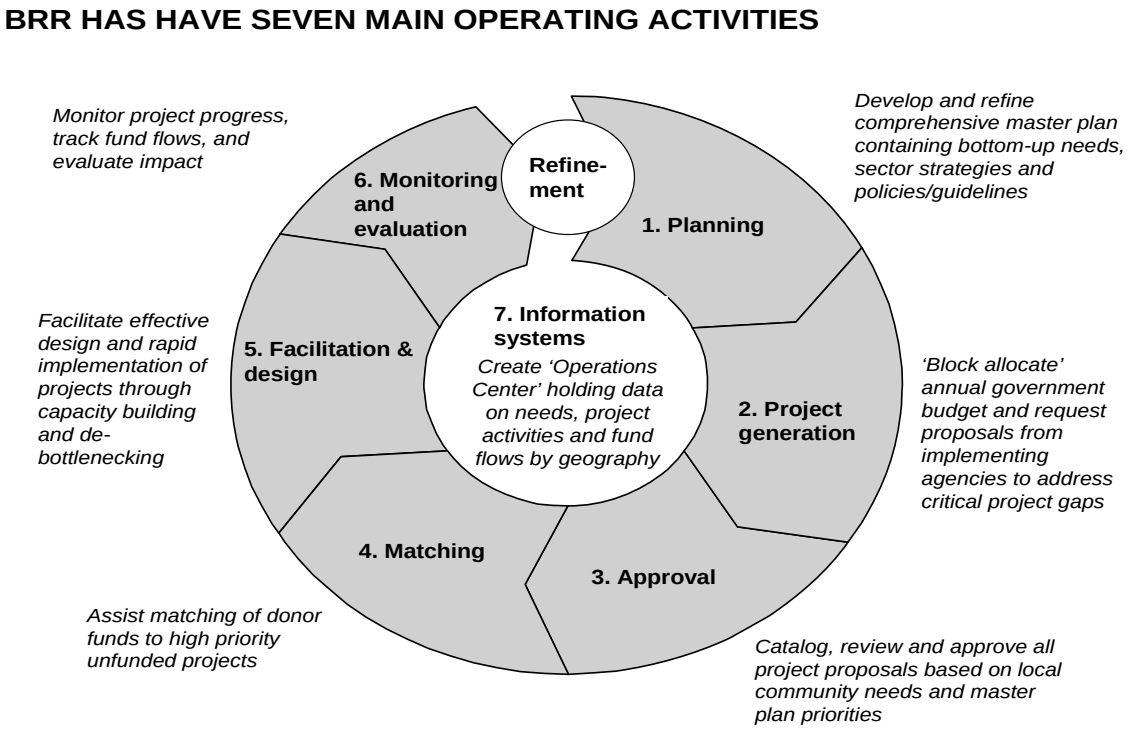
- The 9-member **Oversight Board (*Dewan Pengawas*)** is responsible for monitoring and evaluating the activities of the BRR and handling public complaints regarding reconstruction efforts. It is an independent body composed of professionals with experience in auditing, monitoring and evaluation. The Oversight Board is responsible for providing the President with a biannual report on the progress of the reconstruction and independent audits of the BRR's activities.

The structure of BRR is designed to foster a well-coordinated partnership among central and local government, local and international donors, the private sector, and the people whose lives were impacted by this disaster. Each of the three bodies reports directly to the President and is responsible for providing regular, publicly available information on the progress of the reconstruction. These bodies have wide latitude to hire local and international organizations and firms in order to ensure efficiency, speed and the highest standards in the rehabilitation and reconstruction effort.

Strategy. BRR began its operations with a core of transition staff and direct assistance from local and international organizations on 30 April 2005. The immediate focus of the coordinating agency is on the reconstruction of community infrastructure, particularly housing. It also emphasizes governance reform, especially through: developing the capacity of local governments to manage their affairs and deliver effective services; enhancing the effectiveness of the relationship between central government agencies and local government; and strengthening the accountability regimes at all levels of government.

BRR emphasizes seven processes to achieve these objectives (see Figure 7). First, it is developing and refining the Government's original Master Plan into a fully-integrated plan, including by identifying critical project gaps. Second, it catalogs all project proposals (from government and non-government sources), reviews these proposals, and grants approvals. Third, it endeavors to help meet the funding gaps of approved projects from various funding sources. Fourth, the BRR facilitates other stakeholders' implementation of projects, in particular by building capacity in the local government, and tackling bottlenecks (such as supply chain or official approval delays). Fifth, the BRR controls the disbursement of government reconstruction funds, ensuring that projects meet stipulated performance and integrity requirements. Sixth, the agency monitors all aspects of the reconstruction effort, tracking project progress and the flow of funds, and coordinating evaluations of project impact at the community-level to identify unmet needs. Finally, underlying and supporting all these activities, it is building up a comprehensive Information System to act as a single repository for data on needs, projects, and funds down to the village level.

Figure 7: Reconstruction and Rehabilitation Agency Processes



To be effective, this seven-pronged operating model requires certain organizational enablers, namely, the right staff, institutions, technology, infrastructure, and external relationships. BRR will remain a small and strategic agency, leveraging resources and existing processes of other stakeholders whenever possible. Hence, technical advisors are being assigned to work with its staff, while key support functions are being outsourced. Special mechanisms are being created to connect with local communities in Aceh and Nias and to feed their input into all operating activities. BRR adopts a policy of complete transparency, and works closely with external stakeholders to achieve results. In all its activities, BRR aims to maintain the highest professional and ethical standards, and adopt a zero tolerance policy towards all forms of corruption.

Implementation. By mid-September, BRR had reviewed and approved some 450 project concept notes, valued at US$ 2.085 billion. It also manages the Indonesian Government reconstruction budget for Aceh and Nias as well as oversees other programs covered by MOUs and projects established before BRR was created. Its total portfolio stands at US$ 3.7 billion. While the BRR's approval and oversight processes can be seen as additional hurdles for those who did not previously clear projects through a central system, the process is widely recognized as valuable because it injects greater predictability into project planning, encourages discipline in highly defensible areas (community consultation, transparency, fiduciary responsibility etc), and enables one central agency to have an overview of all reconstruction activities in Aceh and Nias, which is a vital first step towards enhancing the much-needed coordination.

Furthermore, BRR led the process with the Ministry of Finance, line ministries and parliament to approve the revised 2005 government budget, containing grants, loans and the debt moratorium amounting to US$ 863 million (400 through BRR and 463 through donors). The BRR has also played a key role in resolving bottlenecks facing NGOs and other implementing agencies in the field, for example setting up a "one-stop shop" for visas and, in May, ensuring the clearance of approximately 1,300 containers that had been held up at Belawan port.

BRR sees its next set of implementation challenges as focusing on local governments, since this is where the institutional gaps and financing needs; especially for some infrastructure sub-sectors; are the greatest (see chapter 3.2). There are good prospects that citizens themselves will address small-scale infrastructure needs through community-driven development (see chapter 2.3). At the other end of the spectrum, big donors are demonstrating willingness to take on some of the largest infrastructure projects, such as major roads, ports, water supply plants, etc. The gap is at the meso-level infrastructure needs, such as district-level roads, protective dykes, sewerage, and water-supply systems. Such matters are beyond the scope of most NGOs, of less interest to large donors, and normally at the jurisdiction of local authorities.

Hence, a main component of BRR's strategy now is to make the local implementation systems work, in using its own budget that has been partly financed from debt moratorium. It seeks to empower and develop the capacity of district governments through the provision of block grants and advise in technical fields such as procurement and project management. In all its activities, BRR emphasizes the prevention of corruption and the misuse of funds. It has therefore established an Anti-Corruption Unit that works closely with the government's anti-corruption agency, KPK, to prevent and punish corruption in reconstruction projects. This unit also helps to develop capacities needed to ensure long-term good governance. In addition, the BRR has established a quality assurance unit to provide oversight over the block grants to district governments.

2.2 Avoiding Corruption in the Reconstruction Effort

Corruption will pose one of the key management challenges in the reconstruction phase. Fear of graft and leakage has been one of the fundamental obstacles to progress thus far. Based on the Master Plan, the BRR has developed both an anti-corruption strategy encompassing preventive campaigns and strengthened enforcement and quality assurance and monitoring mechanisms to be trialed initially for those activities funded from its own budget (debt moratorium funds).

THE CHALLENGE

For decades, Indonesia has been plagued with severe inefficiencies and quality control problems that are said to be the result of chronic corruption. Recognizing that corruption is deep-rooted and resistant to change, President Susilo Bambang Yudhoyono has taken a highly publicized anti-corruption campaign to all levels of government. Keeping graft away from reconstruction funds will require a concerted, determined effort of vigilance and control, especially since the construction industry itself has traditionally been among the most prone to collusion, kickbacks and other leakages.

The problem of corruption is compounded by the fact that the very institutions that have to fight corruption are perceived to be among the most corrupt. Under Indonesian law, both the Police and public prosecutors have authority to investigate corruption cases. Police and judiciary have long been criticized of rent-seeking and extortion. The army, too, is often cited as a cause of serious concern, especially in Aceh.

Like other administrative structures, Aceh's justice sector – courts, prosecutors and police – has been affected by the tsunami, both in terms of human losses and physical destruction, but seems to have now recovered to pre-crisis levels (see chapter 2.3). However, it is not lack of human and physical capital of these institutions, but the general perception that they are corrupt that undermines faith in appropriate use of reconstruction funds. The recently established Anti-Corruption Commission (KPK) has jurisdiction to take over the investigation and/or prosecution of cases of high priority or where there are concerns over the performance of the police or prosecution.

In April 2005, the Governor of Aceh, Abdullah Puteh, was convicted for his part in the purchase of a helicopter using state funds in 2002. Though this high-profile case is generally seen as a success for the anti-corruption movement in Indonesia, it also serves as a reminder that corruption exists at the highest level of government in the provinces. The problem is exacerbated by the long-standing conflict between the Indonesian army and Aceh separatists, which has resulted in a prevalence of weapons, bringing a potential for extortion, intimidation, and rent-seeking, unknown in other parts of the country.

Corruption has no respect for human need. In Indonesia, and elsewhere, there are tales of emergency and reconstruction funds being misused. A large part of the challenge in Aceh is that large amounts of funds begin to flow from multiple sources and are bound by different sets of rules, at a time when weak control systems, government structures, and law enforcement, have been weakened further by the impact and the demands of the disaster.

As the emergency phase draws to a close, many NGOs and donors wish to maintain full control over their funds rather than channeling them through government systems. This is in part not only because they feel their own systems provide them with a reasonable level of security against theft and graft, but also because government systems have been slow, often poor at targeting, and because of traditional tensions and distrust between government and non-government groups. However, coordination and oversight requires information. Calls from the BRR for more openness are now being echoed by the local anti-corruption NGOs that are becoming critical of the lack of transparency from donor groups, including international NGOs.

THE WAY FORWARD

Donors have been making concerted efforts to curb corruption risks. For example, the Asian Development Bank's (ADB) Earthquake and Tsunami Emergency Support Project (ETESP) includes many of the anti-corruption elements that were discussed at the ADB/OECD Anticorruption Initiative's and Transparency International's Regional Meeting on Preventing Corruption in Tsunami Relief, held in Jakarta 7-8 April 2005. One of the components aims to support the Government, through the Ministry of Finance's Directorate General of Treasury, to improve financial controls and to build capacity on the ground, and to support the Supreme Audit Agency to strengthen the external audit of emergency assistance funds. The US$7 million component is jointly funded by ADB and the Government of Netherlands, and includes activities to build the capacity of local NGO's to assume an external monitoring role.

Projects recently approved by the Multi-Donor Trust Fund for Aceh and North Sumatra (MDTFANS) will channel the bulk of assistance direct to communities through Community Driven Development activities. These types of activities have a proven track record of being relatively free from graft.

Indonesian NGO's are involved in monitoring corruption, including:

SAMAK (*Solidaritas Masyarakat Anti-Korupsi*/People's Anti-corruption Solidarity) has been operating in Aceh since November 1999. This organization has carried out anti-corruption work in Aceh through networking with NGOs at the district level, even prior to the tsunami. It is now managing a monitoring program involving networks across 11 districts divided into seven groups.

GeRAK Aceh (People's Movement for Anti-Corruption in Aceh) was established in October 2004 with the support of the Partnership for Governance Reform and its national level parent body. In March 2005, GeRAK Aceh launched an effort covering eight districts. One focus has been an investigation into the use of funds for barracks, which appears to have unearthed some irregularities. To avoid overlap, GeRAK Aceh has agreed with the Emergency Humanitarian Committee (*Komite Darurat Kemanusiaan* or KDK), which is coordinated by Indonesia Corruption Watch (ICW), that KDK will focus their attention on activities supported by national government funding whilst GeRAK Aceh will focus on activities supported by province and/or district level governments.

Against this largely bleak backdrop, recent developments suggest some scope for optimism. Besides the active stance of local NGOs, the KPK intends to establish an office in Banda

Aceh. It will have an important role in monitoring the performance of the legal institutions together with local NGO networks and can launch or take over investigations where necessary. Recent discussions in Banda Aceh facilitated by local universities have also proposed a Memorandum of Understanding between the various bodies with anti-corruption responsibilities – the Oversight Board, police, prosecutors, judiciary, KPK and community organizations – to ensure clearer and more effective action against corruption.

In February 2005 the National Development Planning Board (BAPPENAS) created a broad anti-corruption plan as an input to the Master Plan. Many of the aspects of this plan have been carried over into work of the BRR, particularly in relation to transparent and accountable management, strong fiduciary controls, a tracking system, adoption of an integrity pact, supervision, and monitoring and evaluation. The main thrust of the work will be in trying to strengthen government control systems. BRR's Implementing Agency (BAPEL) has now created an Anti-corruption Division with sections focusing on internal compliance, external compliance, and feedback and investigation. High quality staffs have been recruited for this unit and advice is being provided on an "on call" basis by Bertrand de Speville, the former commissioner of the Independent Commission Against Corruption of Hong Kong, who has already prepared an assessment report for BRR. All Bapel staffs have signed an internal Code of Ethics. The Bapel has developed a full anti-corruption strategy with five key goals as follows:

- Setting guidelines for stakeholders with internal code of ethics and external anti-corruption declaration;
- Partnering with, and building capacity in, implementing agencies, civil society, central, and local government to prevent and monitor corruption;
- Creating a complaints handling mechanism;
- Utilizing an anti-corruption investigative team and engaging other anti-corruption agencies;
- Maximizing transparency through media and Information and Technology (IT) solutions.

The Bapel is adopting different roles in monitoring the disbursement and utilization of funds depending on their source and how they are channeled. For instance, the BRR is proposing a high involvement in monitoring the debt moratorium funds that are being channeled through the government's budget and special treasury accounts, as apposed to off-budget funds donated by NGOs, bilateral donors, and the private sector. Using support provided by MDTFANS, BRR has contracted through UNDP for a team of consultants to carry out quality assurance and progress monitoring initially for all activities funded through its own budget (debt moratorium funds). Eight field teams will work with Satuan Kerja (BRR work units in district and provincial government). Each team will provide oversight, capacity building, quality control, and monitoring activities with particular focus on procurement. These regional teams will be supported by a central management team and database located in the BRR. Depending on its success, its scope may be extended to other sources of funding.

In addition to these initiatives, BRR's Oversight Board is developing plans to tackle problems of corruption, nepotism and abuse in the reconstruction program, as well as its regular monitoring and evaluation of projects. The Oversight Board will also commission external audits and intends to establish a confidential public complaints system, to enlist

active civil society support for tackling corruption, and to reach out widely through the media to publicize its work in these areas.

Aceh has dozens of respected NGOs, six established universities and, at least for the short term, access to international resources that other provinces only dream of. Recent meetings between donors, students, universities and NGOs indicate that there is a common desire to assist BRR in their work. If BRR manages to align all these resources constructively, there is a real hope that serious leakages of funds can be avoided.

2.3 Communities as Drivers of Reconstruction

"The survivors of the natural disaster should not be treated merely as sources of data and information for planning rehabilitation and reconstruction. Rather, they must also be involved as the main actors of development activities."

Master Plan for Aceh and Nias

COMMUNITIES SHOWING RESILIENCE: SELF-HELP IN THE RELIEF EFFORT

The tsunami and earthquakes killed large numbers and caused widespread destruction of property and natural resources. They also damaged community structures, killing countless community and religious leaders, social workers, teachers, and organizers of local-level associations. They also split up survivors whose houses were destroyed into tented camps, host communities, and barracks, which has further eroded community cohesion. Just when it is most urgently needed, the capacity of communities to come together, comfort each other, seek mutual support in the rebuilding of lives and create visions for a better tomorrow, has been badly battered.

Aceh has a rich tradition of associations, ranging from faith-related activities and community-based organizations (e.g. savings clubs, village development associations, and funeral societies) to semi-local government structures, based on elected neighborhood and community representatives. This sense of community and relatively high levels of education were sources of strength in the emergency response.

Relief agencies quickly found community leaders and structures they could work with, and where leaders had been killed, new, informal ones emerged relatively swiftly. While many government units were in disarray, community leaders helped in information-gathering, re-uniting separated families, and spreading information about available help. They also gave a coherent message of needs to the many organizations that had arrived to assist (See Box 3).

Community participation, coupled with the quick international emergency response, ensured within a short period of time that almost everyone had at least basic shelter, that few became seriously hungry, and that there were no unchecked epidemics. Building on this experience, the Master Plan puts a firm emphasis on community-driven approaches and most major donors wholeheartedly endorse the imperative of ensuring that communities are in the driver's seat.

Box 3: Village Chief Takes the Helm of Reconstruction Coordination

No one can miss the village chief's house outside two adjacent fishing villages of Lamteungoh and Lamtutui in sub-district Peukan Bada, Aceh Besar. Decorated with empty mineral water bottles strung into a transparent blue fence, the humble zinc-roof hut stands out in the post-tsunami wasted landscape along the seafront. (see picture at the beginning of this section)

On the walls of the hut are lobsters on display as ornaments, as well as tsunami-themed poems written on broadsheets. The creativity and artistic talent of Pak Baharuddin, who is also the leader of a fishermen association, is impressive, but what is even more notable is the initiative he has taken to coordinate the reconstruction efforts in the two villages.

Three months ago, he chaired a coordination meeting attended by representatives of more than ten international and local NGOs who expressed interest to implement reconstruction projects locally. There were also a number of other village heads present. The main objective of the meeting, Pak Baharuddin said, was to emphasize the need for coordination and cooperation, to avoid duplication, and ensure that no organization makes exclusive claims to the villages.

The meeting conveyed to donors and NGOs the villagers' priorities: help with housing and a better drainage system. Projects have been subsequently tendered out to the respective organizations. Pak Baharuddin then planned a three-day workshop with a local NGO, Pugar, to work out a blueprint for the reconstruction of the villages. The meetings also allow communities to voice their complaints. As Pak Baharuddin explained, the government is failing to provide the stipulated living allowances to IDPs. "It has been six months since the tsunami, and we have only received two payments. It's death allowance, not living allowance. If the government just wants to do all the projects by themselves, nothing will happen."

While in other villages, there have been complaints of a lack of access to the NGOs and donors for assistance; Lamteungoh and Lamtutui have exceptionally good connections with the reconstruction community. As Pak Baharuddin explained, "as soon as we spot representatives of NGOs here, we will approach them, invite them to our house, treat them to lunch or dinner, and find out what they are doing."

Having such a strong local leader is clearly vital. These villagers were among the first to return to sites of their previous homes. They built 42 houses by late June. Except for the zinc-roofs, which were provided by an NGO (Uplink), the other materials and the construction work were managed by the villagers themselves. Instead of passively waiting for outsiders to meet their needs, these villages took things into their own hands.

COMMITMENT TO COMMUNITY-DRIVEN RECONSTRUCTION

Restoring or replacing major infrastructure is a task for the central and provincial governments, and local governments must wrestle with the medium-scale infrastructure demands. But there is a growing conviction that the best way of addressing the small, local infrastructure, and household needs is to empower citizens, allowing them to prioritize needs and take care of themselves through Community Driven Development (CDD) approaches. One argument for this approach is the widespread nature of the devastation (see tables in Annex 9). The table also shows the wide variation of estimates, revealing a continuing uncertainty, or lack of agreement, as to the extent of damage –ranging from 654 to 1388 villages affected in 86 sub-districts throughout Aceh province. With an average of some 200 families displaced per village, the situation is highly localized and hence the most effective response uses local knowledge and leadership.

In early 2005, various donors and NGOs collaborated to prepare an operational framework designed to encourage all agencies to commit to high standards of consultation, participation, transparency, and coordination.[15]

Effective participation, however, takes time and necessitates facilitators working with the communities to guide them in these processes. This inevitably leads to a difficult trade-off between wanting swift reconstruction, and ensuring that communities truly are leading the effort, with all members of the community having a voice in reconstruction. There is a parallel trade-off between wanting to deliver results and building capacity of local people and institutions. These trade-offs are limiting the pace of community reconstruction today but will, hopefully, enhance its sustainability.

Understandably, with the large number of agencies who see themselves as CDD practitioners, approaches and standards vary greatly. This has led to inconsistencies and duplication; sometimes with communities voicing frustration that multiple NGOs arrive, each wanting to practice participatory planning and sometimes urging villages to give them "exclusive rights" and to tell other NGOs to go elsewhere. There has also been unsightly competition to hire skilled facilitators, with some agencies offering twice the going rate. To avoid such problems and seek synergies, many agencies formed a CDD Working Group under the leadership of the provincial government. This has pooled experience on recruiting CDD facilitators (to maintain standards and coordinate salaries) and developing common training.

THE KECAMATAN DEVELOPMENT AND URBAN POVERTY PROJECTS

Aceh has been a target province of the Kecamatan Development Project (KDP) since 1998.[16] One of the world's largest CDD programs, KDP has evolved an "infrastructure" for village planning, quality assurance, and governance and monitoring, which consists of senior, committed team leaders, district-level consultants and sub-district level community facilitators (including civil engineers) who work with voluntary village-level facilitators. This comprises an effective "demand chain", enabling communities to determine their priorities and ensure these are met. The communities make the choices and hold the purse strings.

Before December 2004, KDP operated in 87 of Aceh's sub-districts (*kecamatan*), including about half of those severely hit by the tsunami. KDP was also in 13 of 22 sub-districts in Nias. In Aceh, it had evolved a staff comprising a professional team in Banda Aceh and district offices plus 196 facilitators (all university-educated) at sub-district level. These had mobilized about 8,000 voluntary village facilitators. This structure proved valuable in helping tsunami affected communities plan their response. Because of the power of this network, the reach and scale of both KDP and UPP has been expanded to cover all rural areas (221 sub-districts and every kabupaten) and all tsunami-affected cities. KDP

[15] "Common Operating Principles and Guidelines for Tsunami Reconstruction", included as an Annex to the World Bank Board paper, Indonesia: Proposed Multi-Donor Trust Fund for Aceh and North Sumatra, April 4, 2005, R2005-0074

[16] This World Bank-financed project of the Indonesian government provides block grants to the sub-district (kecamatan) level. Villages come together to decide the investments they most particularly need (whether for infrastructure, basic services or strengthening livelihoods). Each village forwards proposals to a competitive decision-making process at the sub-district.

consultants at kabupaten-level and KDP facilitators at kecamatan level (over 600) have now been trained, appointed and are in place throughout Aceh and Nias. In addition, KDP Information Facilitators have recently been appointed in kabupaten offices, in particular to assist camats (sub-district heads) in coordinating reconstruction efforts and to improve the two-way flow of information about reconstruction needs, programs, gaps and community preferences.

The Urban Poverty Project (UPP) applies a similar methodology of community-level facilitators to urban areas and, in addition, includes the election by the community of a board of trustees to represent it in the decision-making processes and provide oversight of the ensuing programs. This is now operational in Banda Aceh and employs 40 facilitators. It is now expanding to cover 352 urban parishes and has a structure of workers and volunteers similar to that of KDP.

The response. Following the tsunami, all KDP and UPP facilitators were given special training in community disaster response, including the preparation of detailed sketch maps showing the extent of damage in each village and urban area. Maps prepared by the facilitators and NGOs using similar participatory approaches are invaluable records of the status of property and infrastructure before and after the tsunami.

KDP staffs are also helping the government's Community Development Agency (BPM) and camats organize meetings in each damaged sub-district, bringing together local government officials, donors, NGOs and others who assessed the damage, or are interested in helping. The purpose is to build up a comprehensive picture of the reconstruction underway or planned in that sub-district, to identify potential problems and gaps, and to ensure adequate community involvement. As of mid-Septermber, such processes had been initiated in eight sub-districts, including Peukan Bada, Leupung, Mesjid Raya, Baitussalam, and Pulo Aceh. BPM is organizing similar coordination meetings at district and province level.

In addition to this, where KDP was well-established and trusted, it was able to help communities to organize clean-up activities and present their needs and priorities to donors. Despite all this, this extensive CDD infrastructure has not been able to live up to its full potential. Bureaucratic procedures delayed the disbursement of additional funds –the remainder of the Indonesia-wide KDP budget for 2004– until mid-June 2005, and 2005 funds for KDP only started to flow in August 2005. Still, by late September, KDP has disbursed most of the roll-over 2004 funds but almost none of the 2005 funds that were intended for quick tsunami relief. The KDP network of staff (especially its civil engineering and social development specialists) and its thousands of village level volunteers have proved invaluable. They have helped coordinate local government, donors, international NGOs and civil society at the kecamatan level; they have helped communities prepare maps of land ownership and tsunami damage; they have advised many NGOs on their programs; and they have helped communities decide their preferred reconstruction options.

THE CONTEXT OF CONFLICT

Offsetting the high degree of community organization in Aceh are social divisions linked to the 30-year old separatist conflict between GAM and the Indonesian military (TNI) which caused thousands of deaths, displaced communities, and constrained economic growth. It is important to remember that there were tens of thousands of internally displaced persons (IDPs) before the tsunami, and that Aceh had long been relatively isolated from the international community, and even from the rest of Indonesia. Fortunately, the peace accord signed on 15 August appears to be holding.[17] This may be the one silver lining of the very dark cloud cast by the tsunami. The unifying nature of tragedy and of the response to it –thanks, in good measure, to the efforts BRR made to be inclusive and to win the trust of the people– coupled with the participatory approach that has distinguished the reconstruction activities of most agencies, has helped provide a foundation for the peace that has been brokered. But the peace itself compounds the recovery program. Thousands of ex-combatants and conflict-displaced people are also returning to their home communities – stretching yet more thinly the resources to cope (see Chapter 2.6).

To conserve the peace, it is vital that reconstruction plans are sensitive to local conditions and culture, avoid widening existing divides, and include efforts to promote *peace* building as well as rebuilding. Priorities include ensuring inclusive planning, involving and strengthening capacities of local authorities.

CHALLENGES AND OPPORTUNITIES

Particularly due to the recent context of conflict, it has proved vitally important that the BRR and most donors emphasize community-driven reconstruction, enabling all citizens to have a say in the rebuilding. Similarly important are the principles of transparency and active coordination. While there is generally a good story regarding community participation, this is far from uniform and there is a worse story on transparency and coordination. A survey in May/June revealed that most IDPs feel very poorly informed about recovery projects (and more so about why safety nets were being closed)[18], and BRR and others are increasingly concerned about the lack of commitment many agencies show towards coordination at the local level. There is an urgent need for all agencies, big and small, to recommit to ensuring that all villagers and especially all IDPs are well informed about their rights and options, and to making coordination effective.

Strengthening coordination between the myriad agencies, each with its different standards, approaches and competitive instincts, presents an important challenge for everyone – namely steering a line between harmonizing high standards for all, and offering a range of choices to IDPs. Without stronger coordination, problems of confusion and overlap will mount, and might refuel tensions within Aceh. Particularly important is coordination at the very local level – but this generally tells a better story. What is needed now is to enhance coordination at sub-district and district levels. Good models are found in the multi-stakeholder coordination processes – including those convened by BPM and KDP, those where camats

[17] The Department of Foreign Affairs (GRI) estimates 48,262 internally displaced as a result of armed conflict in Aceh as of June 2003.

[18] *Where's My House,* report of survey by the Public Information Working Group; see UNIMS website.

are particularly dynamic, and those where NGOs play a lead. All these experiences must now be built on to ensure effective cooperation in all kecamatans.

Though there are various approaches to CDD, and none is definitive, the KDP and UPP approach directly support the government's own bottom-up planning process. It will remain in place when the donors depart. Hence the importance of collaboration between these, NGOs, and other CDD practitioners.

Today's reconstruction effort also offers another opportunity. The relative isolation of Aceh and the long-running low-intensity conflict means that civil society is less developed in Aceh than in other provinces. The partial breathing space in the conflict, coupled with the presence of large numbers of highly-experienced NGO leaders from many different countries, offers the chance to build local civil society capacity, for example through training and mentoring programs, resource centers and network building. UNDP is developing such a program which is intended to enhance the contribution of Acehnese civil society to the recovery, including strengthening its roles in monitoring, combating corruption, and helping citizens' voice concerns and grievances. This proposal deserves support because it could strengthen the interface between donors, government and citizens, and contribute broadly to civic education and the promotion of enduring peace.

Nine months after the tsunami, visitors to Aceh are disappointed with the relatively sparse recovery in most areas. In part this is inevitable. Such a complicated reconstruction task cannot be swiftly accomplished, especially with the multi-layered bureaucracies of government. Aceh needs a concerted effort between government, donors, and civil society to evolve a creative, rapid response mechanism to overcome such delays in future.

For now, there are leaders at all levels of government who are anxious to get the job done in Aceh. The best approach is to empower them to get on with it by backing community-driven approaches to reconstruction and by strengthening civil society's capacity. Yes, there will be bumps in the road. But an alternative solely top-down approach will lead to protracted inaction, mounting IDP frustration, and loss of human potential. The international community would, in turn, come to see Indonesia as having squandered the world's most striking demonstration of international compassion and solidarity.

2.4 Rebuilding District Government

District governments carry most of the responsibility for delivery of public services; but, in view of pervasive weaknesses in capacity, reconstruction will have to rely on alternative mechanisms. That said, district government involvement in planning remains crucial; moreover, they will be responsible for maintaining infrastructure and facilities built during the reconstruction phase once BRR and the international organizations have left. To enable them to play this role effectively, massive strengthening of district governments' capacity is critical.

IMPACT ON STAFFING AND INFRASTRUCTURE

Nine months after the disaster, an assessment[19] covering the ten most affected districts indicates that in most areas, local governments have managed to return to their pre-disaster level of capacity. Most of the civil servants who passed away have been replaced. Damage to district governments' physical infrastructure, such as office buildings and equipment, is smaller than initially estimated.

Human Resources. In the assessed areas, an average of 5.7 percent of the civil servants were killed in the disasters (see table 5). Aceh Jaya, where casualties reached 28 percent of all staff, was the worst affected, closely followed by Banda Aceh where almost 22 percent of the staff was lost. On average, 80 percent of all casualties were low level or contract staff. The vacancies resulting from the few casualties in the higher echelons have been filled through promotions. This has only left vacancies at the lowest echelons. Local governments hope to fill these civil service positions through regular recruitment. In a few cases, district governments are planning to abolish the positions, because they had been overstaffed at these levels.

Table 5: Number of Officials Killed in the Disasters by Echelon level

Echelon	Staff before tsunami	Casualties	% out of total casualties	% out of each level
II	57	1	0%	1.8%
III	269	19	9%	7.1%
IV	653	25	11%	3.8%
Regular Staff	1780	124	56%	7.0%
Contract Staff	1110	52	24%	4.7%
Total	3869	221	100%	5.7%

Data in this table is based on the assessment of the 10 affected Regions. In each district six departments were surveyed: Planning, Health, Education, Fisheries, Agriculture and Public Works.

The Departments of Fisheries and Health lost the highest percentage of their staff (9.8 percent and 7.1 percent, respectively) – mostly field staff and extension workers who lived in the affected areas. In absolute terms, Public Works lost the largest number of staff. Most of them hailed from Banda Aceh and Aceh Besar and happened to live in the affected areas (see table 6).

[19] The Assessment covered the ten affected district and municipal governments: Aceh Besar, Banda Aceh, Aceh Utara, Aceh Barat, Aceh Jaya, Pidie, Bireuen, Simeulue, Aceh Singkil and Nagan Raya.

Table 6: Number of Officials Killed in the Disasters by Department

Agency	Staff before tsunami	Casualties	% out of total casualties	% out of each agency
Fisheries	418	41	19%	9.8%
Health	702	50	23%	7.1%
Education	718	38	17%	5.3%
Public Works	1063	55	25%	5.2%
Planning	525	26	12%	5.0%
Agricultural	443	11	5%	2.5%
Total	3869	221	100%	5.7%

Data in this table is based on the assessment in the 10 affected Regions in Aceh Province. This table does not include teachers and technical health staff.

District Government Infrastructure. Of the 58 agencies[20] visited by the assessment team, only 9 had offices that were destroyed by the tsunami or earthquakes (15 percent). Aceh Jaya, where all offices were destroyed, and Simeulue have been worst affected. In both districts, the civil servants were relocated to temporary wooden buildings. In all other areas, none of the government offices were damaged to the extent that they could no longer be used. Most offices have electricity, functioning telecommunications and toilets in working order. About 65 percent of the offices even have a working fax connection. The bulk of the office equipment survived the disaster.

CHALLENGES IN MANAGEMENT OF LOCAL RESOURCES

Decentralization and special autonomy have endowed Acehnese regions with abundant resources. In addition to the financial transfers stipulated in Law 33/2004 on fiscal transfers under decentralization, Law 18/2001 on Special Autonomy allocates 55 percent of oil revenues and 40 percent of the natural gas revenues to the region.[21] The province can decide on the formula for sharing these additional revenues among the districts and villages. A typical split is 40 percent for the province and 60 percent for all districts (35 percent for the producing district and 25 percent for the other districts).

Because of its special autonomy status and the combination of high financial transfers from the DAU and revenue sharing from oil and gas, Aceh has received significant financial inflows in recent years. In 2004, the local and provincial governments managed US$ 770 million: US$ 620 million from regional budgets and US$ 150 million through deconcentrated funding of central line ministries. For 2005, the amount is projected to increase to US$ 820 million. Despite the fact that a significant amount of local governments' own funds are directed towards recurrent spending, the financial contribution of local and provincial governments to future public investments in Aceh can be significant (up to US$ 2 billion), particularly if oil prices and the resulting revenue shares stay high. This amount of capital spending would be almost equal to the three other major sources of financing in Aceh (i.e. central government funds, Donors, and NGOs).

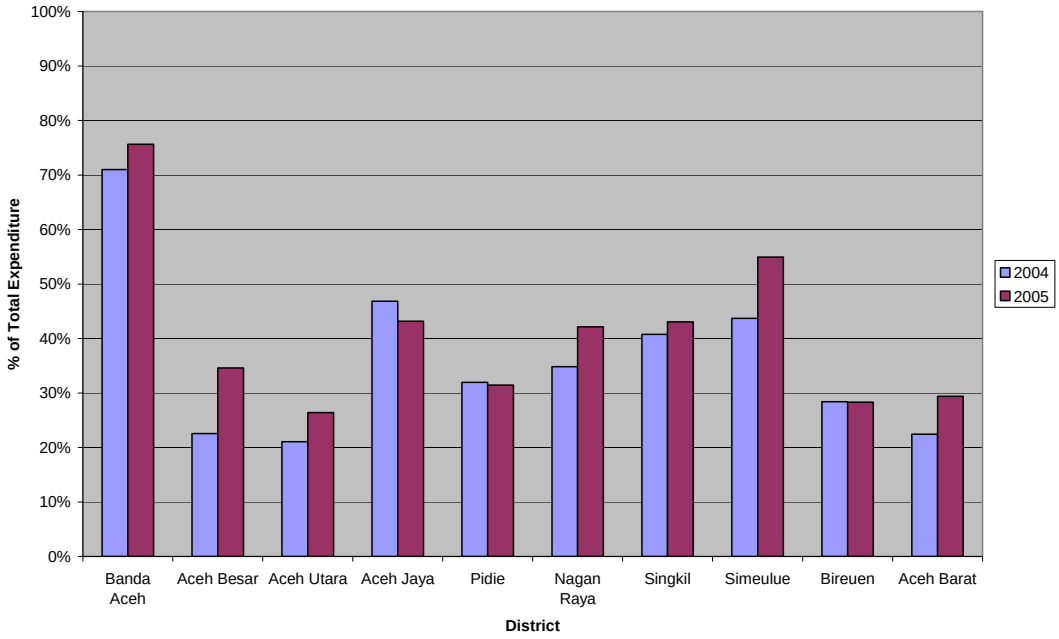
[20] The assessment has concentrated on line agencies at district level. In the affected areas, the offices at sub-district level and certainly village level have often been destroyed.

[21] By 2009, the regional shares will drop to 35% for oil and 20% for natural gas revenues.

However, a review of the approved 2005 budgets of the ten most affected districts seems to indicate that the district governments are shifting a considerable amount of resources away from reconstruction.

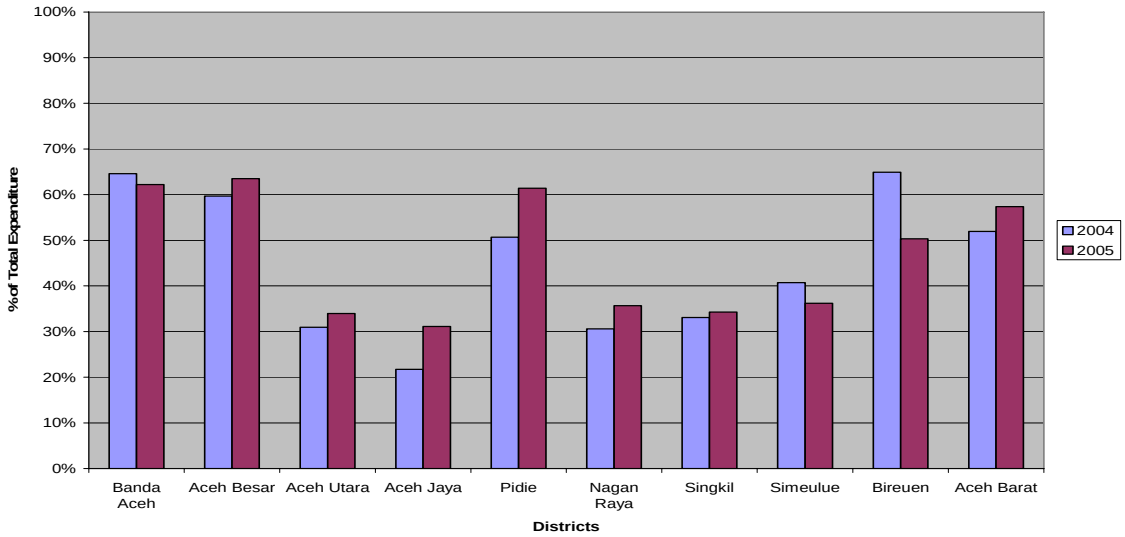
Budget analysis and interviews with heads of public agencies indicate that local governments expect that large amounts of resources for reconstruction will be made available by the BRR and international donors. In anticipation, local governments have reduced their planned capital expenditure for public services, in favour of the administrative apparatus and salaries (see figures 8-10 below).

Figure 8: Administrative Expenditure



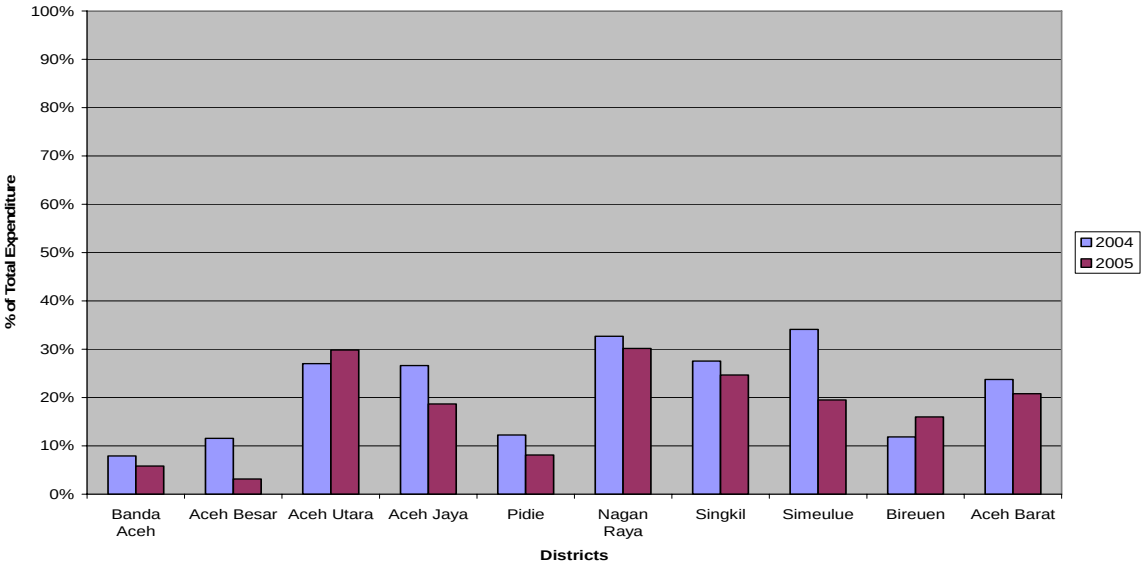
The budgets generally show an increased allocation for salaries while salary costs are expected to stay fairly stable following the relatively small number of civil servants killed in the disaster. Mainly lower level staff and contract staff passed away and some of these were not replaced.

Figure 9: Salary Expenditures



Most of the damage to public infrastructure was to installations and facilities delivering public services as opposed to the administrative apparatus. Consequently resources are mostly needed for the reconstruction of the infrastructure for the delivery of public services. The budgets of the affected districts indicate, however, that the capital expenditure for public services as a percentage of the total budget is actually declining. The reduction is particularly sharp in the worst affected districts: Banda Aceh, Aceh Besar, Aceh Jaya, Aceh Barat and Simeulue (see figure 10).

Figure 10: Capital Expenditures



The limited impact these allocations will have, becomes acutely clear when real figures for the reconstruction of public infrastructure are examined. Aceh Besar has allocated less than one million US dollars for capital investment in public services. In total, the affected Kabupaten are planning to spend less than US$ 60 million on public service capital investments in 2005, compared to estimates of more than US$ 200 million that could be available (see Annex 9 for a simulation).

Oversight exercised by local parliaments is not likely to ensure that regional resources are spent effectively and accountably. In focus group discussions, informed members of the general public consistently indicated that local parliament members lack the necessary knowledge and skills in planning and budgeting. In Aceh Besar, for example, initial budget discussions included the cancellation of Rp 15 billion allocation for the purchase of land to build IDP houses. Instead, the parliament was proposing to use these funds to purchase ten new vehicles for parliament members.

The legislatures negotiated over the budgets extensively, but this has led to delays in the budget approvals rather than improvements in resource allocations towards the reconstruction of public infrastructure. The budget deliberations by local parliaments have taken on average four and a half months. None of the district budgets were approved before June. In Simeulue, the budget has not been approved yet, notwithstanding nine months of related discussions in parliament.

The approaching elections are expected to further reduce the effectiveness of local governments in the short term. Time and resources are likely to be diverted from the reconstruction efforts to the elections. In addition, district heads running for re-election will be required to step down for at least a three-month campaign period, possibly creating an interruption in leadership and change of priorities. This is of special importance since the regular accountability mechanisms for district heads do not apply to interim district heads.

THE RECONSTRUCTION OF SECONDARY INFRASTRUCTURE

The laws on regional autonomy entrust district governments with all the functions that are crucial during the reconstruction phase, including public infrastructure, education and health. In particular, responsibility for much of the secondary infrastructure damaged or completely destroyed by the tsunami falls within the functional jurisdiction of the affected district governments. Thus, local governments would be expected to be at the core of the reconstruction and development effort.

The above budget analysis indicates that most local governments have withdrawn from financial and direct operational engagement in rehabilitation and reconstruction activities. Even though district governments have access through fiscal transfers and natural resources revenue sharing to financial resources which could make a significant contribution to the post-tsunami rebuilding, many district governments are not allocating these funds to rehabilitation and reconstruction and are instead looking to NGOs, international donors and BRR to take the lead.

Thus far in the reconstruction effort, NGO's and international donor's funds have mostly been allocated to the first-order priorities of housing, education, health and related community-level infrastructure, as well as higher-level infrastructure such as national roads.

Although investments in the social sectors are significant, investment on other infrastructure at the kabupaten level, particularly transport, has not yet been sufficient.

About half of the IDR 4 trillion 2005 BRR funds are used for kabupaten-level infrastructure projects. However, these funds are mainly channeled through the provincial dinases, and to a much lesser extent to kabupatens. The already limited capacity of the provincial dinases is strained to execute the BRR-funded projects in addition to projects funded from their own APBDs.

Moreover, the BRR budget is partially based on the Master Plan, which in turn was influenced by the initial Damage and Loss Assessment. Given the lack of more detailed damage assessments and related reconstruction plans at the time of the 2005 budgeting process, the projects funded by the BRR in 2005 will likely contribute only indirectly to the priority reconstruction needs. It is envisaged that in 2006 additional BRR funds will be allocated to the provincial dinases and kabupatens for similar types of infrastructure reconstruction, but it is hoped that these will be better grounded in detailed, kabupaten-level reconstruction plans.

A ROLE FOR LOCAL GOVERNMENTS IN THE RECONSTRUCTION EFFORT

There is a widely held view that local governments need to be significantly involved in the reconstruction efforts. While the BRR will lead the reconstruction and related coordination efforts, the BRR was not designed to directly implement projects and must work within the existing legal framework on regional autonomy. As the coordinating agency, the BRR can set broad priorities for reconstruction, but there is a key role for the local governments in detailed spatial planning and project design; this will help ensure the integration of basic infrastructure programs into the local government's development plans and budgets. In addition, local governments will be responsible for operating and maintaining the systems and infrastructure that are put in place during reconstruction.

In the absence of a conducive working environment, including adequate career development opportunities, and the necessary technical and management capacity, it will be difficult for local governments to become effective implementers of post-tsunami reconstruction and development. The district governments might have recovered quickly from the loss of staff and official infrastructure, but even prior to the tsunami, they had the wrong staffing complement and therefore limited service-delivery capabilities, weak downwards accountability and poor governance practices. Moreover, the weak performance incentives of district governments, compounded by the impression that BRR has the mandate to lead reconstruction, seem to be contributing to an apparent apathy towards engagement in the reconstruction effort.

Until better governance structures are in place in the regions, the BRR will need to play both a strong supporting and oversight role in the reconstruction process. It is also essential that an appropriate incentive system be put in place for local governments themselves to invest in reconstruction. Local governments demonstrating willingness to introduce and institutionalize reforms should be provided with the necessary support, including in strategic planning, budgeting, procurement and coordination. The BRR, with assistance from donors and development organizations, can assist by providing demand-driven capacity building programs.

While a transitional implementation mechanism with enhanced fiduciary controls must be employed for undertaking the essential and urgent elements of the reconstruction work, it is imperative that district governments are substantively engaged in the process. In particular, during the process of reconstruction, local governments should be assisted to build up their capacity to execute steady-state functions. These functions include operating and maintaining the systems and infrastructure, as well as consultations, planning, approvals by parliament, and internal audits. This capacity development assistance needs to be linked to the implementation of infrastructure reconstruction through a "turn key" TA responsible for the reconstruction implementation. The direct role of district governments in infrastructure reconstruction implementation should be phased in gradually, as their capacity is increasingly enhanced.

2.5 Reconstruction of Property Rights

I can think of nothing that will generate more income over the long run for average families in this region than actually having title to the land they own. Then, they will be able to borrow money and build a much more diversified, much more modern economy.

United Nations (UN) Special Envoy for Tsunami Recovery
former US President Mr. Bill Clinton
Aceh, May 23, 2005.

……And the most exciting thing being done in this regard is in Indonesia in Aceh where [there is a] 30 million dollars … land titling project, because a lot of the records that did exist in the cities were destroyed and a lot of the people in the villages never had titles to their land.

Those of you familiar with the work of Mr. de Soto around the world and similar projects know that the world's poor people have roughly 5 trillion dollars in assets that are totally unusable for economic growth because they don't have title to them so they can't get credit using what they own as collateral. This is going to be done through the World Bank grant in Aceh. It is very forward thinking on both the part of the World Bank and Indonesia but I hope that the other countries affected will do that and in its pursuit of the Millennium Development Goals, I hope that you, Mr. President and ECOSOC, can have an influence in urging this sort of project to be done in other countries outside the tsunami affected areas.

UN Special Envoy for Tsunami Recovery,
former US President Mr. Bill Clinton,
reporting to the UN Economic and Social Council,
New York City, July 14, 2005.

OVERVIEW

Certainty over property rights is a necessary pre-condition for the reconstruction of houses and communities. But the earthquakes and tsunami which hit Aceh and North Sumatra caused extreme damage to property rights evidence and to the land administration system. In many areas, the destruction obliterated marks on the ground defining land boundaries. The death toll took with it the "human archive" on which much memory of the location of these boundaries is based. The destruction of many government land books and cadastral (land) maps held in the provincial and district land offices of the National Land Agency (BPN) has made the reconstruction of property rights even more difficult.

More complicated still, the majority of landowners in Indonesia do not hold registered title to their property. For these people, possessory rights are only secured through long and established occupation. It is estimated that there may be 3-5 times as many land holders with unregistered rights compared to those who hold registered titles. The untitled land parcels are governed largely by traditional customary, or *adat* law. There are two types of *adat* land in Indonesia:

- *Adat* land held by individuals, which is not registered, but is recognized from the colonial Dutch period as being private land. In the tsunami-affected areas most unregistered private land is of this type. These individual ownership rights will be recognized under the Basic Agrarian Law.
- Communal *adat* land, which is very rare in the tsunami-affected areas. Any that exists will be recognized as communal land and registered in the name of all members, except if is subject to claim by Ministry of Forestry as forest land.

After suffering huge economic and emotional losses from the tragedy, land may be the only thing of value that many people still have. Almost immediately after the disaster, many survivors installed marks on sites where previously their houses had stood – a behavior symbolizing insecurity about their land ownership and property rights. Indeed, there is a high risk of land grabbing, particularly in urban areas where the communal traditions are comparatively weak. Land rights recovery and protection clearly should be a priority task.

OVERVIEW OF DAMAGE TO THE LAND ADMINISTRATION SYSTEM

The geographical extent of the disaster-affected area is about 220 km long and around 5 km wide along the coastline of Aceh and North Sumatra. In Kota Banda Aceh, the tsunami affected area accounts for 70% of the district's geographic area. In Kabupaten Aceh Besar and Kabupaten Aceh Barat, over 90% of their geographical areas were affected by the tsunami.

A summary of the nature and quantification of damage is presented in table 7:

Table 7: Nature and Quantification of Damage to the Land Administration System

Nature of damage	Quantification of Damage
Significant loss of BPN staff	In Aceh Province, more than forty BPN staff lost their lives. Most of the deceased were from the Kota Banda Aceh Land Office (which lost 30% of its staff).
Destroyed and damaged land offices	Six BPN Land Offices, including the District Land Office in Banda Aceh were completely demolished or severely damaged.
Damage to government land books (the official register of land)	BPN estimates that about 10% of land books were lost. However, a significant amount of the remaining 90% of land books were found in a critical condition (e.g. flooded with sea water and mud) requiring urgent (within a short period of time) conservation and restoration work. In addition to the land books, there was also a serious loss of other land documents.
Destruction of official land documents, including cadastral maps	BPN assessed that about 80% of land documents were lost, including almost all cadastral maps
Serious shortage of office facilities	There was a severe damage and destruction of office facilities, and currently, there is a shortage of computers, photocopiers, scanners, digital cameras, printers, and stationery to support urgent record recovery.

Damage and disappearance of property rights evidence	The tsunami destroyed much of the physical evidence of property boundaries. Moreover, the disaster also washed away the witness evidence held in the minds of many of the land occupants, who were among the hundreds of thousands of human lives lost in the tsunami
Number of parcels affected	Total Number of Parcels: Approximately 300,000 land parcels have been affected by the tsunami. These comprise 170,000 urban land parcels and 130,000 rural land parcels. Registered Land Parcels: As is the case in many areas of Indonesia, less than 25% of land parcels can be expected to be titled. Therefore, of the total number of affected land parcels, approximately 60,000 have been titled (40,000 being urban and 20,000 being rural). Informal Land Parcels: Up to 250,000 Mortgaged Land: It is also estimated that 5% of titled land parcels were mortgaged, and these mortgages have been registered by BPN

IMPORTANCE OF RECOVERY OF PROPERTY RIGHTS

Land rights protection has two integral parts. Firstly, protection should be provided to those whose rights were registered before the tsunami. Property rights should be revalidated and confirmed, and new title certificates issued to those landowners.

Secondly, an equally important, but more difficult issue concerns occupiers of land without registered title. Although their possessory rights were not registered with the government's land records, in reality, they have actually held possessory (or occupancy) rights to land, which has been widely accepted and mutually recognized by the community.

Land rights recovery and protection are important and should be conducted as soon as possible:

- Recovering and protecting land property rights will lay a solid foundation for reconstruction work, spatial planning, compensation, and long-term economic development; and
- Recovery and protection of land rights is essential for establishing social justice and ensuring long-term social stability.

The urgency of this matter is substantiated by the fact that, as time passes, remaining physical evidence of land ownership is likely to be destroyed in the general clean-up operations. Moreover, opportunists will begin to make spurious and illegitimate claims over land holdings or rights of vulnerable and disadvantaged groups.

Special attention must be paid to safeguarding the rights of vulnerable groups, such as women, children, and orphans. So far, the tsunami has resulted in an estimated 100,000 inheritance cases. Within three months of re-opening, the Syariah Court (whose basic jurisdiction is divorce and inheritance for Muslims) in Banda Aceh had received close to 6,000 inheritance-related cases. Official estimates suggest that there are over 2,000 children orphaned by the tsunami.[22] In the absence of a proper protection system, according to Syariah law, some of these orphans could well loose their rights.

There is a high likelihood that at least some conflicts will occur. This could include conflict over boundaries, ownership, inheritance, and between individuals and government. Ultimately, if disputes cannot be resolved through mediation at the community level, the processes of the courts will be necessary. Initiatives will be necessary to support community-based dispute resolution and to increase awareness of legal rights and access to the courts where necessary as a last resort.

THE LEGAL RECONSTRUCTION OF PRE-TSUNAMI PROPERTY RIGHTS

The implementation framework for the reconstruction of property rights adopted by the government is provided under the Reconstruction of Aceh Land Administration (RALAS) Project, being implemented under the direction of BPN, and funded by a $28.5 million MDTFANS grant. This project became effective on August 22, 2005. The goal of the project is to improve land tenure security in Aceh. The specific objectives are: (i) to recover and protect ownership land rights of the people in the affected and surrounding areas; and (ii) to rebuild the land administration system.

Fundamentally, the project aims to bring consistency and deliver minimum service standards to the Community Driven Adjudication (CDA) process (often referred to as "community land mapping"). It is doing this by supporting donors and NGOs working with communities and linking them into BPN as the agency with the legal authority to issue formally recognized land title. The project relies in the first instance on securing community agreement to identify ownership rights. This is being done using facilitators available from existing projects such as KDP, UPP and other donor and NGO initiatives on the ground. RALAS is also working with a number of NGOs and providing them training and support in conducting CDA.

Service standards have been agreed with BPN for the completion of survey work and the award of titles. Finally, the project includes provisions aimed at securing transparency and accountability to respond to the concerns on potential corruption and mismanagement.

Priority areas have been identified

In collaboration with BPN, the Agency for Rehabilitation and Reconstruction (BRR), NGOs and donors have determined that the priorities for the first 18 months are:

- Banda Aceh -50 kelurahans and also 3 kecamatans in adjoining Aceh Besar.

[22] OCHA figures show there are currently 12,000 children in orphanages. In 2004 before the tsunami, government statistics showed 10,000. Even assuming some of these orphans died in the disaster, the total number orphaned is still in the region of 2,000.

- Supporting reconstruction of property rights in areas under existing housing programs.
- Retrospective adjudication on previously completed community mapping.

COMMUNITY DRIVEN ADJUDICATION:

Affected communities unequivocally want rapid and unambiguous resolution of their land rights so they can get on with reconstruction. Largely facilitated by NGOs, many communities are conducting what is known as community mapping. That is, they are preparing inventories of land owners (and heirs) and marking the boundaries of land parcels. These are then often drawn into basic sketches, coordinates taken on basic GPS equipment and then the maps digitized. Under a participatory process, these maps have community acceptance, but they do not lead to the issuance of legal title. Only BPN has the legal authority to issue title.

Very early on, many NGOs commenced the facilitation of community land mapping. Many different approaches were adopted, and there was little recognition of the legal framework that governs land registration. The outputs of early community land mapping efforts are of variable quality and remain to be legally adjudicated by BPN. Because of the large variations in quality and outputs, CDA has been devised as a standardized approach to community land mapping. A CDA Manual was prepared in June 2005 and subsequently BPN issued a formal decree giving it legal status. The BRR has also prescribed the CDA Manual as the standard approach for community land mapping to be undertaken in the reconstruction. Since June 2005, CDA training has continued to be provided to NGOs and other agencies involved in reconstruction.

CDA seeks to streamline and standardize the identification of property rights, including the harmonization of already completed efforts undertaken in communities. Through the process of CDA, resolution of land ownership rights, land boundaries and inheritance will be reached through obtaining community agreement. To ensure consistency of approach to CDA across the multiple agencies involved, CDA guidelines have been prepared through a collaborative effort involving government, NGOs/CSOs and donors. Through RALAS, BPN aims to ensure that community-led processes are conducted to a standard that will have a strong legal basis for future titling if desired by land owners.

The roles of NGOs in CDA include:

- Facilitating community agreement on ownership and boundary demarcation
- Facilitating community-based dispute resolution
- Independent monitoring of land reconstruction
- Strengthening community institutions and decision-making processes with special attention to the rights of women, children and orphans.

Upon receipt of notification from a community that it has reached agreement on land ownership and the position of the parcel boundaries, BPN is committed to formally adjudicating and surveying within one month. In the field, the adjudication teams conduct field checks and validate "community mapping" and "land inventories" to enable an accurate cadastral map to be prepared.

A team is expected to take about 15 days per block of 10 villages. After there is a clear map and agreement on ownership, BPN is charged with announcing the outcomes publicly, hopefully with cooperation of the media and NGOs. This one month period of public notification provides the public with time to contest the published information on ownership and boundaries. After one month, if there are no complaints, then BPN is to issue a land certificate for these individuals, within a period of 15-30 days. The whole process is free of charge to land owners

PROGRESS TO DATE

Key achievements in the recovery of property rights to date include:

- Approximately 16,000-20,000 land parcels have completed community land mapping. This comprises completion of approximately 60 villages in Banda Aceh and 40 villages completed in other parts.
- At least 500 personnel have now been trained in Community Driven Adjudication (CDA), comprising 300 NGO facilitators and 200 BPN staff, and training is underway for KDP, UPP and other community-level facilitators.
- BPN deployed its RALAS Project Implementation Unit (PIU) to Aceh in August followed by the 10 adjudication teams, each of 20 personnel (total 200 personnel). The teams are expected to be fully operational in October. BPN has issued the initial procurement packages which include the acquisition of the necessary computing and land surveying equipment to undertake land adjudication.
- Manual for CDA was prepared with close engagement of concerned NGOs and others locally, and completed on June 10, 2005. BPN has issued the Manual as a decree. BRR has prescribed the CDA manual as the standard for community land mapping – to be used by all agencies supporting housing projects, including international and local NGOs.
- MOU being prepared with Oxfam, to establish a partnership for the project, covering training, monitoring, information dissemination, etc...
- Partnership with UNDP - which is providing support in the critical early stages before funds start flowing - for training, surveying equipment, support for website, internet communications for BPN.
- Partnership with the EU has led to provision of pre-tsunami satellite imagery (and two technical advisor missions to build BPN capacity in imagery processing), to support community mapping.
- Australia provided some initial surveying equipment to BPN in March 2005. It has also announced support for land titling, following the Australian Treasurer's visit to Aceh in September 2005. Clarification of the extent of this support is being sought (Australia is not a member of the MDTFANS).
- Indonesian Ministry of Finance has committed to ensuring that a Government Regulation for the waivering of all land registration taxes, fees and charges for the tsunami-affected areas will be issued by October 31, 2005.
- BPN has established a community secretariat to engage with NGOs and CSOs in Aceh. This secretariat is now being re-shaped as an NGO/CSO forum with which BPN can regularly engage and disseminate information

The CDA manual which guides the community mapping process and links into formal recognition through BPN has been completed. The Head of BPN will issue a decree for this manual by late June 2005. BPN also established a community secretariat to engage with NGOs and CSOs in Aceh. This secretariat is now being re-shaped as an NGO/CSO forum with which BPN can regularly engage and disseminate information.

CHALLENGES

A number of key challenges need to be addressed in progressing this huge agenda:

Harmonization of existing community mapping activities facilitated by NGOs is vital so the outputs of these efforts can be formally adjudicated and surveyed by BPN to ensure that property rights are legally registered.

Harmonizing community mapping initiatives with BPN's formal reconstruction of property rights may face the following challenges:

- The perception of communities that community mapping is the only legal determinant of ownership and boundaries, rather than the formal adjudication and survey by BPN. In fact the community land map (sketch) and inventory of owners (and heirs) are inputs or evidence that must be validated by BPN using other available records, as part of the overall legal adjudication process. Once BPN has completed its adjudication, the outputs must be publicly notified for a period of 30 days. It is only after all of this has taken place, and there are no outstanding objections, that legal title may be issued.
- Disputes which might emerge if BPN needs to adjust the position of community placed boundary markers to more accurately delineate parcel boundaries in the case of mistakes made by communities.

Speed of Implementation. People overwhelmingly desire to commence re-building their houses and communities. They will inevitably commence before BPN is fully operational under RALAS to support CDA. Under RALAS, BPN will not prevent anyone from commencing to build on their land. Where building has already been completed or commenced, BPN will retrospectively adjudicate and survey these land parcels. However, BPN advises that community land mapping, in accordance with the CDA Manual, should be first completed, in order to minimize the risk to property rights.

Spatial Planning and Land Consolidation. Some communities will need to re-design their villages. This is for several reasons, including incursion of the ocean into previously habitable land and the desire to reconfigure the village plan to increase preparedness against future earthquakes or tsunamis. This process could possibly require land consolidation (LC) and/or land re-allocation. Supported by NGOs, some are prematurely moving in this direction before they have legally reestablished property rights. In these cases, there is considerable risk that legitimate land owners, or their heirs, will be disenfranchised. This could lead to long term land disputes and social problems.

Except where it is self-evident that communities have to move (because their original site is now untenable) communities should not commence work on new spatial plans until pre-tsunami rights have been validated by communities through CDA. Only then should they

consider undertaking the secondary stage of property reconstruction involving spatial planning and LC.[23]

Protecting the rights of orphans and widows. Special attention needs to be given to protect the property rights of widows and orphans. To help protect their rights the following will be implemented:

- Through CDA, the requirement for community agreement will help ensure that the views of vulnerable groups are taken into account.
- Registration will only occur if there is clear community agreement and no dispute, backed up by checks on records (including tax) and pre-tsunami satellite imagery.
- In communities, where land consolidation or redesign is proposed, it will proceed only if CDA has been completed and formally adjudicated by BPN.
- BPN will only adjudicate and survey those land parcels which are not in dispute after CDA is completed

Land Market Distortion. International experience demonstrates that titled land generally has a higher value than untitled land. To mitigate against land market distortions, RALAS will title 300,000 land parcels in the areas abutting the tsunami-affected areas. This is seen as providing a smoothing of the land market especially for urban and peri-urban areas where there is generally a high turn-over of land parcels.

In the short-term, the titling of land parcels in the tsunami-affected areas is unlikely to increase land values of these parcels above that of untitled parcels in non-affected areas. However, in the medium-longer term this may change.

The Role of BRR. The BRR has authority to coordinate and manage the reconstruction of Aceh and Nias. It can issue decrees on minimum standards, develop guidelines and coordinate assistance. It does not, however, have a legal mandate to issue property rights. Public information on land rights issues needs to clarify misapprehensions that the BRR is able to legally sign-off on community-mapping, proposals for land consolidation and land registration. These legal responsibilities lie strictly with BPN.

Land Speculation: Soon after the tsunami struck, BPN issued a decree prohibiting the transfer (sale) of land. The purpose of this decree was to protect the vulnerable tsunami victims from being pressured into hasty transfers, at a time when they were struggling with grief, loss, injury and illness. Whilst this may have prevented formal legal transfers, it is understood that many informal transfers may have taken place.

Requirements for land purchasing to support resettlement, have resulted in some very inflated requests for land purchasing by bupatis being submitted to BRR. BRR has quite correctly placed these requests on hold. In several areas of Aceh Barat, NGOs have reported deforestation by local government to provide land for resettlement. The deforestation is alleged to have led to the illegal sale of harvested timbers.

[23] It should be noted that Spatial Planning and land consolidation are not part of the RALAS project. The issue of titles after LC has been undertaken will be addressed by BPN's LC Unit.

As part of the peace agreement in Aceh between government and GAM, land will be provided for demobilized rebel soldiers. This demand is also likely to fuel speculation.

BRR is currently preparing a Policy Manual on Land Speculation with the support of UNDP and advice from the World Bank.

Budget for BPN's Implementation of RALAS: The current Budget for BPN to support RALAS is only until December 31, 2005. BPN has already requested BRR funding to return its entire staff to home provinces in January 2006, if MOF does not provide DIPA by the start of the new CY06. This is a direct impact of RALAS being funded "on budget".

Slow Start-up of RALAS: The lengthy delays (almost 2 months) in MOF issuing the DIPA has largely paralyzed BPN's response to reconstruction of property rights, by delaying deployment of staff to Aceh and delaying the procurement of the necessary equipment to enable the adjudication teams to become operational.

There is a need for BPN to "operationalize" its adjudication teams more rapidly by redeploying some surveying and computing equipment from other provinces, on a temporary basis, until newly procured equipment is delivered.

Waiving of all land registration taxes, fees and charges: Should MOF not secure the necessary government regulation, land titles will not be issued unless people pay the standard fees.

Recovery of damaged land records: The generous Japanese proposal to support the recovery of damaged documents has not progressed. The proposal was largely one of document conservancy, rather than one of information recovery and would take about 15 months. Simply put, the reconstruction of property rights requires the actual information on the records and not the records themselves. Approximately 15 tons of documents were transported to Jakarta by three TNI Hercules flights in March, 2005. Since that time the documents have been stored at -40^{o} Celsius. BPN has commenced testing a manual process of separating and cleaning pages followed by scanning. Should this be successful, approximately 40,000-50,000 land parcels in Banda Aceh could have registered property rights quickly restored.

2.6 Conflict and Recovery in Aceh

"For a long time, both the mountainous and the coastal areas have had the same level of suffering from conflict. But now, there's big jealousy because the mountainous areas were affected by the earthquake but receive nothing. There's also jealousy because people have no outlets for complaints … in some areas of North Aceh, the wells are dry because of the earthquake. People need to walk 3-5 kilometers to get water. So there are problems in the mountainous areas."

NGO, Lhokseumawe

"The people here really hope that the peace process will go smoothly because people are really tired of the conflict. Security is the main problem. In the mountains, we have big fields, but for almost five years we cannot go there. If the situation is conducive [peaceful], our economy will take only three years to improve."

Village leader, Pidie

CONFLICT IN ACEH: NEW OPPORTUNITIES FOR PEACEFUL DEVELOPMENT

The tsunami of December 26th occurred in a province that was already experiencing a large-scale disaster, albeit one of man's own making. A conflict lasting almost thirty years between the Government of Indonesia (GoI) and the Free Aceh Movement (GAM), in cases involving other actors such as anti-GAM militias, has resulted in almost 15,000 deaths. Large-scale population displacement has taken place.[24] Infrastructure was destroyed by the conflict. Schools, in particular, were a target, with over 500 burned alone in the two months following the declaration of military emergency in May 2003. Insecurity was high amongst a population caught in the middle of two warring sides. Restricted movement had large economic impacts, as villagers could not tend their gardens, the center of the Acehnese rural economy, and fishermen had to seek permission from the local military before they could go to sea.

On August 15th, driven by changes in the political environment and in the demands of both sides, the result in part of the tsunami, the GoI and GAM signed a peace accord in Helsinki aimed at ending the conflict. The agreement is the best hope in Aceh for many years. Lessons from the failed Cessation of Hostilities Agreement (COHA) of 2002-2003 have been learned. Many of the social, political and economic factors that have kept Aceh in a state of perpetual war since then are considered, if not fully addressed.

Yet while the agreement is more holistic, and the political will from both sides is seemingly stronger, challenges remain. The Memorandum of Understanding (MoU) outlines just the bare bones of a settlement. Many issues remain unresolved. Implementation details are unclear. At present, the BRR is not envisaged as being an implementation agency for reintegration or rehabilitation in conflict areas, yet in practice it will be hard to separate this work from the broader post-tsunami humanitarian and development effort. The agreement

[24] The Department of Foreign Affairs (GRI) estimated that there were 48,262 internally displaced persons as a result of the conflict in Aceh as of June 2003

has largely involved elite actors on both sides, with civil society actors and communities given little space for contribution.

The signing of the accord does not in itself bring peace. There is tremendous scope for actors involved in the rebuilding of Aceh to positively impact on the peace process. The unprecedented response (national and international) to the tsunami has created opportunities for a response to the conflict in Aceh. Human resources and aid delivery mechanisms are already in place. Villages in conflict-afflicted areas, and particularly in the rural mountainous interior, have received almost no development aid from government, NGOs or international donors while the conflict has raged. The peace agreement creates an opportunity to bring development to rural Acehnese villages which were previously off-limit to the development community, many of which have development indicators below those in other parts of the province.

CONFLICT DYNAMICS POST-TSUNAMI

Conflict levels dropped immediately after the tsunami, but then steadily increased until June 2005.[25] From the beginning of this year until the end of August, 179 deaths and 172 injuries have resulted from 111 GAM-GoI conflict incidents. Incidents have been concentrated in four districts: North Aceh, South Aceh, East Aceh and Bireuen (see Annex 10).

Figure 11: GAM-GoI Conflict Incidents by Month, 2005

Source: Newspaper dataset

Although conflict incidents are concentrated, the conflict's impacts on human security, and perceptions of safety, have been felt across the province. Many are unable to tend their forest gardens for fear of running into GAM who have retreated to the foothills. Tension between those who nominally sympathize with GAM and those who sympathize with GoI is significant across the province, regardless of recent local conflict incidents. Highly relevant

[25] Much of the data in this section is taken from Patrick Barron, Samuel Clark, and Muslahuddin Daud (2005). Conflict and Recovery in Aceh: An Assessment of Conflict Dynamics and Options for Supporting the Peace Process. Jakarta: World Bank.

for targeting purposes, these cleavages exist within villages. Sympathies for either GAM or GoI tend to be at the household level and differences of opinion and mistrust exist within villages. The main forms of GAM-GoI conflict this year before the signing of the peace agreement were fire fights between armed actors and kidnapping, which almost always involves civilians. Extortion is rampant across the province, particularly on main highways, and is almost entirely carried out by the TNI and the police. Sweeping is more common in "black areas", that is villages that, according to the TNI, sympathize with GAM.

Local community leaders are the key dispute resolution actors. Even for GAM-GoI related conflicts, the Village Head often plays a key role, for example in negotiating in kidnapping cases and settling disputes relating to extortion. Despite the conflict, community leaders have managed to maintain the trust and faith of their communities. Their participation in socializing and monitoring the peace process, as well as in facilitating the trust required for development projects, will be crucial.

CONFLICT POST-AUGUST 15TH AND OBSTACLES TO PEACE

In the first month after August 15th, incidents of conflict have continued to fall. Only three cases, one resulting in a death, were reported in local media since the agreement was signed. Fears of increasing rates of vigilantism or of serious involvement by anti-separatist civilian militia groups have largely been unfounded, although there are some reports of the latter intimidating IDPs who want to return to villages in central Aceh. There have also been reports of 'spontaneous reconciliation' taking place all over Aceh, with former rebel combatants and the military drinking coffee and praying together.

However, obstacles to peace remain, and there are a number of potential scenarios that could undermine the peace agreement.

The first relates to *incentives for resistance* from GAM combatants and members of the TNI and the police to the agreement. Particularly at the sub-district level, these actors possess considerable scope for autonomous action and many are involved in illegal activities on the side. Maintaining control over these actors will require the use of both sticks and carrots.

Partly because there are spoilers within the ranks of both sides, as well as high levels of distrust between GAM and GoI, an independent third party monitor has been charged with overseeing the peace process. The list of tasks that the *Aceh Monitoring Mission (AMM)* is responsible for, is vast. There is a risk that this team will be unable to satisfactorily cover and respond to all incidents and all aspects of its mandate.

Thirty years of conflict has eroded trust and relations: amongst communities, between communities and the state, as well as between communities and GAM. This could impact on the *reintegration of former combatants and prisoners into villages*. Communities could reject GAM because of past abuses or because of the fear that welcoming back ex-GAM combatants with open arms will put them at risk. Similarly, the provision of significant support and aid to ex-GAM combatants could result in serious tensions and social jealousies amongst other victims of conflict.

Over the course of the conflict, large numbers of people fled the province. The *return of transmigrants and the Acehnese diaspora post-August 15th* could cause problems relating to property,

including land, left behind. Although the numbers of returnees is unlikely to be high in the short-run, the conflict may have weakened the capacity of village-level mechanisms to handle these issues.

The two most problematic obstacles, at least in the short-term, will be managing local resistance and crime, as well as ensuring the smooth integration of ex GAM combatants. There is a significant chance that even if the peace agreement is successful at the macro-level (e.g. in ending the decades-long conflict between the GoI and GAM), that the conflict will fragment and morph from that of a separatist struggle (and a government's attempt to control it), to one underpinned by *local* economic interests and criminality (in Bahasa Indonesia "*preman"ism*). If this occurs, in the short-term AMM is likely to struggle to fulfill its mandate to investigate and adjudicate on apparent violations. In the longer-term, existing security and judicial institutions will have problems controlling these activities without developing greater trust and legitimacy from communities.

DEVELOPMENT INTERVENTIONS TO SUPPORT RECOVERY AND PEACE-BUILDING

Development programming has a significant role to play in consolidating the peace process. Different interventions are needed at different points, and should focus on the following: socialization and bringing people into the peace process; reintegration of GAM and provision of a peace dividend; institution-building and longer-term development

Socialization and Bringing People in to the Peace Process

The importance of disseminating the content and processes of the peace agreement cannot be understated. A major weakness of the Helsinki process has been the lack of involvement of Acehnese civil society. Steps have already been taken to this end. A GAM-GoI committee *Tim Sosialisasi Aceh Damai* (TSAD - Socialization Team for Peace in Aceh) has been set up to develop a joint socialization strategy, approve materials and jointly conduct activities such as district-level socialization workshops. A parallel donor working group (consisting of the World Bank, UNDP, IOM and USAID, with input from AMM) aims to coordinate donor responses and offers technical assistance to TSAD.

In the coming months, socialization activities should aim at providing momentum to, and stimulate understanding of, the peace process. This will involve use of a range of media: printed materials, such as posters, brochures and banners; events, such as peace dialogues and cultural and sporting events; use of existing project and civil society networks; and use of newspapers, radio and television.

Reintegration of GAM and the Provision of a Peace Dividend

"Economic and social development programs could help [support the peace process]. But it depends on who is the beneficiary. If the target is the community, it could help. But if it targets only GAM, then it will not help."

NGO, West Aceh

The reintegration program will have four phases (Table 8). As of mid-September, a consensus was emerging amongst the Government and donors over what an appropriate program might look like; bringing GAM into this discussion, linking it to the provisions of the MoU, and finalizing the program to allow socialization of its content must be immediate priorities. A number of principles should guide the overall program:

- Donor responses should be coordinated and harmonized with Government needs;
- The program should have a Government face, with donors maintaining a low profile, and it should be consulted with GAM at all stages;
- There must be a move from aid targeted at particular groups to wider community-driven development as quickly as possible;
- An early peace dividend should be provided to keep up momentum;
- There should be a plan for transitioning to longer-term development and institution-building strategies.

Phase 1: Targeted assistance. The MoU provides for assistance to 2000 amnestied prisoners and 3000 GAM combatants. IOM with the Government is implementing a reinsertion program which offers Rp. 6 million of benefits (in cash and kind) to individuals in these groups.

Phase 2: Matching grants for receiving communities and quick impact programs. The second phase involves providing money to receiving communities (to avoid jealousy) and the provision of quick impact programs. A voucher scheme providing Rp. 6 million for every returnee to a village-level bank account will be implemented by IOM, using the KDP system. Other quick impact programs – such as the rebuilding of health posts and schools; rebuilding bridges (many destroyed by conflict) through cash-for-work programs; and clearing trails to forest gardens (many of which became inaccessible due to the conflict) – can also help in delivering quick and symbolic benefits.

Phase 3: Wider bottom-up sub-district development. The third phase should concentrate on delivering a broader peace dividend. The MoU says that compensation will be given to 'victims'. Almost everyone in Aceh is a victim of the conflict in some way or other (whether through losing a family member or friend, or through the negative economic impacts of the conflict). As such, addressing the needs of victims is best done through participatory approaches, where communities decide how (and on who) development money should be spent. Programs like KDP are suitable mechanisms for doing this. Other livelihoods programs, from other donors, are also suitable for this phase.

Phase 4: Transitioning to longer-term development and peace-building. A fourth phase should involve wider-targeted programs that address conflict-related destruction at the district level. This phase will allow for a transition to longer-term development approaches that emphasize institution- and peace-building (see table 8).

Table 8: Reintegration and Social and Economic Development Programming

Target level	Phase 1 *Sep – Dec 2005*	Phase 2 *Oct 2005 – Feb 2006*	Phase 3 *Jan – Jun 2006*	Phase 4 *Apr – Jun 2006*	Peace-related Aims
Individual	**Targeted assistance for ex-combatants and prisoners** $600 package (IOM/GOI)				Provision of incentives for return; compensation for prisoners; 'transition' money
Village *(desa)*		**Matching grant for communities receiving ex-combatants/ prisoners** $600 to villages for each returnee through KDP (funding UNDP/EU/US) and other quick impact programs			Provide immediately visible symbolic benefits for receiving communities
Sub-district *(kecamatan)*			**Wider bottom-up sub-district-level development** Extra money through KDP (block grants doubled) and livelihoods programs		Provide tangible peace dividend for communities in a way that addresses victims; address conflict-related poverty and destruction (micro-level)
District *(kabupaten)*				**District-level goods and improved planning processes** Extra money through SPADA project and other programs	Address conflict-related destruction (district-level); institution-building; sustainable peace-building; transition to longer-term development

Institution-Building and Longer-term Development

There is widespread dissatisfaction with the state of governance in Aceh. Further, the MoU maps out significant changes to the structure of governance in Aceh. Donors should support a transition to accountable, transparent and participatory governance in Aceh. Needs assessments of the justice and security sectors are already in design phase, with UNDP taking the lead. Other forms of concrete support could include: providing technical and funding support for those responsible for the implementation of the MoU's governance agenda; commissioning a Public Expenditure Review at the provincial and district levels; strengthening and supporting *Rakorbang* (Development Coordination Meetings); and supporting the establishment of a joint team to monitor and control illegal logging.

THE BROADER RECONSTRUCTION AND REBUILDING EFFORT: CONFLICT SENSITIVE DEVELOPMENT PRINCIPLES

Aceh's history of conflict does not only mean that special conflict development programming is needed. It also means that *all development interventions* need to be designed and implemented in ways that take into account the history of conflict and how development interventions interact with conflict dynamics. Development actors in Aceh should consider the following conflict-sensitive development principles:

Distributional issues and targeting. Programs targeted at particular population groups, at the expense of others, are more likely to be problematic than those targeted more widely.

Community-driven approaches. Community projects that use demand-driven approaches are more likely to reflect actual community needs and receive buy-in.

Concentrate on processes as well as outputs. The processes that development programs utilize are more likely to contribute to sustainable peace than their outputs.

Built-in complaints mechanisms. Clear and transparent complaints mechanisms can help to prevent conflicts when problems do occur.

A focus on ensuring transparency and accountability to limit corruption and suspicion is necessary.

Use independent civil society. Civil society is surprisingly strong, if over-stretched, in many districts of Aceh. It is a vital resource.

Don't forget the Government. Long-term and sustainable strategies necessitate the involvement of Government at the provincial and district levels.

Provide support to field staff. Field staffs, such as local facilitators, are often over-looked. In a conflict context they are on the front-lines and thus require extra support. Consider: conflict resolution and negotiation training; strong and responsive reporting structures; and early warning information systems for when things go wrong.

POLICY ISSUES AND DIRECTIONS

While consensus appears to be emerging amongst Government, donors and GAM on what an immediate program supporting the peace process should look like, challenges remain. Various issues mentioned in the MoU remain unresolved; for many, implementation mechanisms need to be clarified. The linkages between the rebuilding and recovery effort in tsunami- and conflict-affected areas are not yet clear. Creating a balance between speedy responses while developing inclusive mechanisms for different parties to collectively determine the shape of the process will be tricky.

Addressing unresolved issues in the Memorandum of Understanding. The MOU was a compromise. As such, many of its articles and clauses are open to multiple interpretations. Issues such as the boundaries of Aceh, the role and powers of the *Kanun Aceh* and *Wali Nanggroe* (two governance institutions established by the MoU), and eligibility criteria for ex-combatants receiving benefits are all contentious issues. While in the long-run it will be necessary to address such issues, in the short-run it is better to concentrate on areas of agreement rather than those of contention. Both GAM and GoI have agreed on this, in principle. Later, once trust has been built, and the peace process is further advanced, these can be discussed. Given that the Aceh Monitoring Mission (AMM) is likely to remain in Aceh for a relatively short time, it will be necessary to develop mechanisms by which these issues can be debated in the medium to long term. Thought should be given now as to what these structures might look like.

Links between the tsunami and conflict recovery. As noted earlier, the scale of the tsunami response makes it easier to respond to damage from conflict in Aceh. Money and people are in place. In many cases expansion of existing projects to conflict-affected areas should be possible and is desirable, although it is extra important that the conflict sensitive design principles outlined above are adhered to for programming in conflict-affected areas, and that attention is given to issues such as targeting and transparency. However, questions remain as to how flexible funding mechanisms will be to respond to conflict destruction. Research has shown that communities in Aceh do not differentiate between suffering caused by conflict and that by the tsunami; in practice, it is often hard to separate the two. It is important that a wide view is taken which sees the redevelopment of conflict areas as one part of the wider rebuilding of Aceh, post-tsunami. This will mean that donors and large INGOs need to make the case for the importance of channeling resources into areas affected by conflict.

Questions also remain as to what role the BRR should play in coordinating post-conflict programming. GoI has not, as yet, given an implementing role for post-conflict activities to the BRR. In the medium-run, this will be counter-productive. Strategies in tsunami and conflict areas need to be coherent to avoid jealousies and to limit duplication. While BRR should not be tasked with coordinating the whole post-conflict program, and particularly the political elements of it, it is important that it works in partnership with the Governor's office, Jakarta and the ad-hoc groups such as *Tim Sosialisasi* that are shaping policies and programming.

The balance between speed and process. The timetable outlined in the MoU is extremely ambitious. Key decisions (e.g. in exact processes for determining what counts as a weapon, on who is eligible for benefits, etc.) have been, or will need to be, made quickly. However, at the same time, it is necessary that attention is given to establishing structures that allow for joint planning and decision-making by GoI and GAM, and that allow for discussion of contentious issues. The bi-weekly Committee on Security Arrangements (CoSA), hosted by the AMM, provides one such forum. However, this is a high level political meeting. For many issues, establishing smaller groups on particular thematic areas may be a more appropriate approach. The model of *Tim Sosialisasi Damai Aceh* is one that potentially could be replicated for other issues and areas. Priority should be given for establishing similar groups on reintegration and development assistance, and on security sector issues.

Part III: Financing the Recovery

3.1 Pledges, Funds and Bottlenecks

After the tsunami, people and governments around the world have participated in an unprecedented act of global solidarity. Private contributions have reached record-highs. With more than US dollar 2 billion to spend, and at least one billion in projects already identified, NGOs have become a key player in Aceh's & Nias' reconstruction. A major shift seems to have occurred in global development finance and Aceh will be the test case for this new financing paradigm. This chapter will present and analyze the three main funding sources of reconstruction (Government of Indonesia, donors and NGOs) and look at different bottlenecks that impede money from flowing faster.

The immediate aftermath of the Tsunami saw the largest mobilization of funds in the history of development. Donors from around the world competed to become the leading supporter of Tsunami response. For non-emergency related expenditures, it is expected that donors and NGOs will contribute more than US$ 5 billion, probably US$ 6 billion, to Indonesia's reconstruction. Together with the government's own contribution, the total reconstruction program would amount to US$ 7.5-9 billion which is slightly above earlier projections of US$ 6-8 billion, partly due to higher allocations from the government's own budget.[26] Unlike in other disasters, the contribution from each of these three financing sources – Domestic, Donors, and NGOs – is about equal in size (see table 9).

Table 9: Financing Overview by type of financing source (US$ million)

	Domestic Funds*		Donors			Private	TOTAL
	APBN-BAPEL	APBN-Decon/Central	Multi-lateral	MDTF	Bilateral	NGOs	
Total allocation/ projection (2005-2009)	2,100	700**	>1,000	>= 515	>1,000	2,500-3,000	>7,800
All projects and programs (end-September 2005)	397	110	781	307	679	1,416	3,690
Reconstruction projects	354	51	657	275	458	1,122	2,917

Source: BRR, CGI members, WB projections
* Does not include local government finances (APBD) given the uncertainty over their spending patterns
** assumes continuation of deconcentrated funding at 2005 levels.

The best estimate of the overall composition of funds for the whole reconstruction period, until year 2009, looks as follows:

- ***Domestic financing is projected to amount to more than 2.5 billion US dollars (Rp. 20 trillion).*** Domestic resources include central government allocations to BRR and line ministries as well as regional government's own reconstruction resources. In 2005, the central government allocated the equivalent of US$ 397 million to the

[26] The main sources for the data in this section are BRR project database, WB/UNDP, Financing for reconstruction – Inputs for Pokja 10 (informal note for the Master Plan); CGI-pledge tables, MDTFANS, and Center on Philanthropy at Indiana University.

BRR, partly financed by Paris Club rescheduling,[27] and an estimated US$ 110 million for ongoing projects in Aceh. In addition to this, provincial and local governments are likely to have reserves for reconstruction and development projects of at least US$ 200 million per year, although very little of this has yet been allocated to the reconstruction effort (see chapter 2.4; Annex 9 for simulation). For 2006, the BRR budget will increase to US$ 530 million or Rp. 5.3 trillion.

- ***Donor financing is projected to amount to more than US$ 2.5 billion.*** This includes bilateral and multilateral contributions of more than US$ 1 billion each, part of which have been channeled through the MDTFANS (US$ 515 million). By end-September, donor projects already amounted to US$ 1.8 billion (see table 9).
- ***NGO financing is projected to amount to at least US$ 2.5 billion US dollars.*** Voluntary organizations already raised more than two billion US dollars for Indonesia and a significant share of contributions by private corporations remains untapped. For the global tsunami appeal, the top ten US NGOs raised over one billion dollars.[28] It is estimated that the sum of all NGO funds are more than US$ 5 billion and that at least half is directed to Indonesia. By end-September, NGOs have been preparing and implementing more than US$ 1.4 billion in Aceh and Nias, and it is estimated that more than 15 percent of this amount has been spent.

Box 4: Towards a new paradigm – The significance of NGO-financing

The NGO sector has become one of the three large contributors to the reconstruction efforts, and its funds have financed most of the existing reconstruction activities so far. Whereas official disaster response pledges often failed to translate into actual disbursements in the past, the funds NGOs have raised are held in bank accounts earmarked solely for tsunami response.

Three aspects signify the shift to a new financing paradigm. Firstly, it revealed the ascendancy of 'Trans-National Charities': the Red Cross/Crescent Movement alone mobilized US$1.8bn for tsunami response; World Vision, Oxfam, Save the Children, UNICEF Committees, CARE and Catholic Relief/CARITAS all raised hundreds of millions, largely through web-based fundraising. Secondly, it reversed traditional roles in humanitarian operations. Normally, UN agencies and official donors provide the core relief framework and the NGOs fill in the gaps. In this operation, the periphery has become the core – the NGOs are the major donors. Thirdly, as a result of the above, those prominent in the tsunami response are a multitude of actors, with wildly differing styles, mandates, and levels of effectiveness. This adds to the urgency of effective coordination, but detracts from the possibility of realizing it. After all, NGOs tend to be competitive; that is how they distinguish themselves in fundraising.

[27] The Paris Club agreed to reschedule the equivalent of US$ 2.8 billion in debt to Indonesia for one year. The net present value of this rescheduling, i.e. the interest rate gain for Indonesia, is US$ 100 million on the assumption of a 3.5% interest rate on this amount of debt.

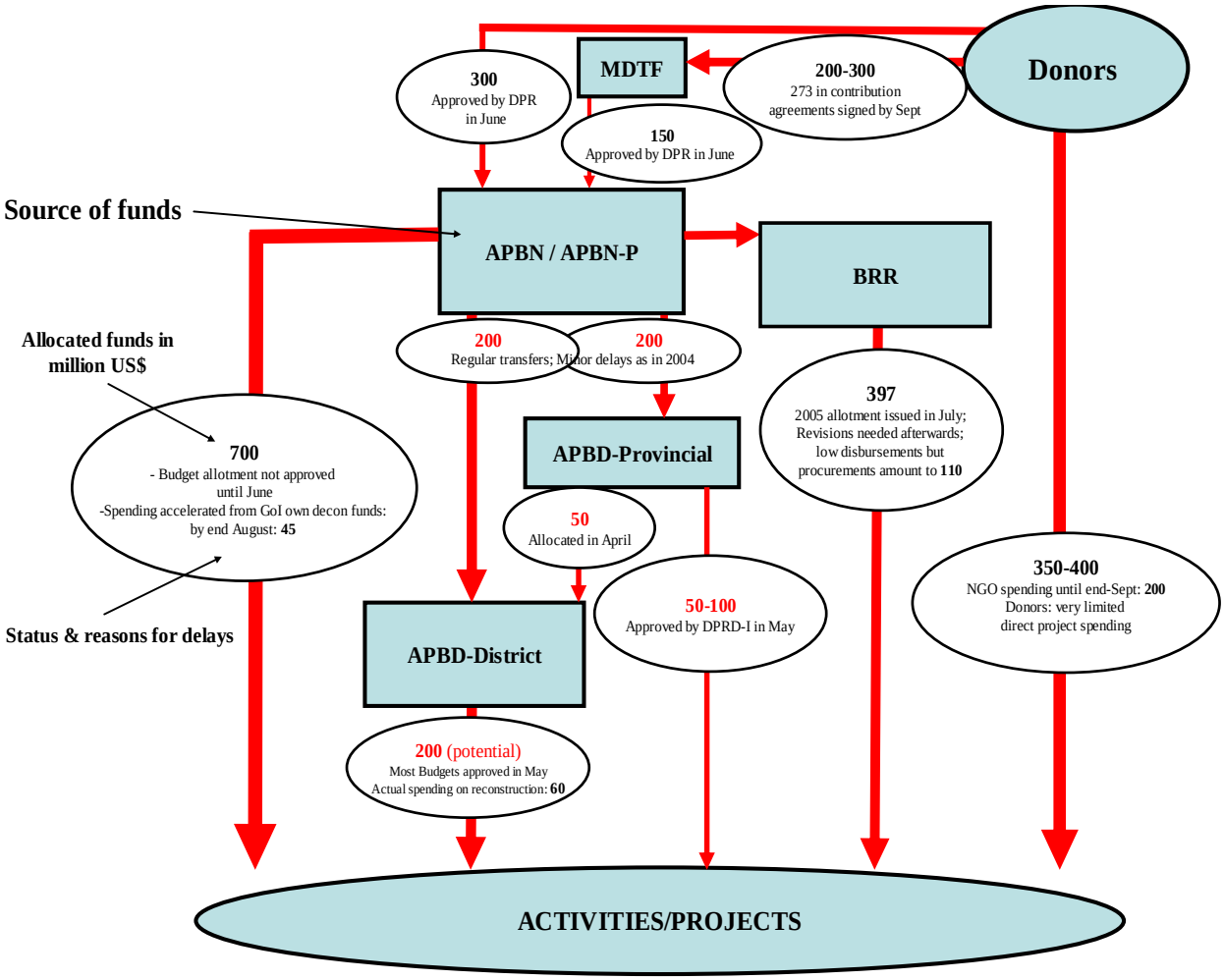
[28] American Red Cross, Catholic Relief Services, US Committee for UNICEF, Save the Children Federation, World Vision, CARE, AmeriCares, Oxfam America, Mercy Corps and Samaritan's Purse. Their collective tsunami income as of mid-April 2005 was US$1036M. 87 other NGOs raised a further US$374M in cash and in kind, according to figures reported to Center on Philanthropy at Indiana University. The Disasters Emergency Committee (DEC) – an umbrella of the 12 NGOs – raised just over GBP300M (US$570M); the NGOs separately raised a further GBP50M.

Budget system and fund flow blockages. The fact that the government contribution to the reconstruction program only started to flow into Aceh more than six months after the disaster, exacted a heavy toll on the overall reconstruction effort and the credibility of Indonesia's public finance systems. New procedures that became effective nationwide on January 1st, as part of the new Finance Law to ensure greater efficiency and accountability, resulted in additional delays due to lack of familiarity with the new system.

Blockages exist at different levels, and are not in anyway unique to Indonesia, but are also present in donor countries. For government and donor funds alone (excluding NGO-financing), there are no less than 13 existing or potential bottlenecks, some more obstructive than others (see Figure 12). These blockages can be categorized as follows:

- **Central government.** The Tsunami hit Indonesia just a few days before new budget procedures were implemented on January 1, 2005. This has slowed down budget implementation throughout all of Indonesia. In Aceh, central government disbursements accelerated after a slow start. By end-September 39 percent of total budget non-salary expenditures have been spent.
- **BRR.** Immediately after its establishment, the BRR advanced with the preparation of their 2005 budget in the amount of Rp. 4 trillion. The BRR budget was approved by parliament as part of the overall budget revision in June 2005. While BRR received its funds rapidly, it had difficulty in spending them. The delays were mainly due to delays in appointing project managers ("SATKER"), and the detailed nature of financial information in budget documents. Before project implementation, 70 of the 101 project documents required revision to reflect the revised needs at the time of implementation. By end-September, the BRR has hardly disbursed any funds but has launched procurements worth Rp. 1.15 trillion, or 29% of BRR's total budget, mainly for infrastructure projects.
- **Donors.** In past emergencies, pledges have often failed to translate into actual aid. Many of the major donors have also had difficulties in mobilizing and implementing their funds, whether on- or off- the government's budget. Most of the donor's tsunami support had to be approved by national parliaments, which explains why many donors were only able to accelerate their support (incl. their contributions to the MDTFANS) by mid-2005.
- **Transfers to the regions.** Significant amounts of funds flow from the central government to Aceh province and its local governments as part of the regular transfer system. This year these transfers, most of which are disbursed monthly, have seen only little delay, comparable with delays in 2004. As expected, the provincial and local governments also received significant amounts of revenue sharing for oil and gas (Bagi Hasil) for Q4/2004 in April, so that the provincial and local governments do command significant resources.
- **Local and provincial governments.** Like the central government budget, local budgets have also taken time to be implemented. The deliberations of their budgets by local parliaments have taken on average four and a half months. None of the district budgets were approved before June and one district (Simeulue) has yet to approve its budget after nine months of discussion in the local parliament (see chapter 4).

Figure 12: Nature of 2005 blockages



Despite many adjustment problems in the transition, Indonesia's Public Financial Management System is considered an improvement compared to the past. However, partly because of safeguards against misuse, it does not provide for the flexibility that would be needed in an emergency-recovery situation. The government has now responded to the slow execution of reconstruction budgets and has introduced an exceptional carry-over provision that allows spending of the 2005 budget for Aceh and Nias' reconstruction in 2006.

3.2 The investment program

The objective of this section is to provide an overview over the emerging reconstruction program for Aceh and Nias. This section compares reconstruction needs – sector by sector – with existing and planned programs to address these needs.

OVERVIEW

After a disaster of such magnitude, defining needs and classifying more than 750 ongoing projects is not an easy task. While the joint GoI/Donor damage and loss assessment, and the work for the Government's Master Plan, form a good basis for defining needs, quantifying and segmenting reconstruction activities is more difficult, because so many actors are involved, and many of them have different approaches, financing modalities, and time horizons.

The analysis provided in this chapter is based on the following methodological principles:[29]

- ***Comprehensiveness of data sources.*** The analysis presented in this chapter capture all the currently available data on damage, loss, and needs, as well as ongoing, or already approved, reconstruction programs funded by all financing sources. The main data sources for this analysis are the BRR, the Master Plan's need estimates, the Damage and Loss Assessment, Government budgets, project databases, and inputs from donors. For Nias, total damage has been estimated at US$ 281 million and been disaggregated by sector. These sectoral damage estimates have now been added to the total needs estimates.
- ***Focus on implementation.*** Only ongoing, or already agreed, projects are counted in this analysis. For instance, MDTFANS has been only recorded with a US$ 307 million allocation of already agreed projects, and not with its projected resources of US$ 515 million. For practical and consistency reasons, each item is associated with the executing agency, as opposed to the source of funding. This gives a clearer picture of the current situation and cuts out pledges that may not materialize.
- ***Separation between temporary support, reconstruction, and broader development programs.*** With the assistance of many partners, all donor's and NGO-projects have been divided into three categories (i) temporary needs (e.g. clean water to IDPs, temporary shelter, etc.); (ii) minimum needs to replace damage ("build back"); and (iii) programs that go beyond this core program or cover parts of Aceh not directly affected by the tsunami ("build back *better*"). Where projects span several phases or cover both Tsunami and non-Tsunami areas, shares were calculated based on the nature and duration of the project.
- ***Analysis by sector.*** Core tables highlight the current sector needs, project allocations and resulting sector gaps (see table 10, Annex 2- Annex 8). The projects allocation can be for a single year (e.g. government budget allocation) or multi-year. Regional disaggregation of projects has not been possible. The planned Geographic Information System should help meet this information gap (see chapter 2.1).

[29] A more detailed methodological note is presented in Annex 1 which also includes all the assumptions made to classify projects as well as the estimates for the damage from the March 28 earthquake in Nias. See also IOM Damage Assessment for Nias and Simeulue Islands, June 2005.

NEEDS

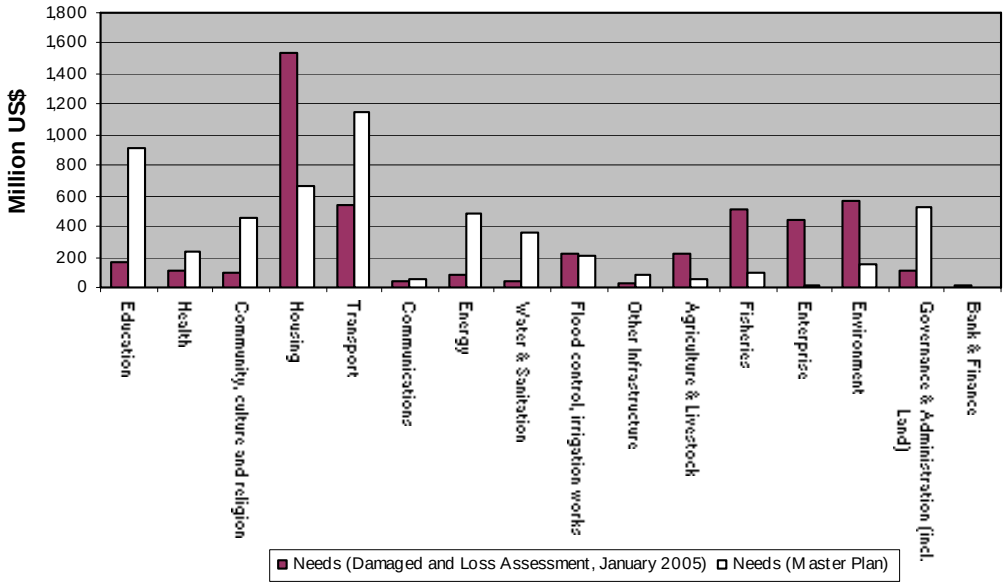
The Damage and Loss Assessment estimated the total damage and loss of the December 26, 2004 disaster at US$ 4.45 billion.[30] Most of the damage and losses were private in nature (78%) with housing being the most affected sector (US$ 1.4 billion; or 31%). For the Nias earthquake of March 26, 2005 the additional damage and losses have been estimated at US$ 281 million, so that total damage and losses of both disasters amount to approximately US$ 4.73 billion.

The Government's Master Plan for Aceh and Nias used the Damage and Loss Assessment as a basis for developing reconstruction policies and programs. The Master Plan put the initial needs to reconstruct and upgrade Aceh and Nias at US$ 5.1 billion; with the projected damage for Nias this total would increase to US$ 5.4 billion. While these aggregate needs compare well with the total damage and losses, the government took two important policy decisions:

- "Building public services back better", and invest more in education, health, water supplies and roads.
- Compensation of private losses only up to a limit, to target the poor and middle class, and avoid moral hazard.

These policy decisions resulted in fundamentally different sector allocations. Sectors dominated by public service provision – education, health, transport and electricity have seen a dramatic increase in needs (compared to damage) while sectors dominated by private damage and losses – housing, fishing, agriculture – have seen a substantial decline (see Figure 13 & Table 10).

Figure 13: Needs: Damage & Loss Assessment and Master Plan versus programs



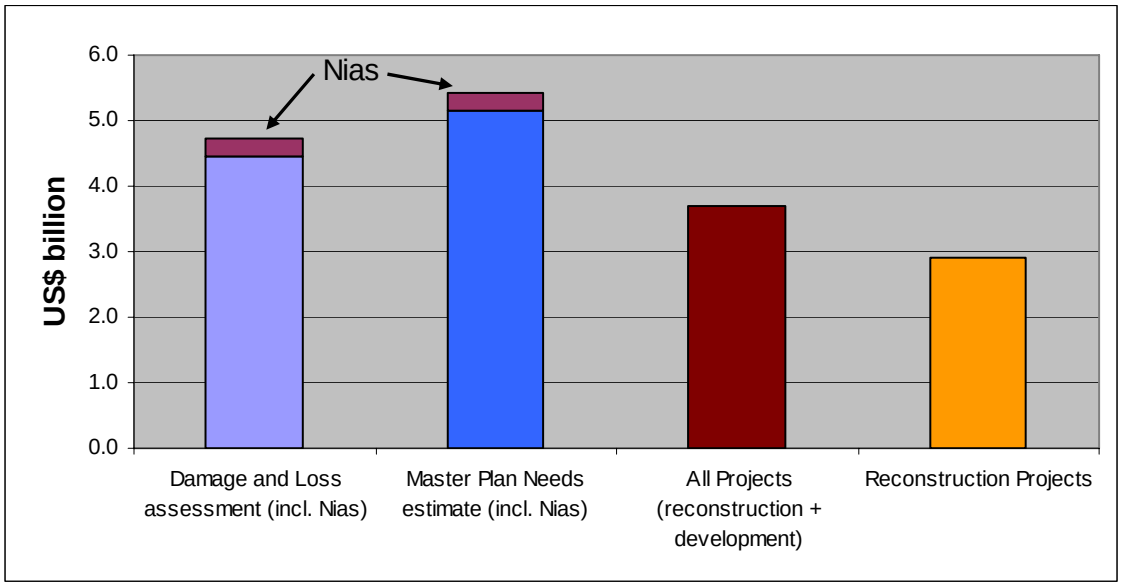
[30] A team of more than 100 Indonesian and international experts prepared the damage and loss assessment of the impact of the Tsunami and Earthquake in Indonesia in January 2000. This assessment was based on the international standard ECLAC-methodology.

The minimum core reconstruction program amounts to approx. US$ 2.8 billion. This includes: (i) full replacement of all public sector damage (per damage and loss assessment); (ii) financing of all private sector needs, such as housing, agriculture, fishing, etc., as defined by the Master Plan; (iii) partial financing of environmental damage, which can only be addressed to a very limited degree by external interventions; (vi) coverage of the Nias earthquake damage; and (v) 15% for technical assistance (local facilitators, road engineers, etc.) to plan and implement reconstruction projects.[31]

RECONSTRUCTION PROGRAMS

The total amount of funds already programmed for reconstruction activities amounts to US$ 2.9 billion dollars, and another 773 million US dollars have been programmed for broader development programs (see figure 14). Broadly in line with the Master Plan, these resources are allocated to infrastructure, incl. housing (42%) and social sectors (36%). For reconstruction activities, NGOs remain the largest player with US$ 1.4 billion in projects (38% of the total) but all donor projects taken together are now amounting to US$ 1.8 billion. The Government's program – BRR and de-concentrated spending – stays at US$ 510 million (excl. possible local government contributions). However, the BRR is currently in the process of negotiating the 2006 budget in the equivalent of US$ 530 million.

Figure 14: Needs versus programs



The existing program of financing seems to be appropriate for the current reconstruction phase. Experience suggests that recovery requires a significant amount of project frontloading. In Indonesia, getting projects under way is even more important given some of the delays in official funds. The data presented in Table 10 points to several key trends and findings:

[31] This is estimated from average donor projects which have on average a 15 percent Technical Assistance component.

- **The current resource envelope is close to the core minimum needs.** Nevertheless, the optimal spatial allocation of funds remains a challenge. The degree to which these programs translate into concrete results will give an indication of their effectiveness.
- **The needs of the broader reconstruction program are not met (US$ 5 to 5.5 for Aceh and Nias).** Using the needs estimates of the Master Plan, even sectors such as education and water, which already received substantial support, are not yet fully funded. The recovery of Aceh's conflict affected areas will also demand additional resources.
- **Sector allocations are uneven.** Sectors which are more attractive to donor and NGO financing, such as health and education, are much better endowed than, for instance, transport, where more than US$ 300 million are needed to even meet the core minimum.
- **Housing is a crucial sector and existing projects are not yet fully meeting the core minimum.** Under the current projections, US$ 72 million would still be needed to cover core needs, partly due to the additional damage in Nias. There has also been some variability in donor allocation to housing (e.g. Red Cross, see Technical Annex). Given that only a few big donors are financing the bulk of housing reconstruction, any significant reallocation of already agreed projects would increase the financing gap even further.

Four main conclusions can be drawn from the current level and composition of the investment program. First, priority should be given on making good use of the more than 3.7 billion dollars that are already programmed for reconstruction and development projects. An effective implementation of this large portfolio will rapidly improve the lives of the people of Aceh and Nias. Implementation has started, and it is important to accelerate it in the coming months. Second, several significant sector gaps still need to be addressed, most importantly in the transport sector. Third, to sustain the peace, additional resources need to be directed to the conflict affected areas and it will be critical to allocate these resources equitably across the province. Fourth, planning for the next reconstruction phase should start soon in order to make these US$ 3.7 billion and future investments sustainable, as well as designing a development program for the whole of Aceh.

Table 10: Summary of Needs, Projects, and Gaps (million US$)

	NEEDS			PROJECTS (Existing & agreed)			BALANCE (Projects - Needs)		
	Damage and Loss assessment [a]	Master Plan [b]	Minimum to build back [c]	Building back	Better	Total	Damage & Loss	Master Plan	Core Needs
	A	B	C	D	E	F	F-A	F-B	D-C
Social Sector	372	1,605	414	980	243	1,223	851	-381	566
Education	170	917	189	360	44	404	234	-513	171
Health	104	233	116	321	115	436	332	203	205
Community, culture and religion	98	455	110	300	83	383	286	-71	190
Infrastructure and Housing	2,492	2,984	1,885	1,338	228	1,566	-927	-1,418	-547
Housing	1,533	664	762	690	12	702	-831	38	-72
Transport	537	1,145	617	294	137	430	-106	-715	-323
Communications	39	58	42	8	13	22	-17	-36	-34
Energy	90	485	100	21	1	23	-67	-462	-79
Water & Sanitation	40	355	45	141	34	175	135	-180	96
Flood control, irrigation works	221	202	237	90	6	96	-125	-106	-146
Other Infrastructure	34	77	84	93	25	118	84	41	9
Productive Sectors	1,183	158	185	383	122	506	-677	347	198
Agriculture & Livestock	225	52	61	73	4	77	-148	25	12
Fisheries	511	92	108	108	12	120	-391	28	0
Enterprise	447	15	16	202	107	309	-138	294	186
Cross Sectoral	685	677	295	215	180	395	-289	-282	-80
Environment	562	151	175	68	42	110	-452	-41	-107
Governance & Administration (incl. Land)	109	526	104	147	138	285	176	-241	43
Bank & Finance	14	0	16	0	0	0	-14	0	-16
Total	**4,733**	**5,426**	**2,781**	**2,917**	**773**	**3,690**	**-1,043**	**-1,736**	**136**

(a) Represents January 2005, Damage and Loss Assessment and Nias' Damage and Loss Projection; (b) Represents Master Plan and Nias' Damage and Loss Projection; (c) Assumes that private sector contributions cover part of the damage and losses, particularly in the housing and productive sectors (Master Plan Policy decisions).

Part IV: Notes on Sectoral Investment Plans and Actions

4.1 Rebuilding Houses

OVERVIEW

Early assessments estimate 127,000 houses were destroyed in Aceh, and up to 14,000 in Nias, but the number of replacement homes required will be less. Figures vary, but a recent BRR survey estimates 75,000 homes are needed in Aceh, and 25,000 total in Nias and Simeulue. Irrespective of the precise number, the pledges from over 60 donors and NGOs total 102,901 units and are sufficient to match total housing needs. However, increased stocktaking and coordination is required to ensure that donors follow-up on their commitments.

Roughly US$702 million has been mobilized for housing, around 47 percent from NGOs (US$ 331 million), and the remainder from donors (US$ 335 million) and from domestic sources (US$ 36 million). Total resources for housing are less than the estimated cost needed to build back (US$ 762 million), but sufficient for the estimated cost from the Master Plan (US$ 664 million). Matching the estimated *Core Needs* will require an additional US$107 million. (see table 11).

Progress to build permanent housing has been slow and undeniably frustrating for the estimated 400,000 IDPs. Confusion on housing policies, slow disbursement of funds, poor coordination, and delays in carrying out priority community work (community mapping, spatial planning, etc) all contributed to the hold-up. But some of the key housing bottlenecks are being addressed. Larger donor housing programs are now established, and NGOs have been able to shift operations from relief to housing reconstruction. Community settlement and land policy is less ambiguous and should continue to improve with the RALAS program now on the ground. Further, the capacity of the BRR for managing and coordinating the housing programs is improving.

A number of NGOs have started housing construction. It is estimated that 10,119 homes have been completed (6,033 temporary and 4,086 permanent), with about 13.000 under construction. While this is a small fraction of the total needs, the pace of housing construction is expected to increase. Preliminary estimates show that the pace of construction increased from 1,000 housing units in June to 5,000 units in October. Nias and Simeulue still are less served than the Banda Aceh and west coast of Aceh.

Moving ahead and improving past performance will require addressing several unresolved issues. Donors, NGOs, and the BRR need to improve coordination – this will ensure pledges are being met, the needs of Nias and Simeulue are taken care of, and that housing standards and land policy are able to be followed. Housing construction needs to be better integrated with basic infrastructure services -- this will require improved spatial planning and additional resources for technical engineering skills. Equity must continue to be addressed to ensure consistency and quality, and to meet the needs of renters. Meeting the growing demands for building materials is already a problem, especially providing legally felled timber. Finally, given the slow start of housing, temporary shelters need to be upgraded and more built immediately for those still in tents. Incentives for host families to house IDPs should also be established.

THE CHALLENGE

The December 26, 2004 earthquake and tsunami destroyed large sections of Aceh and North Sumatra. The damage was mainly concentrated within a 3.2 to 6.4 kilometer zone along the coast. Approximately 1,000 villages and urban communities were affected, 441 villages severely affected with another 254 moderately damaged. According to the initial damage and needs assessment conducted jointly by the Government of Indonesia and the donor community in January 2005 the preliminary damage and losses sustained were estimated at approximately US$4.45 billion dollars, of which approximately US$1.4 billion, or 32%, was attributed to the housing sector. Although these estimates are now thought to be high, the initial damage assessment also indicated that approximately 127,000 houses (14%) out of a stock of 820,000 were destroyed. Provincial Department of Public Works data also suggests that another 82,600 houses have to be rehabilitated. The initial assessment and subsequent surveys also suggest that up to 650,000-700,000 people may have been displaced and made homeless by the disaster.

A second quake on March 28, 2005 also devastated the island of Nias off the coast of North Sumatra and heavily damaged southern Aceh and again the island of Simeulue. Damage assessments for Nias vary, but the Government of Indonesia (GOI) estimates that approximately 14,191 houses were totally destroyed there while 32,329 units were damaged. A recent survey conducted by IOM and the Kecamatan Development Project (KDP) suggests, however, that only 12,010 houses were destroyed and 16,931 units damaged on the island.

THE RESPONSE

In the nine months following the disaster (January - September 2005), GOI, provincial and local governments, and donors and NGO communities made significant progress in the planning and provision of short-term shelter needs and also in developing a long-term strategy for housing. Achievements are briefly summarized as follows:

- ***Temporary Housing.*** GOI and NGOs moved quickly to accommodate the shelter needs of homeless persons. In February 2005, 11,000 people were moved from tents to barracks, and plans were in progress for the construction of facilities for an additional 90,000 individuals. As of September 15, 2005 the United Nations report on Temporary Shelter in Aceh and Nias indicates that from a total of 452,000 IDPs that have been registered approximately 67,504 individuals were living in self-settled tent camps, while another 293,740 were staying with host families or extended family members. Data for Aceh Besar[32] further indicates, that approximately 29,000 people are living in tents, 19,000 in barracks, 4,000 in public buildings, and another 29,000 with host communities/families.

  The hope that a sizable proportion of the displaced population would be able to move into permanent houses in a short period of time after the disaster has not, however, materialized. It is becoming increasing clear that housing completions by the end of the year will not be sufficient to address all shelter needs and that current temporary shelter arrangements will have to be repaired and upgraded for possible extended use. The target, set by BRR, is for the 60,000 who still remain in tents to be relocated to permanent homes or at least more solid 'temporary' housing or living centers by the end

[32] Source: UN Habitat consultant report by Bruno Dercon

of 2005. To date, the BRR reports 6,033 temporary housing units have been completed, and 5,992 are in progress.

- ***Housing Strategy Blueprint.*** The GOI developed the Master Plan's "Comprehensive Human Settlements Rehabilitation and Reconstruction Strategy." The strategy serves as the basis for all housing programs undertaken by donors and NGOs, and emphasizes the importance of community participation, and promotion of a comprehensive reconstruction process that integrates tenure and socio-economic issues. The BRR approach relies on a community-driven response for housing and explicitly recognizes and empowers the village as the unit for intervention.
- ***Rehabilitation and Reconstruction Agency.*** BRR established and staffed a division on Infrastructure and Settlement, with a Directorate for Housing, Water, and Sanitation. In July 2005 BRR also issued a series of technical policy guidelines for community mapping and land entitlement, etc. for housing and settlement reconstruction. These guidelines provided a framework within which donors and NGOs could operate.
- ***Donor Mobilization & Coordination.*** Immediately after the disaster, donor efforts focused on the provision of temporary shelter and the provision of basic needs. By April 2005 donors and NGOs began developing their housing programs and in October 2005 their efforts began to materialize with a substantial number of housing starts estimated at approximately 11,000. The donors and NGOs also established a sector working group, coordinated by UN Habitat. BRR initiated a Settlements Policy Advisory Group (SPAG) in September 2005 to advise on policies relating to housing and related infrastructure.

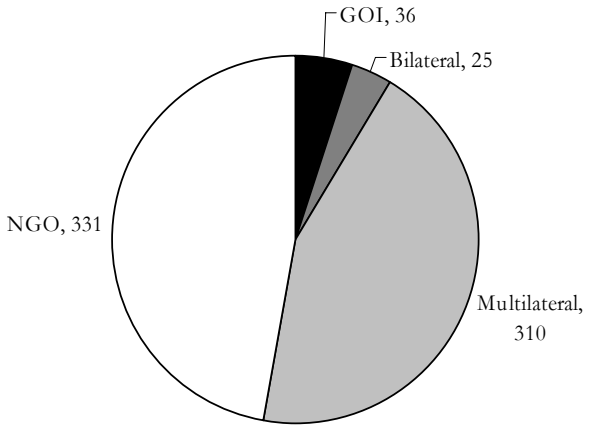
DELIVERING THE RECOVERY PROGRAM

Roughly US$702 million has been mobilized for housing, around 47 percent from NGOs (US$ 331 million), and the remainder from donors (US$ 335 million) and from domestic sources (US$ 36 million). Total resources for housing are less than the estimated cost needed to build back (US$ 762 million), but sufficient for the estimated cost from the Master Plan (US$ 664 million). Matching the estimated *Core Needs* will require an additional US$107 million. (see table 11 and figure 15)

Table 11: Needs, Projects, and Gaps (million US$)

Needs			Projects: Existing & Agreed			Balance		
Damage & Loss Assessment	Master Plan	Minimum to Build Back	Building back	Better	Total	Damage & Loss	Master Plan	Core Needs
1533	664	762	655	47	702	-831	38	-107

Figure 15: Sources of Financing – Housing Sector



Damage Assessment and Housing Needs. While it is estimated that approximately 117,000 houses were destroyed in Aceh, the actual number of houses required may in fact be less. Families that were wiped out will not return; a substantial number of survivors may stay with other family members or resettle elsewhere. Estimates of housing needs vary considerably depending on the source. Initial BRR and IOM estimates, for example, indicated that between 70,000 to 120,000 new houses were needed in Aceh. A more recent BRR commissioned survey, carried out in 77 kecamatans by Garansi suggests, however, that only approximately 75,000 may be needed in Aceh. Garansi staff indicate, however, that their data did not include the islands of Nias and Simeulue and estimate that if these areas are included the total number of new houses needed may be as high as 100,000. UN Habitat also estimates that as many as 5,000-20,000 new units may be needed in Nias. While welcomed, the Garansi data needs to be thoroughly checked before it is used as a baseline. Local government estimates also vary between 85,000 to 110,000 new units. The MDTFANS housing program estimate, based on only partial data, estimates the number of new houses needed at approximately 68,000 units.

Demand and Pledges. Estimated pledges by donors and NGOs roughly match the estimated housing needs. More than sixty donors and NGOs have to date pledged approximately 102,901 new housing units for Aceh. Housing pledges of some of the largest donors are summarized in Table 12. However, it should be pointed out that this table by and large only summarizes commitments to Aceh and that the needs of Nias and Simeulue still require attention. Further, many pledges – reported in housing units – were made early based on assumptions of lower housing construction costs. With the trend in rising unit costs, many donors are already not being able to meet their earlier pledges (in terms of units), so it is possible that the figure for the total number of units pledged will decrease.

Table 12: Pledges by Donors/NGOs in NAD (revised 09/01/05)

Donor/NGO	Number of Houses Reconstruction	Number of Houses Repair
ADB	10,000	7,000
Budha Tzu Chi	3,700	
Caritas	1,400	
Catholic Relief Services	2,800	
GOI MPW(PU+BRR)	3,500	
Habitat for Humanity	10,000	
IOM	11,000	
ISLAMIC RELIEF	5,000	
KfW/GTZ	4,200	
Oxfam	2,000	
UN-Habitat	6,800	
UNHCR	11,000	
UPLINK	3,000	
Samaritan Purse	3,000	
WB/MDTFANS (Phase 1)	10,000	15,000
World Vision	7,500	
Other	11,700	1,488
Total	**102,900**	**23,488**

Source: BRR, Banda-Aceh.

The BRR has permitted agencies to go above the price ceiling of the Master Plan (28.8 million Rp per house) because it is now recognized that this amount would not afford a truly decent replacement house in view of rising inflation and logistical difficulties to deliver the housing program at sufficient speed. As a result, many agencies are relocating their resources to ensure higher quality shelter programs, while reducing the numbers of constructed housing to reflect the higher costs.

The MDTFANS housing program, as indicated above, has pledged 20,000 new units: 1,000 units in the Pilot Phase, 9,000 units in Phase I and 10,000 units in Phase II. The release of funding for Phase II housing is however dependent on certain targets being achieved in the Pilot Phase. If these targets are not met, the funding may not be released for the second phase. Other donors are also experiencing financial problems and may not be able to meet the commitments they have made (eg. World Vision's funding is, for example, less than initially anticipated). Efforts should therefore be made to ensure that donors maintain commitments they made nine months ago in response to the tsunami. On the other hand it should be noted that a number of NGOs such as CRS and Oxfam are scaling up their operations. They have built up their capacity to manage larger programs in Aceh and found it less difficult than they expected to find suitable firms to contract work to, hence are willing to direct more resources to their housing programs.

Progress in Housing. The housing program initially got off to a slow start. This is in part understandable given the fact that donor and NGO organizations initially focused their efforts on emergency shelter and basic needs. When they were about to turn their attention to housing reconstruction, the March 28th Nias/South Aceh earthquake struck and efforts again re-focused on emergency needs. Many of the NGOs only really began to develop their housing programs in April and May. Keeping in mind that community preparation activities – damage needs assessment, community mapping and site planning – require on average 2.5 months to complete,

it should not be a surprise that significant housing starts were not achieved until September 2005. Insufficient coordination between various donors and stakeholders as well as the initial lack of clear policy guidelines also hampered program progress. Despite these problems, off budget NGO housing programs have finally begun to take off with a significant number of housing starts by September/October 2005. Some of the largest donors, notably the MDTFANS housing program and the ADB shelter program, both tied to the GOI budget system, are still, however, experiencing delays.

Although the quality of data is still uncertain, it seems that by June housing starts were running at approximately 1,000 per month and that this number had increased to 5,000 per month by October 2005. The BRR estimates 10,119 units have been built, 6,033 temporary, and 4,086 permanent. A MDTFANS housing program survey, based on BRR and IOM statistics, estimates that approximately 5,000 houses were in construction in September. The BRR has recently established a tentative target of 30,000 housing units completed by the end of December 2005 and would like to make sure, if possible, that many of the beneficiaries are those currently living in tents.

ROLES AND RESPONSIBILITIES

National Level. The proposed Human Settlements Rehabilitation and Reconstruction Program is an integral and major part of the Master Plan. Institutional and reporting arrangements for its implementation will be aligned with those being formulated for the BRR.

As a policy-making body on matters related to human settlements reconstruction activities, BRR has established a special directorate for Housing, Water and Sanitation (DHWS), under the Deputy of Settlement and Infrastructure to take overall responsibility for selections of donor-funded assistance packages, donor coordination, allocations of the necessary funding at the national level.

Provincial and local level. At each subsequent level of governance (provincial, local government), a settlement coordination committee will be convened and the membership will be the provincial and local government equivalent of the participating sectors of the National Steering Committee and selected representatives of civil society organizations relevant to the Program.

Local Settlement Steering Committees will be responsible for reviewing the implementation progress at the local government level and advising the relevant sectors on the necessary technical measures to resolve issues that arise in the field. It will also assist the overall coordination of donors at the local government level. Issues that cannot be resolved at the local government level and require policy and regulatory interventions at a higher level will be reported to the National Steering Committee through the Provincial Steering Committee.

Various donors (MDTFANS housing program, ADB, etc.) will establish Program Management Units (PMUs) to manage their respective projects. These PMUs will most likely be located in the provincial capital, and will report to BRR on planning and implementation progress and problems. It is expected that in each of the local governments in which they are operating, each donor will have at least one contact person who will be the liaison to the Settlement Coordination Committee.

Sub-district and Village Level. At the sub-district and village/*kelurahans* level, a committee for rehabilitation and reconstruction is expected to help the donors in adopting a community-driven approach, based at the lowest government jurisdiction (*kecamatan* or *kelurahan*). Communities will be responsible for community mapping, action plans, planning, construction management, and monitoring and evaluation.

SECTOR CONSTRAINTS & CHALLENGES

Although significant progress has been made in the housing sector over the last several months, a number of issues remain that will negatively impact on sector performance and need to be addressed. These issues are summarized as follows:

Donor and NGO Coordination – BRR may need to take a more decisive role in monitoring and coordinating the donor and NGO community. While the housing needs in many areas such as Banda Aceh have been thoroughly covered by donors and NGOs, substantial pledges still have not been made to the islands of Simeulue and Nias. Although land policy and spatial planning guidelines have been issued by BRR, they are not always being implemented in the field. Housing construction is, for example, sometimes begun before land inventories are completed. Recently one of the larger NGO's constructed a number of houses in an area where the community, working with another NGO, had developed a site plan that located a road in the area where the houses where built. Lack of coordination among donors working in the same area also ultimately weakens local, community-based organizations.

Coordination of Housing & Other Infrastructure Services – Many donors are building housing without the provision of basic services (water supply, drainage, sanitation, power and lighting, roads, and solid waste disposal, etc.). The community-based approach to housing development does not lend itself easily to the provision of a coordinated network of primary and secondary services managed by local government and utilities. There is therefore a strong case for involving an experienced engineering consulting firm to assist with planning, designing, and implementing an integrated program for off-site and on-site services. Under this scheme donors/NGOs would continue with their present construction schedules and the infrastructure services would eventually be retrofitted to the housing program.

Quality and Equity – Concern is growing regarding the varying quality of housing provided by various donors. A UN Habitat study indicates, for example, that the unit price of houses currently varies from US$2,500 to US$11,000 with an average unit price of about US$5,000. The juxtaposition of housing of varying quality in neighborhoods is creating jealousy among communities. This has lead to delays as villagers consider other options to the one they have been given, notwithstanding their commitment in writing (MOU) with a particular donor.

Materials Supply – The supply of building materials especially timber is a major issue and will become more serious as housing construction activities dramatically increase in 2006. The Ministry of Forestry still insists that all timber needs be met by domestic suppliers, but BRR has agreed with donors that imports of timber be permitted. The British Red Cross is reportedly now importing timber from New Zealand for its housing construction needs. That timber could become a major issue is indicated by the fact that one of the smaller NGOs, World Relief, had to temporarily delay construction because it could not access adequate timber in Aceh and had to eventually obtain it from Jakarta.

Temporary Shelter – With the initial slow pace of permanent housing starts, donors and NGOs have begun to realize the need of more 'temporary' housing arrangements. As previously indicated, during the emergency phase a number of barracks were erected, but these were unpopular and were often located far from their inhabitants' home villages. The distance between the barracks and home settlements has slowed the pace of the reconstruction program that is based on assessment and mapping activities carried out in the originally destroyed settlements. A number of donors and NGOs have started to build better quality, 'temporary' housing on site in damaged communities to encourage people to return to their villages and participate in community-based, housing construction activities. IOM is currently providing temporary shelter on site and it is reported that World Vision and the Red Cross are also moving in this direction.

Renters – It has been estimated that up to as many as 90,000 renters may have lost their homes because of the quakes and tsunami. BRR has not yet established a policy regarding this group and few donors and NGOs are currently dealing with the issue. A special task force has however been set up in the Shelter Working Group to address the problem but there has been very little progress to date.

Repairs – Table 12 indicates that most donors and NGOs are focusing on the provision of new housing and not on the repair of partially damaged homes. More attention should be paid to the repair issue. The MDTFANS housing program and the ADB's program might consider expanding their programs for housing repair and other NGOs should also address the issue.

THE WAY FORWARD

A number of steps should be considered in order to sustain the current and increasing momentum in housing. These steps address the issues presented above.

Coordination of Donor and NGO activities. BRR as the ultimate authority for reconstruction in Aceh and Nias provides leadership and coordination of donors and NGOs and reconstruction activities. As a new agency, BRR requires technical support to carry out its responsibilities. UN Habitat currently provides support to BRR for the housing sector; types of support provided include policy formulation, monitoring and evaluation of the sector including a housing database etc. The MDTFANS housing program will also make funds available for the technical support to BRR by enhancing its capacity to effectively manage the housing program without duplicating other donor efforts but rather filling in the gaps. The MDTFANS housing program also plans to introduce a computer-based management information system that will enable BRR to gather and store more accurate data on housing needs and program achievements. It should be noted that the capacity of local governments to regulate and coordinate activities is also low and needs to be strengthened.

Donor Pledges. As previously indicated, efforts should continue to ensure that donors and NGOs meet the commitments made nine months ago in response to the tsunami. A World Bank Mission Report on Aceh and Nias (September 2005) suggests that consideration also be given to channeling some funds from the MDTFANS housing project to NGOs in order to enable them to sustain or increase their commitments. The mission report further points out that utilization of the skills and experience of knowledgeable NGOs already on the ground and providing shelter would diversify the number of approaches being used under the project, reducing the risk of a reduced output by relying on only a single approach or provider.

Infrastructure. Many donors and NGOs have focused on the provision of housing and not associated infrastructure. This is in part understandable, given that villagers have indicated that their primary need is housing. BRR and the donors must now however ensure that a systematic and coordinated plan, linking settlements with infrastructure networks including water and sanitation, drainage, roads, etc., is developed and retrofitted for housing or settlements already constructed.

Building Materials. It is becoming increasingly clear that the supply of legally felled timber is becoming an issue. With a greatly expected increase of demand for wood in 2006 as housing construction starts to accelerate, timber could be a major problem. UN Habitat projects, for example, estimate that 415-650,000 cubic meters of timber could be required for the total reconstruction of both Aceh and Nias. Some of this timber will obviously have to be imported (and should be free of import duty). UN Habitat recommends that donor countries should consider providing sustainable timber as a 'gift', since timber donated by governments is less likely to experience excessive delays in passing through ports in Indonesia.

Temporary Shelter and Housing. Given the slow start-up in the housing sector, the construction of better temporary shelters on site (rather than barracks off location) should be further explored and encouraged**.** The approach would also ensure that villagers are able to return to their villages and participate in community-based reconstruction activities. This needs to be done immediately.

4.2 Water and Sanitation

OVERVIEW

Relief operations in the water and sanitation sector were sufficient to avoid major health crisis, and the basic needs of affected communities were generally met. Sector work is active at the community level, and NGOs that provided emergency services are now also playing a major role in housing and supporting water and sanitation infrastructure. The increasing pace of housing starts relative to water and sanitation development will make planning for, and tapping-in to the future network a challenge in urban and peri-urban areas. Donor agencies have begun work to salvage existing water supply infrastructure, replace critical equipment, support PDAMs (water utilities), and other activities. But progress on larger and primarily urban projects – such as planning, design, and construction of water supply, local and main storm water drainage, solid waste management, and sanitation, including possible sewerage networks – has been slow.

UNICEF coordinated the emergency water and sanitation activities, but only since the creation of the BRR has the issue of cross-sectoral coordination (especially with the shelter group) started to be addressed. The BRR is responsible for coordinating all of the infrastructure sectors, and it is becoming more involved in water and sanitation sector it moves from the emergency to the rehabilitation phase.

Developing a comprehensive strategic sector plan is a priority. Project implementation is hampered by the slow pace of local level spatial planning, lack of accurate topographic maps, and the need for additional technical experts (to assist the BRR, local governments, PDAMs, and technical agencies) to prioritize, plan, review, and manage projects.

Overall sector funding is sufficient to meet the minimum to build back, estimated at US$45 million. To date, US$ 175 million has been allocated to projects in the sector, divided between NGOs (US$ 95 million) and Donors (US$ 80 million), see annex 3. Despite the apparent surplus, funding levels must be put in the context of the current state of sector coordination, planning, implementation capacity, and provisions of other essential services. In this light, it appears that resources may not be adequate to ensure that all sector needs are systematically being met to deliver the program. Of particular concern is the level of investment needed to restore basic storm water drainage (local level and main drainage systems), local streets and footpaths, power reticulation and street lights. The latter is important in restoring basic living conditions, security, and well as livelihood reestablishment.

THE CHALLENGE

The rapid response by GoI, NGOs, and donors to provide emergency relief for water and sanitation helped avert outbreaks of water and fecal borne diseases. These were largely temporary measures to address immediate needs. Now more permanent solutions are needed to meet long-term reconstruction goals.

A core challenge that still remains to be responded to is that essentially all the basic local infrastructure comprising water supply, local streets and paths, road-related and other forms of drainage, plot access, sanitation, power distribution and solid waste management systems – where they existed, have been substantially destroyed. In some cases the water resources

(springs, and multilevel aquifers) have been seriously damaged. Below ground structures such as shallow wells have also in many cases been rendered dysfunctional due to earthquake damage, and salinity due to the tsunami and, it is believed, ground level changes.

The water and sanitation infrastructure throughout the province was already in poor condition, even relative to the rest of the country. The PDAM for Banda Aceh was estimated to have 30 percent service coverage, and throughout the province, roughly 9 percent of the population had piped water connections. In general, PDAM service was irregular and water quality poor. The utilities[33] were in debt, and institutional capacity was low. Consumer expectations were also low, and some urban residents purchased drinking water through vendors, while the majority used shallow wells.

There was also no sewerage treatment system. All sanitation in Aceh was on-site, mainly using septic tanks or pit latrines, both in urban and rural areas. Banda Aceh had one sludge treatment facility with a capacity of 30 cubic metres per day. This was destroyed by the tsunami, along with the city land fill. JICA is rebuilding the facility, and in light of the large number of septic tanks planned for Banda Aceh, UNICEF is supporting the Banda Aceh city council to build a new facility with a daily capacity 60 cubic meters.

After the tsunami, what limited water and sanitation infrastructure that did exist was severely damaged. The initial estimate of losses was US$30 million, which included damage to treatment installations, water tanker trucks, the piping network, wells, vacuum trucks, and sludge treatment plants. Adding to this was the loss of 28 PDAM staff, many of whom were department heads. At the household level, with an estimated 117,000 homes destroyed, the losses to tertiary infrastructure were high. Many of the widely used shallow wells and aquifers in coastal areas have become saline, and it is not known how long this could take to stabilize. In the meantime, NGOs and vendors are still acting as the lifeline, providing much of the basic water and sanitation services.

Water supply and sanitation programs are still moving forward on a decentralized delivery approach. Donors and NGOs are implementing projects without overall coordination either by Public Works, the BRR, or PDAMs. Coordination meetings are held in almost every district, led by UNICEF, Oxfam or a Red Cross agency. Overall progress in implementing long-term water and sanitation reconstruction projects has been slow, but initial steps are underway.

The BRR is now operating, and under the direction of its infrastructure programming unit, NGOs and donors have begun to repair and rehabilitate treatment facilities and restore some water service. If the BRR is to continue to make gains in the water and sanitation sector, it will have to outline to those involved in reconstruction its plan for way forward to get the infrastructure in place, and tighten its coordination with public works and local governments. Donors will need to continue to provide support, from ensuring emergency water provision and services are still funded, to supporting critical tasks such as local development planning, mapping, and other technical support. Included in these plans will be the restoration of basic drainage facilities, solid waste management, local and far field drainage and power.

[33] Each district has one PDAM, coordinated by the provincial PDAM, based in the provincial capital.

THE RESPONSE

The early response to the crisis by relief organizations was effectively handled. But recent field reports, especially from local governments, allude to growing difficulties with keeping up with the water supply and sanitation demands at temporary facilities in the tent and barrack communities.[34] Initial indications are that funding is not the problem, but coordination is, and quick needs assessments are needed to identify gaps and deliver temporary water treatment and sanitation.

Many of the NGOs and donors involved in the emergency relief operations now play a role in developing community level water and sanitation infrastructure, especially as their programs have shifted to housing. These groups are now filling critical shelter needs and have a key role in reconstruction. But their quick progress is often outpacing local development planning and water and sanitation provision. In rural areas where a community-based water and sanitation strategy is appropriate, as long as the BRR's sanitation and water supply guidelines are followed, the situation can be kept in check. But in urban and peri-urban areas, poorly planned housing will create risks, including inadequate water and sanitation infrastructure, difficulty tapping in to the network, and the need to retrofit infrastructure or design networks in response to unplanned housing development.

The absence of spatial planning is seen as a crucial problem by the BRR. This lack of planning is most evident in areas such as the new housing where, in some cases, there was no consideration for sanitation. As an initial response the BRR infrastructure program unit is to make a district level need assessment of every district in Aceh and Nias, and to establish the basic water and sanitation requirements. This activity will be coordinated by UNICEF with ESP/USAID and UNOPS.[35] The first four priority districts will be completed by the end of 2005, the remaining tsunami affected districts by the end of March 2006, and the internal districts by end of June 2006, security permitting. These assessments however will only identify the overall needs in the urban and peri-urban areas. Much more work is needed to develop detailed designs of infrastructure works, and plans for capacity building of the responsible authorities.

Before the infrastructure management unit of the BRR was operating, donors and NGOs initiated their programs directly with local governments, public works, utilities, or at the community level. Some of these programs are now under the fold of the BRR, but water and sanitation is still decentralized, making it difficult for the BRR or provincial public works to have a clear view of all of the sector activities. The above mentioned assessment is intended to give BRR a clear picture of not only the requirements, but the actors in the WatSan sector. As of September 28, 2005, an estimated US$146 million was committed from donors and NGOs for water and sanitation projects in Aceh and Nias. Support has covered a range of activities such as rehabilitation of water treatment facilities, capacity building of PDAM staff, the purchase of equipment such as water and sludge trucks, support to community based projects, and some for design of new networks.

The BRR's infrastructure program unit is now established and handling its roles of coordinating donor support, reviewing proposals, and prioritizing projects. Considering it is a new

[34] Working Paper: Action Plan to Provide Potable Water to IDPs. Ahmad Hayat, prepared for BRR Housing and Settlement Director. September 2005.
[35] See BRR ToR WatSan District Needs Assessment, UNICEF, Banda Aceh.

organization tasked with managing the long-term reconstruction program, it has adjusted admirably to deal with the immediate demands. Some of the issues the BRR continues to address and improve on include: i) forging working partnerships with provincial dinas, ii) working with local governments who are operating at reduced capacity, iii) mobilizing the right mix of technical assistance and human resources to move projects, iv) establishing and enforcing design standards and guidelines, and v) developing the spatial and implementation planning and strategy documents to guide its infrastructure programs and to coordinate donor assistance.

DELIVERING THE RECOVERY PROGRAM

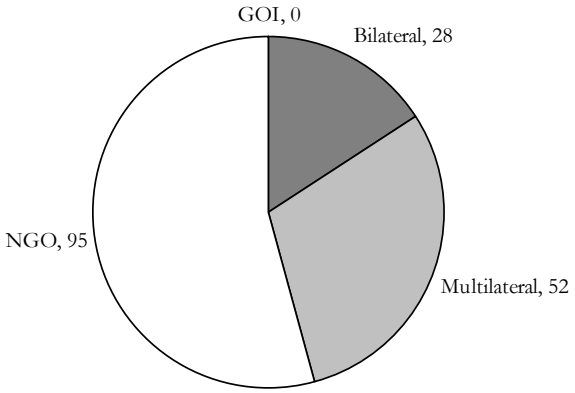
Total funding for sector activities has initially been estimated at USD$ 175 million for the water supply and sanitation. These estimates do not include allowances for the other services mentioned above, nor for items such as the possible need for remedies (yet undefined) for groundwater salinity problems. Estimates for these major additional items will be prepared during the next 3 months. NGOs are playing a large role in the sector, accounting for roughly US$ 95 million of the total, the rest from multilateral (US$52 million) and bilateral (US$28 million) sources. Table 13 below highlights some of the larger sector activities. No domestic sources have been allocated to the sector.

Funding resources are sufficient to cover estimated needs from the damage and loss assessment (US$40 million) and the minimum to build back (US$45 million), but are short of the estimates outlined in the Master Plan (US$355 million). The aggregate resources from the donor and NGO response are sufficient on the ledger, but the current ad hoc and decentralized nature of program delivery means that all needs might not be met if issues of coordination, strategic planning, and technical capacity are not addressed.

Table 13: Needs, Projects, and Gaps (million US$)

Needs			Projects: Existing & Agreed			Balance		
Damage & Loss Assessment	Master Plan	Minimum to Build Back	Building back	Better	Total	Damage & Loss	Master Plan	Core Needs
40	355	46	141	34	175	107	-209	67

Figure 16: Sources of Financing – Water and Sanitation Sector



SECTOR CONSTRAINTS AND CHALLENGES

Lack of Basic Mapping and Land Information. The planning and reconstruction can only be accomplished with adequate mapping, including up to date ground control with elevations. Ground levels are reported to have changed in many areas, and it is confirmed that ground levels have sunken by 0.4 to 0.6 meters in Banda Aceh. The implications for the water table changes and provision of sewerage and local level drainage are formidable. Currently, accurate base maps for reconstruction works are not available, but major works continue despite this lack of critical data.

Absence of Spatial Planning. There are no spatial plans available to guide on-going and future water, sanitation, and shelter construction. Until this is addressed, houses will be built without connections, infrastructure will have to be retrofitted around existing development, and major works will simply be put on hold. Work is underway in some areas (by programs such as KDP, UPP, RALAS, and by NGOs and Australia) to prepare community mapping, and ascertain/ensure clear and correct plot ownership. Earlier spatial plans, if they existed are not readily available, and likely do not address the post disaster setting. The BRR alone does not have the capacity to undertake or assist the participants in this complex task, but this is a key bottleneck for all infrastructure and housing.

Capacity of Local Government and Water Utilities. The capacity of local governments following years of conflict, and coupled with the disaster, is not sufficient to fully address the demands of reconstruction efforts. It is unrealistic to expect local governments to be able to coordinate donors, design, and supervise local level services. However, all reconstruction activities need to address capacity building, to ensure local governments can manage facilities in the future. An important task will be balancing the appropriate mix of local government or utilities involvement, with the recognized need for a more turn-key approach to service provision. Donors and NGOs need to optimize opportunities for bottom-up participation, and focus on pragmatic ways to promote "project driven capacity building." Capacity building is a long-term goal and activity, but accelerated gains can be made by actively engaging partners throughout all reconstruction projects.

Lack of Water and Sanitation and Shelter services Sector Strategic Action Plans. There is no short and medium term sector plan guiding overall implementation of essential water and sanitation works. The volume of donor projects (many initiated before the BRR was fully operating) and absence of an overall plan have made it difficult to efficiently allocate responsibilities, coordinate donor works, enforce uniform minimum design guidelines, and ensure overall water and sanitation sector needs are covered.

Need for Technical Assistance to support Project Design, Review, and Preparation Works. Donor support is urgently needed in these areas. Project preparation work is beyond the scope of the BRR's mandate, and the sheer volume of proposals submitted for review is already taxing. Local governments, utilities, and the provincial technical agencies lack the resources to handle the work load of detailed technical analysis needed to get water and sanitation projects moving.

Data Collection and MIS. There is no designated data clearinghouse covering the water sanitation drainage and other essential urban services. Getting a handle on the amount, status, and progress of current government, donor, and NGO water sanitation and shelter/housing related

essential (but basic) services sector work is difficult. Sector monitoring and project coordination is not possible without a dedicated MIS system

THE WAY FORWARD

Support to IDPs: The early emergency response for assisting IDPs was a success – but there is already evidence that basic water and sanitation services need to be redoubled, as temporary infrastructure is operating beyond its intended capacity and lifespan. Donors, NGOs, and the government need to re-evaluate needs and vigilantly support basic services to IDPs. Proper planning and management of these temporary camps is essential to avoid the development of slums.

Mapping and GIS TA: a detailed set of pictures and maps (1:1000 scale with .25 contours) covering all habited areas in Aceh and Nias is needed. The maps should be accessible by all participants in the reconstruction effort. Donor support of about $4.5m is needed to complete this vital information which is now needed in order to realistically proceed with the reconstruction of the destroyed infrastructure.

Local Level Development and Spatial Plans: These are urgently needed to help guide water and sanitation services, and coordinate connections with the on-going housing program. It is unlikely that the BRR and or local governments will be able to develop and manage execution of these plans, so donor assistance will need to be mobilized to fill this key gap with due consultation and coordination with the citizens who will be affected by these plans. The BRR is seeking support to obtain the expertise needed to address this.

Mobilization of TA for project design, review, and management: The demanding workload and current staffing levels of both the BRR and Public Works make it difficult to review the numerous water and sanitation project proposals. Either of these organizations, particularly the BRR, would benefit from a team of in-house technical work team and groups of managed consultants who can provide implementation support through program management, planning, detailed design and engineering, construction and project management. The technical expertise to undertake this adequately does not exist in Aceh. It is estimated the cost of these inputs is between $15m and $20m. This support is badly needed in order to proceed with a coherent program of basic service provision.

Development of a Water and Sanitation Strategy Plan: The BRR urgently needs a short and medium-term strategic planning document, coupled with a project MIS, to assist in evaluating needs, identifying gaps, managing sector work, allocating resources, and managing donor activities. If BRR current staffing precludes creating this in-house, TA should be mobilized to assist this task.

Sea Defense, Flood Management, and Early Warning Planning and Systems Development. A vital next step for Aceh is a clear sea defense strategy. This will build on the earlier concepts developed, and will need to include a range of options and strategies, supported by possible significant investments. Of particular concern, is the yet to be confirmed changes in coastal ground levels. Consideration would also need to be given to incorporating different types of escape and refuges, ideally as part of community facilities, and near-field and far-field early warning systems.

4.3 Transport

OVERVIEW

Significant reconstruction work has started. A revised transport master plan is now under preparation. The long-term programming needs for all new national roads are met, and major road works by the US and others, have already begun. However, as large transport projects take time to complete, dramatic results will not be visible immediately throughout Aceh and Nias. Nevertheless, within the next year, significant stretches of the road from Meulaboh to Calang and from Banda Aceh to Lamno are expected to be in good condition, while emergency repairs to key ports are likely to be finished.

The extensive repairs made to the road network after the disaster allowed relief operations to reach remote areas. But the repairs were quick fixes, and with the onset of the rainy season, tidal flooding, and failure of sea protections, access to areas along the western coast could again be cut off, unless emergency maintenance is carried out expeditiously. Until the larger reconstruction programs are delivered, the immediate priority is to ensure continued access by/to communities through road maintenance, bridge upgrading, repairs to strategic ports and airports, and other reconstruction activities.

There are continuing financing gaps for different segments of the transport sector. Ports reconstruction is inadequately funded – both for short term needs for key jetties (US$ 12-16 million estimated), necessary TA to prepare projects (US$1 million estimated), and also for longer term reconstruction needs (US$ 70-100 million). Project management, engineering, and construction supervision services will need to be supplemented to ensure reconstruction quality, timeliness, and sufficient funding ability (US$12-20 million). While national roads are adequately covered, there are few, if any, commitments for kabupaten (except through community-based programs), provincial, and secondary urban roads – the cost of these is estimated between US$115 and US$145 million.

The current inventory of needs and commitment (see table 15), also highlight the overall transport sector funding gap. The initial Damage and Loss Assessment Report estimated losses for transport infrastructure at US$ 537 million, and requiring US$ 617 million to build back. To date, US$ 430 million has been committed for transport projects, the majority from bi-laterals (US$ 320 million) and the APBN-BAPEL (US$62 million). Filling the funding gap just to meet core needs will require US$323 million.

THE CHALLENGE

The earthquake and tsunami caused extensive damage to large portions of the transport infrastructure, particularly along the west coast of Aceh (details below). It is estimated that 454 km of national, provincial, and local roads, as well as a number of bridges, were severely damaged or washed out, and will need to be reconstructed – many along new alignments. Many roads and bridges, particularly in Nias and southern Aceh, were damaged further by the March 28th earthquake and will require replacement or extensive repair. Land transport facilities were impacted throughout – 7 bus terminals, 2 weigh stations, and 30 bus shelters are still out of operation. A majority of the seaports in Aceh and in Nias were classified as being badly

damaged. This, combined with the damage to the ferry terminals and inter-island boat stations, has limited access in many places to only small boats or landing craft type vessels.

The BRR is currently updating the transportation sections of the GoI's Master Plan (April 2005) for the Rehabilitation and Reconstruction of Aceh and Nias; meanwhile projects are being developed in the absence of a coordinated regional transportation plan. The concepts of the forthcoming transportation plan will not mark a significant change from Aceh's pre-tsunami plan, but added emphasis will be given for evacuation routes and developing its ports and road networks to a higher level to make Aceh a regional growth center. Local governments and the BRR are in general agreement on the vision of the future transportation plan, but official planning documents have not yet been drafted. Until the plan is finished, transportation works will continue to be implemented on a 'first come first serve' basis, with each donor or NGO submitting their proposal to the BRR, even though the projects are not officially incorporated into a consolidated regional transportation plan. Coordination of donor works and proposed projects is improving, but more is needed so that appropriate, common standards and joint objectives can be achieved. Moreover, the land titling and right of way acquisitions (RoWs) issues need to be addressed adequately and promptly. In the absence of detailed land-use plans, scattered development is already encroaching on existing RoWs.

Understandably, there was a difficult transition period as the BRR assumed responsibilities for coordination, planning, and programming of transportation projects – carrying out many of the functions previously the responsibility of the Ministry of Public Works (national roads) and the provincial dinas binamarga (provincial roads). Areas where further cooperation is needed include planning and prioritization, engineering and design, construction supervision, and quality control. With the recent appointment of 19 sub-project managers and two project managers for reconstruction in the road and bridge sectors (appointments for ports and airports are expected shortly), it is already increasing its coordination and relationship with the provincial dinas who will take responsibility for procurement, design, and construction supervision of transport investments.

The dinas binamarga lost 39% of its staff during the tsunami, and this loss, coupled with budget issues, and the enormous reconstruction demands, has significantly reduced its capacity for design and supervision activities. There is a pressing need, therefore, to provide BRR with a team of project management support experts, as well as engineering design and construction supervision expertise, to support the provincial design and supervision processes already in place. Increasing BRR's capacity is critical, and the BRR could benefit from a strengthened transportation project management unit.

The Indonesian Army did a commendable job in restoring access through emergency road works. Now it is up to the provincial dinas to follow-up on the army's earlier works and keep the roads and bridges maintained. Emphasis should also be given to increasing the load capacity of existing bridges – many are only at 5 to 6 tons capacity; key sections should be upgraded to accommodate 20 ton loads. The delivery in March 2005 of over 1,000 meters of bailey bridges from NATO has not been fully utilized, and can be used to assist in these efforts, along with the on-going maintenance efforts of the JICS and USAID.

Outside the greater Banda Aceh area, fuel is in short supply and difficult to secure, which limits the effective range of land, air, and sea transport operations. Fuel for civil works contractors operating outside the Banda Aceh area is also constraining construction. Currently, contractors,

NGOs, and international aid agencies often have to negotiate with PERTAMINA (the national fuel supplier) for specific shipments on an ad-hoc basis. More needs to be done in the near future to ensure that adequate shipments and storage facilities are available.

Finally, a strategy also needs to be developed to define a role for the private sector in transport e.g., in port development and management. Future works also need to support the recent peace process, by improving the transportation links to more remote areas that were left behind during the conflict, including increasing coverage to non-impacted areas.

Roads

In the emergency phase of recovery operations, extensive repairs were made on the western coastal road, to allow supplies to be brought to remote areas. As this was not a permanent fix some sections of this road are now impassable. With on-going tidal over-flooding, damaged sea protection, and the rainy season beginning, it is very likely that many coastal areas may soon be inaccessible by road transport, just as major housing and infrastructure reconstruction works are increasing in intensity. Separately, the City of Banda Aceh reports 380 km of secondary urban roads as being severely damaged. In Singkil, a large portion of the urban road network is under water, and in Calang and Meulaboh the majority of local urban roads are in poor condition and will need reconstruction. Only small portions of the roads on the eastern coast were affected. Rehabilitation and/or reconstruction of the ring road around Nias and the crossing roads will also be required.

Table 14: Condition of the National Roads

	Length (KM)	Before Tsunami			After Tsunami		
		Good	Fair	Bad	Good	Fair	Bad
East Coast	487.13	250.1	195.1	41.8	230.0	207.4	49.5
		51.3%	40.0%	8.6%	47.2%	42.5%	10.1%
West Coast	684.29	328.2	177.3	178.7	243.1	132.0	309.0
		47.9%	25.9%	26.1%	35.5%	19.3%	45.1%
Middle	509.92	190.9	170.0	149.0	168.9	184.9	155.9
		37.4%	33.3%	29.2%	33.1%	36.2%	30.5%
Others	1,803.26	370.0	706.5	726.6	348.2	719.9	735.0
		20.5%	39.1%	40.3%	19.3%	39.9%	40.7%
Total	3,484.60	1,139.2	1,249.0	1,096.3	990.4	1,244.4	1,249.7
		32.6%	35.8%	31.4%	28.4%	35.7%	35.8%

Source: Aceh Road Infrastructure Office (2005)

An assessment of the damage to the kabupaten road network is not available, but it is understood that the majority of these assets in the tsunami and earthquake affected areas will have been completely washed out. In Nias, while the damage from the earthquake was not catastrophic, the poor state of transport infrastructure prior to the event will mean additional needs will have to be addressed if reconstruction is to take place. Some initial reconstruction and repair works are planned to be undertaken through the 2005 regular budget allocation to the BRR, but the needs are expected to be greater than available funding in the medium-term.

Most of the access road network connecting settlements and communities to the main road network was also washed out. This is a particularly pressing issue along the west coast area, where many communities are no longer connected. With a major realignment planned for the new road from Lamno to Meulaboh under USAID funding, the need for new access roads will

be substantial. Currently, there are no donor programs or firm funding commitments for reconstruction of the substantial number of community/access roads that will be needed.

Seaports and Ferry Terminals

There are 14 seaports and eight inter island ferry ports throughout the province of Aceh and on Nias. Among those, nine of the seaports and two of the inter-islands ferry ports are severely damaged. Measures are being taken to restore handling capacity through the repair/ refurbishment of existing facilities, where possible, and by providing new facilities where the damage is beyond repair. These include the refurbishment of the ferry terminal and a general cargo berth at Ulee Lheue; provision of new facilities at Calang, Sinabang, Nias, Meulaboh, for which contracts for design and detailed engineering are expected to be awarded in October 2005; construction of new jetties at Malayahati and Meulaboh; refurbishment of the ferry terminal at Balohan; repairing and improving existing facilities at Sabang; and the provision of new facilities for the landing of cargo and fish at Lamno. The construction of new landing facilities will take time to complete and, to meet immediate aid and reconstruction material requirements, plans are in hand to immediately construct foreshore ramps for the use of special shoal-drafted bow-ramp loading amphibious landing craft transports (LCTs) at Calang, Meulaboh, Malayahati and Sinabang.

With the exception of the construction of the jetties at Malayahati and Meulaboh, which are being undertaken by the Netherlands and the Singapore Red Cross respectively, an assessment of priority needs has been undertaken by UNDP. However, the funds for construction of those port facilities currently under discussion, have not yet been secured. The total cost of the reconstruction program for ports is estimated at least US$60 million, some of which will come from the BRR budget, will be allocated to the provincial MOC (Dinas Perhubungan). Additional funds are proposed to be allocated to UNDP to address the immediate construction needs of three new jetties at Calang, Sinabang, and Gunung Sitoli (Nias).

Airports

Aceh has a network of small airports to compensate for the limited land transport infrastructure. A preliminary assessment has determined that, due to difficult access road conditions, there is an immediate need to repair the existing airports, and to develop new temporary basic landing facilities in order to reach the population in affected areas. This will allow the use of fixed-wing aircrafts, which are more economical to operate compared with the current helicopter system operated by UNHAS and private operators. A Ministry of Communications (MOC) report dated September 26, 2005, includes a list of nine airports needing work -- ranging from minor runway markings to the construction of the new Singkil Airport (construction of which was temporarily halted during the last 3 months due to budgetary reasons, but which is to resume during FY06). Of the ten airports in Aceh and Nias, eight were damaged (see Annex 11). On the island of Simelue, four were badly damaged, leaving two of these inoperable, and the remainder repaired to a level sufficient for emergency operations only.

THE RESPONSE

The early response was focused on restoring transport services to a level that would allow relief operations to continue. The Ministry of Public Works and the Indonesian Army carried out first emergency works to reestablish strategic transport links on the west coast, including placement

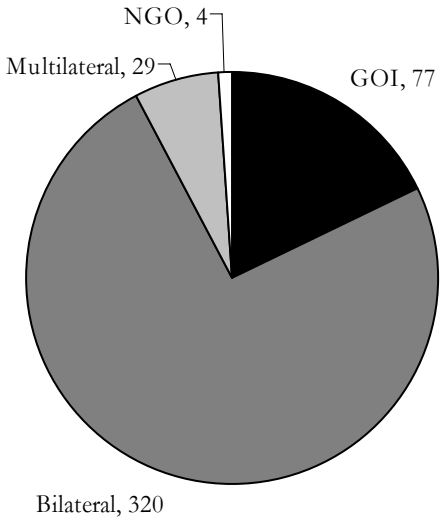
of an extensive system of temporary bridges and construction of 40-50 km of new temporary by-pass sections. Temporary bailey bridges were established on the Tapaktuan-Bakongan link, access roads were reestablished from Lhok Nga to Meulaboh, and emergency work was conducted on the Banda Aceh to Meulaboh link. However, at this point, the emergency and rehabilitation works are being driven by donors and NGOs, with the GoI focused on monitoring. In the absence of the government or a large donor agency taking the lead, the tasks are being taken up by NGOs on an ad hoc basis, with many not specialist in infrastructure, but forced to maintain roads so as to ensure flow of supplies for their own projects.

The enormous task of emergency roads maintenance exceeds the current capacity of local and provincial governments. For the national roads, works associated with rehabilitation and reconstruction were tasked through BRR. However, to date, implementation of transportation programs coordinated through the BRR has lagged, and most activities are being implemented by donor agencies and NGOs in an uncoordinated, and often ad hoc, manner.

Table 15: Needs, Projects, and Gaps (million US$)

Needs			Projects: Existing & Agreed			Balance		
Damage & Loss	Master Plan	Minimum to Build Back	Building back	Better	Total	Damage & Loss	Master Plan	Core Needs
537	1145	617	294	137	430	-106	-715	-323

Figure 17: Sources of Financing – Transport Sector



DELIVERING THE RECOVERY PROGRAM

Donor and NGO Commitments

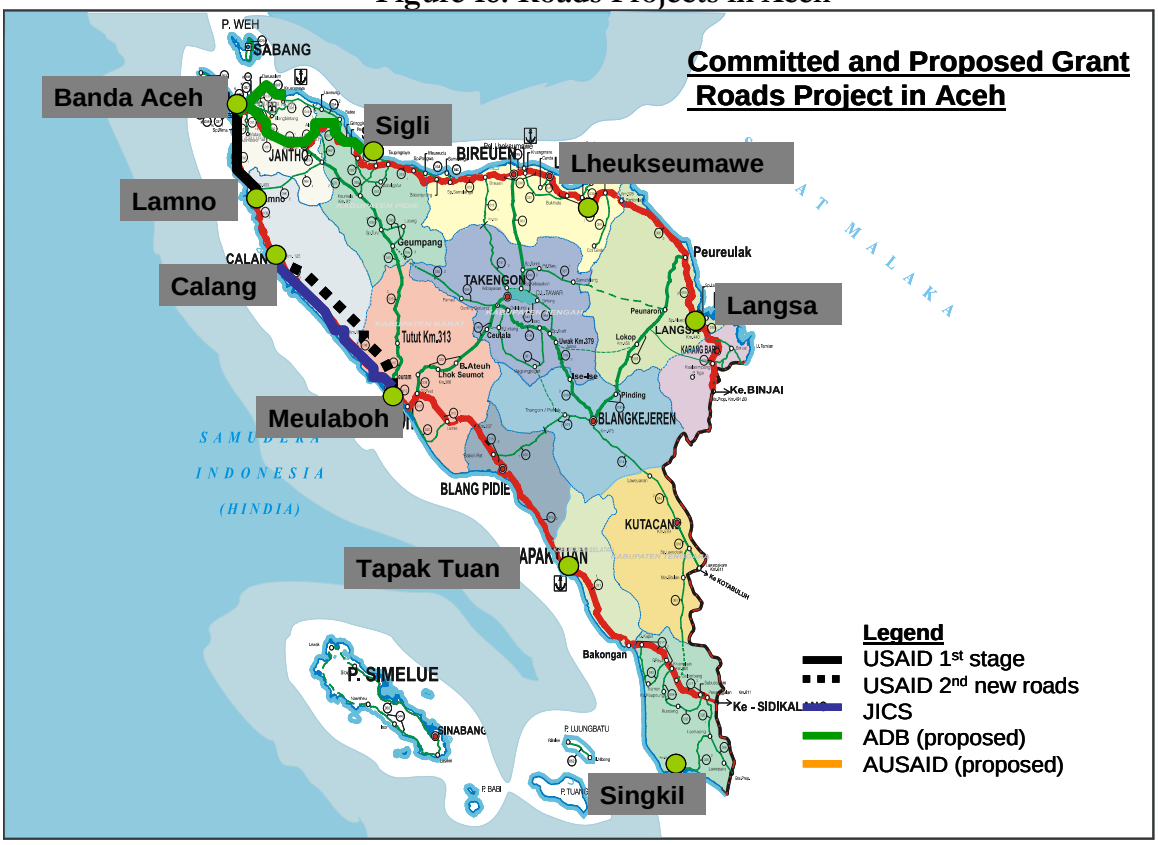
USAID has signed an MOU with the Ministry of Public Works to reconstruct the road from Banda Aceh to Meulaboh. The road alignment from Lamno-Meulaboh will be a fully new alignment, which is still under selection. The new road will be of Asian Highway Standard (seven meter carriageway, with two meter shoulders) and will be 240 km in length. The

construction period is proposed as four years – although it is expected to take as long as five to six years before the full road is completed along the new alignment. The project will be implemented in two phases. Phase I (80 km) will undertake rehabilitation of the section from Banda Aceh to Lamno, with construction lasting a period of 1 year. During the period of construction, the contractor will also repair and maintain the existing temporary road, although bridge strengthening is also needed to ensure 20 ton trucks will be able to use the existing temporary road. Stage II (160 km) will continue the road from Lamno to Meulaboh along a new alignment – the alignment selection process for the new road is underway, and is expected to be finalized soon. However, the design is likely to take around six to twelve months to prepare before tendering for construction works can take place. In the meantime, a strategy needs to be developed to ensure the functionality of the section Lamno-Calang, which is currently impassible during rain due to lengthy muddy sections.

While USAID will fund reconstruction from Banda Aceh to Meulaboh, Japan International Cooperation System (JICS) has committed US$44.9 million to quickly rehabilitate a section of the existing road (115 km) from Calang to Banda Aceh. JICS is currently procuring the civil works contractor, and the design and supervision team is already in place. It will be important that a bridge strengthening and replacement program be prioritized under this contract so as to ensure improved transport (20 ton truck passage) along this route as soon as possible.

Japan International Cooperation Agency (JICA) is working on two projects: (i) a study of the road links from Banda Aceh to Meulaboh, and (ii) preparation of a Master Plan for Banda Aceh.

Figure 18: Roads Projects in Aceh

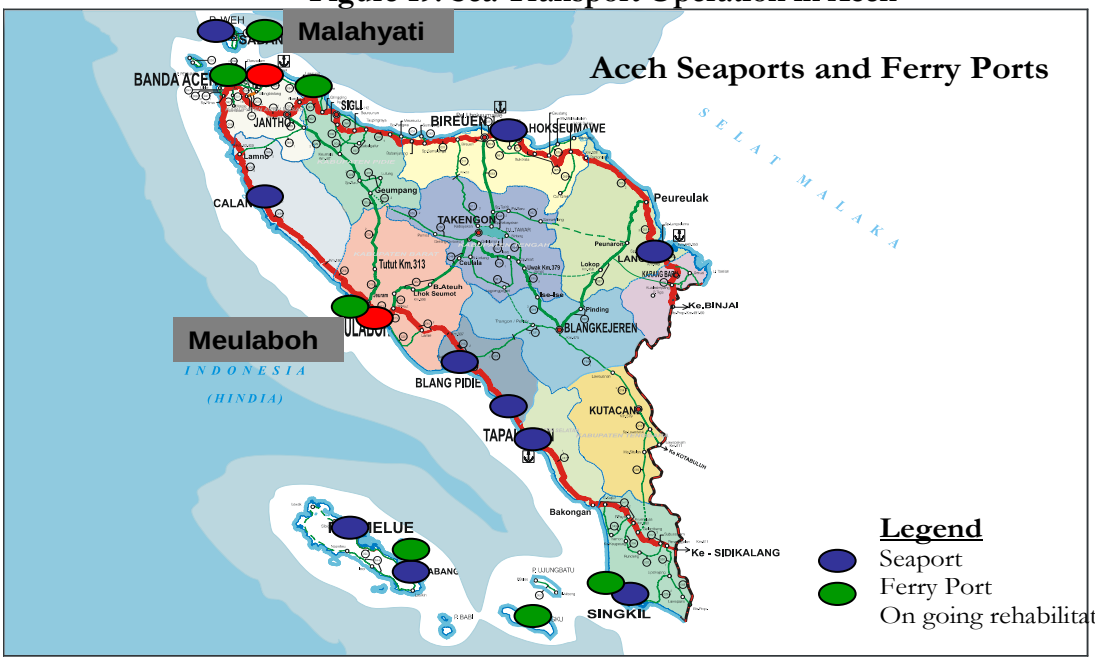


Asian Development Bank (ADB) has committed to spend US$22.1 million to rehabilitate 115 km of national and provincial roads (port access roads) within the city of Banda Aceh and national roads from Banda Aceh to Sigli. The original vision for the ADB program was to undertake smaller improvements along the entire east road Medan-Banda Aceh to ensure its function during the reconstruction period. This route is heavily trafficked, and many of the trucks operating on the route are significantly overloaded. However, due to funding limits and the desire of the Ministry of Public Works for betterment and reconstruction along this route, the effective scope of the ADB work has been reduced. It will be important for the remaining sections of the route (Sigli-Medan) that a comprehensive maintenance program be put in place to ensure this key reconstruction route remains open during the period of reconstruction. It is likely that, once the recovery and reconstruction is completed in five to ten years and traffic normalizes, this route will need full reconstruction.

NGOs and International Relief Agencies. Many NGOs and international agencies identify transport as a key constraint to their operations -- hampering humanitarian and construction efforts. As a result, several NGOs, most notably Catholic Relief Services, and the International Federation of the Red Cross, in cooperation with BRR, are undertaking small scale bridge, secondary road, and other transport investments to support their operations.

Sea Transport Operations. Much of the relief effort is transported by two (soon to be three) 400 ton capacity shoal-drafted bow-ramp loading amphibious LCTs operated by the World Food Program (WFP). These vessels are being fully utilized and are the main transport mode for movement of cargo outside the greater Banda Aceh area. The vessels presently carrying food will continue with this function; however excess space will be used for other cargo. Presently there is no accurate projection of how much cargo needs to be brought into Aceh by sea, but this is being actively researched by United Nations Joint Logistics Center (UNJLC) in cooperation with BRR.

Figure 19: Sea Transport Operation in Aceh



Transport Logistics and Coordination. Public sector shipments of relief supplies and cargo shipments are currently routed through the BRR in conjunction with the UNJLC. As of October 1, 2005, a Logistics Coordination Service (LCS) is being set up to coordinate the movement of goods by highway or by sea. The mode of transport will depend on the availability of transport resources, the relative economics, and priority of the cargo. It is envisioned that this center will receive cargo offerings through the internet; the UN already has a cargo booking system for its air freight service, and this will be adapted for use by the LCS. A system will also be established to accept offerings by e-mail and telephone. This center will coordinate the shipment from the time it is turned over for onward movement until it is delivered to the ultimate consignee. The center must also be advised of any large-scale private sector movements that will put a ship of any size into a port in Aceh or Nias, or highway movement of more than ten trucks at any one time. The funding for the actual transport resources and the movement control center itself has not yet been fully determined but it is expected the International Organization for Migration (IOM) and WFP will have funding available through 2005. IOM will be the highway transport operator and WFP will be the operator for sea movement. Funding for the initial operation of the LCTs will be provided by the MDTFANS.

BRR and Government Activities

In the 2005 FY budget, the BRR has allocated about US$62 million for transportation facilities reconstruction and rehabilitation. The BRR, is now tendering the various packages of works, and has included on its e-procurement system all of the packages ready for tendering. Four design packages are under preparation and will be posted by the end of September.

Table 16: BRR Transportation Facilities Reconstruction and Rehabilitation Budget FY 2005

No	Sectors	Budget (US$ million)
A	**ACEH**	**49.052**
1.	Roads / Bridges	25.442
	- Design and Supervision	1.755
	- National Roads	6.999
	- Provincial Roads	3.500
	- Kabupaten/Kota Roads	13.187
2.	Land, Air and Sea Communications	23.610
	- Land	1.582
	- Sea	12.079
	- Air	8.594
B	**NIAS**	**12.919**
1.	Roads / Bridges	7.997
	- Design and Supervision	0.618
	- Provincial Roads	4.410
	- Kabupaten/Kota Roads	2.969
2.	Land, Air and Sea Communications	4.922
	- Sea	3.982
	- Air	0.940
	TOTAL	**61.972**

The execution of the packages will be carried out by the Provincial Dinas. The Minister of Public Works has appointed Project Managers for Roads and Bridges projects, while the Minister of Communication will appoint Project Managers for Land, Sea and Air projects. As a result, in Provincial Dinas there will be 2 project managers. The first Project Manager will execute a line ministry budget project and the other Project Manager will execute projects funded from the BRR budget. On design and supervision issues, the existing program, P2JJ, will be used to conduct the design and supervision of roads and bridges. But, on other land, sea and air projects, it is not certain who will be responsible for the design and supervision.

THE WAY FORWARD

It is estimated that the recovery and reconstruction effort will require the movement of approximately 13.5 million tons of supply and materials for housing over the next four years. One of the Government's key short-term objectives is to move all 60,000 persons living in tents into permanent or temporary housing by the end of 2005. This undertaking is of enormous importance and will add to the already immense logistical and transport effort required for recovery.

Summary of Actions Needed.

Short-term Measures

- Ensure 20 ton truck capacity on all tsunami affected recovery and reconstruction land routes on the west coast of Aceh (Banda Aceh-Meulaboh)
- Ensure security and reliability on existing transport routes needed for recovery and reconstruction (east coast road Banda Aceh-Medan, Central Routes, Medan-Singkil and Medan-Meulaboh)
- Provide 2000 DWT cargo facilities in Calang, Sinabang, and Singkil
- Provide additional port capacity in Banda Aceh and repair port access roads
- Repair/ Reconstruct two seriously damaged seaport facilities in Nias at Gunung Sitoli and Teluk Dalam
- Repair/ Reconstruct settlement access (feeder) roads connecting newly constructed facilities (for example, Banda Aceh-Lamno)
- Provide, within 18 months, temporary light aircraft facilities in remote or poorly accessible affected areas and repair essential existing facilities
- Increase LCT operations to meet cargo demand for humanitarian and other relief operations. Charter additional vessels to support relief and recovery operations as needed
- Support BRR in the areas of project management and planning, engineering and design, and construction supervision/quality control
- Develop a transportation development plan for Banda Aceh and Nias

Medium-term Measures

- Preparation of a program of secondary and access road improvements for Banda Aceh, Nias, and other small and medium sized cities in tsunami and earthquake affected areas.
- Development and delivery of a capacity building program for provincial MPW and MOC authorities in key areas of responsibility, particularly project management and construction supervision.

4.4 Education

OVERVIEW

Around 2,000 schools were damaged by the earthquake and tsunami in Aceh and a further 350 in Nias. About 2,500 teaching and non-teaching staff were killed. Consequently, about 150,000 students lost their education facilities and had to be provided with alternatives. The immediate response fulfilled this need through enrollment of students into neighboring schools and provision of temporary schooling in tents. UNICEF recruited and trained more than 1,500 teachers to start teaching in July 2005.

The total funds committed to education seem to cover the immediate needs of reconstruction, but a financial gap remains if the Education Master Plan is to be realized. Definitive data are not readily available, but various estimates suggest that up to 10% of damaged schools are undergoing rehabilitation. However, gaps remain; most schools have not yet been adopted by donors and many schools that have, do not have funds for equipment and materials. Moreover, very little money is available for scholarships that allow children to pay for transportation, uniforms, and books.

THE CHALLENGE

The education challenge after the disaster in Aceh has been to bring children back to school as soon as possible, to rehabilitate and rebuild schools that were damaged or destroyed, and to replace the teachers who had died. Depending on the estimate, between 1,800 and 2,150 schools were partially or totally damaged and about 2,500 teaching and non-teaching staff were killed by the tsunami. As a result, about 150,000 students have lost their education facilities and need to be provided with alternatives. On the islands of Nias and Simeulue, according to a damage assessment conducted by the IOM, 35.2 percent of the 1,065 school buildings inspected have been destroyed and 22.1 percent have sustained major damage as a result of the earthquake.

The disaster has also much exacerbated other long-standing and difficult education challenges in Aceh and Nias. These include ensuring that all children complete the compulsory 9 years of basic schooling, improving the quality of education, and developing skills that are valued by the labor market.

THE RESPONSE

With the joint effort of Government, Donor Society, NGO as well as the private sector, most children have been able to continue with their schooling at the start of the new School Year, July 2005.

The immediate steps taken were:

- Enrollment of students into neighboring schools, supported by a government regulation for exemption from fee and other administrative requirements.
- Provision of temporary schooling (in tents) and student activity centers in refugee camps. These facilities cover 90 percent of the IDP children.

- Provision of learning materials (books, teaching aids), including "school-in-a-box" kits; UNICEF's primary school textbook program expects to provide 1 book for every 4 students.
- Provision of scholarships.
- Contracting and training of new teachers. UNICEF have recruited and trained 1,500 teachers to start teaching in July 2005. Their first 6 months salary was covered by UNICEF and the rest are to be taken up by GoI.
- Implementation of cluster-based teacher training activities.
- Administration of national examinations (on June 6): facilities were provided to allow all students – including IDPs – to sit for the national examination.
- Provision of modules and voluntary teachers for non-formal education.
- In addition, the rehabilitation of more permanent schools is also underway.

DELIVERING THE RECOVERY PROGRAM

The Master Plan combines rehabilitation and reconstruction of schools while addressing other long-standing education issues in Aceh and Nias. It focuses on:

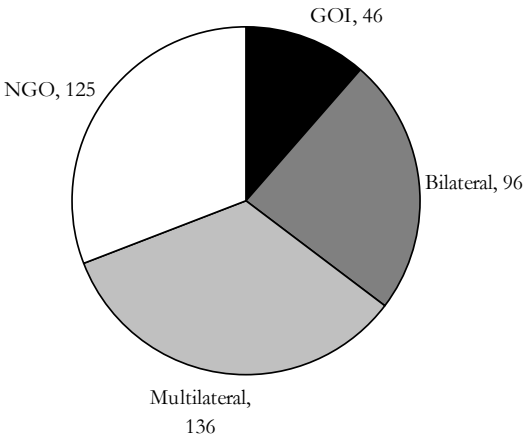
- Extending access to education services for the whole population in Aceh and Nias (Education for All), particularly for the 9 compulsory years of schooling.
- Improving quality and relevance of education through curriculum development and increasing the number, quality, and professionalism of teaching and non-teaching staff.
- Strengthening the management of educational services.

Domestic funds, as well as the pledges made by various donors and the private sector, indicate that the budget for immediate reconstruction is sufficient. However, a financial gap remains if the Education Master Plan is to be realized.

Table 17: Needs, Projects, and Gaps (million US$)

Needs			Projects: Existing & Agreed			Balance		
Damage & Loss	Master Plan	Minimum to Build Back	Building back	Better	Total	Damage & Loss	Master Plan	Core Needs
170	917	189	360	44	404	234	-513	171

Figure 20: Source of Financing – Education Sector



Progress in Reconstruction

According to the information published by MoNE, at least 200 schools have either been completed or underway, funded by various sources – but mostly located in NAD districts (see table 18). Many agencies are reported as planning to start rehabilitation in November 05. MoNE, working together with UNICEF and UNOPs, has developed a construction standard as well as adopted a Child-Friendly and Inclusive Education concept, ensuring the accessibility of facilities for handicapped children.

Table 18: Reconstruction of Schools

District	Total Rusak	In progress	Finished	Total assisted	% assisted
Aceh Selatan	36	n/a	n/a	n/a	
Aceh Tenggara	0	n/a	n/a	n/a	
Aceh Timur	7		0	0	0%
Aceh Tengah	25	n/a	n/a	n/a	
Aceh Barat	195	17	5	22	11%
Aceh Besar	26	25	10	35	135%
Pidie	222		35	35	16%
Aceh Utara	97	4	8	12	12%
Simeulue	136		1	1	1%
Aceh Singkil	238		0	0	0%
Bireun	200		1	1	1%
Gayo Lues	1	n/a	n/a	n/a	
Bener Meriah	11	n/a	n/a	n/a	
Aceh Jaya	90	3		3	3%
Nagan Raya	135	16	5	21	16%
Aceh Tamiang	62	n/a	n/a	n/a	
Aceh Barat Daya	21	n/a	n/a	n/a	
Kota Langsa	2	1		1	50%
Kota Banda Aceh	140	33	12	45	32%
Kota Sabang	23	2		2	9%
Kota Lhokseumawe	40			0	0%
Kabupaten Nias	549	3	1	4	1%
Kabupaten Nias Selatan	0	n/a	n/a	n/a	
Total	**2256**	**104**	**78**	**182**	**8%**

Source: Education Management Information System Website EMIS, eduforaceh.org

SECTOR CONSTRAINTS AND WAYS FORWARD

Implementation of the Master Plan continues to face a number of challenges:

Coordination and Database. It is currently not easy to obtain easily verifiable data on damaged schools or the pace of reconstruction. Currently, there are at least four sets of data on the number of damaged schools each recording significantly different results; e.g. the number of damaged schools ranges from 1,500 to 2,250 depending on the data source. As rehabilitation and reconstruction proceed on a much larger scale, there is a growing urgency for greater coordination in establishing an up-to-date and easily accessible database.

Gaps. Although the total funds committed seem to cover the needs of reconstruction, gaps remain. Most schools have not yet been adopted by donors and many schools that have, only have commitments for infrastructure, not equipment and materials – particularly in secondary schools that UNICEF does not cover. In addition to this, very little money is available for demand-side issues such as scholarships allowing children to pay for transportation, uniforms, books and reducing opportunity costs. There is also little funding for improving quality through professional development of teachers and school management.

As a result of the disaster, several thousand youth have to reconsider whether to continue their education or to start earning money. For many of them, a combination of vocational training with a private-sector scholarship to develop marketable skills would be an attractive option. As no such programs are currently in place, the government would do well to explore which partners could effectively implement such a program.

Process. While rehabilitation and reconstruction is already underway, decisions on relocating or reconstructing damaged schools require detailed understanding of the new demographic situation (in terms of resettlement areas, school-age population, etc.). This data will have to be captured by the upcoming Aceh census.

Although the education Master Plan intends to align donor assistance, actual coordination remains weak. Not all donors report their assistance and the lack of MOUs with the proper authorities, make it difficult to obtain an overall picture of commitments and needs, including the kind of assistance to be best provided. Provincial and district education offices require technical assistance in order to coordinate donor grants effectively. This involves a clear protocol and monitoring mechanism to ensure that donors honor MOUs and commitments within a certain period.

Community choice as the basis for providing assistance is a sound principle and using CDD projects as a delivery mechanism is not only cost effective, but also creates community demand for better education services. Communities rarely choose to spend open-menu grants on education proposals, largely because many consider that education is the responsibility of education authorities. A CDD delivery mechanism for education would, therefore, need to take these expectations into account, utilizing an appropriate information campaign. Once again, this approach will rely on a sound database of various interventions (e.g. school rehabilitation, contract teachers, textbooks, etc) in order to advise each community when developing its proposal for CDD funding.

4.5 Health

OVERVIEW

The earthquake and tsunami caused widespread physical injuries and left hundreds of thousands traumatized. They also destroyed much of the health system in areas where victims were located. Various local and international agencies helped to reestablish health services through the provision of staff, medical supplies, and establishment of field hospitals or restoration of services at existing facilities. Relief efforts appear to have been largely successful and prevented widespread disease and famine. Reconstruction of health facilities is underway in about half of damaged health centres and sub-centres. The quantity of resources available within the health sector appear to be more than enough to rebuild services to what they once were, and may overwhelm the management and implementation capacity of provincial and district level heath offices (NGO projects exceed 50% of sector funds for reconstruction). District and provincial health offices are now paying greater attention to the development of coordinated strategic plans, but planning and implementation is hampered by sketchy estimates of the numbers and locations of populations, and cumbersome information systems. Many of the conditions that promote increased rates of disease transmission are still present and there is a need for effective surveillance systems and active programs against communicable disease. There will also be a continued need for programs to tackle mental health problems that are more complex and longer-lasting than physical injuries

THE CHALLENGE

The earthquake and tsunami left more than 128,000 dead and at least 37,000 missing. Women and children were reportedly worst hit, though accurate numbers are still not available. The disaster caused widespread physical injuries and left hundreds of thousands traumatized.

Many populations in need of assistance were initially highly dispersed and isolated, making it difficult for authorities to accurately count, target, or reach the population. A rapid mental health assessment in January indicated that most survivors showed symptoms of fear (of returning to their homes, of water, or being inside a building), panic, helplessness, emotional numbing, nightmares, and flashbacks.[36] With around one million people affected by the disaster, the provincial health office has estimated that about 500,000 will be in need of psychosocial support and up to 100,000 people will require skilled mental health intervention for trauma-related stress disorders.

The tsunami also caused widespread devastation of food supplies and livelihoods, increasing the risk of malnutrition. The displacement of large numbers of people and poor quality housing, water and sanitary conditions exacerbate mental trauma and increase the potential for a variety of communicable diseases.

The disaster not only put extreme demands on the health system, but also reduced its ability to cope. Two private hospitals in Banda Aceh were completely destroyed with the loss of 80 staff.

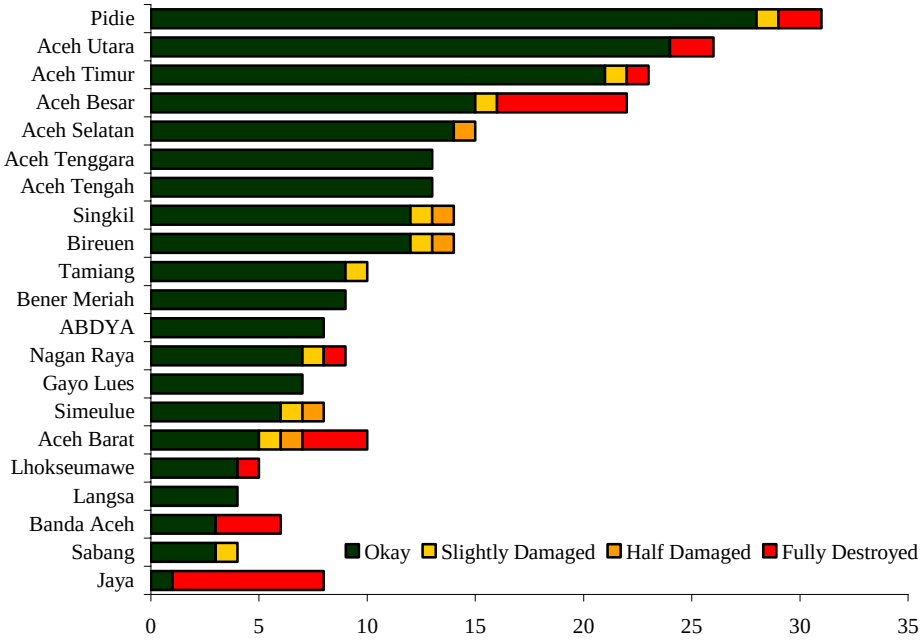
[36] WHO, Rapid Assessment of Mental Health, January 2005.

Five other hospitals were damaged with the loss of 276 staff.[37] The greatest intensity of damage occurred in Aceh Jaya with 88 percent of PHC/sub-PHC damaged, followed by Aceh Barat and Banda Aceh with 50 percent and Aceh Besar with 32 percent. In Nias, according to a damage assessment conducted by the IOM, 150 health facilities out of the 312 inspected, were either completely destroyed or heavily damaged. In Simeulue, 25 of 47 health facilities were either destroyed or are unusable.

Support structures were also affected. The provincial health office suffered flood damage and was put out of action. The medical warehouse in Calang was destroyed and the warehouse at Meulaboh damaged, causing a large quantity of drugs to be lost.[38] The earthquake of March 28th also destroyed the medical stores at Simeulue.

A total of 17 doctors, 3 dentists, 49 midwives, 30 nurses, 2 pharmacists and 104 support staffs lost their lives. In addition, 489 health staffs are still missing[39]. Many staff who survived the disaster lost family and homes and could not return to work immediately. Others continued to work under considerable stress.

Figure 21: Primary Health Care Facilities Damaged in the Earthquake/Tsunami



THE RESPONSE

The disaster elicited an unprecedented response from the GoI, foreign militaries, international agencies, local and international NGOs, the private sector and volunteers.

- Soldiers from TNI, and some 8,000 volunteers started the recovery and burial of bodies.

[37] PHO data, 10 Feb
[38] WHOSitrep28Feb05.doc:
[39] PHO as of April 2005.

- Military forces, national and international NGOs, volunteers and the Singapore Ministry of Health helped reestablish services to survivors at existing facilities and field hospitals. Several NGOs and donors have committed to rebuilding health centers and sub-centers or staff housing.
- By the end of January, the UN informed that emergency medical supplies for up to 200,000 people for 3 months were delivered as well as 3,000 hygiene kits and 600 reproductive health kits. A rudimentary health surveillance system was established to provide weekly reports on the incidence of 11 diseases.

Some resources were provided in more than adequate quantities. The patient load at temporary field hospitals decreased from 120 patients a day one week after the tsunami to 30-45 per day in mid-January.[40] By the end of January it seems that hospitals had bed occupancy rates of just 40-50 percent. An estimate of NGO staff present in early February indicated the presence of 350 physicians and 500 nurses and excess of 150 and 200 over need. Yet it was apparent that some survivors were unable to obtain prompt or adequate treatment. As of 24 January, 91 cases and 11 deaths of tetanus were reported with a peak of hospitalization on 11 and 12 January (12 cases daily).[41]

Despite some gaps in service provision, relief efforts appear to have been largely successful in reaching the most vulnerable groups, and in avoiding widespread disease and famine. A rapid nutrition survey of 4,000 households undertaken in March in thirteen districts showed that the prevalence of wasting in pre-school children and women was high (at more than 10%), but there was little difference between IDP and non-IDP populations. The highest wasting rates occurred in children in districts least affected by the tsunami, while wasting rates in Aceh Besar and Banda Aceh were no higher in March (at 9.5%) than in January (12.7%). The results suggest that nutrition interventions, though limited in protein and micro-nutrients, were having a positive impact but should also be targeted to non IDP children.

The survey also suggested some success in the delivery of disease prevention measures. Households in IDP camps were more likely to have mosquito nets, or their child immunized against measles. Nevertheless, children in IDP camps suffered higher rates of illness from diarrhea, vomiting, acute respiratory infections, skin-infection and fever, linked to various risk factors such as poor nutrition, presence of septic toilets, and lack of protected water.[42] The public health response to IDP needs was, in some cases, constrained by an initial reluctance of the international community to accept barracks, which resulted in them being initially set up without water and sanitation facilities.

DELIVERING THE RECOVERY PROGRAM

The Ministry of Health's priorities are to ensure that *puskesmas* and associated facilities are functioning, and that health posts in IDP camps are established to provide (i) inpatient and outpatient services, (ii) maternal and child health services, (iii) reproductive health and family planning services, (iv) mental health and psychosocial services, and (vi) nutrition services. It also aims to develop community-based services, particularly for psychosocial support.

[40] Inter-Agency Rapid Health Assessment, January 13-19, 2005

[41] WMMR-2005-03.DOC.

[42] A separate rapid assessment conducted by CDC and WHO in June suggests that water from tanker trucks is prone to contamination.

The quantity of resources available within the health sector appears to be more than enough to rebuild services to what they once were. Indeed, the level of resources may overwhelm the management and implementation capacity of provincial and district level heath offices with a large number of NGOs and other donors' supported projects and activities added to government programs (NGO projects exceed 50% of sector funds for reconstruction). It is also uncertain to what extent NGO activities will fit in with the plans of local government or how sustainable their initiatives will be.

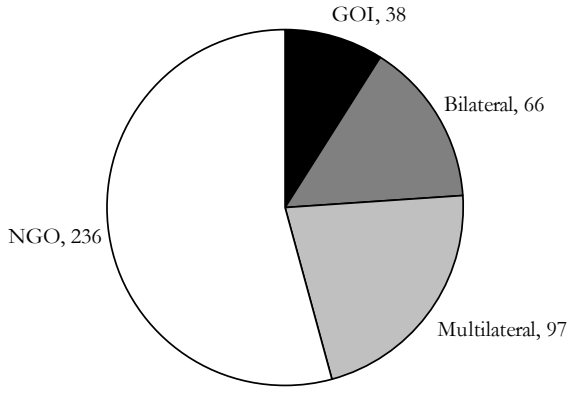
A large proportion of NGO financing, together with that of ADB and USAID, is going to "building back better", but it is not clear to what extent future activities will extend to non-earthquake/ tsunami areas (some NGOs must target resources according to their public appeals for funds). Certainly, reconstruction appears to be well underway in the worst affected districts. Provincial health office data indicate that approximately half of the health centres and sub-centres damaged are under renovation, while 64 satellite health posts to serve IDP communities are being built or completed. The renovation work planned appears to exceed the initial damage estimates.

Table 19: Needs, Projects, and Gaps (million US$)

Needs			Projects: Existing & Agreed			Balance		
Damage & Loss	Master Plan	Minimum to Build Back	Building back	Better	Total	Damage & Loss	Master Plan	Core Needs
104	233	116	321	115	436	332	203	205

Data Source: Reconstruction ("building back") consists of projects that replace physical capital damaged (e.g. housings, schools, roads). Broader development projects ("building back better") include projects that (i) provide improvements over previous conditions, or (ii) target areas not directly affected by the Tsunami (see methodological notes in Annex 1).

Figure 22: Composition of financing in Health sector (million US$)



Information on APBN-BAPEL funds was derived from BRR. APBN Decon/ Central data are obtained from the Regional DG Treasury and includes DIPA Pusat (center) and DIPA Daerah (Province). Contributions of multilateral organizations (ADB, EU, UN, WB) and the MDTF were supplied directly by country offices. Information on bilateral contributions and NGO funds was obtained from the BRR concept note database batch 7. Sectoral re-classification has been undertaken be in line with the classification of the report (see methodological notes in Annex 1)

Table 20: Health facility reconstruction.

Districts	Health Center and Sub-center			Satellite Health Posts		
	Damaged	Under rennovation	% Under rennovation	Planned	Under construction	Completed
Aceh Barat	26	17	65%	5	5	0
Aceh Barat Daya	0	0				
Aceh Besar	30	30	100%	25	18	7
Aceh Jaya	36	32	89%	5	5	0
Aceh Selatan	2	0	0%			
Tamiang	18	0	0%			
Aceh Tengah	0	0				
Aceh Tenggara	0	0				
Aceh Timur	16	0	0%	1	1	0
Aceh Utara				5	5	0
Banda Aceh	16	5	31%	2	1	1
Bener Meriah	1	0	0%			
Bireun	30	15	50%	10	0	10
Gayo Lues	0	0				
Langsa	0	0				
Loksemawe	2	2	100%	3	3	0
Nagan Raya	14	3	21%	2	2	0
Pidie	9	8	89%	6	6	0
Sabang	4	4	100%			
Simeulu	45	11	24%			
Singkil	29	0	0%			
Total	278	127	46%	64	46	18

Source: Provincial Health Office, August 2005

WAYS FORWARD

Coordination of inputs from the various actors continues to present challenges. Some agencies are better at working with government (or other NGOs) and sharing information than others. Some NGOs are working in a few locations scattered across several districts causing confusion for the District Health Authorities. There is concern that some agencies may not be following national or local guidelines for building or service provision (including counseling and psychosocial interventions in which some organizations have promoted Christian beliefs). BRR could take a stronger role in the coordination meetings at provincial level even though the provincial health office is likely to play the major role in coordinating programs across districts, and liaising with other sectors, NGOs and international organizations.

District and provincial health offices are now paying greater attention to the development of coordinated strategic plans. Initial planning exercises were not entirely successful, being undertaken in a climate of uncertainty regarding health needs and resources available. The formulation of the Blue Print (Master Plan) and the creation of the BRR may have distracted attention from service delivery; various organizations were awaiting guidance from the Master Plan and the BRR, but their influence on the health sector has been slight.

Planning and implementation is hampered by sketchy estimates of the numbers and locations of populations, and cumbersome information systems. It also faces difficulties because it is still not clear to what extent services are already reaching populations and what resources are available to expand services. It is known that some services such as immunization and maternal care are not being provided to some populations, but the lack of functioning information systems prevents a clear assessment of which agencies are supplying what services to different populations. There is

also little information on the recovery of the private sector, the extent to which it will be involved in providing services, or the support it requires.

The health sector will need to establish a consistent information base from which to plan and monitor services, including routine information systems, periodic surveys, and sentinel sites. It will be important for BRR to draw on existing resources for monitoring and evaluation rather than set up duplicate systems; perhaps maintaining a focus on the dissemination of information on projects planned and in progress, and undertaking an objective evaluation of health centre and hospital rehabilitation and reconstruction.

The health sector needs to be responsive to the needs of populations affected by the tsunami while also establishing clear and fair guidance on the extent to which services can be offered to all citizens of Aceh and Nias. Nutrition interventions may now be expanded to cover non-IDP populations. Other types of service may also need to be made more accessible to communities not directly affected by the tsunami, particularly where populations have inferior health indicators.

Although the national and international response was largely successful in preventing widespread outbreaks of communicable disease, many of the conditions that promote increased rates of disease transmission are still present. Around 60,000 individuals are still living in tents and will be prone to communicable diseases (as well as mental stress), particularly with the rainy season about to ensue. Despite a national immunization day on August 30th, attaining 98% coverage of 483,297 children under five years of age, immunization coverage in some districts remains below 90% (Aceh Barat, Aceh Jaya, Nagan Raya, Aceh Barat Daya, Kota Lhoksemauwe), and the threat of immunizable disease, in particular polio, cannot be disregarded (a wild polio virus case has been detected in Medan). Large population movements including displaced families, military personnel, returning combatants, and international aid workers can potentially increase the risk of HIV transmission and AIDS. There is a need for effective surveillance systems and active programs against communicable disease.

The reestablishment of the health workforce and development of an effective plan for transition of services from NGOs to local institutions are persistent concerns. This is partly because a large proportion of health care is delivered by the private sector, and because the blend of services is likely to require a greater emphasis on mental health problems which are more complex and longer-lasting than physical injuries.

4.6 Livelihoods

OVERVIEW

Cash-for-work, financed by many donors and NGOs, has played a vital role in providing safety nets and revitalizing the economy. UNDP alone has injected over US$10million into the local economy in this way, and various NGOs and donor agencies combined have employed 29,000 to 35,000 people. But these programs are now being phased out, as more housing construction projects and other regular employment activities are being launched.

Helping the farmers, fishermen, traders and small entrepreneurs to reestablish their livelihoods is a pressing concern, which many agencies are now turning to. However, the transition from relief to reconstruction needs to be managed carefully, a lesson learned in many previous disasters. And until adequate employment opportunities are available to people in affected areas, humanitarian assistance will still be needed

THE CHALLENGE

Fisheries, agriculture and industry have been heavily affected by the disaster. A quick assessment in January estimated that the total damage and loss to the productive sectors reached US$1 billion,[43] comprising US$511 million damage in the fisheries sector, US$225 million in agriculture, and US$447 million in industry and trade.

As more information becomes available, it seems that in some cases, the initial damage and loss calculation may have been overstated. It was, for example, initially estimated that 5,000-7,500 hectares of land were permanently lost – about US$40 million in value – but an FAO assessment in April suggests that the area may be only 2,900 hectares.[44] Some think it may be even smaller. The cost of clearing land that was not permanently damaged may also be lower. The initial estimate was US$25 million, but salt will quickly wash out, and on most of the affected land the silt is only a few inches deep so that it can be dug in. Furthermore, the FAO assessed that while 43 percent of brackish water culture ponds were affected, only 1 percent cannot be restored. According to an IOM damage assessment, 57.5 percent of markets and/or kiosks in Nias were destroyed while another 19.2 percent have been rendered unusable. In Simeulue Island, 12 of the 15 markets were either destroyed or heavily damaged.

It should be noted that the loss assessment was made based on what was lost in a declining economy. There had been a significant shift to agriculture and fisheries over the last 3 years, as urban and service-based industries declined. Most agencies are considering restoration of livelihoods given the pre-tsunami sectoral structure, without clearly articulating the current and future needs and resource base. It is likely that significant growth will be experienced in Aceh over the next 3-5 years, driven largely by the construction sector. However, if the underlying factors that caused the economy to decline over the last 3 years are not addressed, the economy

[43] BAPPENAS and the International Donor Community, "Indonesia: Preliminary Damage and Loss Assessment – Technical Annex," December 26, 2004.

[44] FAO, "Indonesia Post-Tsunami Consolidated Assessment", April 22, 2005 (URL: http://www.fao.org/ag.tsunami/assessment/indonesia-assess.html, last accessed June 18, 2005).

will likely experience a substantial negative impact, as resources allocated to reconstruction would decline.

Moving out of the relief phase, restoration of livelihoods is the most important immediate challenge. A survey conducted by the IOM shows that beyond immediate needs of food, water and shelter, what tsunami victims most strongly want is livelihoods support.[45] Restoring jobs and the real economy not only moves tsunami victims from dependence to self-sufficiency, but also has the important psychological impact of providing daily activity.

DELIVERING THE RECOVERY PROGRAM

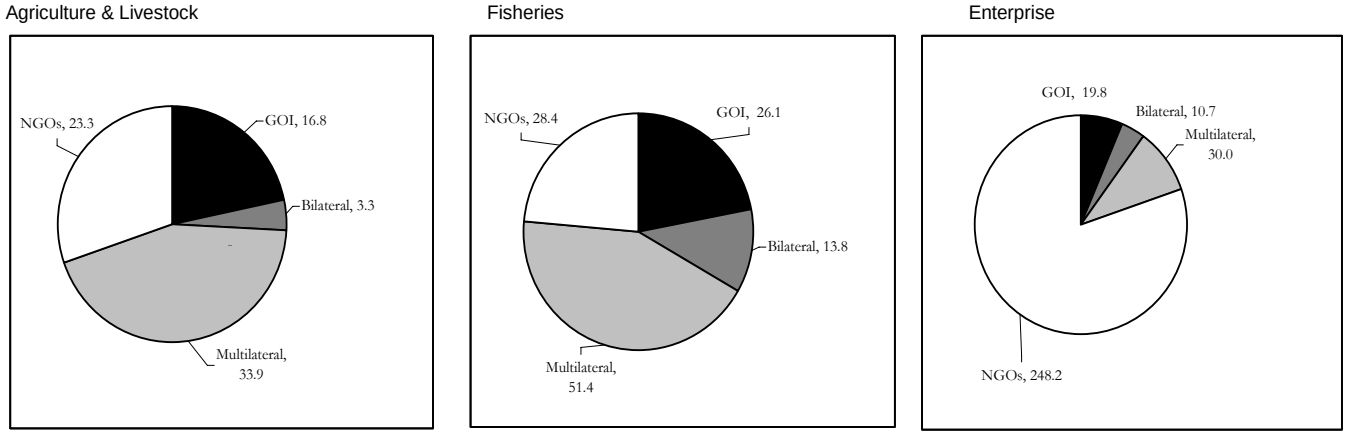
The projected cost to recover productive sectors to a minimum is US$ 185 million. The projects in the pipeline are estimated at $506 million (Table 21); the composition of funds by donor is presented in Figure 23. However, the progress on the ground is still very slow as most of the approved funds have not disbursed yet. Moreover, funding needs beyond 2005 are not assured, as some organizations may not be able to carry allocated resources into the next financial year.

Table 21: Needs, Projects, and Gaps in Productive Sectors (million US$)

Sector	Needs			Projects: Existing & Agreed			Balance		
	Damage & Loss Assessmen	Master Plan	Minimum to Build Back	Building back	Better	Total	Damage & Loss	Master Plan	Core Needs
Agriculture & Livestock	225	52	61	73	4	77	-148	25	12
Fisheries	511	92	108	108	12	120	-391	28	0
Enterprise	447	15	16	202	107	309	-138	294	186
Total	1183	158	185	383	122	506	-677	347	198

Note: The category "enterprise" includes industry, trade and SMEs.

Figure 23: Composition of financing in productive sectors (million US$)



[45] IOM, "Settlement and Livelihood Needs and Aspirations of Disaster-Affected and Local Communities in NAD", May 2005.

The *Master Plan* sets out five points for the recovery of livelihoods and the economy:

- Recovering community income by providing jobs related to rehabilitation and reconstruction and providing training;
- Recovering community service facilities related to economic activities such as fishery and agricultural activities;
- Recovering banking activities;
- Providing assistance for communities to recover their production facilities through grants and compensation payments; and
- Giving support for communities to access productive resources through credit and technical assistance.

The progress in the delivery of the recovery program is discussed in detail below.

UN Flash Appeal

In the Flash Appeal launched on 6 January 2005, UN agencies committed to seven activities related to the livelihood and productive sectors recovery. As of mid-September, they contributed US$ 143.7 million in various projects.[46] Flash appeal funds focus on assisting small, previously viable rural and urban businesses to quickly replace their lost productive assets. It is expected that they can re-enter the marketplace and develop people's skills to actively participate in the reconstruction and rehabilitation.

Livelihood Recovery Working Group

Donors and NGOs have come together to form a "Livelihood Recovery Working Group" (LRWG).[47] The LRWG is jointly coordinated by UNDP and the local government's Social Welfare Department, the cross-sectoral agency responsible for assisting vulnerable groups (the poor, handicapped and displaced). As with other working groups, the key now is to integrate with the BRR. LRWGs have been established in Calang, Banda Aceh, Meulaboh and Sigli. NGOs have developed similar coordination mechanisms at the sub-district level.

According the Humanitarian Information Center (UNIMS) database, by mid-June there were 62 organizations (NGO and donors) working on 190 livelihood-related projects across Aceh and Nias.[48] This number is likely to increase in the near future as there are around 80 organizations with pipeline activities in this field. The database does not list the budget of each organization, but a few larger organizations plan to spend an average of at least US$20-30 million over a period of a year or more. Paragraph could be changed to match the BRR project concept database which is more comprehensive than UNIMS & has financial data.

Progress of activities

Cash for work programs: Cash-for-work, financed by many donors and NGOs, has played a vital role in revitalizing the economy. Through UNDP alone, over 14,000 people have been employed for varying periods, and over US$10million were injected into the local economy.

[46] Information UN-OCHA Expenditure Tracking (URL: http://ocha.unog.ch/ets).
[47] URL: http://www.humanitarianinfo.org/sumatra/reliefrecovery/livelihood/
[48] This may not include small organizations who do not register their activities to HIC. URL: http://www.humanitarianinfo.org/sumatra/

IOM has hired over 4,500 women and men in their temporary shelter program. Various NGOs and donor agencies reported that their cash-for-work programs target employment for 29,000 to 35,000 persons.[49] The MDTFANS funds the ILO project for the labor-based Rural Road Rehabilitation in Aceh (US$ 6 million) and the UNDP Tsunami Waste Management Project (US$ 15,2 million). Both projects include a cash-for-work component and include training that will support livelihoods after the projects come to completion. The work has allowed damaged public facilities to be made operational again while the income enabled participants to reestablish small enterprises, rehabilitate paddies to plant rice this wet season and address basic household needs. However, cash-for-work programs are currently being phased out, as more housing construction projects and other regular employment activities are being launched.

Community Development Projects with a livelihood component. The MDTFANS funds the World Bank's Kecamatan Development Project (KDP) and the Urban Poverty Program (UPP) (US $82.7 million). The primary aim of the projects is to guide communities to decide what tertiary infrastructure needs they want to rebuild after the devastation of the tsunami, but if the community so decides, than funds can also be used to support the livelihoods.

Agriculture. FAO has provided seeds, fertilizers and tractors to around 8,900 beneficiaries with funds pooled from several NGOs, agencies and donors. Some small local NGOs who have established partnerships with farming communities also give direct support to farmers.

FAO also initiated a project proposal drafted for FAO/Government of Italy support to rehabilitate the Ujung Batee regional brackish water aquaculture development centre and an aquaculture component of the European Commission's Humanitarian Aid Office (ECHO) project "Emergency assistance for food security and restoration of livelihoods amongst tsunami-affected farmers, fisher folk, women and other vulnerable groups of Indonesia".

The ADB is opening a project to raise incomes of poor coastal communities in Aceh Besar and Banda Aceh through rehabilitation and sustainable management of damaged coral reef and mangrove resources. ADB has also allocated to agriculture US$ 30 million under the Earthquake and Tsunami Emergency Support Project (ETESP). Some examples of activities that are covered by the agriculture component of the project include: (i) studies to profile the damage and development of restoration strategies for different levels of damage; (ii) participatory land use planning in the settlements represented by 2,000 self-help groups; (iii) training for 2,000 self-help groups in the production of field crops, tree crops, and horticulture crops; (iv) rehabilitation on 20,000 hectares of farmland; (v) soil improvement and desalinization on 6,000 ha of farmland; (vi) land levelling on 5,000 ha of severely damaged farmland; (vii) farmer-driven research; (viii) monitoring of soil improvement including salinity levels in the soil and water in the areas receiving moderate to heavy damage; etc.

After over a decade of decline due in part to the conflict, Accenture has been providing assistance to revitalising the coffee industry. The assistance itself has involved the development of more efficient supply chain management models and forums involving industry stakeholders with a view to improving the farm gate price for local producers. While confidence is returning to the coffee industry, the issue of poor infrastructure and scant market access may jeopardise the long term sustainability of the sector.

[49] Based on various reports at the websites of Oxfam, UNDP, USAID, Mercycorps, World Vision.

Fisheries. The main activity in the fishery sector for local governments, NGOs and donors has been to supply fishermen with boats, which also provided livelihood to local boat builders. In addition to this, the French government is funding trawler repair. Catholic Relief Services (CRS) is working on projects to recover fish markets in Meulaboh.

Following the tsunami, the replacement of Aceh's fleet of vessels has been a priority of many NGOs and multilateral organisations in Aceh. BRR estimates that 7,200 boats have been damaged or lost due to the tsunami (FAO and Panglima Laot estimate that around 4,700). To date, about 4,400 new boats have been delivered, while about 1,500 others are being constructed or pledged.

However, the quality of the smaller wooden boats has been questioned by a number of specialists with some estimating that 40 percent of the smaller vessels (5.5-8 metres in length) will be unusable within 12 to 18 months due to poor craftsmanship and the use of substandard raw materials. High target set by the providers to deliver the boats as soon as possible and as many as possible (which led to low cost boats) are the main reasons for this, in addition to lack of capacity of boat builders in the region.

In the absence of "boat/ship survey" procedures and a somewhat *ad hoc* and inconsistent approach to building the vessels, there is an urgent requirement that the building of these vessels, including associated training, be better coordinated. FAO has already developed guidelines for better boat building which is used to train boat builders in several locations in Aceh.

Lack of consultation and coordination with local fishermen made a lot of the delivered boats to be abandoned by the fishermen due to the boats' unsuitability to local conditions. Panglima Laot – traditional fishers association in Aceh – has already developed a standard boat design which is suitable for Aceh fishers that should be used as a reference for any donors providing boats.

Another pressing issue in the fisheries sector is the lack of ice factories. USAID reported that there are some grants available to build ice factories, which are important for the fishing industry. However, they are only available for a joint ownership or shareholding, not to individuals.

There is also a lack of support to fish processing and inadequate local and regional market infrastructure. Many fishing-based programs are operating in isolation of output assistance and are often delivered on an *ad hoc* basis with little regard to business-related training, infrastructure development or necessary supply chain management, as an example below suggests (Box 5).

Box 5: Lack of supporting infrastructure for fishermen

Prior to the tsunami, an east coast fisherman was engaged on a large privately-owned 23 metre tuna vessel. As a result of the disaster, the fisherman lost his livelihood (and family and house) and soon after was approached by an NGO offering a smaller fishing boat (without the associated equipment – outboard, nets, tackle etc). The NGO also raised the fisherman's expectations that he could effectively commence his own new small business with the boat and sell his catch locally. In this advice, little regard was paid to the fisherman's lack of business skills, the absence of supporting infrastructure (ice machines, markets etc) nor indeed, the size of the potential catch or the market for it. Having no understanding of what was involved in successfully managing even a micro enterprise nor having sufficient capital resources to purchase associated equipment and with no working capital, the fisherman did not proceed and the boat lies dormant with little prospect of it ever being used to catch seafood for either self-sufficiency or for commercial purposes.

It should be noted that the industry itself has also been adversely affected for a number of years and that investor confidence has declined due to uncertainty caused by the conflict. This has weakened the management and infrastructure of the industry. Over time this has seriously impeded the capital assets of the industry and affected ownership structures of many enterprises, as an example below illustrates (Box 6).

Box 6: The impact of the conflict and tsunami on a cold storage facility and ice making plant

A cold storage facility and ice making plant located on the island of Sabang was formerly owned under a joint venture arrangement between a Taiwanese consortium and a state-owned enterprise, PSB. The Taiwanese partners were to rehabilitate the plant to full working order but pulled-out in 2001 due to the unrest caused by the conflict. The plant now remains dormant and requires a capital injection of between US$5 million and US$10 million to replace machinery and up-grade the facility. The question arises, however, that with only a small fishing sector operating out of the tsunami-affected port, whether such an investment would be fully utilised. If the port rehabilitation is realised to full capacity, then this facility could increase the attractiveness of Sabang to potential investors, shipping companies and foreign and local fishing fleets.

There is no mechanism to coordinate donors who work in fisheries sector. The donors themselves established a "self coordination mechanism" through fisheries and aquaculture working group, but there is no coordination between donors and the government, either at provincial or district level. The issues of concentration of boats in limited areas and lack of quality control are also rooted in the coordination issue. Provincial and district fisheries agencies (dinases) have not play coordinating and controlling roles. Partnership, information sharing, and clear division of roles and responsibilities among BRR, provincial and district level fisheries dinases, as well as cooperation with provincial and local levels Panglima Laot, would be the key to enhance coordination in fisheries work.

There is also a need for a macro level development plan to be developed to ensure the sustainability and long term growth of this important industry. FAO are keen to further explore this concept.

Construction Industry. Many local construction contracting enterprises based in pre-tsunami Banda Aceh were wiped out by the disaster. The loss of capital assets, manpower and physical

plant was immeasurable. Many of these contractors are now working with NGOs but there is a real risk that due to a lack of coordination and finance, most reconstruction contracts in the rebuilding program will be secured by non-Aceh enterprises. The forthcoming construction boom in Aceh has already stimulated the interest of outside building construction companies who are seriously considering the establishment of a presence in Aceh. A Jakarta-based construction business, for example, recently set-up an operation in Banda Aceh and a fibreglass manufacturer is seriously considering a temporary move from Medan. In this environment many local contractors fear that they will miss out on the opportunity they have to reestablish their livelihoods.

Adding to the problem is the fact that there is limited awareness of what capability currently exists in the local market to supply required material in-puts. Another problem is the limited understanding of the mechanics involved in the tendering process. There is pressing need, therefore, for an audit to be undertaken to identify pre-tsunami local building contractors and subcontractors (many now working with NGOs) and suppliers. On the basis of the audit, an integrated program should be developed involving:

- Training on tendering processes
- Preparation of banking proposals
- Identification of skilled labor
- Linkages to suppliers

A further focus should be the establishment of an Aceh Association of Building Contractors. Mercycorps has strong experience in this field.

Services and trade. The focus in this sector is to replace assets of selected small businesses that were known to be viable. Some large private companies – both domestic and foreign – have shown their interest in private sector partnerships with local SMEs. Other activities are providing technical assistance and market linkages. Swisscontact has initiated a project targeted to create 5,000-10,000 jobs and, together with The Asia Foundation, has presented a one-stop shop model to help reducing cost and waiting time for business owners who need to have the lost business licenses re-issued, to apply for bank loans, to name but one need.

Some microfinance activities have restarted, although most microfinance institutions (MFIs) still have limited capacity. Some large international agencies are planning to start microfinance activities and community revolving funds. Currently, most of the financing support is provided in the form of grants

THE WAY FORWARD

A number of key issues and considerations will weigh heavily on the ultimate success or failure of efforts to revive livelihoods.

Access of SMEs to finance: While several current and future planned financial products are reported to be available for micro-enterprise start-ups, little regard has been paid to SMEs severely damaged by the tsunami. Although there have been some successful examples of SME recovery mechanisms, local banks have been, until recently, reluctant to consider on even a case-by-case basis, individual clients who after the tsunami required refinancing options in order to survive. A story below illustrates this issue (Box 7).

Box 7: No access to credit for a car detailing operation damaged by tsunami

A successful car detailing operation in Banda Aceh was decimated by the tsunami in December. The enterprise was three years old and was established with capital from the owners' savings and an IRD50 million loan provided by a local commercial bank. The business owner established a highly reliable repayment record and received a favourable initial response to an application for an extension to the existing loan to expand the business.

Following the destruction by the tsunami the business-owner requested assistance from the bank to refinance the existing loan and to 'fast track' the extension application in order to relocate the car cleaning operation and for some working capital. The bank refused both and demanded that the outstanding loan be repaid in full. In the meantime the entrepreneur has a poor credit rating and does not know who to approach for help. He is currently a local driver with no prospect of re-commencing his enterprise.

Urgent assistance to pre-tsunami SMEs destroyed by the disaster is required through an integrated recovery strategy to help them get back to business. Currently constrained by lack of working capital and destroyed capital assets and with exposure to previously-held bank loans, many pre-tsunami entrepreneurs currently have absolutely no one to turn to for assistance. In many cases, this has resulted in a demoralised entrepreneurial spirit.

Supply of Human Resources and Materials: Some analysts have estimated that as many as 200,000 skilled laborers and trades people will be required for the reconstruction phase.[50] There is inadequate supply of skills in Aceh and Nias. The initial focus of the recovery plan is therefore to meet the reconstruction's employment needs for the next 3 to 5 years.

The government – in collaboration with ILO – has established a network of 4 employment service centers in Banda Aceh, Meulaboh, Calang and Lhokseumawe. By the end of May, more than 20,000 people had registered. After a slow start, more than 1,000 workers per week are now being placed in jobs due to a recent increase in demand for construction workers.51 Where skills gaps are identified and capacity for training can be mobilized, short-cycle skills training takes place. ILO and IOM are providing carpentry and masonry courses in public vocational training centers and 'on-the-job' training at different sites. Other relevant training is being provided for instance in English and computer skills for people seeking work with the many international organizations.

Equitable distribution of livelihoods assistance: The Dinas Sosial database on who is doing what where highlights that assistance is not being evenly distributed. Most assistance is still targeting rural livelihoods, with limited assistance to the urban livelihoods. Up to now only five small NGOs were targeting livelihoods in Banda Aceh.

Mitigating market distortion: The transition from humanitarian response to rehabilitation will bring a number of challenges. Food relief and cash for work, while critical during the humanitarian phase, are well known to distort markets and create welfare dependencies in the long run. Several NGOs report that there is an indication that some communities are becoming

[50] "A Profile on the Construction Sector in Aceh," a preliminary briefing note by Bruno Dercon, Adviser to DFID, 3 June 2005.

[51] Note on "Update on ILO Programme in Aceh", kindly provided by Peter Rademaker, and interview with Freddie Rousseau, ILO Chief Technical Advisor in Banda Aceh.

increasingly reliant on the fact that humanitarian aid will continue to come. There are also stories that agricultural workers are opting for cash-for–work while neglecting their crops. The issue of how to move from humanitarian response to a market-based support structure, that provides livelihoods mostly through employment opportunities, needs careful consideration.

Considering environmental impacts: Environmental factors need to be considered as they are closely related to sustainability of livelihood opportunities. Most assistance to fishing, for example, is focusing on providing small boats which risk exacerbating overexploitation of inshore fishing resources. Panglima Laot, the premier fishers association is concerned, for instance, that where inappropriate timber has been used, boats will only last 8-12 months, wasting money and straining the environment further. Furthermore, the need for timber for the reconstruction has been estimated at 7 million cubic meters, around three times Indonesia's annual national output.

The Recovery Assistance Policy of the MDTFANS, prescribes that all projects funded by the MDTFANS need to pursue sustainable development policies, ensuring that the environment is not negatively impacted by the projects. One of the sectors identified by the MDTFANS for priority support is environment. IDA, funded by MDTFANS, is currently appraising the Aceh Forest and Environment project, which aims to deal with the threat of increased logging to supply the reconstruction of Aceh. The project will be strengthening the forest protection in the Leuser Ecosystem and the Ulu Masen forest complex. (US$ 14.1 million).

Strategy

The strategy for economic development and sustainable livelihoods should be based on development scenarios that take long-term changes in Sumatra, Indonesia and ASEAN into account and consider the risks and opportunities that different conflict scenarios would bring. It should start from needs assessments and comparing these needs with social-economic data going back to the 1990's and looking at issues of migration and decline of the urban economy, illegal logging and onshore fishing as well as health and education services.

Most importantly, livelihoods work needs to transition from humanitarian responses such as cash for work into longer-term rehabilitation – asset renewal, access to credit, training and skills development to meet reconstruction needs.

The role of Sabang in revitalizing the economy needs to be addressed in the short term to enable the port and associated infrastructure to be actively engaged in the reconstruction phase and transition into the longer term economy. The master plan highlighted the important role of Sabang, but the changing productive structure of Sumatra vis-à-vis Malaysia and Thailand, as well as the changing patterns of inter-island trade must be taken into account.

Most assistance is being targeted to small businesses, however donors and the government must identify ways to enable distribution and marketing chains as well as ways to enable larger businesses to get back into operation – this task includes access to credit markets and the rehabilitation of key infrastructure.

4.7 Environment

OVERVIEW

The earthquake and tsunami caused substantial environmental damage. However, details of the damage remain sketchy and considerably more assessments need to be carried out before a good action plan can be formulated. The combination of many new investment projects and greatly diminished local capacity does not bode well for effective environmental impact assessment at the local level. This capacity needs to be enhanced.

The demand for building materials to rebuild and repair structures could put a heavy strain on Aceh's environment. Timber has already been illegally sourced and deforestation is a threat. Mitigation will require careful control of sourcing, importation of legal timber from outside of Aceh, recovering resources from the debris, monitoring, protection of critical forests, and stimulation of forest plantations.

Coastal ecosystems were severely damaged by the tsunami. In addition, the coastline was physically altered, with beach loss, changes in riverbeds and other impacts. Rehabilitation of damaged ecosystems should be actively supported by facilitating natural regeneration and investing in restoration where possible

THE CHALLENGE

The earthquake and tsunami caused an environmental disaster of extreme proportions. The main immediate environment impact is the immense amount of waste and debris. About 5 to 7 million cubic meters of debris accumulated along the impacted areas. Recent calculations estimate some 500,000 cubic meters of mud and debris remain on the ground in Banda Aceh alone. The solid waste from the tsunami contains high concentrations of heavy metals such as cadmium (Cd), copper (Cu) and lead (Pb). Debris and dried mud have even had a negative effect on air quality in Banda Aceh.

Longer-term effects include potential damage to coral reefs, loss of fertile soil, loss and degradation of mangroves, sea grasses and other vegetation, and salt intrusion into soil and inland water. Furthermore, the reconstruction program itself could pose additional environmental stresses, especially due to coastal roads.

Within 2km of the west coast, there remains a high risk of groundwater salt contamination, depending on local the topography, soils, geology, hydrology and surface water flows. Surface water quality surveys confirmed several cases of pollution. NH3 (ammonium) is 5 to 12 times higher than the allowed standards and high concentrations of E-Coli bacteria have been found in most sampling locations. The changes in coastal landscape have not only resulted in loss of property, but the new landscape needs to be stabilized and evacuation facilities built as well as well as protection against future disasters.

Of the 346,000 hectares of mangrove forests in Aceh, only 10% are now of high quality, and mostly concentrated on Simeuleu island, although most have been degraded prior to tsunami. Similarly, 90% of surface corals (between 0 and 6 meters depth) on the west coast of Aceh are destroyed, although coral reefs areas were already severely damaged. About 90% of the deeper coral reefs are intact.

All environmental laboratory equipment in Banda Aceh has been destroyed, including the Research Center for the Environment and Natural Resources at Syiah Kuala University, Bapedalda Aceh's mobile lab and provincial environmental testing facilities. At least a dozen provincial and district-level environmental agency professional staff members were among the tsunami casualties. Five Syiah Kuala University lecturers on environmental subjects and two environmental NGO leaders were among the identified victims.

THE RESPONSE

The cleaning up activity has been lead by local government and local communities using transportation and heavy equipment from Public Works and local military units. Community recycling activities and 'cash-for-work' initiatives supported the process. With international support, major settlement areas, the business district, government facilities and historic sites have been cleaned up.

The provincial environment office has coordinated with donor agencies to organize an informal forum to discuss the need to support environmental services during the relief, rehabilitation and reconstruction periods.

DELIVERING THE RECONSTRUCTION PROGRAM AND THE WAY FORWARD

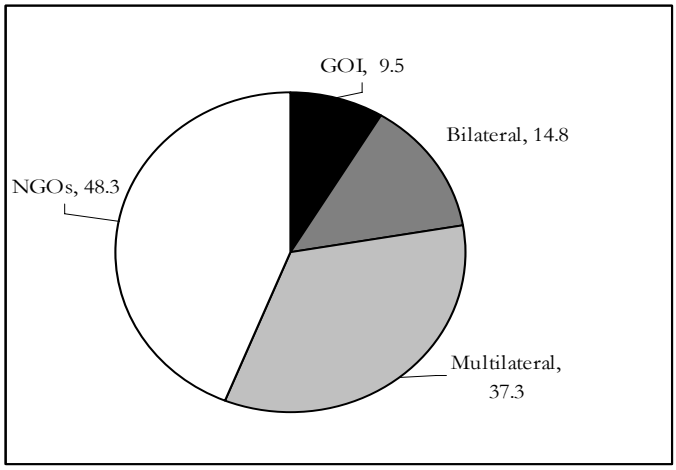
A quick damage and loss assessment conducted in January 2005 put the total environmental cost at US$ 562 million, or 11.9 percent of the total impact. The immediate minimal costs of restoring core environmental infrastructure are estimated at US$ 175 million (Table 22 & figure 24), which is next only to the costs of core needs in housing, infrastructure and flood control/irrigation sectors.

Table 22: Needs, Projects, and Gaps (million US$)

Needs			Projects: Existing & Agreed			Balance		
Damage & Loss	Master Plan	Minimum to Build	Building back	Better	Total	Damage & Loss	Master Plan	Core Needs
562	151	175	68	42	110	-452	-41	-107

So far only about US$ 110 million has been mobilized for rehabilitation of environment, including US$ 48 million from NGOs, US$ 37 million from multilaterals (incl. US$ 21 million from MDTFANS), US$ 15 million from bilateral donors, and US$ 10 million from domestic sources (Figure 24).

Figure 24: Composition of financing in environment (million US$)



Total resources committed to date are still US$ 124 million lower than necessary to cover even the estimated core needs.

The major environmental issues in recovery include:

Environmental assessment. Details of the environmental damage remain sketchy and considerably more assessments need to be carried out before an action plan can be formulated. Detailed aerial photography surveys are not yet available, but urgently needed. There are plans for a survey using a marine research vessel in collaboration with Thailand.

The combination of many new investment projects and greatly diminished local capacity does not bode well for effective environmental impact assessment at the local level. Thus, there is a need to rebuild the capacity of the local and provincial Bapedalda to do their AMDAL work as well as utilize strategic environmental assessment (at the regional and sectoral levels) in order to reduce both processing time and costs.

Several initiatives to enhance environmental assessments have already been undertaken. A panel of experts has been assembled to assess the environmental impacts of the Master Plan of Aceh Rehabilitation and Reconstructions. The Delphi Method discussion is expected to generate a short-list of potential high impacts of rehabilitation and reconstruction activities to local environment and ecosystems. With support from CIDA, BAPPENAS is preparing a Strategic Natural Resource and Environmental Assessment (SNREA) which will complement the Master Plan and assist BRR in their implementation activities.

Consultations started on a Ministry of Environment Decree on Environmental Impact Assessment (EIA) for Aceh, which would shorten the time needed to prepare environmental impact assessments. It would also set up a Provincial Commission and two technical assessment teams for at least 85 Environmental Impact Assessments that need to be carried out.

Environmental impact of reconstruction. The demand for building materials to rebuild and repair structures could put a heavy strain on Aceh's environment. Timber has already been illegally sourced to build barracks. Deforestation could be driven by both the demand for construction wood as well as fuel for brick kilns. Mitigation will require careful control of sourcing, importation of legal timber

from outside of Aceh, recovering resources from the debris, monitoring, protection of critical forests, and stimulation of forest plantations.

The Indonesian Eco-labeling Institute (LEI) is available to develop a simple, transparent and inclusive Chain of Custody system and has the necessary support. CIDA is also helping to facilitate the shipment of timber from Canada. The MDTF has been identified as a potential mechanism to support mangrove reforestation through community-based schemes. Support may also be provided to Wetlands International Indonesia for the development of sustainable livelihoods. Spain may be interested in supporting mangrove reforestation.

Environmentally-sustainable reconstruction requires planning and public debate. The United Nations Environment Program (UNEP), the Indonesian State Ministry of Environment, and national and international NGOs held the Green Aceh conference during June 21-23, 2005 in Banda Aceh. The conference was conceived as a 'market place' of ideas on how to integrate good environmental practices into reconstruction plans in tsunami-affected areas in Aceh and Nias. It focused on practical steps for environmentally friendly reconstruction. Topics included the urgency of green reconstruction in post-tsunami Aceh and Nias; coastal and sustainable fisheries management; waste management, water and sanitation; and community participation, monitoring and local laws.[52]

Rehabilitation of damaged ecosystems. Coastal ecosystems (coral reefs, sea grass beds and mangrove forests) were severely damaged by the tsunami. In addition, the coastline was physically altered, with beach loss, changes in riverbeds and other impacts. Rehabilitation of damaged ecosystems should be actively supported by facilitating natural regeneration and investing in restoration where possible. All plans for roads that could negatively impact sensitive ecosystems such as the Leuser forest need to be carefully reviewed as to their wisdom.

Public spaces such as parks, road verges and house gardens can be part of a productive landscape. Such an approach can be linked to bioengineering of coastal protection features such as sustainable *tambak* (strongly linked to mangrove systems) and coastal forestry systems. Such diverse coastal agro-forestry can have a focus on food and fiber and wood and structural material production and can be planted on swale systems (mounds on contour to trap water) which provide some physical buffering against coastal water intrusion, especially when thickly planted.

The Ministry of Environment supports local initiatives in rehabilitating and reconstructing villages in eco-village and eco-town concepts. Three NGO initiatives on ecologically-friendly site planning have been identified in greater Banda Aceh area as pilot activities for represent bottom-up planning. Encouraging production in association with human settlements reduces the pressure on land further away, facilitating the protection upland watershed forest areas, which are critical for flood protection and improve water quality within the watershed.

Disaster mitigation. Given that a substantial amount of rebuilding will take place in risk-prone areas along the coast, in new floodplains and in earthquake zones, disaster mitigation is a priority and will require: an effective early warning system, increased public awareness, a better capacity to respond to future disasters, and escape routes/facilities.

[52] Aceh's Governor Mr. Azwar Abubakar recently declared Aceh a designated "green province," with 40 percent of the area to be protected as limited-use areas so the need to obtain timber for reconstruction does not destroy remaining forests.

Annexes

Annex 1: Methodological Note

A significant amount of data has been categorized and analyzed for this report. The key objective of this analysis was to understand broad trends in current project allocations for the reconstruction of Aceh and Nias – sector by sector. These total allocations of ongoing and already agreed projects of the Government, donors, and NGOs have then been segmented into three categories: (i) relief/transitional support; (ii) reconstruction ("Building back"); and (iii) broader development projects ("Building back *better*").

To match these projects allocation, needs estimates have also been developed for a "Core reconstruction program" and broader development needs. Both, the damage and loss assessment and the Master Plan can be used to approximate these needs.

A1.1 DEFINITION OF NEEDS

There is no uniform definition of needs because needs are typically developed within a resource constraint. This report has reflected the concepts of the damage and loss assessment as well as the Master Plan, and in addition estimated core minimum needs:

- The **Damage and Loss Assessment** estimated total costs to replace damage and losses of the disaster (*replacement value*). In other words, estimated costs tell how much would be need to recover damages and losses, at the same quantity with the same quality. Total damage and losses have been estimated at US$ 4.5 billion.[53]
- The **Master Plan** used the Damage and Loss Assessment as the baseline figures but made two important policy decisions: (i) Build back *better* in certain sectors (particularly social sectors and infrastructure), (ii) Compensate private sector damage only up to a limit, which affected particularly the allocations for housing and the productive sectors.
- ***Core minimum needs*** are a sub-set of both the Damage and Loss Assessment and the Master plan. Core needs are defined as (i) full replacement of all public sector damage (per damage and loss assessment); (ii) financing of private sector needs such as housing, agriculture, fishing, up to the limit set by the Master Plan; (iii) partial financing of environmental damage, which can only be addressed to a very limited degree by external interventions, and (iv) 15 percent for technical assistance (local facilitators, road engineers, etc.) to plan and implement reconstruction projects. Private and public sector components would be about the same at approximately US$ 1.2 billion each.

For the March 28, 2005 **earthquake in Nias** IOM carried out the only existing damage assessment. For this report, IOM data was used and adjusted to the methodology of the January damage and loss assessment to arrive at an aggregate damage and loss estimate as well as sectoral valuations (see section A1.3 for detailed description).

[53] For the Earthquake in Nias on March 28, the government carried out a needs assessment which estimated total damage US$ 650 million. Comparisons with the January assessment for Aceh and Sumut confirm the magnitude of the damage if the IOM damage numbers are used as a basis.

A1.2 CATEGORIZING PROJECTS

More than 800 projects and budget line items have been reviewed. They have been categorized as follows:

- **Relief/transitional support.** Emergency activities intended to finance relief activities right after the Tsunami as well as any other activity that is not intended to have a permanent impact. Emergency aid is often in the form of in-kind such as medicine, temporary shelter, and food, and also includes activities such as clean water for IDPs and cash for clean-up work. Emergency activities are typically of a relatively short-term period.
- **Reconstruction** ("Building back"); Reconstruction financing intends to mainly replace physical capital damaged and lost (e.g. permanent housings, schools, roads).
- **Broader development projects** ("Building back *better*") can have two characteristics: (i) projects that target the area not directly affected by the Tsunami or cover all of Aceh; or (ii) development activities which include value added to the pre-Tsunami or earthquake period. An example is the road between Banda Aceh and Meulaboh whose value is estimated at US$ 240 million, compared to the estimated damage of US$ 100 million to replace the road.

All the tables presented in this document focus on Reconstruction and development projects only. The sectoral allocation of transitional or relief projects, that are in this dataset, have not been calculated.

KEY PARAMETERS

Timeframe. Many projects will take more than one year to complete. The database contains single and multi-year projects. For example, domestic funds through BRR (from the central government state budget) are from 2005 budget. In contrast, funds from other sources could include single year and multi-years.

Area. Financing figures could include both Tsunami-affected areas and non-affected areas. Reconstruction activities include the tsunami-affected areas only, while development activities include both tsunami affected and non-tsunami-affected areas in Aceh and Nias.

Ongoing activities and agreed projects. Figures in tables include both ongoing activities (i.e. being disbursed and executed) as well as agreed projects that are currently prepared.

On and Off-budget. The tables in this report include both on-budget and off-budget.

Double counting. A distinction can be made between the institution that executes and implements a project. Occasionally financing figures are susceptible to double counting, since an institution provides financing resources to other institutions. For example one donor country provided project fund but it is implemented by other donor country or NGO. Both institutions report the same project concept note to BRR. In order to avoid double counting, clarification of execution and contribution basis should be developed. Tables in this report are basically based on an execution basis. In other words, figure by each institution is based on which institution implements a project rather than which institution contributes to funds.

Exchange Rate. Currency applied is in US Dollar. Data of non-US Dollar donor country currency was converted to US Dollar using exchange rate as at the time the BRR input the concept note database: one US$1=10.000 Rupiah. For all the damage estimates, including the Nias projections,

the exchange rate of Rp 9,300/1USD has been used which it reflected the government's exchange rate assumption at the times of the disasters.

Sectoral Analysis. In this report, financing is categorized functionally into the following 4 sectors: social sector, infrastructure, productive sectors, and cross sector, each of which is composed of several sub-sectors.

APPROACH USED TO SEGMENT PROJECTS THAT ARE DIFFICULT TO CATEGORIZE

Sectoral re-classification and separation between relief, reconstruction, and broader development program is done by following the assumptions:

1. Classification of sector is based on key activities of the project. Financed resources can be used for different purposes, such as (i) Relief activities; (ii) reconstruction; and (iii) development. Relief activities are defined as those that either took place immediately after the Tsunami; are in-kind in nature such as medicines, temporary shelter, food; or fall into other types of "emergency" activities. For instance, cash for work, cleaning up, and providing boat/ship for economic activities are considering relief activities. Reconstruction aid aims to replace physical capitals damaged and lost by the tsunami such as housings, schools, roads etc. Finally, development activities generate an additional value added to the reconstruction activities covering all over Aceh (including tsunami-affected and non-tsunami affected areas). In other words, once the reconstruction is complete the real value of the reconstructed structures would be higher than it was before the tsunami. However, one project could be divided into more than one sector if the project is cross-sectoral. Likewise, one project could have relief, reconstruction and broader development program components.
2. Key variables to determine the relative shares have been (i) key activities of the project; (ii) location; (ii) and length. For instance, if a project started in February, 2005 and lasts for five-months and is carried out in Tsunami-affected areas, the project has been classified as transitional support/relief. If the project has the same starting date but allocated for one year, separation between relief (red) and reconstruction (blue) depends on explanation of key activities and location.

EXAMPLES OF SPECIAL CASES

Cash for work programs – Relief or reconstruction? Cash for work programs have been segmented the following way: (i) Clean up and other activities directly related to the damage of the disaster have been categorized as relief/temporary; (ii) Cash for work programs with the objective to get people back to work permanently have been categorized as reconstruction (e.g. Red Cross Movement support).

Deconcentrated national budget (APBN-Decon) – Reconstruction, development or none of both? The data is obtained from Regional DG Treasury. It includes DIPA Pusat (central) and DIPA Daerah (province). The data has been adjusted to be in line with sectoral classification of this report. It covers only own source financing (excluding loan financing project) in order to avoid double counting stemming from foreign loans and includes current and development (capital) spending.

Several steps and assumptions are made in calculating the reconstruction budget:

1. Assumption for "development budget" component: 50 percent (based on national average of deconcentrated spending)
2. Assumption for geographical allocation: Proportional to population, i.e. 2/3 to Tsunami affected areas and 1/3 of total development to not directly affected areas.
3. Within the affected areas, the assumption is made that 70 percent of total budget is allocated to projects that support reconstruction and 30 percent is spent for broader development program.

Red Cross Movement allocation – How much and which split? The Red Cross (PMI) has signed an MOU with BRR in the amount of US$600 million to contribute for reconstruction. For the time being, PMI has agreed to implement projects estimated at US$ 320 for 2 years, which include housing, health, education (together 42 percent), labor - intensive construction and other livelihood support (33 percent), disaster management (11 percent) and water and sanitation (9 percent) and others (5 percent). Allocations were developed accordingly.

A1.3 TECHNICAL NOTES ON THE COMPUTATIONS FOR THE DAMAGE & LOSS IN NIAS

Input data used for the calculation of Nias' damage is drawn from a report by the International Organization for Migration (IOM) entitled: "Post Disaster Damage Assessment on Nias and Simeulue Islands", and the World Bank's report entitled: "Indonesia: Preliminary Damage and Loss Assessment Report"; henceforth referenced as IPDLAR.

The IOM report provides information on physical damage on several types of structures, such as buildings, and roads, and the percent of infrastructure that is still functioning. The IPDLAR provides information on the total monetary value of damage in Aceh by every affected sector. These data are used as the reference to estimate the monetary value of damage in Nias.

The calculation of the total value of physical damage in Nias is based on an average estimation. To calculate the value of a building's damaged on each sector, the total value of damaged buildings reported by the IPDLAR is divided by the total number of damaged buildings. Then this average value of a building is multiplied by the total number of damaged buildings on each sector in Nias. A similar method is also used to compute the estimated value of damage for roads, settlement areas, and infrastructure for communication, energy, and water. That is, for "damage per meter road" the total value of damaged road reported by IPDLAR is divided by the length of damaged road in meters. For the energy, water and communication sectors the monetary value of total damage reported by the IPDLAR is divided by the reported overall percentage of damage sustained on each sector, so as to find the monetary value of a unit percent in damage for each sector. The damage cost per unit percent of each of these sectors (energy, water, and communication) is then multiplied for the percent of damage reported on each of these sectors in Nias. Finally for the damage in settlement areas in hectares, he total value of land-loss in agriculture estimated by the IPDLAR is divided by the total number of Ha affected. This average damage value per hectare is then multiplied by the number of Ha affected in Nias.

The damage value estimation for a damaged government building used in this report differs from that estimated by the IPDLAR. This is because the figure reported by the IPDLAR was considered to be rather high. Instead this report assumed that the value of a damaged government building is

equal to that of an education building (the computation of the damage value for an education building is described on the previous bullet point).

Table A.1: Impact Simulation Damage per Sector in Nias

Sector/Sub Sector	Total Impact	Total (in million USD)
Social Sector		
Education (unit building)	1,143	42
Health (unit building)	312	12
Religious and Cultural Affairs (unit building)	1,938	14
Infrastructure and Housing		
Housing (unit building)	80,929	96
Road (in meters)	52,700	1
Telecommunication (% disfunctional)	78.95	17
Energy		
Electricity (% disfunctional)	32.3	22
Drinking Water and Sanitation	0	0
Water Resources Infrastructure		
Piped water (% disfunctional)	90.62	1
Well (% disfunctional)	31.3	5
Spring (% disfunctional)	28.42	4
Other Infrastructure		
Bridge (unit)	206	22
Piers (unit)	12	12
Production Sector		
Agriculture and Food		
Fishery		
Industry and Trade (unit)	219	0.2
Manpower		0
SME and Cooperatives		0
Cross Sector		
Environment (in hectars)	1948	13
Administration and Government (unit building)	539	20
Banking		
Total value in million rupiah		**2,609,490**
Total value in million USD (March 2005 exchange rate)		**281**

A1.4 DATA SOURCES

Several types of institutions contributed to recovery financing, namely, bilateral donors, multi-lateral donors, NGOs and government own sources (central government and regional governments). This report collates data from the following institutions:

- **CGI and non-CGI bilateral donors:** Data mostly from BRR concept note project database and confirmation from donor countries including USA, Australia, Germany, Japan, South Korea, ADB, and WB. Data reported for UN programs is drawn from UN flash appeal for Indonesia, based on Revised requirement statement as of September 22, 2005. MDTFANS data is extracted from MDTFANS representative based on approved projects and concepts.
- **NGOs (Indonesian and non-Indonesia NGOs and/or private contribution):** Data from BRR concept note project database.
- **Indonesian governments (central, province):** Data from DG Treasury provided by the MoF.

DATA SOURCES

Aceh-Reconstruction website: (http://e-aceh.bappenas.go.id)

APBN 2005 (deconcentrated fund and BRR) from Regional DG Treasury, MOF and BRR

BAPPENAS, Rencana Aksi Rehab-Rekons TA 2005 Hasil Konsultasi Teknis Renaksi R2WANS di Provinsi NAD, May 2005

BRR/McKinsey Project Database of Donor Country and NGO/Private Sector Projects on Aceh Reconstruction and Development.

Budget data from DG Treasury, Ministry of Finance as well as regional Treasury offices Credits and banking data from Bank Indonesia Office in Banda Aceh.

Indonesia: Notes on Reconstruction, December 26, 2004 Natural Disaster. A Technical Report Prepared by Bappenas and the International Donor Community.

Indonesia: Preliminary Damage and Loss Assessment, December 26, 2004 Natural Disaster. A Technical Report Prepared by Bappenas and the International Donor Community.

IOM Damage Assessment for Nias and Simeulue Islands; June 2005.

Input financing data from Germany, Ausaid, UN, ADB, MDTF, and Red Cross Movement. National Labor Survey (Sakernas) – various editions, Central Bureau of Statistics (BPS).

Inter-Agency Rapid Health Assessment, January 13-19, 2005

OCHA's fund tracking website. (http://ocha.unog.ch/fts/index.aspx)

Price data from BPS Office in Banda Aceh.

Settlement and Livelihood needs and Aspiration Assessment Survey 2005, IOM

WB/UNDP, *Financing for reconstruction – Inputs for Pokja 10* (informal note for the Master Plan prepared by Wolfgang Fengler and Toshi Nakamur, March 2005)

WHO, Rapid Assessment of Mental Health, January 2005.

Annex 2: Needs, Projects, and Balance (million US$)

	NEEDS			PROJECTS (Existing & agreed)			BALANCE (Projects - Needs)		
	Damage and Loss assessment [a]	Master Plan [b]	Minimum to build back [c]	Building back	Better	Total	Damage & Loss	Master Plan	Core Needs
	A	B	C	D	E	F	F-A	F-B	D-C
Social Sector	372	1,605	414	980	243	1,223	851	-381	566
Education	170	917	189	360	44	404	234	-513	171
Health	104	233	116	321	115	436	332	203	205
Community, culture and religion	98	455	110	300	83	383	286	-71	190
Infrastructure and Housing	2,492	2,984	1,885	1,338	228	1,566	-927	-1,418	-547
Housing	1,533	664	762	690	12	702	-831	38	-72
Transport	537	1,145	617	294	137	430	-106	-715	-323
Communications	39	58	42	8	13	22	-17	-36	-34
Energy	90	485	100	21	1	23	-67	-462	-79
Water & Sanitation	40	355	45	141	34	175	135	-180	96
Flood control, irrigation works	221	202	237	90	6	96	-125	-106	-146
Other Infrastructure	34	77	84	93	25	118	84	41	9
Productive Sectors	1,183	158	185	383	122	506	-677	347	198
Agriculture & Livestock	225	52	61	73	4	77	-148	25	12
Fisheries	511	92	108	108	12	120	-391	28	0
Enterprise	447	15	16	202	107	309	-138	294	186
Cross Sectoral	685	677	295	215	180	395	-289	-282	-80
Environment	562	151	175	68	42	110	-452	-41	-107
Governance & Administration (incl. Land)	109	526	104	147	138	285	176	-241	43
Bank & Finance	14	0	16	0	0	0	-14	0	-16
Total	**4,733**	**5,426**	**2,781**	**2,917**	**773**	**3,690**	**-1,043**	**-1,736**	**136**

(a) Represents January 2005, Damage and Loss Assessment and Nias' Damage and Loss Projection; (b) Represents Master Plan and Nias' Damage and Loss Projection; (c) Assumes that private sector contributions cover part of the damage and losses, particularly in the housing and productive sectors (Master Plan Policy decisions).

Annex 3: Summary of all projects (million US$)

	Domestic Funds [a]		Donors			Private	Total
	APBN-BAPEL	APBN-Decon/Central	Multi-lateral [b]	MDTFANS [c]	Bilateral [d]	NGOs [e]	
Social Sector	75	38	321	111	182	496	1,223
Education	13	33	136	0	96	125	404
Health	35	3	97	0	66	236	436
Community, culture and religion	27	2	88	111	20	135	383
Infrastructure	164	35	304	160	395	508	1,566
Housing	35	1	160	150	25	331	702
Transport	62	15	20	10	320	4	430
Communications	5	1	2	0	10	3	22
Energy	10	3	10	0	0	1	23
Water & Sanitation	0	0	52	0	28	95	175
Flood control, irrigation works	42	9	32	0	10	4	96
Other Infrastructure	10	7	29	0	3	70	118
Productive Sectors	55	8	115	0	28	300	506
Agriculture & Livestock	13	4	34	0	3	23	77
Fisheries	24	2	51	0	14	28	120
Enterprise	18	2	30	0	11	248	309
Cross Sectoral	103	29	40	36	74	112	395
Environment	9	0	16	21	15	48	110
Gov. & Adm. (incl. land)	94	28	24	15	60	64	285
Bank & Finance	0	0	0	0	0	0	0
Total	**397**	**110**	**781**	**307**	**679**	**1,416**	**3,690**

(a) Includes only 2005 allocations; (b) ADB, World Bank, EU, and United Nations; (c) MDTFANS contributors are: European Commission, ADB, IBRD, Netherlands, Germany, Norway, Canada, Sweden, UK, US, Denmark, New Zealand, Finland, and Ireland; (d) Australia, Canada, France, Germany, Italy, Japan, Netherlands, New Zealand, South Korea, United States, and the United Kingdom; (e) includes 149 NGOs.

Annex 4: The Reconstruction (Building Back) Program for Aceh & Nias (million US$)

	Domestic Funds [a]		Donors			Private	TOTAL
	APBN-BAPEL	APBN-Decon/Central	Multilateral [b]	MDTFANS [c]	Bilateral [d]	NGOs [e]	
Social Sector	49	18	292	111	141	370	980
Education	13	15	136	0	73	122	360
Health	35	1	72	0	48	165	321
Community, culture and religion	1	1	84	111	20	83	300
Infrastructure	164	16	261	157	249	491	1,338
Housing	35	0	159	150	17	328	690
Transport	62	7	20	7	194	4	294
Communications	5	0	2	0	0	0	8
Energy	10	1	10	0	0	1	21
Water & Sanitation	0	0	25	0	24	92	141
Flood control, irrigation works	42	4	32	0	10	3	90
Other Infrastructure	10	3	15	0	3	63	93
Productive Sectors	55	4	86	0	22	216	383
Agriculture & Livestocks	13	2	34	0	3	21	73
Fisheries	24	1	46	0	14	24	108
Enterprise	18	1	7	0	5	171	202
Cross Sectoral	87	13	18	7	46	44	215
Environment	9	0	16	7	8	27	68
Governance & Administration (incl. land)	78	13	2	0	38	17	147
Bank & Finance	0	0	0	0	0	0	0
Total	**354**	**51**	**657**	**275**	**458**	**1,122**	**2,917**

(a) Includes only 2005 allocations; (b) ADB, World Bank, EU, and United Nations; (c) MDTFANS contributors are: European Commission, ADB, IBRD, Netherlands, Germany, Norway, Canada, Sweden, UK, US, Denmark, New Zealand, Finland, and Ireland; (d) Australia, Canada, France, Germany, Italy, Japan, Netherlands, New Zealand, South Korea, United States, and the United Kingdom; (e) includes 149 NGOs.

Annex 5: The Development (Building Back Better) Program for Aceh & Nias (million US$)

	Domestic Funds [a]		Donors			Private	TOTAL
	APBN-BAPEL	APBN-Decon/Central	Multilateral [b]	MDTFANS [c]	Bilateral [d]	NGOs [e]	
Social Sector	26	20	30	0	41	126	243
Education	0	17	0	0	23	3	44
Health	0	2	25	0	18	71	115
Community, culture and religion	26	1	5	0	0	52	83
Infrastructure	0	19	42	3	147	17	228
Housing	0	1	1	0	8	3	12
Transport	0	8	0	3	126	0	137
Communications	0	0	0	0	10	3	13
Energy	0	1	0	0	0	0	1
Water & Sanitation	0	0	27	0	4	3	34
Flood control, irrigation works	0	5	0	0	0	1	6
Other Infrastructure	0	4	14	0	0	7	25
Productive Sectors	0	4	29	0	5	83	122
Agriculture & Livestocks	0	2	0	0	0	2	4
Fisheries	0	1	6	0	0	5	12
Enterprise	0	1	23	0	5	77	107
Cross Sectoral	17	15	23	29	28	68	180
Environment	0	0	0	14	7	21	42
Governance & Administration (incl. Land)	17	15	23	15	22	47	138
Bank & Finance	0	0	0	0	0	0	
Total	**43**	**59**	**124**	**32**	**222**	**295**	**773**

(a) Includes only 2005 allocations; (b) ADB, World Bank, EU, and United Nations; (c) MDTFANS contributors are: European Commission, ADB, IBRD, Netherlands, Germany, Norway, Canada, Sweden, UK, US, Denmark, New Zealand, Finland, and Ireland; (d) Australia, Canada, France, Germany, Italy, Japan, Netherlands, New Zealand, South Korea, United States, and the United Kingdom; (e) includes 149 NGOs.

Annex 6: Domestic Financing for Reconstruction (million US$)

	APBN-BAPEL		APBN-Decon/Central	
Sectors	**Reconstruction**	**Broader development program**	**Reconstruction**	**Broader development program**
Social Sector	49.4	27.6	19.0	21.8
Education	13.0	0.0	15.3	17.5
Health	35.0	0.0	1.5	1.7
Community, culture and religion	1.4	25.7	0.9	1.1
Infrastructure	163.6	0.0	16.3	18.7
Housing	35.0	0.0	0.5	0.5
Transport	62.0	0.0	7.0	8.0
Communications	5.4	0.0	0.4	0.4
Energy	10.0	0.0	1.2	1.4
Water & Sanitation	0.0	0.0	0.0	0.0
Flood control, irrigation works	41.7	0.0	4.0	4.6
Other Infrastructure	9.5	0.0	3.3	3.8
Productive Sectors	54.6	0.0	3.8	4.3
Agriculture & Livestocks	13.1	0.0	1.7	2.0
Fisheries	24.0	0.0	1.0	1.1
Enterprise	17.5	0.0	1.1	1.2
Cross Sectoral	86.6	16.8	13.5	15.4
Environment	9.1	0.0	0.2	0.3
Governance & Administration (incl. Land)	77.6	16.8	13.2	15.1
Bank & Finance	0.0	0.0	0.0	0.0
Total	**354.2**	**44.5**	**52.6**	**60.1**

Annex 7: Donors Financing for Reconstruction (million US$)

Sectors	Reconstruction				Broader development programs			
	TOTAL	Bilateral	MDTFANS *	Multilateral	TOTAL	Bilateral	MDTFANS *	Multilateral
Social Sector	**543**	**141**	**111**	**291**	**71**	**41**	**0**	**30**
Education	209	73	0	136	23	23	0	0
Health	119	48	0	72	43	18	0	25
Community, culture and religion	215	20	111	84	5	0	0	5
Infrastructure	**667**	**249**	**157**	**261**	**192**	**147**	**3**	**42**
Housing	326	17	150	159	9	8	0	1
Transport	221	194	7	20	129	126	3	0
Communications	2	0.16	0	2	10	10	0	0
Energy	10	0	0	10	0	0	0	0
Water & Sanitation	49	24	0	25	31	4	0	27
Flood control, irrigation works	42	10	0	32	0	0	0	0
Other Infrastructure	17	3	0	15	14	0	0	14
Productive Sectors	**108**	**22**	**0**	**86**	**35**	**5**	**0**	**29**
Agriculture & Livestocks	37	3	0	34	0.26	0	0	0.26
Fisheries	59	14	0	46	6	0	0	6
Enterprise	12	5	0	7	28	5	0	23
Cross Sectoral	**71**	**46**	**7**	**18**	**80**	**28**	**29**	**23**
Environment	32	8	7	16	21	7	14	0
Governance & Administration (incl. Land)	40	38	0	2	59	22	15	23
Bank & Finance	0	0	0	0	0	0	0	0
Total	**1390**	**458**	**275**	**657**	**377**	**222**	**32**	**124**

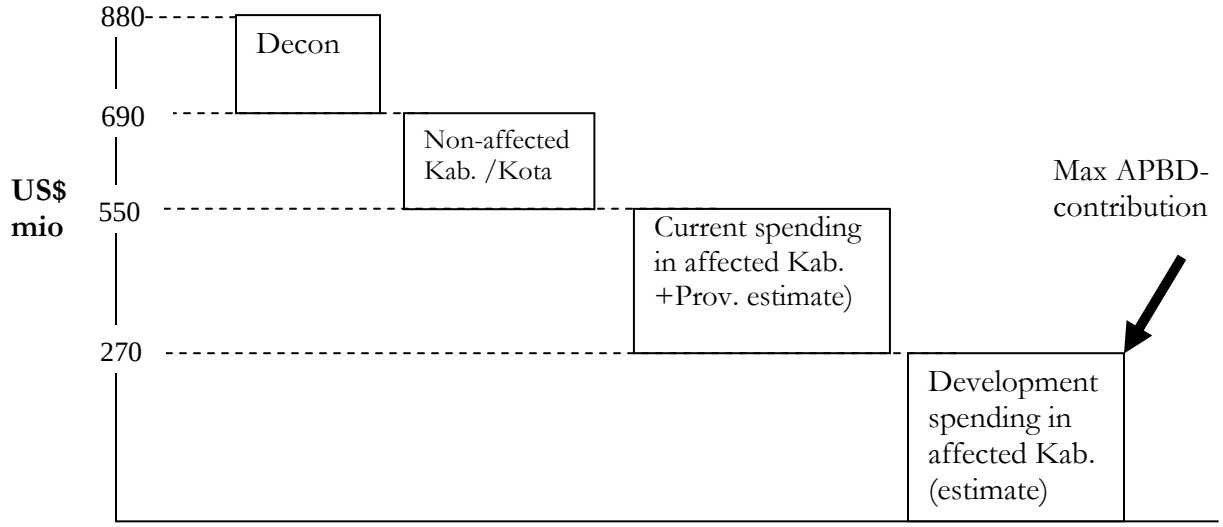
MDTFANS consist of: European Commission, ADB, IBRD, Netherlands, Germany, Norway, Canada, Sweden, UK, US, Denmark, New Zealand, Finland, and Ireland

Annex 8: NGOs Financing for Reconstruction (million US$)

Sectors	Reconstruction	Broader development program
Social Sector	370	126
Education	122	3
Health	165	71
Community, culture and religion	83	52
Infrastructure	491	17
Housing	328	3
Transport	4	0
Communications	0	3
Energy	1	0
Water & Sanitation	92	3
Flood control, irrigation works	3	1
Other Infrastructure	63	7
Productive Sectors	216	83
Agriculture & Livestocks	21	2
Fisheries	24	5
Enterprise	171	77
Cross Sectoral	44	68
Environment	27	21
Governance & Administration (incl. Land)	17	47
Bank & Finance	0	0
Total	**1,122**	**295**

Annex 9: Estimating local governments' possible contribution to reconstruction

Baseline: Projected US$ 880 million (8.2 trillion Rupiah) in total revenues at the local level in 2005



Annex 10: Tsunami damage (Spatial)

Table 1: Tsunami damage by district, sub-district and village (non-urban)

District name	Total no. of sub-districts	Damaged sub-districts	No. of villages	No of damaged villages	BAPPENAS estimate
Aceh Selatan	16	8	264	111	60
Aceh Barat Daya	6	4	132	82	20
Aceh Timur	21	6	497	43	57
Aceh Tamiang	8	1	213	1	7
Aceh Besar	22	9	604	123	88
Pidie	30	13	972	95	71
Aceh Utara	22	7	854	193	23
Bireuen	17	15	553	202	63
Aceh Singkil	15	3	191	18	20
Simeulue	8	8	135	135	66
Aceh Tengah	10	0	209	0	0
Bener Meriah	7	0	115	0	0
Gayo Luwes	11	0	65	0	0
Aceh Tenggara	11	0	146	0	0
Aceh Jaya	5	5	124	124	57
Aceh Barat	9	6	277	209	59
Nagan Raya	4	1	166	52	13
Banda Aceh			89	N/A	26
Sabang			18	N/A	15
TOTALS	**222**	**86**	**5519**	**1388**	**654**

Source: KDP, Aceh Province

Table 2: Damaged settlement areas per sub-district in Nias

No	Sub-DISTRICT	Number of Villages	Total of Damaged Area (in hectares)	< 25%	> 25%	>50%	> 75%	100%
1.	Alasa	19	78.92	20.67	15.01	14.60	8.43	20.21
2.	Amandraya	18	145.88	33.96	29.08	30.72	27.08	25.04
3.	Gomo	31	67.53	2.43	19.94	2.83	27.65	14.68
4.	Lahusa	15	42.24	6.10	7.07	9.21	12.32	7.54
5.	Lolomatua	15	74.55	30.22	12.95	10.32	8.49	12.58
6.	Lolowa'u	32	71.50	10.18	8.92	12.41	28.38	11.61
7.	Teluk Dalam	33	155.45	60.72	13.14	59.71	10.31	11.53
8.	Afulu	3	2.71	0.50	1.03	0.54	0.54	0.10
9.	Bawolato	14	67.90	18.89	10.18	4.91	15.08	18.84
10.	Gido	49	28.98	10.59	2.60	4.46	6.06	5.27
11.	Gunung Sitoli	61	121.58	12.45	23.79	26.93	31.95	26.45
12.	Hiliduho	33	207.80	85.04	40.98	40.86	28.12	12.80
13.	Idanogawo	18	23.65	4.20	3.20	3.10	5.91	7.24
14.	Lahewa	24	86.87	12.42	17.75	25.81	22.06	8.83
15.	Lolofitu Moi	15	47.56	10.80	13.71	11.02	8.07	3.96
16.	Lotu	11	33.03	13.86	7.85	3.92	5.11	2.29
17.	Mandrehe	58	440.67	183.96	118.92	58.50	44.55	33.84
18.	Namohalu Esiwa	12	127.52	58.36	26.04	22.67	10.28	10.57
19.	Sirombu	10	24.28	4.59	1.42	-	13.83	4.44
20.	Tuhemberua	27	99.42	30.48	21.17	14.61	18.81	14.35
Total		**498**	**1,948.04**	**610.42**	**394.75**	**357.13**	**333.03**	**252.17**
Percentage			100.00	31.34	20.26	18.33	17.10	12.94

Source: IOM's "Post-Disaster Damage Assessment on Nias and Simeulue Islands, 9 June 2005

Table 3: Damaged settlement areas per sub-district in Simeulue

No	Sub-DISTRICT	Number of Villages	Total of Damaged Area (in hectares)	< 25%	> 25%	>50%	> 75%	100%
1.	Alafan	8	96.50	96.50	-	-	-	-
2.	Salang	10	184.15	50.50	5.00	18.05	14.50	96.10
3.	Simeulue Barat	11	172.10	56.70	26.40	25.00	20.50	43.50
4.	Simeulue Tengah	10	68.00	24.00	14.00	6.50	20.00	3.50
5.	Simeulue Timur	29	219.14	103.81	23.13	13.87	27.62	50.65
6.	Teluk Dalam	8	29.50	11.50	5.50	5.50	4.00	3.00
7.	Teupah Barat	13	248.54	198.93	6.49	11.08	14.54	17.50
8.	Teupah Selatan	10	10.52	1.46	2.41	1.69	1.59	3.37
Total		**99**	**1,028.45**	**543.40**	**82.93**	**81.69**	**102.75**	**217.62**
Percentage			100.00	52.84	8.06	7.94	9.99	21.16

Source: IOM's "Post-Disaster Damage Assessment on Nias and Simeulue Islands, 9 June 2005

Annex 11: Condition of Transport Infrastructure

Table 1: Summary of Conditions of Seaports/Ferry Terminals and Needs Assessment

No.	Seaport	Location	Notes	Need
1.	Sabang	Sabang	Damaged	Repair/improve existing facilities
2.	Malahayati	Aceh Besar	Badly damaged	Construct new jetty, ramp for LCT
3.	Krueng Geukeuh	Lhokseumawe	Damaged	Repair
4.	Kuala Langsa	Langsa	Good	
5.	Meulaboh	Aceh Barat	Badly Damaged	Construct new jetty and ramp for LCT, repair ferry terminal
6.	Calang	Aceh Jaya	Destroyed	Construct new port and ramp for LCT
7.	Susoh	Aceh Barat Daya	Badly damaged	No immediate action. Jetty can accept vessels to 4000dwt
8.	Tapak Tuan	Aceh Selatan	Damaged	Construct new T shaped jetty
9.	Singkil	Aceh Singkil	Badly Damaged	Construct new T shaped jetty
10.	Sinabang	Simeulue	Destroyed	Construct new facility and ramp for LCT
11.	Sibigo	Simeuleu	Damaged	Construct T shaped jetty

Source: Aceh Transportation Office (2005) and World Bank/UNDP Assessment

Table 2: Condition of Ferry Ports

No.	Ferry Terminal	Location	Notes	Action taken/to be taken
1.	Ulee Lheue	Banda Aceh	Destroyed / Damaged	Rebuild
2.	Balohan	Sabang	Damaged	Refurbish
3.	Labuhan Haji	Aceh Selatan	Damaged	To determine
4.	Lamteng	Aceh Besar	Damaged	To determine
5.	Sinabang	Simeuleu	Destroyed	Construct new facility
6.	Pulau Banyak	Aceh Singkil	Damaged	To determine
7.	Singkil	Aceh Singkil	Damaged	To determine
8.	Meulaboh	Aceh Barat	Destroyed	Construct new facility

Source : Aceh Transportation Office (2005) and World Bank/UNDP Assessment

Table 3: Condition of Airports

No	Airports	Runway	Taxiway	Condition
1.	Sabang	1850 m x 30 m	150 m x 23 m	Damaged
2.	Banda Aceh	2500 m x 45 m	175 m x 23 m	Damaged
3.	Meulaboh	1000 m x 30 m	100 m x 15 m	Badly Damaged
4.	Tapaktuan	750 m x 23 m	75 m x 15 m	Good
5.	Sinabang (Simeulue)	750 m x 23 m	75 m x 15 m	Badly Damaged
6.	Lhokseumawe	1850 m x 30 m	150 m x 15 m	Good
7.	Blang Pidie	750 m x 23 m		Damaged
8.	Rembele / Takengon	1200 m x 30 m	186.5 m x 23 m	Damaged
9.	Binaka	1400 m x 30 m		Damaged
10.	Lasondre	750 m x 23 m		Damaged

Source : Aceh Transportación Office (2005)