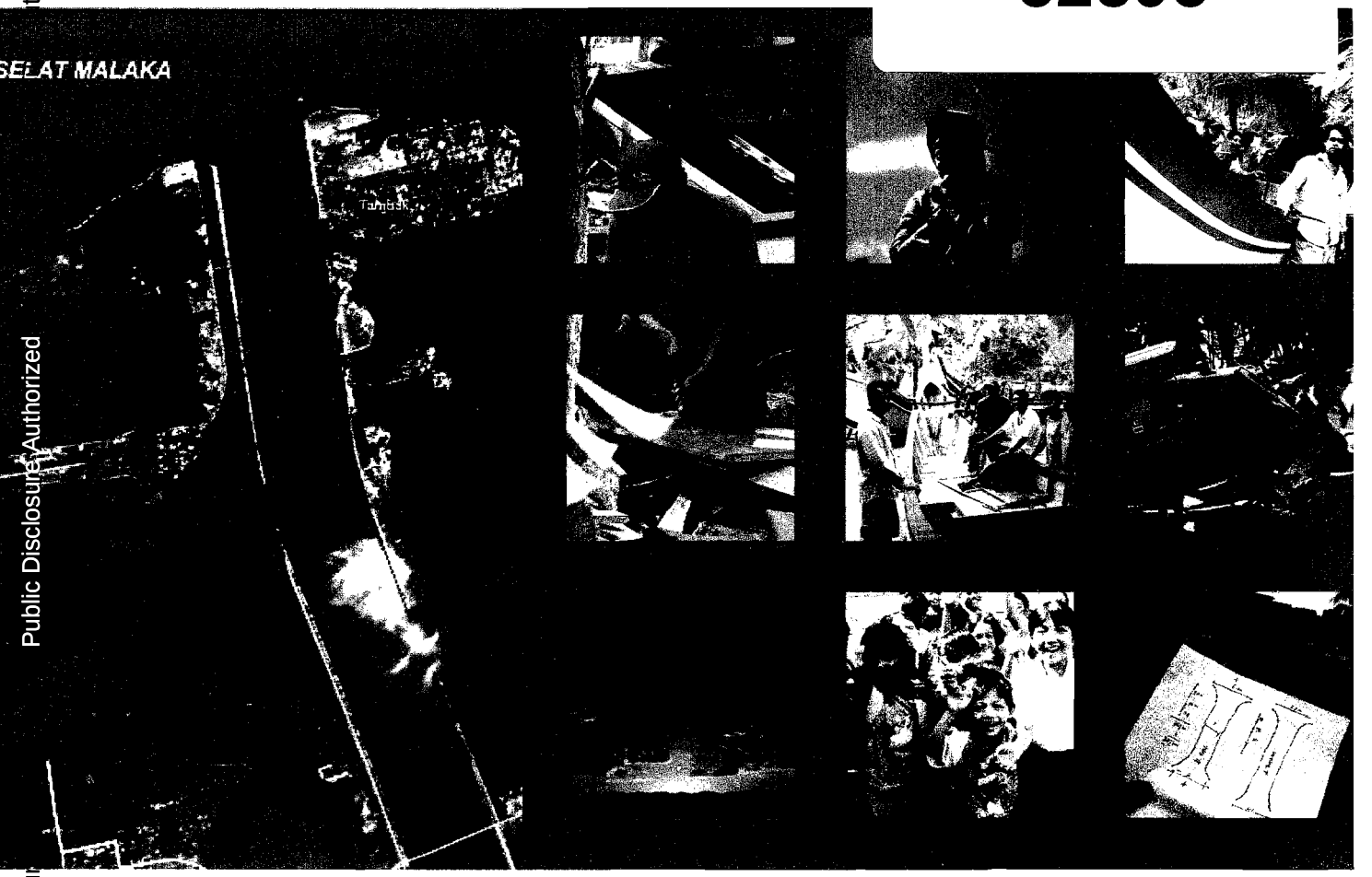

Rebuilding a Better
Aceh and Nias

Preliminary Stocktaking of the Reconstruction Effort Six Months After the Earthquake and Tsunami

WORK IN PROGRESS

BANK DUNIA | THE WORLD BANK
—Together with the International Donor Community
for the People of Aceh & Nias

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 is a human tragedy of unspeakable proportions.

Six months later, a vital transition is occurring. Moving beyond relief and into long-term recovery is now the key priority. The 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.

Ensuring this proceeds in a manner which places the people in the driving seat is a task of the greatest complexity. Guiding this effort is the newly established Reconstruction Agency (BRR) and the Government's *Master Plan for the Rehabilitation and Reconstruction of Aceh and Nias*. The Master Plan sets out key guiding principles and a strategy for the reconstruction.

This report, coming at the six-month mark, attempts to take a snapshot of progress on the reconstruction effort. It documents achievements thus far and, learning from experience over the last six months, identifies key gaps and issues to be addressed in the coming period.

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

The next six months will see the transition into rehabilitation and reconstruction gather steam. 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.

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Glossary

adat	Social custom or tradition
ADB	Asian Development Bank
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
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 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
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
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
NGO	Non-Governmental Organization
NPL	Non-Performing Loan
OCHA	Office for the Coordination of Humanitarian Affairs
OECD	Organization of Economic Coordination & Development
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)

UN	United Nations
UNDP	United Nations Development Program
UNEP	United Nations Environment Program
UNICEF	United Nations Children and Education Fund
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)
WHO	World Health Organization
YIPD	Center for Local Government Innovation, (Yayasan Inovasi Pemerintah Daerah)
yoy	year-on-year

Executive Summary

Six months after the tsunami hit the northern coast of Sumatra, the scale of damage and of human tragedy is still incomprehensible. The landscape of much of Aceh remains fields of rubble, with only the occasional building still standing.

Conversations with affected communities reinforce the visual impression that little has changed since December 26, as if that cruel wave destroyed the engine of progress as well as 200 km of coastline. Yet in Aceh, the survivors of the disaster, 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 make things better. And now, the Agency for Rehabilitation and Reconstruction is up and running with a mandate to coordinate the recovery effort and ensure the highest professional standards in the implementation of reconstruction projects.

The purpose of this report is to take stock – 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 what has been the story since the tsunami, how has the reconstruction effort commenced, what are the plans, and what are the key issues to address?

THE DAMAGE

The catalogue of losses seems endless: more than 150,000 died or are still missing; 127,000 houses were destroyed and a similar number damaged. In Nias 850 were killed and 35,000 houses destroyed or damaged. Over 500,000 are homeless, 2 hospitals were destroyed and 5 others badly damaged; 26 primary health care centers were destroyed as were 1,488 schools, 150,000 children were left without education; 230 km of roads were destroyed as well as 9 seaports; 11,000 hectares of land was damaged, 2,900ha permanently; it is likely that the economy of the affected regions will shrink by about 14 percent, including one billion US dollars in lost productivity (half of it in fisheries), 90 percent of surface coral and vast areas of mangroves were damaged; and the toll goes on. About three quarters of a million people – one in six of the population – were direct victims, but virtually everyone suffers palpably, through loss of friends and relatives, lost livelihood, or trauma.

Aceh was a province in difficulty before the tsunami. The economy had suffered by the escalating conflict in the preceding years, employment was falling steeply, the economy was shifting from an urban and service-based to an agrarian one, there was rapid out-migration, and oil and gas revenues had decreased.

It is possible that the construction boom and employment opportunities with the aid agencies will reverse these declines, at least for a while. But although small businesses are returning, bigger businesses are slower to re-establish themselves, largely because of a lack of confidence. Banks, for example, reopened quickly but are reluctant to lend without very high levels of collateral.

THE IMMEDIATE AFTERMATH

Those that survived the disaster immediately began to do whatever they could to help their neighbors. Military units from Indonesia and several other countries, the Red Cross, United Nations and numerous NGOs and donors arrived swiftly to help salvage life from the wreckage. Thanks in part to this speedy response and in part to cohesive community structures (centering on Islam in Aceh and on the Church in Nias), worse tragedy was averted. In spite of the sewage that was flushed to the surface, the chemicals from ruptured containers, despite the destruction of wells, the contamination of ground-water, the disruption of food supplies, of transport, of local government and basic services – there was no major outbreak of disease, not much Malaria and little acute hunger. Almost everyone got at least some shelter over their heads, received adequate water and medical treatment within a remarkably short period of time.

THE INTERNATIONAL RESPONSE

The world responded with an unprecedented display of compassion, breaking all records for voluntary giving. The response revealed the mobilizing power of "Trans-National Charities": the Red Cross and Red Crescent Movement alone raised 1.8 billion dollars 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. The result was a reversal of traditional roles in humanitarian operations on the ground. Normally, UN agencies and official donors provide the core relief framework and the NGOs fill in the gaps. In this recovery operation, the periphery has moved to the core – NGOs command resources of over 2 billion US dollars, similar amounts to official donors and the Indonesian public sources, and the NGOs have been the first to begin reconstruction activities on the ground. The consequence can be seen in Aceh today: a multitude of prominent actors are delivering their programs, with differing styles, mandates and levels of effectiveness. At least 40 agencies are providing housing and 62 support livelihood programs. This adds to the urgency of effective coordination, but also makes it more elusive.

THE NATIONAL RESPONSE

The Government reacted swiftly to the tsunami. The Coordinating Minister of Social Welfare, Alwi Shihab, was immediately placed in Aceh to coordinate the relief effort. Less than two weeks after the disaster, on January 6, Indonesia hosted a special ASEAN Leaders' meeting on the aftermath of the earthquake and tsunami which brought world leaders to Jakarta and Aceh. On this occasion, the Government presented the key principles of the reconstruction effort. Following that, the Government, together with the international community, prepared a damage and loss assessment on January 19 with findings that still remain the best overall evaluation of the disaster's impact. Under the leadership of the National Development Planning Agency BAPPENAS, the Government then prepared the *Master Plan for Rehabilitation and Reconstruction of Aceh and Nias*, which was released on March 26. This was followed by the establishment of the Rehabilitation and Reconstruction Agency on April 30.

Government funds for recovery operations, however, ended up flowing slower than was anticipated. Despite urgent efforts by the President and leading members of his Cabinet, disbursements of funds have been delayed in bureaucratic procedures. 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. It has taken five or more months for the release of government funds for reconstruction, but funds are now beginning to flow. In the meantime, the main programs for bottom-up community planning have had to use residual 2004 funds.

THE LOCAL RESPONSE

The relief effort and the early stages of reconstruction demonstrated confidence in community-driven and participatory processes. The widespread nature of the damage – covering at least 654 villages – and the wide range of challenges and opportunities experienced are strong justifications for ensuring communities are in the driving seat of their own recovery. Especially in a province marked by three decades of conflict, it is crucial that citizens support the recovery programs, so that reconstruction contributes to *peace*-building, not just re-building.

THE CHALLENGE AHEAD

Despite the understandable frustration of those who have suffered so much, the response to date has been a significant accomplishment. But people are desperate to return to normality, and the process is immensely complicated. Cutting corners on the planning processes, on establishing mechanisms to identify and resolve competing claims, and on installing checks and grievance procedures against malpractice, would lead to intractable problems down the road. So would failing to see each disrupted family as an individual case demanding a customized response. The logistical challenge of working with so many different institutions, and to ensure proper mechanisms are in place to manage and monitor a task this size, is formidable.

The Government's Master Plan estimates total reconstruction needs at US$ 5.1 billion. While the amount is similar to the US$ 5 billion of estimated damage and losses, the composition of the two sets of estimates differed significantly. The Master Plan, while agreeing fully with the 'replacement' cost estimates of the January exercise, 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 these needs, as long as donors honor their pledges and the authorities can demonstrate that such levels of funds can be well used.

So far, In addition to funds for relief, an estimated US$ 2.5 billion has been programmed for reconstruction projects, and another US$ 550 million dollars for broader development programs. These funds are enough to 'build back' but not 'better'. Some sectors (such as

education and health) are well provided for by existing pledges (assuming those programs materialize) while others still have large gaps (such as transport, and flood control).

In some sectors, rehabilitation progress has been swift. The provision of over 4,000 "schools in a box", use of classroom-tents and UNICEF's accelerated training of 1,000 new teachers means that 90 percent of children have been able to return to education, even though 1,488 schools were destroyed or damaged. Similarly a basic medical supply system has been resumed in all areas except Aceh Jaya and Simeulue, in spite of 58 primary health care centers being damaged.

Rebuilding the economy and livelihoods is also a great challenge, but one best served by starting physical reconstruction as swiftly as possible. Unemployment is well above the national average. Up to 35,000 people are employed in temporary work schemes, mostly related to clean-up operations. The construction boom could offer at least 100,000 new jobs. This, of course, and the presence of so many international agencies, is likely to maintain today's high inflation rate (running at 17%, year-on-year, compared with 7% elsewhere in Indonesia). Encouraging investor confidence in local businesses and starting microcredit schemes is also vitally important. Some 190 programs of livelihood support are already underway.

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. About 300,000 land parcels were affected by the tsunami, of which only some 60,000 were secured by title deeds. In communities where the devastation was not total, boundaries between properties are still relatively easy to discern and there are enough survivors to piece together a record of who lived where and owned what, and to have the community certify this as a true record. 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 such cases were filed in just three months). But where old foundations are deeply buried and where there are no traces of boundaries, restoring land rights is even more complex.

Careful community-driven land adjudication processes are being constructed to help citizens resolve prior land possessions, and these will be authenticated by the Land Agency, as a precursor to rebuilding. Still more difficult will be resolving alternative sites for those who must move, either because their original land has simply been washed away or because it is regarded as too unsafe to return. Restoring original possession, and certifying this, 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 visible signs of boundaries vanish. And particular attention is needed in the case of widows and orphans.

RESTORING LIVELIHOODS

About 14,000 people received cash-for-work in June 2005 in a variety of programs. These are likely to expand to 40,000 jobs in the ensuing months, but as the construction boom gets underway, 100,000 openings for skilled tradesmen could be created. Helping the farmers,

fishermen, traders and small entrepreneurs to reestablish their livelihoods is a pressing concern, which many agencies are now turning to. With so many players involved, however, the spread is uneven – and the little support for livelihoods in Banda Aceh itself is an illustration of the donor coordination challenge.

THE ROLE OF LOCAL GOVERNMENT

Local governments were significantly hit by the tsunami. Estimates from a recent survey project that about 9% of their staff perished, and some offices were washed away. But its failure to be a decisive player in the relief and reconstruction program owes more to its previous weaknesses than to this damage. Their budgets are large but not yet focused on the recovery and reconstruction needs, due to poor planning, low capacities and incidence of corruption. They generally are displaying little urgency to respond, partly because expectations are that resources would come from outside.

If local governments are to play their part in the effort, if significant resources are to be entrusted to them for reconstruction, their capacities will need considerable strengthening, and alternative funding channels must be used in the meantime. 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 they who can maintain the public facilities.

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.

THE REHABILITATION AND RECONSTRUCTION AGENCY (BRR)

The BRR comprises a high-level Advisory Board to guide the reconstruction strategy, an Executing Agency (Bapel), headed by Pak 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.

One of BRR's first thrust has been to safeguard programs from corruption – no easy challenge in a province where the problem is rife. Both Executing Agency and the Oversight Board intend to work closely with local NGOs and the media and to encourage citizen participation in countering graft.

PHASE I – VETTING EARLY PROJECTS

The BRR's first decision was to recognize that whatever help people are getting from the myriad NGOs and donors is largely constructive – so deserves encouragement. The chief problem is that this assistance is scattered, with very poor coordination, haphazard targeting, widely varying quality control, and often few checks and balances to guard against bad practices. Hence BRR first concentrated on a fast-track but comprehensive vetting and approval process designed to ensure that donor programs are compatible with the Government's Master Plan and that they meet basic minimum standards

In its first 45 days of its existence, BRR has reviewed US$1.2 billion of projects initiated before the BRR's establishment, and has reviewed and approved a further set of 182 projects from NGOs and donors valued at US$586 million. While this can be seen as an additional approval hurdle, the process will inject greater predictability into project planning, encourage discipline and enable one central agency to have an overview of all reconstruction activities in Aceh and Nias – which could greatly contribute to much-needed coordination.

In addition to this, the BRR has 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. 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 obtaining clearance papers for approximately 1,300 containers that were held up at Belawan port.

PHASE II: TOWARDS A STRATEGIC APPROACH

The BRR's next step is to ensure that a holistic reconstruction strategy emerges, building on the individual contributions of the wide array of partners – large and small, 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

A critical gap is already apparent. There is general confidence that micro-level infrastructure is best taken care of by citizens themselves through community-driven development. This approach is also helping to plan housing, livelihood programs and land restoration. At the other end of the spectrum, the large-scale infrastructure projects are gradually being picked up as turnkey operations by the larger donors.

The gap is with the 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.

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 main thrust of BRR's future strategy is to make the district government systems work. As Government funds start flowing to BRR, a priority use will be to galvanize action at the district and provincial level.

CONCLUSION

The tsunami and earthquake impact has been terrible. If the reconstruction program is delivered quickly and efficiently, while putting the affected population at the center of the recovery effort, recovery in Aceh and Nias will be effective and Indonesia's public institutions and global reputation will gain enormous credibility. By contrast, there will be very little tolerance for misuse and mismanagement of funds.

There is an evident tension between the need to show quick results and the need for careful planning. The involvement of so many agencies compounds this complexity. Coordination is of the essence. This is sometimes working well at the sub-district level, but it is confusing province-wide. Sector working groups are large, cumbersome and have shifting compositions; they might serve for sharing information and basic tactical coordination, but not for strategic planning. Without more attention, problems of gaps, duplications and widely varying program standards will emerge and could contribute to deep inequalities in the recovery, and hence possible to increasing conflict. Moreover the challenge cannot be divided up into discrete sectors. The challenge of shelter cannot be separated from issues of water/sanitation, land rights, infrastructure and spatial planning. The role of BRR in providing a roadmap through such mazes is therefore crucial.

While the relief operation ensured that urgent needs in the emergency phase were met, reconstruction has got off to a slow start. In part this simply reflects the huge logistical complexity of the challenge, but in part it reveals bottlenecks in the machinery of government and deficiencies within local authorities. It also reflects the fact that many donors are only now getting authority from their parliaments and governments to spend the money that they committed in January. Now, however, there are hopeful signs of progress. The new Rehabilitation and Reconstruction Agency is grappling with blockages, providing much-needed leadership and starting to chart a future strategy. There is a common commitment to backing a community-driven reconstruction approach. Moreover, NGOs and donors are building houses and livelihoods. By late September, there should be considerably more progress evident on the ground. The rubble fields will become building sites.

Forward planning needs to address various scenarios – some concerning government effectiveness (especially the efficacy of the BRR), and other factors not entirely within government control, such as whether conflict abates or resumes, whether the building boom will lift the economy, whether widowers will leave the province or whether the demand for construction labor will cause inward migration, and whether the relative opening of Aceh to the rest of Indonesia and the wider world will signal a new direction or whether it will close off again.

All these matters depend on a multitude of factors, but a crucial one of them remains the level and sensitivity of the support offered to Aceh and Nias in this time of recovery. Donor pledges must be translated into transparent disbursements to meet the goal of "building back better". This presents a much bigger challenge than merely building houses. The next six months will be critical.

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 128,000 are dead and at least another 37,000 missing. The total death toll is likely to exceed 165,000. Of the survivors, over 550,000 people have been made homeless. One in six of Aceh's 4.2 million people have become direct victims. In Nias 850 people died and 20,000 are now displaced.[1]

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.

Six 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.[2] 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 remain in temporary shelters and are yet to return on the path to normality. Most of the major reconstruction work is yet to start.

This report, coming six months after the tsunami, attempts to take stock of the current status of reconstruction and outlines 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.

[1] Aceh data from OCHA and HIC Situation Reports, May 2005. Nias IDP data 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.

[2] 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.

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.[3] The relief phase is widely hailed as a success. Mass outbreaks of disease were prevented, starvation was avoided, the

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

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'.[4] 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.[5]

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. Problems with 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.

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

[4] 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.

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

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, six 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 200,000 houses required, only 1,100 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 re-established 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. But long-term rehabilitation and reconstruction relies on economic growth and stability, the key elements of which are a functioning financial sector, access to capital and, most of all, jobs.

INTRODUCTION

Six months after the Tsunami, the economies of Aceh and Nias are still reeling back 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 limited economic activities, scarce employment opportunities, rising inflation and a banking system only slowly re-emerging to begin lending operations. Clearly, the key to economic recovery is more rapid progress with reconstruction. This will generate badly-needed stable income-generating activities for communities, particularly once the rehabilitation phase is over. For this to happen, the private sector and the communities need quick access to capital.

Development assistance plays a vital role in this regard, but better coordination among donors and governments is required – both at central and local levels – to ensure smoother aid flows. Sector-level initiatives by several donors aim to provide productive assets, such as boats and fishing gear, and to restore agricultural land. It is vital that in 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. Overall, it is critical that an appropriate incentive regime is structured to help communities rebuild their lives, without distorting market principles.

THE IMPACT

Income and poverty. The projected aggregate impact of the Tsunami on Aceh's GDP and poverty rates has been well documented in the Government's Master Plan.[6] Due to data limitations, the impact of the Tsunami on Aceh's income growth and poverty headcount index are presented in a range (Table 1). Among the three scenarios, the most plausible is that about 20 percent of Aceh's non-oil and gas GDP would be affected in 2005[7].

[6] Data on Aceh's economic performance in 2004 is still scarce, thus making new projections difficult. For instance, data on Aceh's GDP 2004 is still in the process of being consolidated by BPS and expected to be released in August 2005. A major survey on labor force, poverty and other social indicators will be carried out by BPS in August 2005. It is vital that BPS coordinates with as many stakeholders as possible in order to produce a coherent and comprehensive dataset. 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.

[7] Summary table of damages and losses (page. iii of the Master Plan) assess estimated losses in the next 4 years would be 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.

Accordingly, Aceh's economy would contract by -13.9 percent and an additional 600,000 people would fall below the poverty line (see table 1)

Table 1: Growth and Poverty Impact Scenarios

	Scenario 1 (Minor)	Scenario 2 (Moderate)	Scenario 3 (Worst)
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 National Poverty Headcount Index (%)	0.1	0.3	0.5
Increase in Number Of Poor (million)	0.2	0.6	1.1

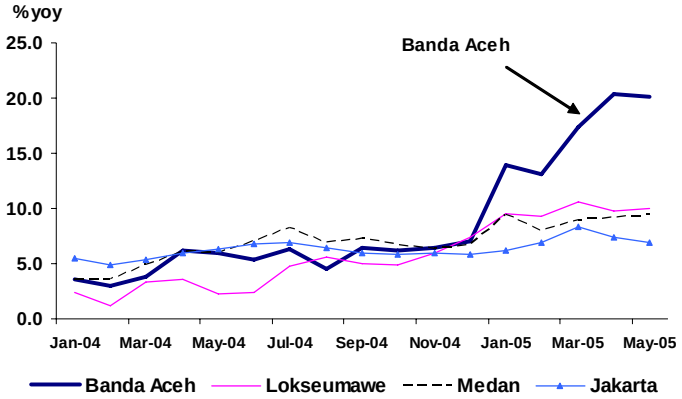
Source: Master Plan for Reconstruction and Rehabilitation, March 2005, World Bank Staff Estimates.
1/ Based on *estimated* 2004 GDP

Employment. Based on Masten Plan scenarios of a 20 contraction of Aceh's non-oil and gas GDP, unemployment would increase from the 9.3 percent (2004) to 27.5 percent.

It is important to bear in mind that these projections should only serve as an *aggregate* approximation, leaving out trends at sub-provincial levels. Growth rates may differ across tsunami-affected and unaffected districts, and this impact 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.[8]

Inflation. Inflation has risen significantly in Banda Aceh and Lokseumawe, the areas in Aceh for which data is available. Up until December 2004, the inflation pattern followed the national pattern. But since the tsunami, supply constraints have resulted in higher inflation rates. In Banda Aceh, price growth jumped to 14 percent (yoy) in January from 7 percent in December 2004. Inflation peaked at 20.4 percent in April, before declining slightly to 20.2 percent in May (Figure 1).

Figure 1: CPI Trends, various cities



Source: BPS, World Bank Staff calculations

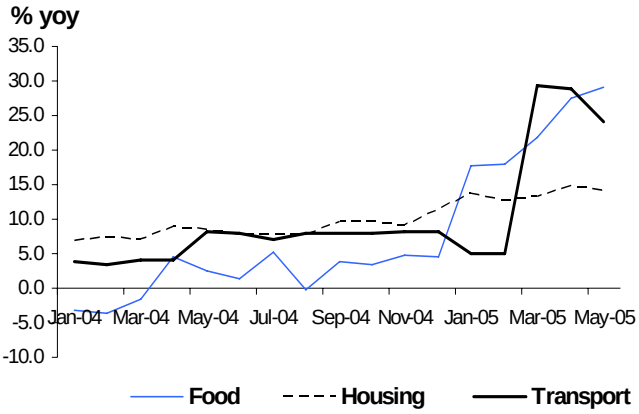
Supply and distribution constraints (indicated by soaring transport prices), are the prime reasons behind the drastic food price increase in January. Food prices increased by 19.6 percent in January 2005 (compared to 4.7 percent in December 2004), and continued to increase until May, peaking at 27 percent (Figure 2). Monthly inflation figures, however,

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

show that in May the general CPI declined by -0.3 percent, and food prices by -0.5. This could be a first sign that food supplies are coming back to more normal levels.

Among non-food items, transport price growth jumped to 29.4 percent in March. On average, the transport price index increased by 18.5 percent during the first 5 months of this year. Apart from the supply constraints after the tsunami, national fuel price increases in March may also have contributed to the already soaring transport prices, but the growing presence of domestic and international aid agencies certainly plays a decisive part. Housing prices also increased by an average 14.6 percent during the same period.

Figure 2: Selected CPI Items in Banda Aceh



Source: BPS, World Bank Staff calculations

A comparison across selected cities (see Table 2) shows that the closer one approaches the Tsunami-affected areas, the higher the inflation rate climbs. This reflects the supply constraints in the immediately affected areas (Banda Aceh and Lhokseumawe), but also the increased economic activities in Medan, which serves as a regional hub for aid and government agencies. Thus, the CPI for Banda Aceh was an average 17 percent (yoy) from January until May 2005 in Banda Aceh, almost 10 percent higher than price trends in Jakarta. Even more striking is the inflation difference in food items, which show an almost 17 percent gap between Jakarta and Banda Aceh.

Table 2: Selected CPI Items

	General	Food	Non-Food
(average inflation year on year)			
Jakarta	7.2	5.2	8.2
Medan	9.0	9.1	8.6
Lokseumawe	9.8	9.6	10.3
Banda Aceh	17.0	22.1	12.6
National	7.8	6.9	8.5
(average inflation month-on-month)			
Jakarta	0.8	0.4	0.9
Medan	0.9	0.7	1.0
Lokseumawe	1.0	1.3	0.7
Banda Aceh	2.8	4.0	1.6
National	0.9	0.6	1.1

Source: BPS, World Bank Staff calculations

A brief glance at nominal price developments in Banda Aceh might give a clearer picture on the real impact on peoples' lives (Table 3). For instance, nominal 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. Locally produced rice increased from 3,600 Rp/kg to 4,500 Rp/kg, a 25 percent price increase. Rents also jumped dramatically by almost 200 percent, while important food items such as chili and eggs increased between 20 to 35 percent from December 2004 to January 2005. Given that many communities have lost their property and incomes, and are only having limited access to income-generating activities, these price increases will almost certainly have serious poverty implications.

Table 3: Nominal price developments, Banda Aceh

Item	Unit	Price (Rp.) Month					
		Dec-04	Jan-05	Feb-05	Mar-05	Apr-05	May-05
Rice							
- Bilang Bintang	Kg	2,400	3,200	3,200	3,200	3,200	3,200
- Indrapuri	Kg	2,900	3,000	3,000	3,000	3,000	3,000
-Ex Dolog (Local)	Kg	3,600	4,500	4,500	4,000	4,500	4,500
- Arias	Kg	2,200	3,500	3,500	3,500	3,500	3,500
- Tangse	Kg	4,400	5,000	5,000	5,000	5,200	5,200
- PTN	Kg	3,500	4,500	4,500	4,500	4,000	4,500
Fresh fish (Kembung)	Kg	7,000	8,000	8,000	10,500	11,000	9,000
Egg		450	600	600	500	450	500
Red chili	Kg	6,000	6,000	6,000	9,000	14,500	12,000
Rent	Unit/Year	1,358,981	4,000,000	4,000,000	3,500,000	3,500,000	3,500,000
Kerosene	Liter	1,100	1,500	1,500	1,300	1,200	1,200
Wage for housemaid	Monthly	100,227	150,000	150,000	150,000	150,000	150,000
Transportation							
-BANDA ACEH-MEULABOI	One way	30,000	350,000	350,000	350,000	150,000	150,000
-BANDA ACEH-SIGLI	One way	15,000	20,000	20,000	20,000	20,000	20,000

Source: BPS, Banda Aceh

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[9] to provide the legal umbrella for banks to facilitate banking and lending operations in Aceh. 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. 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.

First statistics on Aceh's banking indicators since the Tsunami have been released by Bank Indonesia. These show that total assets stood at 10.06 trillion Rp by end of March 2005 (Table 4). Total assets therefore decreased by 6.7 percent between December 2004 and the end of the first quarter of 2005, reflecting the increased number of NPLs. Third party funds, which consist of demand deposits, savings and other deposits, increased by 4.3 percent, and reached 8.2 trillion Rp by March 2005. The loan-deposit ratio stood at 40.4 percent, marking a slight decrease when compared to December 2004. Profits also turned negative by the first quarter of 2005: both commercial and rural banks turned in negative profits of 24 billion Rp.

Table 4 : Main Banking Indicators (in billion Rupiahs)

	Dec 03	Dec 04	Q1 05
Total Assets	9879.91	10783.65	10061.39
Third Party Funds	7656.38	7951.71	8297.72
Outstanding Credits	2123.05	3226.85	3351.98
Profit	68.57	55.61	-24.59
LDR (%)	27.73	40.58	40.4
NPL (%)	2.65	2.81	6.75

Source: Bank Indonesia

[9] No.7/5/PBI/2005

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 to 6.8 percent Rp from December 2004 until March 2005. In absolute terms, NPLs increased from 90.8 billion Rp to 226 billion during this period.

Credits grew by 3.8 percent during the same period and recorded 3.4 trillion Rp by the end of March 2005 (Table 5). Small-scale credits – credits allocated to SMEs – increased by 10.7 percent and accounted for 56.2 percent of total credits by end of March 2005. Consumption credits account for the bulk of the credits approved and reached 2.1 trillion Rp as of March 2005. This constitutes 67.3 percent of all loans.

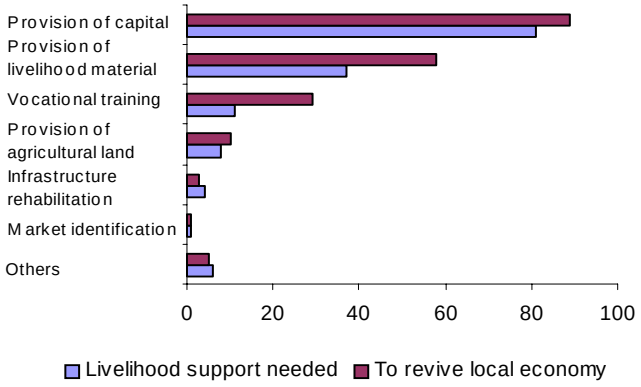
Table 5: Credit Trends

	Dec 02	Dec 03	Dec 04	Q1 05
Credits	1577.89	2123.05	3226.85	3351.98
Small Scale Credits	843.44	1223.37	1701.78	1883.69
NPLs	47.02	56.26	90.79	226.33

Source: Bank Indonesia

*Access to capital is key to economic recovery***.** Despite the quick response from banks to restore basic services, lending operations have not yet resumed on a significant scale. The business environment is still too risky, as many businesses do not have the collateral to secure loans. Anecdotal evidence suggests that banks focus their lending activities first on previously successful business owners and people with steady income streams, such as civil servants. [10]

Figure 3 : Support needed by displaced communities



Source: IOM Survey

Access to capital is also a major concern for the many small entrepreneurs in displaced communities. A survey [11] 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 (Figure 3). Consequently, the demand for micro-credit schemes and grants is increasing at the grassroots level. NGOs such as OXFAM or Mercycorps are currently playing a vital role in this regard.

Finding the right incentives is important when providing micro-credits. The dilemma for both the formal commercial banking sector and NGOs is to carefully balance sound business principles and humanitarian aspects in the provision of micro-finance. Aid agencies

[10] Based on notes provided by Shireen Khan, consultant for the USAID project on Local Economic Recovery in Aceh.

[11] IOM, "Settlement and Livelihood Needs and Aspirations Assessment". The survey was carried out from March 5-15 and had 2,111 respondents in 12 districts. Focus group discussions in each of the 71 disaster - affected sub-districts were held to obtain the qualitative information.

and NGOs have to carefully design the right mix of loan and grant elements in providing financial aid at the village level. In some instances, this raises some frustration among local communities.

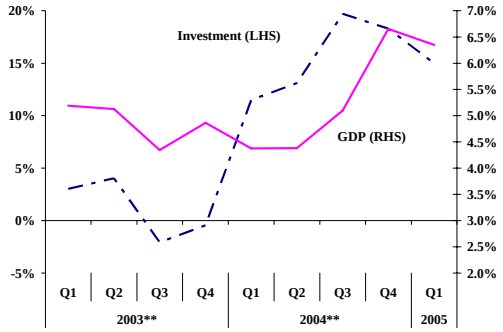
THE OUTLOOK

Aceh's growth prospects will depend largely on re-vitalizing the non-oil and gas economy. In 2003, nominal GDP was US$ 4.5 billion, or 2.3 percent of national GDP. Oil and gas production dominates Aceh's GDP with 43 percent. But most people derive their income from the non-oil and gas economy, as agriculture and fisheries account for almost 60 percent of total employment.

National economic conditions are broadly supportive for the reconstruction process, as economic growth continues to pick up: recently released Q1 2005 GDP data for Indonesia show that the growth rate reached 6.3 percent (year-on-year), led by growth in investment (see Figure 4). However, the continued decline in national oil-and gas manufacturing production (-1.3 percent in Q1) raises some concerns and continued high international oil prices could also affect Aceh's GDP. Three main economic issues are of immediate concern: creating employment, controlling inflation and re-building the financial sector.

Figure 4. Strong national GDP and investment growth

(year-on-year growth rate, percent)



Source. BPS, World Bank staff

Creating jobs quickly is the best way to fight poverty and social dislocation. Starting construction projects on a large scale is certainly the most effective way to create jobs, at least in the short to medium term. In the initial phase, donors have already initiated cash-for-work programs. But there needs to be a common daily wage structure between various support initiatives so as not to induce competition.

Ensuring the match between demand for and supply of labor is vital for the recovery process. Thus, authorities need to strengthen efforts to provide local workers with the necessary skills to compete with workers brought in from outside Aceh.

In the long term, the employment-creating potential of the agricultural sector, as well as other types of small-scale activities has to be used to maximize the amount of jobs in the economy of Aceh. A focus on these sectors will enable people to work themselves out of poverty.

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. Once reconstruction projects will be launched on a large scale, additional inflationary pressures will build up. There is a concern that this can significantly increase the cost of reconstruction and doing business in Aceh. 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 key to 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, NGOs move quickly on the ground to provide financial access to village communities. Moving forward, coordination is vital in delivering financial support to individuals and enterprises.

The provision of productive assets needs to be coordinated, to ensure that there is: (i) sound targeting; (ii) equity in distribution; and (iii) adherence to minimum quality standards and norms.

Formal microfinance programs need to be initiated, on a credit-basis to provide supplementary financing support, or even initial support to those that can afford to borrow (e.g. traders with daily cash-flow). In doing so, a proper balance needs to be found between the provision of affordable support and the possible distortionary effects on financial markets.

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.

CHALLENGES AND OPPORTUNITIES

Those in charge of the recovery face a number of critical challenges. In the wake of the disasters, there are trade-offs between a quick response to urgent needs and carefully planned reconstruction that allows consultation, participation and capacity-building, as well as between a "return to normal" and making improvements. Implementation often bears tensions between coherence and flexibility.

After a disaster, there is a natural desire to have things back the way they were. However, at times, disasters can act as a catalyst to enact social change on issues that would not move in 'normal' times. The Government has made it clear that the purpose of the reconstruction is to build an improved Aceh and Nias, not to return the provinces to their original state. Rebuilding based on sound spatial and environmental planning is paramount in order to reduce the vulnerability of communities to future natural hazard events.

The recovery process can also offer opportunities for the promotion of issues such as gender equality. For example, deeding newly constructed houses in both names, promoting land rights for women, ensuring participation of women in housing design and construction, building non-traditional skills through income-generation projects, distributing relief through women, and funding women's groups to monitor disaster recovery projects are practical steps to empower women, or at least to avoid the reinforcement of existing gender inequities. Conflict resolution is another issue where progress can be made through the reconstruction process. These opportunities need careful assessment, because perceived inequities in the reconstruction assistance can easily fuel conflict as well.

Another key challenge will be to ensure a coherent and consistent governance framework across the many different sources of assistance without obstructing the reconstruction effort. These sources include local and international NGOs and private sector donations, bilateral and multilateral donor agencies, the multi-donor trust fund, central government ministries and agencies as well as community and local governments at the village, sub-district, district and provincial levels. Some of these sources are implemented through government budgets and others through allocations to local governments. As each source comes with its own procedures, guidelines and requirements, a modus operandi needs to be developed that recognizes the different dynamics of each of the implementing agencies and funding channels.

THE MASTER PLAN

Following the earthquake and tsunami, the Government of Indonesia conducted a thorough exercise to develop its reconstruction strategy, including the decision on the management of the reconstruction process. A few weeks after the disaster, the Government launched the drafting of a "master plan"[12] for the rehabilitation and reconstruction of the affected region to serve as a guide for action following the initial stage of emergency humanitarian relief. Led by a team in the National Development Planning Board (BAPPENAS), formulating the Master Plan involved a wide range of actors, including line ministries, government agencies, local government representatives, civil society groups and donors, organized around ten different thematic groups and working simultaneously in Jakarta and Banda Aceh.

The Master Plan sets out as main principles that rehabilitation and reconstruction be:

- Community-oriented, participatory as well as sustainable;
- Holistic and Integrated;
- Efficient, transparent and accountable;
- In accordance with the legal status of Aceh; and
- Targeted to the most vulnerable and the most affected regions.

THE REHABILITATION AND RECONSTRUCTION AGENCY

In order to implement the process effectively and efficiently, the Master Plan establishes a Rehabilitation and Reconstruction Agency (*Badan Rehabilitasi dan Rekonstruksi,* BRR) with authority to "plan, implement, control and evaluate" the process. BRR reports directly to the President.

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 has essentially a coordinating, rather than implementing role. Its core function is to help match resources from national government and international organizations with the priority needs of the people of Aceh and Nias, in an efficient, rapid and transparent manner.

The agency will try to ensure that the standards of the Master Plan are met, facilitate implementation by other stakeholders, and collect and disseminate information on all aspects of the rehabilitation and reconstruction process. A primary focus will be preventing corruption and misuse of funds. BRR was not designed to execute all rehabilitation and

[12] 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.

reconstruction projects in Aceh and Nias (although it may be asked to implement some), nor is it intended to take over the roles of central ministries and local governments in the reconstruction effort.

Institutional Set-up. BRR consists of three bodies:

- The **Implementing 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 15-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 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.

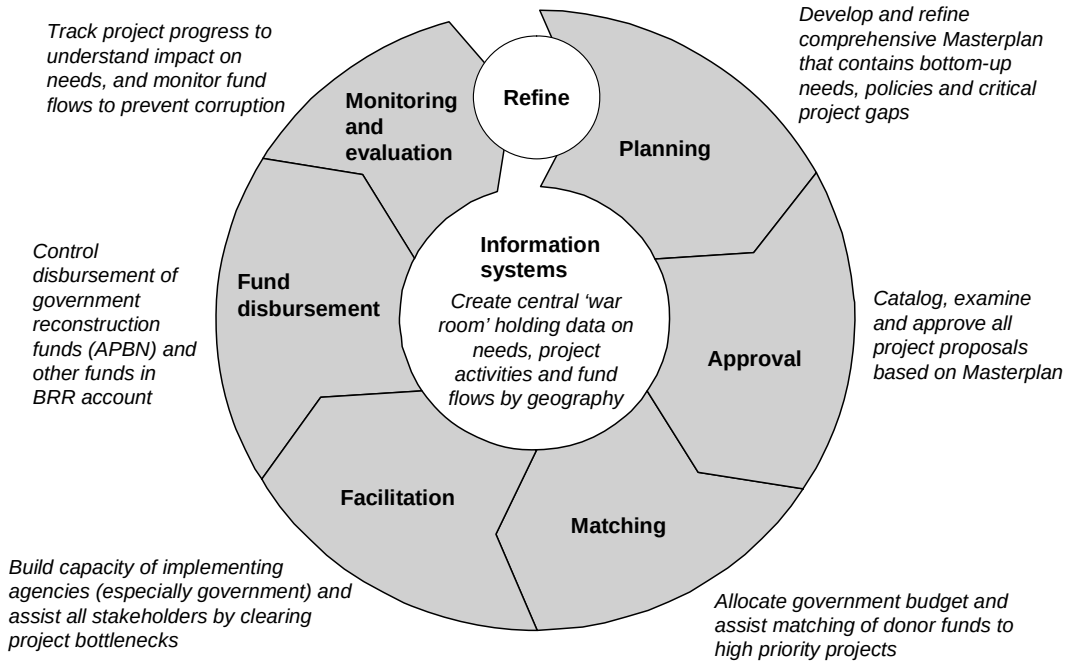
The structure of BRR is designed to foster a well-coordinated partnership among central and local government, local and international donors, the private sector, and the people whose lives were impacted by this disaster. Each of the three bodies reports directly to the President and is responsible for 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. 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 and set standards of integrity and performance for his team and all actors engaged in reconstruction activities.

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 executing agency is on the reconstruction of community infrastructure, particularly housing. It also emphasizes governance reform, especially through: building 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 5). First, it is developing and refining the current Master Plan into a fully-integrated plan, including by identifying critical project gaps. Second, it will catalog all project proposals (from government and non-government sources), review these proposals, and grant approvals, based on the Master Plan. Third, it will help meet the funding gaps of approved projects from various funding sources. Fourth, the BRR will facilitate 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 will control the disbursement of government reconstruction funds, ensuring that projects meet stipulated performance and integrity requirements. Sixth, the agency will monitor 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, will be a comprehensive Information System that will act as a single repository for data on needs, projects and funds down to the village level.

Figure 5 Reconstruction and Rehabilitation Agency Processes



To be effective, this seven-part operating model will require certain organizational enablers – the right people, processes, technology, infrastructure, and external relationships. However BRR will remain a small and strategic agency, leveraging resources and existing processes of other stakeholders whenever possible. Hence, technical advisors will be assigned to work with internal staff, and key support functions will be outsourced. Special mechanisms will be created to connect with local communities in Aceh and Nias and to feed their input into all operating activities. BRR will adopt a policy of complete transparency, and work closely 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. In its first 45 days of its existence, BRR has reviewed US$1.2 billion of projects initiated before the BRR's establishment and has reviewed and approved a further 182 projects from NGOs and donors valued at US$586 million. While this can be seen as an additional approval hurdle for those who did not previously clear projects through a central

system, the process will inject greater predictability into project planning, encourage discipline in highly defensible areas (community consultation, transparency, fiduciary responsibility etc), and enable one central agency to have an overview of all reconstruction activities in Aceh and Nias – which could greatly contribute to much-needed coordination.

In addition to this, the BRR has 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. 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 obtaining clearance papers for approximately 1,300 containers that were held up at Belawan port.

BRR sees its next set of implementation challenges as focusing on local governments, since this is where there 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 with 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 the preserve of local authorities.

Hence a main plank of BRR's future strategy is to make the district government systems work, in particularly using the GoI funds that are expected to start flowing shortly to BRR. As simply relaying these funds to district government will not achieve desired results, BRR intends to create district-level project management or project enforcement units in the major towns and cities throughout Aceh and Nias. These will hire top-caliber people from the public or private sector to work closely with the district authorities to motivate progress, help plan effective programs, advise on their implementation and scrutinize them to ensure there is no leakage.

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 is in the process of developing an anti-corruption strategy encompassing preventive campaigns and strengthened enforcement.

THE CHALLENGE

For decades, Indonesia has been plagued with severe inefficiencies and quality control problems which 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 have 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 which 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, has been 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 has existed 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 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 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 who 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 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), which 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 7 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 has 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 the 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, 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.

In addition to this, 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 their 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. Splitting up survivors whose houses were destroyed into tented camps, host communities and barracks 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.

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 driving seat.

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 and resource citizens for them to prioritize and take care of them themselves through Community Driven Development (CDD) approaches. One argument 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 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[13] designed to encourage all agencies to commit to high standards of consultation, participation, transparency and coordination.

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 it. 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 hopefully enhancing 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 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 of recruiting CDD facilitators (to maintain standards and coordinate salaries) and developed common training.

THE KECAMATAN DEVELOPMENT AND URBAN POVERTY PROJECTS

Aceh has been a target province of the Kecamatan Development Project (KDP) since 1998.[14] 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, sub-district level community facilitators, and 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 17 of 21 sub-districts in Nias. In Aceh, it had evolved a staff comprising a professional team in Banda Aceh and district offices plus 196 facilitators (mostly university-educated) at sub-district level. These

[13] "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

[14] 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.

had mobilized about 8,000 voluntary village facilitators. This structure is proving valuable in helping tsunami affected communities plan their response.

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 has been operational in Aceh since 2002, and employed 50 facilitators before the tsunami. 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 facilitators were given special training in community disaster response, including in preparing detailed sketch maps, showing the extent of damage in each village and urban area. Maps prepared by KDP and NGOs using similar participatory approaches are invaluable records of the status of property and infrastructure before and after the tsunami.

Because of the power of this network, the Multi-Donor Trust Fund (MDTF) is helping expand the reach and scale of both KDP and UPP to cover all rural areas and all tsunami-affected cities. This entails recruiting a further 350 Kecamatan Facilitators by the end of June (over 3,000 people applied, and various NGOs and UN agencies are contributing to the interviewing teams).

KDP staff is also helping the government's Community Development Agency (BPM) 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, identify potential problems and gaps, and ensure adequate community involvement. As of mid-June, such processes had been initiated in four sub-districts (Peukan Bada, Leupung, Mesjid Raya 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 has been able help communities 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. Now that this has been resolved for all but three sub-districts and the 2005 budget is released, significant amounts of funding are expected to be available in August 2005 for KDP to live up to the central role in the reconstruction it has been expected to play.

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 has caused thousands of deaths, displaced communities and constrained economic growth. It is important to remember that there were tens of thousands of IDPs before the tsunami[15],

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

and that Aceh had long been relatively isolated from the international community, and even from the rest of Indonesia. There are disturbing signs that conflict is escalating again, adding to the complexity of the relief and recovery effort and possibly causing disruptions in the future. Some of the people displaced by the tsunami have fled to conflict-prone areas where few relief workers go, and may be under-represented in everyone's plans.

Reconstruction plans must be sensitive to local conditions and culture, to possible impacts on existing divides, and must urge efforts by government and communities to promote *peace* building as well as rebuilding. Priorities include ensuring inclusive planning, involving and strengthening capacities of local authorities, ensuring geographic equity by supporting the rebuilding of *all* of Aceh, exposing and combating the business interests and graft that underlie the perpetuation of fighting, involving civil society in all aspects of reconstruction, to strengthen the foundation for future stability and peace, and ensuring full and unfettered access to all international agencies, providing they adhere to UN Guiding Principles on Internal Displacement.

CHALLENGES AND OPPORTUNITIES

The tsunami response offers the chance to demonstrate the effectiveness of community-driven reconstruction, given the level of donor commitment to this approach. But the path will be beset by obstacles. There must be stronger coordination between the myriad agencies, each with its different standards, approaches and competitive instincts. This presents an important challenge for BRR, the CDD Working Group and NGO umbrellas – 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 compound tensions within Aceh.

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, and the 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 other in 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. Such a program could enhance the direct contribution of Acehnese civil society to reconstruction, and strengthen its roles in monitoring, combating corruption, and helping citizens voice concerns and grievances. This could strengthen the interface between donors, government and citizens, and contribute broadly to civic education and the promotion of enduring peace.

Six months after the tsunami, visitors to Aceh are struck by how little recovery is evident. 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 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.

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.

Just a few days 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, is 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 have built 42 houses so far. 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.

2.4 Rebuilding District Government

District governments carry most of the responsibility for delivery of public services. They will be responsible for maintaining infrastructure and facilities built during the reconstruction phase once the BRR and many international organization have left. To play this role effectively, they require massive strengthening of capacity. While this is happening, reconstruction will have to rely on alternative mechanisms, but district government involvement in planning remains crucial.

PRE-TSUNAMI STAFFING AND INFRASTRUCTURE LEVELS WERE RAPIDLY RE-ESTABLISHED

Six months after the disaster, an assessment[16] covering four 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 physical infrastructure is smaller than initially expected.

Human Resources. In the assessed areas, on average 9 percent of the civil servants were killed in the disasters. Banda Aceh, where casualties reached 20 percent of all staff, was worst affected. In every district, 85 percent of all casualties of the victims were low level or contract staff. 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 vacant civil service positions through regular recruitment by the end of the year. In a few cases, district governments are planning to annul them because they had been overstaffed at these levels.

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

Echelon	Staff before tsunami	Casualties	% out of total casualties	% out of each level
II	22	0	0%	0.0%
III	169	8	5%	4.7%
IV	271	17	10%	6.3%
Regular Staff	971	98	57%	10.1%
Contract Staff	484	49	28%	10.1%
Total	1917	172	100%	9.0%

Data in this table is based on the assessment in 4 of the 10 affected Regions in Aceh Province: Banda Aceh, Aceh Besar, Aceh Barat and Aceh Utara. In each district six departments were surveyed: Planning, Health, Education, Fisheries, Agriculture and Public Works.

The Department of Fisheries lost the highest percentage of staff, mostly field staff and extension workers who lived in the affected areas. Public Works has lost the largest number of staff, as most Public Works officials in Banda Aceh and Aceh Besar happened to live in the affected areas. In these two departments one in every four civil servants was killed.

[16] The Assessment is ongoing and will cover all ten affected district and municipal governments. So far four districts have been covered: Aceh Besar, Banda Aceh, Aceh Utara and Aceh Barat. The data will be updated once the other districts have been completed.

Table 7: Number of Officials Killed in the Disasters by Department

Agency	Staff before tsunami	Casualties	% out of total casualties	% out of each agency
Fisheries	162	28	16%	17.3%
Public Works	534	63	37%	11.8%
Health	328	27	16%	8.2%
Planning	253	20	12%	7.9%
Education	443	26	15%	5.9%
Agricultural	197	8	5%	4.1%
Total	1917	172	100%	9.0%

Data in this table is based on the assessment in 4 of the 10 affected Regions in Aceh Province: Banda Aceh, Aceh Besar, Aceh Barat and Aceh Utara. This table does not include teachers and technical health staff.

Infrastructure. Of the 23 agencies[17] visited by the assessment team, only three had offices that were affected by the tsunami or earthquakes and they were all in Banda Aceh.[18] After Calang[19], where all offices were destroyed, Banda Aceh has been worst affected, but office space before the tsunami was generally abundant, so the space in the remaining buildings is sufficient to accommodate relocated staff. In the assessed area, even damaged buildings are all still in use, except for one of the Public Works Department offices in Banda Aceh, which was lost. Staff has been relocated to the other Public Works Department office.

All 23 offices visited have running water and functioning telephones. Sixteen of them have a working fax connection. All offices are connected to the electricity network and have at least five hours of electricity a day. Office equipment has survived the disaster in all but two of the 23 office buildings visited. However, computers, typewriters and even furniture were already in short supply before the tsunami. On average there are 1.2 employees per chair and 1.4 employees per desk.

CAPACITY REMAINS LOW

Despite the rapid recovery from the disaster's impact, a gap remains between existing and required local government capacity to deal with the reconstruction. District governments had already been struggling to discharge their decentralized functions prior to the disaster. External factors, including the years of civil conflict, martial law and the civil emergency status had created an unstable and turbulent authoritative and administrative environment.

Weak internal processes, limited capacity in the executive, performance not being rewarded, and a breakdown of accountability relationships have further contributed to low levels of performance. An assessment of attendance and working hours indicates that only about half of government staff is working and that many of the officials stay only for part of the official working day. In one district government officials only work 4 hours a day and 3 days a week.

[17] 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.
[18] Line Agency for Public Works, Agriculture and the District Planning Board.
[19] Calang was not part of the sample for the governance assessment after 6 months but was visited in February and the government was operating from tents at that time. All official buildings had been flattened.

While high levels of absenteeism are not uncommon in Indonesia's civil service, they indicate that the disaster has not instilled a sense of urgency in some of Aceh's local governments. [20] Returning capacity to the same level will not be sufficient to address current needs.

Drawing on the Master Plan, district governments were charged with developing a detailed action plan. Only 16 of 23 line agencies surveyed have completed their damage assessments and most of these are of poor quality, based on estimates rather than field visits. Some agencies developed an action plan without preparing a damage assessment.

Table 8: Number of Kabupaten with a Post-Tsunami Action Plan

Kabupaten	Made damage assessment?		Quality Of Assessment (max score 5)[21]	Made Action Plan		Budgeted for Action Plan		
	Yes	No		Yes	No	All	Some	None
Aceh Barat	5	1	3.20	6			5	1
Aceh Besar	4	2	2.50	4	2		4	
Aceh Utara	4	2	0.75	2	4			2
Banda Aceh	3	2	2.33	5			3	2
Total	16	7	2.20	17	6	0	12	5

Data in this table is based on the assessment in Banda Aceh, Aceh Besar, Aceh Barat and Aceh Utara. The indicator of quality is has a maximum score of 6. The score is based on the use of field surveys for the collection of data, inclusion of human resources lost, houses lost and environmental damage.

While some governments, such as Banda Aceh, did engage with local NGOs and international donors in producing their action plan, only Aceh Barat has a system in place to coordinate their strategy with NGOs.

LOCAL GOVERNMENTS HAVE NOT YET BEEN ABLE TO CONTROL THEIR OWN RESOURCES EFFECTIVELY

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[22] and 40 percent of the natural gas to the region.[23] The province can decide on the formula for sharing these additional revenues with the districts and villages. A typical split is 40 percent for the province and 60 percent for all districts (35% for the producing district

[20] Motivation of government officials greatly differs across the affected areas. At the sub-district and village level, many government officials have taken initiatives to assist their people.

[21] The quality of the assessments is based on the average score of all the departments that produced an assessment. Each department can score between 0 and 5 points. If the damage assessment is based on field surveys two points are given. If the report is partially based on field surveys and partially on estimates only one point is awarded. In addition one point is given for each of the following features: the damage assessment contains a figure for losses of human resources, the damage assessment contains a figure for total number of houses lost, and the damage assessment includes environmental damage.

[22] For an 8 year period, after which it drops to 35%.

[23] For an 8 year period, after which it drops to 20%

and 25% for the other districts). Even before the tsunami, there have been concerns that Acehnese local governments lacked capacity to manage the decentralization budgets effectively.[24]

Over the 5-year reconstruction period it is expected that the provincial government will spend approximately US$1.5 billion. The districts and municipalities will spend between US$ 2 and 2.5 billion over the same period. Taken together, the civil authorities in Aceh will thus spend more money than the US$3 billion expected to be channeled through the BRR.

The budget for 2005 has not been approved yet. In three of the assessed districts, draft budgets have been submitted to parliament for deliberation, but only the aggregate figures are available. Even the cumulative expenditure categories show worrying trends:[25]

In view of the damage to public infrastructure, development budgets would be expected to increase significantly and recurrent expenditure to be more or less stable.[26] However, the opposite has occurred. In Banda Aceh and Aceh Besar where reconstruction needs are among the most desperate, development spending has been slashed by 55 percent and 23 percent and in two of the three assessed districts, costs of personnel and official travel have increased. The most affected districts record a considerable increase in expenditure on personnel (20% and 62%) and official travel (18% and 30%). The increase in personnel costs in real terms in Banda Aceh is very high (US$ 3.8 million).

Table 9: Selected Budget Lines from the 2005 Regional Budgets (USD)

	Banda Aceh	Aceh Besar	Aceh Utara
Total Capital Expenditures	3'435'426	20'073'298	70'569'255
% of total budget	11.81	65.03	73.61
% change from 2004	-54.84	-22.89	-20.46
Total Recurrent Expenditures	22'471'170	10'672'553	25'305'638
% of total budget	77.23	34.58	26.39
% change from 2004	20.62	40.8	-12.62
Personnel Cost	18'452'340	8'347'979	13'367'660
% of total budget	63.41	27.05	13.94
% change from 2004	20.36	62.16	-9.71
Official Travel Cost	249'468	316'277	459'894
% of total budget	0.86	1.02	0.48
% change from 2004	17.96	30.23	-35.18

In interviews, government officials indicated that the allocations for training have not been increased. According to them, the increase in personnel cost in Banda Aceh was in part due to the doubling of the salary of village leaders and the first-time allocation of a government salary to religious leaders. Some interviewees suggested that these allocations were motivated by the upcoming district head elections scheduled for October.

[24] Brief for the Consultative Group Indonesia, "Aceh Update: Promoting Peaceful Development in Aceh." January 2003.

[25] A more detailed analysis of sub-national budgets be carried out once the final budgets are approved.

[26] The recurrent expenditures might increase once infrastructure has been restored and budgets have to include operation and maintenance costs of the reconstruction investments.

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. This is confirmed by interviews with government officials and by anecdotal evidence. In Aceh Besar, for example, the draft budget has been submitted to parliament. Initial budget discussions included the cancellation of a 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 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 a three-month campaign period, possibly creating an interruption in leadership and change of priorities. This is of special important since the normal accountability mechanisms for district heads do not apply to interim district heads.

THE ROLE OF LOCAL GOVERNMENTS IN THE RECONSTRUCTION IS CRUCIAL

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 addition to being legally in charge of a large share of the reconstruction, local governments are responsible for taking over and maintaining the systems and infrastructure that are put in place.

Thus, local governments would be expected to be at the core of the reconstruction and development effort. For this to be effective, however, significantly higher levels of resources would need to be channeled through the local governments, further stretching weak management systems. This would lead to high fiduciary risks and ineffective resource allocation. It would tie human resources and not leave the operational space for reorganization and human resource development.

Currently, most local governments are withdrawing from rehabilitation and reconstruction responsibilities. They have allocated much of their own resources to unrelated activities and are expecting NGOs, international donors and the Agency for Rehabilitation and Reconstruction (BRR) to take care of the reconstruction.

The BRR has not been designed to directly manage projects and will work within the existing legal framework on regional autonomy. As a coordinating agency it focuses on ensuring transparency, accountability, and speed in the reconstruction of Aceh and Nias. Coordination by and with the local governments is essential to ensure that the reconstruction activities are fully integrated into the local government's development plans and budgets. The BRR can set broad priorities for reconstruction but detailed planning will continue to be in the hands of the local governments, including spatial planning and the integration of basic infrastructure.

POLICY IMPLICATIONS

Local governments need to be involved in the reconstruction but without the necessary capacity it will be difficult to become the drivers of post-tsunami reconstruction and development.

In cooperation with the national government and the BRR, the international donor community could create the right incentive structure for local governments to invest in reform. The governments that prove eager to introduce and institutionalize reforms should be provided with the necessary support, including strategic planning, budgeting, procurement and coordination. Donors and development organizations can assist by providing demand-driven capacity building programs.

Until better governance structures are in place in the regions, BRR should play a strong supporting and oversight role in the reconstruction process. It is critical that local governments are able to manage the reconstruction funds accountably first. Local government responsibility for planning and management of reconstruction should then be phased in, once capacity has been enhanced.

Some of the resources could be channeled directly to the sub-district and village level, as is laid out in the government's Master Plan. Many government officials at these levels are energetically engaged in reconstruction effort, actively coordinating and earning the respect of the population and aid agencies.

As reconstruction cannot wait, temporary parallel implementation mechanisms need to be used at this middle level. However, it is important to ensure that these work closely with the local government and support the tasks that local government will continue to execute, including consultations, planning, approvals by parliament and internal audits. At all times, local governments should be in the forefront of the discussions about reconstruction and they should contribute to the coordination of the different reconstruction programs to ensure ownership and allocation for operation and maintenance.

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.

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

BACKGROUND

Certainty over land ownership is a necessary precondition for the reconstruction of houses and communities. But the earthquakes and tsunami which hit Aceh and North Sumatra caused extreme damage to property rights 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 to 5 times as many landholders with unregistered rights than those who are holding registered title. 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.

THE 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 percent of the district's geographical area. In the districts of Aceh Besar and Aceh Barat, over 90 percent of their geographical areas were affected by the tsunami. A summary of the nature and quantification is presented in Table 12 below:

Table 10: Nature and Quantification of Damage to the Land Administration System[27]

Nature of damage	Quantification of Damage
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).
Land Offices	Six BPN Land Offices, including the District Land Office in Banda Aceh were completely demolished or severely damaged.
Government Land Books	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.
Other Official Land Documents and Maps	BPN assessed that in addition to land books, about 80% of land documents were lost, including almost all cadastral maps
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
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
Land Parcels	Total Number of Parcels Affected: 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

THE IMPORTANCE OF RECOVERING PROPERTY RIGHTS

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

[27] There is no current data collected on Nias, but land issues should not be as serious there. Despite the earthquake damage, land boundaries will still be clear. In Simeulue, significant tilting of the land surface has submerged some land and islands. Resettlement is likely to be necessary in some cases. A full assessment is still required of land issues in Nias and Simeulue.

- 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 underscored 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.

Land rights protection has two integral parts:

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

Special attention must be paid to safeguarding the rights of vulnerable groups, such as women, children, and orphans. Official estimates suggest that there are over 2,000 children orphaned by the tsunami.[28] In the absence of a proper protection system, according to Syariah law, some of these orphans could well loose their rights. Within three months of re-opening, the Syariah Court in Banda Aceh (whose basic jurisdiction is divorce and inheritance for Muslims) had received close to 6,000 inheritance-related cases. So far, the tsunami has resulted in an estimated 100,000 inheritance cases.

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.

COMMUNITY DRIVEN ADJUDICATION: COMMUNITY-LED, GOVERNMENT-SUPPORTED

Reaching agreement. 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 GPS equipment and then the maps digitized. Under a participatory process, these maps have

[28] 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.

community acceptance, but they do not lead to the issuance of legal title. Only BPN has the legal authority to issue title.

CDA guidelines have been prepared through a collaborative effort involving government, NGOs/CSOs and donors. To streamline and standardize the identification of property rights, including the harmonization of efforts already completed by communities, BPN will soon issue a formal decree on community driven adjudication (CDA) of land rights.

The roles of NGOs in CDA may 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.

Adjudication. Upon receipt of notification from a community that it has reached agreement on land ownership and the position of the parcel boundaries, BPN will formally adjudicate and survey within one month. In the field, the adjudication teams will 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. When there is a clear map and agreement on ownership, BPN will announce the outcomes publicly, 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, BPN will issue a land certificate for the individuals within a period of 15 to 30 days. The whole process will be free of charge to landowners.

DELIVERING THE RECOVERY PROGRAM

Progress. To date, up to 60 affected villages have either commenced or completed the process of compiling land ownership inventories and marking property boundaries. 90 percent of these communities are in Banda Aceh.[29] A number of communities have undertaken similar work independently, though there is currently no reliable data on the extent. Several Civil Society Organizations have started the process of community-driven adjudication. To deliver on community wishes for both speed and legal certainty, these programs need to be coordinated with the government.

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.

[29] As many as three-quarters of these communities have been facilitated by Laboratorium Perencanaan at Syiah Kuala University, funded by the Center for Local Governance Innovation/Yayasan Inovasi Pemerintahan Daerah.

Priorities. BRR, NGOs and donors have determined in collaboration with BPN that the priorities for the first 18 months are:

- Banda Aceh -50 *kelurahans,* and 3 *kecamatans* in adjoining Aceh Besar.
- Supporting reconstruction of property rights in areas under existing housing programs
- Retrospective adjudication on previously completed community mapping

Programs. One of the core programs in this effort is the *Reconstruction of Aceh's Land Administration System* (RALAS) project, due to commence in July 2005 (subject to final approval by the MDTF). To be implemented by BPN, 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 CDA process. It will do 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 engagement to sort out ownership rights. This will be done using facilitators available from existing CDD projects and NGO initiatives on the ground. Where these are not available, RALAS will hire NGOs.

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

Other donor programs related to land include the restoration of land records financed by Japan International Cooperation Agency (JICA), provision of very high resolution pre-tsunami satellite imagery and technical assistance, funded by the European Union and programs supported by United Nations Development Program (UNDP), the Australian Government Overseas Aid Program (AusAID) and UN Habitat.

CHALLENGES

A number of key challenges need to be addressed to advance this critical agenda:

Harmonization of existing community mapping activities facilitated by NGOs is vital for the outputs to be formally adjudicated and surveyed by BPN and thus for property rights are legally registered. This may face the following challenges:

- The perception of communities that community mapping, rather than the formal adjudication and survey by BPN, is the legal determinant of ownership and boundaries. In fact the map serves as a reference for BPN, but does not equate to final legal title.
- Disputes which might emerge if BPN adjusts the position of community-placed boundary markers to more accurately delineate parcel boundaries in case the community made mistakes.

Speed of Implementation. Understandably, people have a strong desire to start rebuilding 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 but retrospectively adjudicate and survey land parcels on which building has already been completed or commenced.

Spatial Planning and Land Consolidation. Some communities will need to re-design their villages, either because previously habitable land has been submerged by the ocean or to increase protection against future disasters. This process may require land consolidation (LC) and/or land re-allocation. Some are moving in this direction before they have legally re-established property rights. In these cases, there is considerable risk that legitimate land owners, or their heirs, will be disenfranchised, which could lead to long-term land disputes and social problems.

Communities should not commence work on a new spatial plan until pre-tsunami rights have been legally reconstructed. Only then should they consider undertaking the secondary stage of property reconstruction involving spatial planning and LC.[30]

Protecting the rights of orphans and widows. Special attention needs to be paid to protecting the property rights of widows and orphans. The following safeguards will be implemented:

- CDA's requirement for community agreement will help ensure that 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.

Land Market Distortion. International experience demonstrates that titled land generally has a higher value than untitled land. In the short-term, the titling of land parcels in the tsunami-affected areas is unlikely to increase their values above those of untitled parcels in non-affected areas. However, to mitigate medium-term land market distortions, RALAS will title 300,000 land parcels in the areas abutting the tsunami-affected areas. This will contribute to smoothing the land market, especially for urban and peri-urban areas where turn-over of land parcels is generally higher.

The Role of BRR. The BRR 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.

[30] 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.

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. In addition, private contributions have reached record-highs. With more than US dollar 2 billion to spend, and more 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's own financing, international donors and private financing (incl. NGOs). In addition, it will explain the different bottlenecks that impeded money from flowing faster.

The immediate aftermath of the Tsunami saw the largest mobilization of funds in the history of development. By the end of January 2005, bilateral donors from around the world competed to become the leading supporter of Tsunami response. They pledged US$ 2.5 billion for Indonesia alone, and committed half of this amount to relief and reconstruction in 2005.[31] Yet, international public donors are only one of the main players. A similar level of support has been made possible as a result of voluntary giving by individuals around the world, channeled predominantly through NGOs, and comparable domestic funding for reconstruction is anticipated. The best estimate of the overall composition of funds for the whole reconstruction period (until 2009) looks as follows:

- ***Donor financing is projected to amount to 2-2.5 billion US dollars.*** This includes bilateral contributions of approximately US$ 1 to 1.5 billion, part of which has been channeled through the multi-donor trust fund (US$ 500 million). In 2005, roughly US$ 600-700 million will be spent of reconstruction projects, evenly split between on and off-budget flows, assuming on-budget funds start flowing (see below).
- ***Voluntary organizations raised more than two billion US dollars*** for Indonesia by late March. For the global tsunami appeal, the top ten US NGOs raised over one billion dollars. This included US$520 million raised by the American Red Cross alone. The latter combined with contributions from the International Committee of the Red Cross and various Red Cross and Red Crescent Societies throughout the world as well as funds (including from governments) to reach a US$1.8 billion contribution to the global tsunami. The 12 major British humanitarian NGOs raised over US$670 million, mostly through a joint appeal[32] - that is US$12 per person in Britain. It is estimated that at least half the sum raised by NGOs is likely to be directed to Indonesia.

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

[32]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.

- ***Domestic financing is projected to amount to the equivalent of 2 billion US dollars,*** a projection based on 2005 allocations. Domestic resources include central government allocations and the regional government's own reconstruction resources. In 2005, the central government allocated the equivalent of US$ 426 million to the BRR, partly financed by Paris Club rescheduling,[33] and an estimated US$ 230 million for ongoing government financed projects in Aceh. In addition to this, provincial and local governments are likely to have reserves for reconstruction and development projects of US$ 200-250 million per year (see chapter 2.4; Annex 8 for simulation).

Towards a new paradigm – The significance of NGO-financing. The NGO sector has become about as large a contributor to the reconstruction efforts as official donors, and its funds have financed the only significant reconstruction activities so far. And whereas official disaster response pledges frequently fail to translate into actual disbursements, 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.

FUND FLOW BLOCKAGES

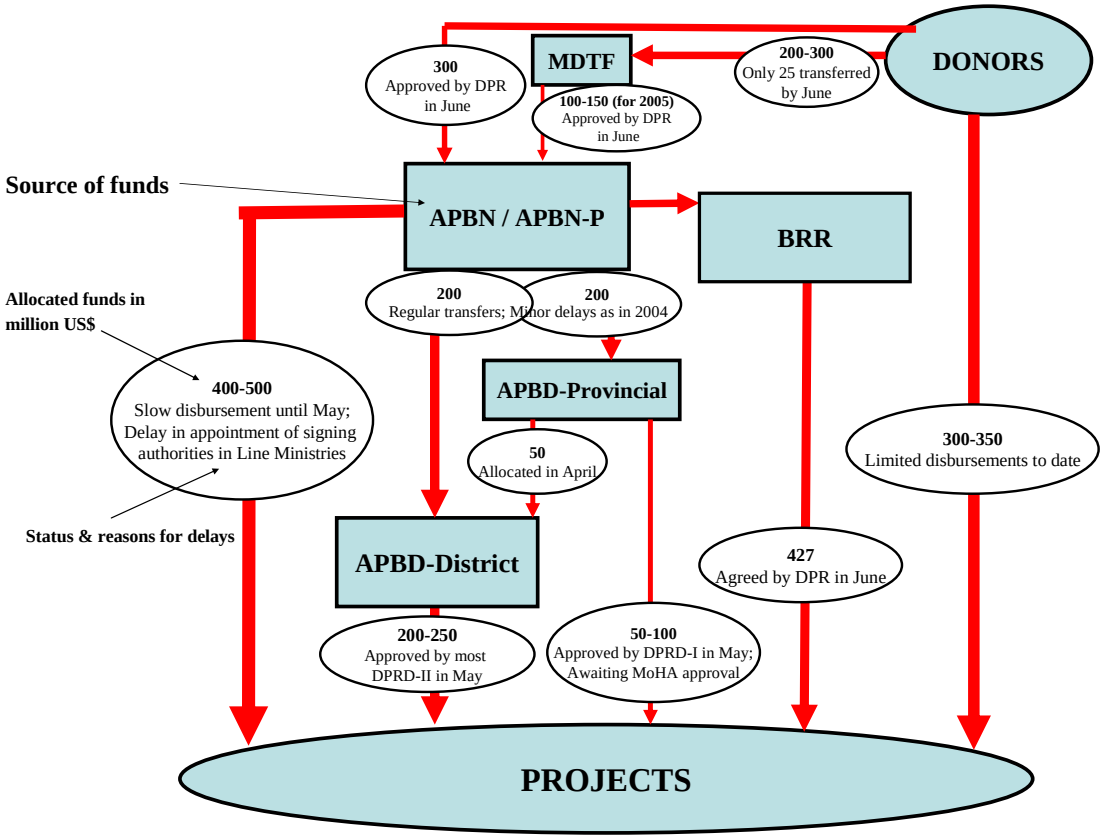
The fact that regular government money has not been flowing into Aceh six months after the disaster exacted a heavy toll on the overall reconstruction effort and the credibility of Indonesia's public finance systems. At the local level, community facilitators of government projects stopped calling village meetings because, once again, they would not be able to deliver on promises that funds would be available.

Blockages exist at different levels in Indonesia and are often also persistent in donor countries, which also have difficulties in living up to their promises. 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 6). These blockages can be categorized as follows:

[33] 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.

- ***Central government.*** Parliamentary discussions of the reconstruction budget took place in June 2005. The more difficult step is the execution of the budget after parliamentary approval. Instead of a single sign-off by a project manager (PIMPRO), the new national system introduced new checks and balances through the appointment four signing authorities. The Tsunami hit Indonesia just a few days before these new procedures were implemented on January 1, 2005. This has slowed down budget implementation in all of Indonesia. In Aceh, the situation is worse: By early May, only about 50% of the approval documents had been issued. Many of the current blockages are no longer at the central level but often at lower levels where the officials are not yet familiar with the new procedures.
- ***Donors.*** In past emergencies, pledges have often failed to be translated into actual aid. Many of the major donors have also had difficulties in mobilizing and implementing their funds so far, both for on- and off-budget funds. Most of the donor's tsunami support has to be approved by national parliaments, which explains why the MDTF, for example, had only received contributions of US$ 25 million by mid-June 2005.

Figure 6 – Nature of blockages (official 2005 funds)



- **Transfers to the regions:** Significant amounts of funds flow from the central government to Aceh province and the 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. In April, the provincial and

local governments also received significant amounts of revenue sharing for oil and gas (Bagi Hasil) for Q4/2004, so that the provincial and local governments do command significant resources.

- **Local and provincial governments:** The provincial and local governments have only carried out routine spending, based on an 'emergency budget'; Capital and reconstruction spending has been blocked because the provincial and most local governments have been slow at completing budget approval processes. Local parliaments only began re-discussing their 2005 budgets in April and May 2005. So while provincial governments in affected areas received transfers from the center, they were not able to utilize them for reconstruction activities.

3.2 The investment program

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

METHODOLOGY

After a disaster of such magnitude, defining needs and classifying more than 700 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:[34]

- ***Comprehensiveness of data sources.*** The data and analysis presented in this chapter captures all the available damage, loss and needs data on ongoing or already approved reconstruction programs funded by all financing sources including the Government of Indonesia, donors and NGOs. The main sources for this analysis have been data from the Master Plan, the Damage and Loss Assessment, Government budget, project databases, and inputs from donors. For Nias, needs assessment data has been included in the aggregate calculation but no sectoral allocations were available.
- ***Focus on implementation.*** Only ongoing or already agreed projects are counted. For instance, MDTF has been only reflected with a US$ 250 million allocation of already agreed projects, not with its projected resources of US$ 500 million. For practical and consistency reasons, every item is associated with the executing agency, not 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 help of many partners, donor and NGO-projects have been divided into three categories (i) temporary needs (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.*** The core tables highlight the current sectoral needs, project allocations and resulting sector gaps. Projects can be for one year only (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).

[34] A more detailed methodological note is presented in Annex 1 which also includes all the assumptions made to classify projects.

NEEDS – DAMAGE & LOSS ASSESSMENT AND MASTER PLAN

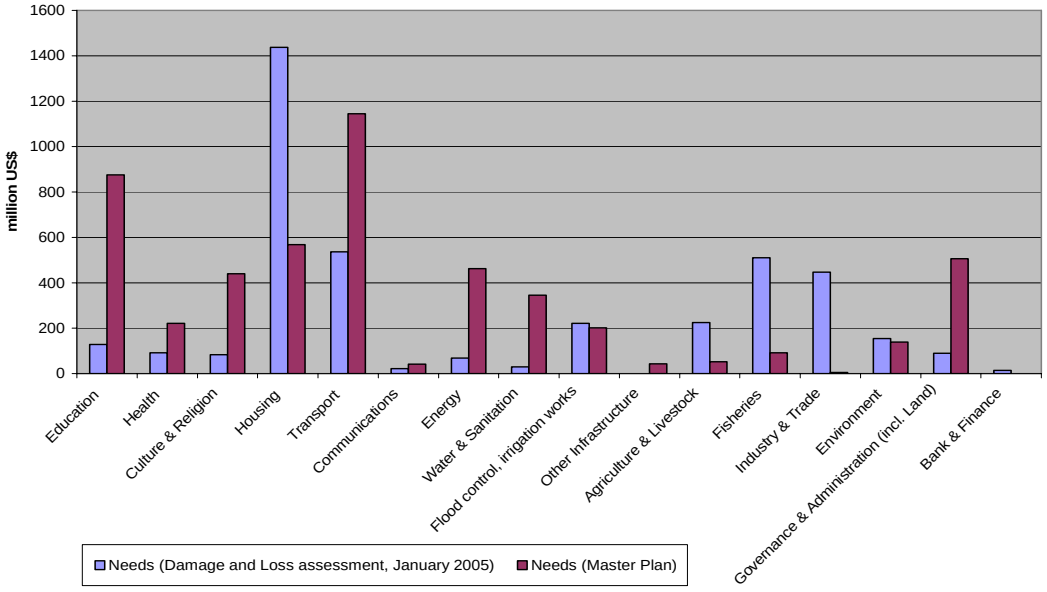
***The Damage and Loss Assessment estimated the total damage and loss of the December 26 Disaster at US$ 4.5 billion*[35].** Most of the damage and losses were private in nature (78%) with housing being the most affected sector (US$ 1.4 billion; or 31%). For the Nias earthquake of March 26, 2005 the additional damage and losses have been estimated at US$ 400 million, so that total damage and losses of both disasters amount to approximately US$ 5 billion.[36]

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 total needs to reconstruct and upgrade Aceh and Nias at US$ 5.1 billion. While these aggregate needs compare well with the total damage and losses, the government took important policy decisions:

- The Government decided to "build public services back better", and invest more in education, health, water supplies and roads.
- The Government decided to compensate 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 7; Table 11).

Figure 7 – Needs: Damage & Loss Assessment and Master Plan versus programs



[35] 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.

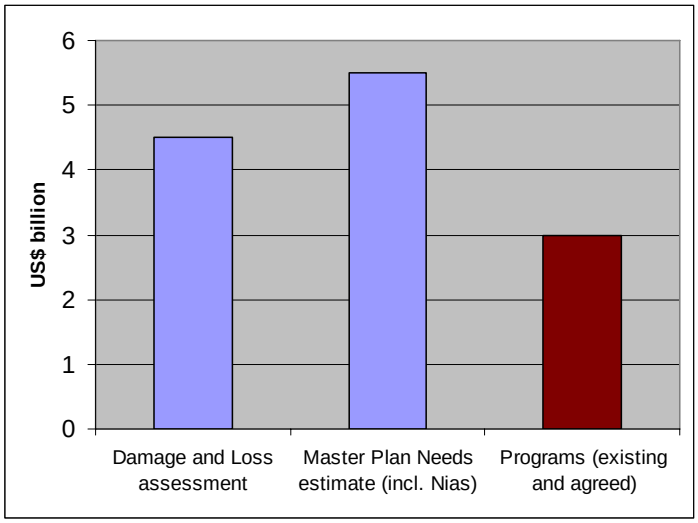
[36] IOM Damage Assessment for Nias and Simeulue Islands; June 2005. WB staff estimates.

The core reconstruction program amounts to approx. US$ 2.5 billion (26.9 trillion Rupiah). 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, and (iv) 15% for technical assistance (local facilitators, road engineers, etc.) to plan and implement reconstruction projects.[37]

RECONSTRUCTION PROGRAMS

The total amount of funds already programmed for reconstruction activities amounts to US$ 2.45 billion dollars, and another 550 million US dollars have been programmed for broader development programs. Broadly in line with the Master Plan, these resources are allocated to infrastructure, incl. housing (51%) and social sectors (27%). For reconstruction activities, NGOs remain the largest player with slightly over US$ 1 billion in projects (33% of the total); Government, bilateral and multi-lateral donors are all financing projects in the range of US$ 550 to 650 million each.

Figure 8 – 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 11 points to several key trends and findings:

- **The current resource envelope is equivalent to the core minimum reconstruction program.** A challenge remains the optimal spatial allocation of funds. The degree to which these programs translate into concrete results will give an indication of its effectiveness.

[37] Estimated from average donor projects which have typically a 10-20 percent Technical Assistance component.

- **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.
- **Sectoral 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 even the core minimum has not been met.
- **Housing is a crucial sector and existing projects are not yet fully meeting the core minimum.** Under the current projections, US$ 192 million would still be needed to cover core needs, and it may be even more if the full damage in Nias is included. There has also been some variability in donor allocation to housing (e.g. Red Cross, see Technical Annex). Given that only few big donors finance the bulk of housing reconstruction, any significant reallocation of already agreed projects would create a larger financing gap.

Three 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 almost three 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. Second, while core minimum needs are broadly met, several significant sectoral gaps still need to be addressed, most importantly in transport. Third, planning for the next reconstruction phase should start soon, in order to make these US$ 3 billion and future investments sustainable, as well as developing a development program for the whole of Aceh.

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

	NEEDS			PROJECTS EXISTING & AGREED			GAP		
	Damage and Loss Assessment	Master Plan	Minimum to build back	Building back [1]	Better[2]	TOTAL	Damage & Loss	Master Plan	Core Needs
	A	B	C	D	E	F	F-A	F-B	D-C
Social Sector	**304**	**1,537**	**346**	**669**	**247**	**916**	**612**	**-620**	**323**
Education	128	875	147	252	53	305	176	-571	105
Health	92	221	104	234	116	350	258	129	130
Community, culture and religion	83	440	95	183	78	261	178	-179	88
Infrastructure and Housing	**2,314**	**2,806**	**1,707**	**1,240**	**178**	**1,418**	**-895**	**-1,387**	**-466**
Housing	1,437	568	666	474	7	480	-957	-88	-192
Transport	536	1,145	616	279	129	408	-128	-737	-337
Communications	22	41	25	23	1	24	3	-16	-2
Energy	68	463	78	22	1	23	-45	-440	-57
Water & Sanitation	30	345	35	194	31	225	195	-120	159
Flood control, irrigation works	221	202	237	91	5	96	-126	-106	-146
Other Infrastructure		43	49	159	4	163	163	120	109
Productive Sectors	**1,182**	**158**	**185**	**345**	**35**	**380**	**-802**	**222**	**160**
Agriculture & Livestock	225	52	61	69	3	72	-152	21	8
Fisheries	511	92	108	93	5	98	-413	6	-15
Industry & Trade	447	5	5	26	2	28	-418	24	22
Manpower and transmigration		2	2	27	1	28	28	26	25
Cooperative and SMEs		8	9	129	25	154	154	146	120
Cross Sectoral	**652**	**645**	**262**	**199**	**91**	**290**	**-362**	**-355**	**-63**
Environment	549	139	162	53	1	54	-495	-85	-109
Governance & Administration (incl. Land)	89	506	84	146	90	236	147	-270	62
Bank & Finance	14		16				-14		-16
TOTAL	**4,452**	**5,145**	**2,500**	**2,453**	**551**	**3,004**	**-1,447**	**-2,141**	**-47**

Part IV: Notes on Sectoral Investment Plans and Actions

4.1 Rebuilding Houses

THE CHALLENGE

Damage Assessment. It is estimated that the earthquake and tsunami affected close to 1,000 villages and urban communities in Aceh, completely destroying about 127,000 houses (14%) out of the stock of 820,000 and leaving about 550,000 people homeless. Further, about 152,000 housing units (19%) suffered damages estimated at over 50 percent of their value. The damages were concentrated within a 3.2 to 6.4 kilometer zone along the coast, with the brunt of the destruction affecting 80 percent of the housing stock in Kota Banda Aceh, Aceh Jaya, Aceh Besar, Kota Sabang, and Aceh Jaya. Initial monetary damages were estimated at US$ 1.4 billion. In Nias, out of 91,118 houses inspected, 15,308 (16.8%) have been destroyed by the earthquake and 19,408 (21.3%) suffered major damage.

The above impact estimates for Aceh were taken from the initial Damage and Loss Assessment. Although there have been numerous localized and site/project specific impact assessments, no comprehensive revisions of the original estimates have been conducted. A technical damage assessment is a significant component of the planned Multi-Donor Trust Fund (MDTF) housing program. Training of facilitators and communities to conduct the assessment will begin in July 2005 and the assessment will start in September 2005.

THE RESPONSE

While significant work still remains, in the six months following the disaster, the GOI, provincial and local governments, and donor and NGO communities have made significant progress in planning and provision of short-term shelter needs, and developing a long-term strategy for housing. The achievements include:

- ***Temporary Housing***. The government and NGOs responded quickly to accommodate the immediate needs of the 550,000 IDPs. A network of temporary barracks was quickly built. By February 2005, an estimated 11,000 people were moved from tents to barracks, with plans calling for construction of facilities to house an additional 90,000 people.
- ***Housing Strategy Blueprint.*** The GOI developed the Master Plan's "Comprehensive Human Settlements Rehabilitation and Reconstruction Strategy." The strategy serves as a basis for all housing programs undertaken by donors, and emphasizes the importance of community participation, and promotion of a comprehensive reconstruction process that integrates tenure and socio-economic issues. BPN's strategy is laudable for its progressive approach, which relies on a community-driven response for housing and explicitly recognizes and empowers the village as the unit for intervention.
- ***Donor Mobilization & Coordination.*** Donors and the NGO community have established a sector working group that meets regularly (coordinated through UN Habitat).
- ***Rehabilitation and Reconstruction Agency.*** BRR established a division on Infrastructure and Settlement, with a directorate for Housing, Water and Sanitation. Some staff has been recruited.

DELIVERING THE RECOVERY PROGRAM

Shelter Preferences. A recent report based on surveys written by the International Organization for Migration (IOM) has provided a better understanding of the settlement (and livelihood) needs and preferences of the displaced. The main findings from the IOM survey indicated IDPs overwhelmingly want to return to their village of origin (despite the level of destruction) to continue prior economic activities, and because of the ancestral bonds to their property. If they were to be relocated, IDPs indicated legal ownership of their future property would be key, and they would prefer to be close to their original villages or places where they can find employment. If they cannot be relocated back in their villages, IDPs expressed the desire to relocate as a group to maintain the integrity of their past community. The barrack-type shelter assistance is not popular, and the majority of IDPs interviewed expressed their preference to receive transitional/permanent housing, or their own building materials.

Demand and Pledges. There are different estimates for the demand new housing (Damage and Loss Assessment, GoI, FAO). However, the total number of houses that were completely destroyed or had severe damage is likely to be more than 200,000. Until June 2005, between 130,000 and 180,000 permanent housing units have been committed by over 40 sources (NGOs, multi and bi-lateral organizations, and government agencies, see table 12). To date, roughly 1,100 homes have been completed.[38]

It is encouraging that the estimated pledges match the anticipated demand, but the relatively small number of completed units highlights the critical need to accelerate provision of permanent housing. There are several bottlenecks hampering the progress of this program. Insufficient coordination between various donors and stakeholders and unclear operational polices remain serious issues. Local Government capacity to strategize implementation of the housing program needs significant improvement. The fact that multiple donors operate in villages with different housing schemes and procedures adds to the complication and slows down delivery.

Table 12: Estimated Housing Pledges

Multi-Donor Trust Fund (MDTF)	Up to 50,000	20,000 new, and 30,000 rehabilitation
ADB	15,000 to 25,000	
UN	10,000 to 45,000	
Caritas	10,000	
Red Cross	20,000	
IOM	10,000	
Habitat for Humanity	10,000	
Others	40,000	From over 40 NGOs, and gov. agencies
Total (new)	**130,000 to 180,000**	

Housing Programs

- *Support from numerous donors* – Over 40 NGOs and government agencies (such as the provincial government of East Java) have pledged to construct or rehabilitate 40,000 housing units. These groups were the first to mobilize, and have already started

[38] Aceh Province Office of Urban and Housing, June 2005

construction. Various schemes are being offered: cash support, building material support program, pre-fabricated house program and some combination there of.

- *IOM* has initiated the first delivery of houses and is building capacity to construct the pre-fabricated semi-permanent houses.
- *ADB* is planning for the reconstruction and rehabilitation of between 15,000 to 25,000 houses using local contractors. This program is still in its early phases, but technical assistance has been mobilized and work is being accelerated. The program also provides support of tertiary infrastructure. The first delivery is expected in July 2005.
- *UN Habitat* is planning for the reconstruction and rehabilitation of 10,000 houses, using a community-based development approach and in collaboration with the Urban Poverty Project (UPP) and Kecamatan Development Program (KDP). The first delivery is expected in July 2005.
- *Multi-Donor Trust Fund Housing Program* – The government's primary on-budget housing program will use the community-level platform (and technical resources) established by KDP and UPP to construct 20,000 new houses and repair 30,000 damaged houses in about 800 villages in Aceh and Nias through community block grants, and to provide tertiary infrastructure to support settlement rehabilitation and reconstruction. The first large scale delivery is expected in September 2005.

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 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 government of where they are operating, each donor is expected to have at least a contact person who will be the liaison to the Settlement Coordinating 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

Despite the efforts of the all parties involved in the reconstruction efforts, and mobilization of financial resources, significant obstacles remain, and some are anticipated to become more important as reconstruction activities are intensified. These include:

Land policy – Broad policies dealing with squatters, inheritance, and compensation for renters have been agreed to in the strategy, but the implementation steps have not been defined or articulated.

Spatial Planning – The GOI has agreed on its strategy, but the plans and road-map are still not sufficiently detailed to outline processes, or define clear roles and responsibilities for specific tasks. The ambiguity is slowing down reconstruction, as all parties are uncertain of their mandates.

Cleaning Debris – Debris removal efforts have generally been successful in public areas. But removal of damaged private buildings (especially with absentee owners) remains a problem, and there is currently no clarity on the rules and responsibilities for clearance.

Coordinating Housing & Other Infrastructure Services – To date, there is no systematic coordinated plan linking new housing/settlements with infrastructure such as roads, sewerage, water, power, and communications.

Donor Coordination – Coordination between donors for determining and identifying coverage of project areas remains problematic. BRR as the ultimate authority for reconstruction and rehabilitation in Aceh, must provide leadership and coordination to facilitate expeditious decision-making to achieve a comprehensive, effective, and efficient effort among many stakeholders.

Human Resources – staffing for reconstruction activities (government and non-government) is a challenge that will increase as more programs become operational. Already several hundred facilitators need to be mobilized for the proposed housing program by various NGOs and donors. Uncoordinated efforts in recruitment of facilitators could lead to price competition among projects. The anticipated enormous demand for skilled construction labor could also become a bottleneck.

Materials Supply – Materials are not currently a problem, but it is expected that ensuring an adequate supply of building materials (especially legally felled timber) at appropriate prices will become an issues as large-scale programs start.

Temporary Shelter – The temporary housing arrangements are not-ideal, and many residents are becoming understandably impatient with the speed of finding permanent housing solutions. While this adds impetus to finding quick solutions, it also puts pressure to rush programs at a pace that could sacrifice end-quality.

THE WAY FORWARD

Resource mobilization. The challenges of moving forward are not about resources – currently, the pledges for shelter are adequate with estimated demands. The key need is the implementation of the programs in the pipeline because less than 1% of the estimated 200,000 units needed have been built or renovated.

Institutional infrastructure. There is also a pressing need for BRR to provide unified leadership to a reconstruction effort with many NGOs and donors, adequate funds, but slow implementation. Coordination, communication, and facilitation among all stakeholders are needed to produce effective and efficient decision-making.

Guidelines for the overall settlement RR should set out general operational principles that need to be followed by the donors as well as the governments' implementing agencies. They should also provide a clear road map of various governments processing procedures as to allow the donors to operate effectively.

Monitoring Reconstruction. A strong Monitoring and Evaluation framework will need to be established to ensure minimum quality standards are met, housing assistance is delivered equitably and to avoid overlaps and gaps in the field. Parallel to the M&E system, setting up an information clearing house for donor coordination on who is doing what where is equally important. Technical assistance will be provided to guide the national and local governments in establishing indicators and systems to monitor progress of the Human Settlements Rehabilitation and Reconstruction Program. The M&E system will be developed in collaboration with the BRR to ensure reporting formats meet their requirements.

4.2 Water and Sanitation

THE CHALLENGE

The initial estimate of damage to water and sanitation infrastructure (but not operating costs) in Aceh that was made by Bappenas and the donor community in January 2005 was US$ 30 million. This amount included estimates of damage to water treatment installations, water tanker trucks, the piping network, wells, vacuum trucks, and sludge treatment plants.

The Government and donor agencies assessed needs for rehabilitation and reconstruction in various sites, but individual assessments have not yet been consolidated. Initial assessments have been found to overstate the loss of life among PDAM staff. For example, in PDAM Banda Aceh half of the staff was thought to have been lost. In fact 28 out of 173 employees were killed in the disaster; however, many department heads were lost, and in many places, staffing was thin even before the tsunami.

THE RESPONSE

GOI, donors, and NGOs have responded to the situation with cooperation for emergency relief and planning for rehabilitation and reconstruction needs. Although it will take some time for all emergency repairs to water treatment plants and weaknesses in distribution systems to be completed, the immediate needs of the people for water and sanitation have been met.

- All major emergency water and sanitation needs have been identified and met, albeit to a minimum standard. Temporary water treatment plants are operating, and water is being trucked from treatment plants to water terminal distribution points.
- In an all-private sector response to the emergency, General Electric donated a reverse osmosis water treatment plant to Aceh. It was operated at first by personnel from Ch2M Hill, but now operating costs are being borne by donors.
- In the most populous urban areas, water treatment plants have been brought on line, although the quality of water will be poor until the completion of more time-consuming repairs.

DELIVERING THE RECOVERY PROGRAM

Within the GOI Master Plan, the water supply and sanitation rehabilitation and reconstruction needs in Aceh and Nias and their estimated costs have been identified, and the framework has been established for matching funding sources to needs. The strategy aims to support settlement for refugees, public facilities and housing based on a spatial plan, to rehabilitate water treatment plants and distribution systems, and to involve the community as much as possible. Water supply and housing are among the highest priority sectors.

The total demand for water supply and sanitation services was not met fully before the tsunami. The projected demand is based on the number of houses that are planned to be constructed and rehabilitated, and ideally water supply should be ready to be connected when house construction is completed. Current estimates of renovated and new houses during the five year period of renovation and reconstruction are likely to be above 200,000 units (see chapter 4.1.). As the number of houses grows, there will be a need to develop additional sources of water supply such as wells and springs.

The estimated demand for rehabilitation and reconstruction of water supply and sanitation in the Blueprint was US$345 million, and the estimated total programs to date are about US$225 million. Estimated funds available for water supply and sanitation from NGOs are about another US$100 million. Although current estimates of needs are less than the funds available for the water supply and sanitation sector, many pledged funds have not yet been committed.

THE WAY FORWARD

Partly because water supply and sanitation is such a critical sector, donor response has been greater than in many other sectors, although focused on high-profile activities. Programming of many different sources of funds to specific needs has brought out many obstacles, some of which will continue to a minor degree during the next five years:

Coordination – Several donors and GOI agencies have found themselves committed to the same or similar activities, and it has taken some time and effort to coordinate donor efforts. Many NGOs and some bilateral donors have a reputation for working independently without stopping for coordination. As activities progress, there will be competing interests among different levels of local government that must be resolved. A great deal of effort will have to go in to coordination of donors, NGOs and government agencies before individual projects are agreed in writing. One of the most important areas for donor support will be assistance to BRR to lighten the technical and administrative load that they have assumed. For instance, there is a need to select out donor-driven activities that are too time-consuming, and BRR needs more detailed sector plans through which donor assistance can be allocated. Housing plans need to be coordinated with water supply and sanitation plans.

Pledges for the water and sanitation sector that have not been matched with physical rehabilitation and reconstruction needs may be used for institutional development and infrastructure in related sectors such as watershed protection and solid waste. The institutional structure of water utilities needs to be reviewed to ensure sustainable maintenance of infrastructure.

Land Acquisition – In the current phase most distribution of water is by truck, but new water mains must be located in areas to which the utility has full title. Similarly, piping of water from spring sources in the future will require title to the land that is crossed.

Sewerage Infrastructure – Banda Aceh is a low-lying area that has been flooded in previous rainy seasons. Aceh has not yet had a wastewater collection or treatment plant, so one can expect that it will take considerable time and money to establish demand for sanitation and a viable cost recovery system. USAID is considering a pledge for sewerage.

Staffing – The level of training of current water utility staff was low before the tsunami. As the rehabilitation phase comes to a close, there will be a need for additional trained staff, and as Aceh has not had piped sanitation before, personnel will have to be trained on these installations before they open.

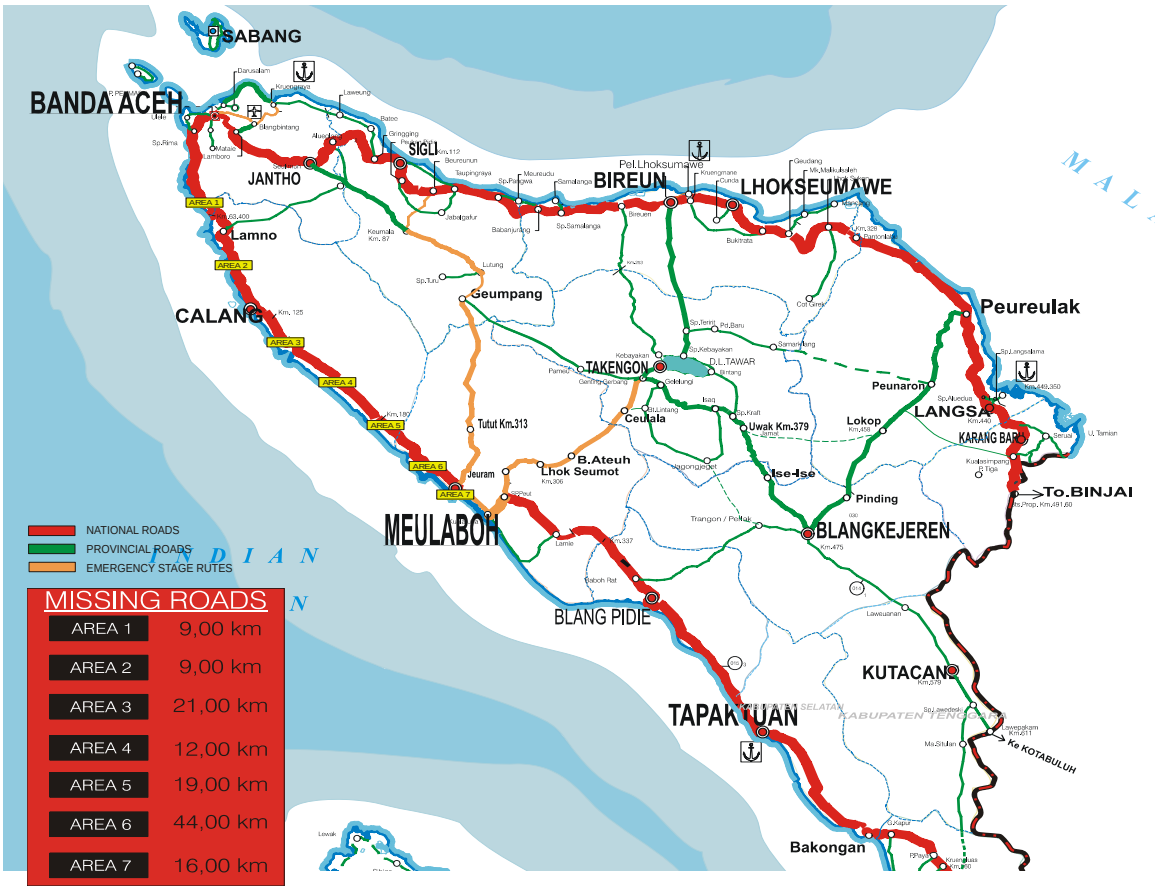
Operating Expenses – Several smaller utilities are putting untreated water through the distribution pipes because they do not have sufficient revenue for chemicals. Donors are providing temporary operating costs to the larger utilities, but there needs to be a plan whereby utilities recover costs as soon as possible in order to avoid perpetual dependency on donors.

4.3 Infrastructure

THE CHALLENGE

The earthquake and the tsunami caused extensive damage to roads, bridges seaports and airports on the west coast of Aceh and on Nias and Simeulue.

Transport. In Aceh 2,000 km of roads and more than 4 km of bridge need to be made passable again. The tsunami destroyed 230 km of road, and 2,788 m of bridges require reconstruction, with about 130 km of roads almost completely washed out. In addition to that, rehabilitation will need to cover 1,930 km of roads and 4,348 m of bridges.



The tsunami also affected most seaports in the western part of Aceh, such as Malahayati (100 x 15 m2), Sabang (312 x 10 m2) and Meulaboh port (51 x 8 m2). In total nine sea ports and seven ferry ports require rehabilitation and reconstruction to an estimated cost of US$ 15 million. The air transport system sustained most damage in Sabang, Banda Aceh, and Meulaboh, with a total of ten airports needing rehabilitation and reconstruction costing an estimated US$ 13 million. Search and rescue installations require work estimated to cost US$ 5.5 million.

As reported in an IOM Damage Assessment, in Nias and Simeulue, the earthquake devastated an already weak transport network. The repair needs are enormous – 84.8 km of city roads were affected (2.8% destroyed, 28.3% sustained major damage); 164.6 km of neighborhood roads (27.2% destroyed, 25.2% sustained major damage) and 94.4 km of provincial highways (8.8% destroyed, 35.5% sustained major damage). Furthermore, 338 bridges require reconstruction or rehabilitation (24.3% destroyed, 27.5% sustained major damage).

Oil and Gas. The Ministry of Energy January 2005 report identified serious damage to two Pertamina fuel depots: Kreung Raya (capacity: premium 5,000 KL, kerosene 5,000 KL and diesel 1,000 KL), and Meulaboh (capacity: premium 1,500 KL, kerosene 1,500 KL and diesel 1,500 KL. The operation of Pupuk Iskandar Muda (fertilizer producer) was disrupted and eventually stopped for several weeks. The estimated damage assessment due to loss of facilies and fuel stocks is listed in Table 13.

Table 13: Estimated Damage to Fuel Stocks and Facilities

	Infrastructure (US$ thousands)	Fuel Stock (US$ thousands)	Total (US$ thousands)
Depot Krueng Raya	5,200	2,806	8,006
Depot Meulaboh	3,900	763	4,663
Depot Lhokseumawe	53.7		53.7
Depot Gunung Sitoli	53.7		53.7
Depot Sabang	107,5		107.5
Kantor Banda Aceh	53.7		53.7
Distribution Centers	1,075		1,075
Total	**10,462**	**3,569**	**14,031**

The main challenges for the oil and gas sector are to ensure fuel supply to Banda Aceh, Meulaboh and Simeulue Island and rehabilitation of Pertamina depots and distribution centers.

Electricity. The Aceh electricity system is divided into 5 sub-regional systems (Banda Aceh & Sigli, Meulaboh, Subussalam, Lhokseumawe and Langsa). Banda Aceh and Meulaboh were worst hit by the tsunami, while the damage of low voltage distribution system in Lhoksemauwe was mainly caused by the earthquake. Table 14 shows the estimated damage assessment as prepared by PLN Aceh in January 2005. The PLN damage assessment (Rp, 400 Billion) is lower that the initial damage and loss assessment (Rp 500 Billion), probably because the initial assessment over-predicted the damage on distribution network. The distribution system (low voltage and households connections) accounts for the most damage, especially in Aceh and Meulaboh.

Table 14: Estimated Damage Assessment in US$ Thousands (January, 2005)

Items	Aceh	Meulaboh	Sigli	Lhoksemauwe	Total
Medium voltage line	3924.7	7365.6	344.1	215.1	11849.5
Low voltage line	4569.9	5322.6	333.3	3784.9	14010.8
Sub-stations	1871.0	2311.8	53.8	118.3	4354.8
House connection	2279.6	1193.5	354.8	139.8	3967.7
Generation	0	935.5	0	0	935.5
Building & Others	5376.3	752.7	0	0	6129.0
TOTAL	**18021.5**	**17881.7**	**1086.0**	**4258.1**	**41258.1**

The rehabilitation phase will require around US$ 80 million, consisting of US$ 31 million for rehabilitation of distribution network (1,000km of MV lines, 2,400km of LV lines and around 92,000

household connections), US$ 14 million to build several diesel power plants for isolated areas, US$ 32 million to build two barge-mounted diesel power plants (2 x 6 MW) in Banda Aceh and Meulaboh and US$ 2 million for supporting facilities.

Medium term needs, which anticipate a growth in demand in Aceh, will require an investment of around US$ 300 million, of which US$ 40 million are to construct distribution networks to support household connections (expected to double in this phase), US$ 26 million for the construction of a 150 KV transmission line to connect Bireun – Peusangan – Meulaboh with the existing 150 KV transmission line from Banda Aceh – Medan.

Telecoms. The estimated damage and losses in the telecommunication sector are around US$ 200 million in telecommunication, USO connection – mostly in rural and isolated areas – and in TELKOM fixed connections.

DELIVERING THE RECOVERY PROGRAM AND THE WAY FORWARD

During the first six month, the infrastructure program has largely reacted to the humanitarian program. In the energy and telecommunication sectors, this was led by the utilities, namely PLN, Pertamina, and PT. TELKOM. Longer-term planning depends to some extent on resettlements and land right issues, but also presents an opportunity to re-design networks and systems.

Transport. In the road sector, the Ministry of Public Works and the Indonesian Army carried out the following emergency works:

- Re-embankment work and erection of temporary Bailey bridge on the Tapaktuan-Bakongan link.
- Replacement of the damaged access road to the west coast starting from Lhoknga–Leupung–Lhong–Lamno–Calang–Teunom–Meulaboh implemented under the Indonesian National Army's program.
- Clearing and minor rehabilitation works on the 42 km Banda Aceh-Krueng Raya link.
- Improvements to damaged roads in the east coast of Aceh.
- Emergency works by the Indonesian National Army on Banda Aceh-Meulaboh link

Ports and Airports. Details of the Government's rehabilitation and reconstruction program in the road, sea, river and air transport sectors can be seen in the Master Plan. The Ministry of Public Works has allocated US$ 30 million this year for the primary road on Aceh's west coast area. In order to complete construction by December 2005, the work has been divided into small contracts. The procurement process has started.

Several donors are supporting major projects in transport infrastructure. USAID committed to support the construction of the Banda Aceh to Meulaboh road (240 km) and procurement is underway. The Japanese Government has started working with BRR on Meulaboh to Calang semi-permanent road project. Table 15 shows more information on donor projects in the road sector.

Table 15: Donor Projects in the Road Transport Sector

No.	DONOR COUNTRY/AGENCY	ALLOCATION	ALLOCATION PLAN
1	ADB	19,5 Million $U.S.	Eastern Coastal Roads, mainly Banda Aceh-Kruengraya and Banda Aceh-Sigli (115km)
2	Japan International Cooperation System (JICS)	85,0 Billion IDR.	Procurement of equipments and materials
3	USAID	265,0 Million $U.S.	Reconstruction of Banda Aceh-Meulaboh(115km)
		100,000 $ US	Assessment of Road Reconstruction
4	JICS	315,0 Billion IDR	Road Improvement of Calang-Meulaboh (115km)
5	MDTF	11.7 Million $US	As part of UPP program, the block grants are transferred directly to communities, and can be used for sub-projects covering a range of poverty alleviation activities, and can include community infrastructure (roads, bridges, school repair, health facilities, etc).,
		42.9 Million $US	Through KDP - The majority of investments typically go for basic economic infrastructure, particularly farm-to-market roads, water supply, and irrigation, but there are also significant investments in education.
6	Japan	14.6 Million Y	Education, Urgent Water Supply and Sanitation Rehabilitation in Banda Aceh, Public Health, *Aceh Urban Road Rehabilitation*, Broadcasting System Rehabilitation, Aceh River/Floodway Rehabilitation, Miscellaneous
7	NATO		Bailey Bridge and Girder (1110m)

Source: Ministry of Public Works

Electricity. After the disaster PLN has been able to provide electricity to the cities, to houses in non-affected areas and to the temporary settlements. This program has been financed through the State Budget and PLN's budget. A Chinese electricity company also provided 5 units of generators (each has the capacity of 35 KVA) through PLN. ADB pledged US$ 9 million as part of their Power and Renewable Energy Development loan re-allocation to support the recovery of the energy sector.

The need to rebuild large parts of the energy infrastructure gives the opportunity to consider non-diesel fuel power generation options such as coal, gas, hydropower and geothermal energy. In addition to the existing gas field in Lhokseumawe, exploited by Exxon Mobil Oil, PGN plans to start carrying natural gas from South Sumatra and from the Gebang field on the Medan coast to North Sumatra in the next few years. There are plans to construct a hydropower plant in Peusangan (2 x 42 MW at a cost US$ 168 million) and a gas-fired power plant in Banda Aceh (2 x 30 MW at US$ 68 million) as well as a coal-fired power plant in Meulabohand. The Ministry of Energy also recently discussed the geothermal potential of Central Aceh.

Telecommunications. The UN Flash Appeal pledged some US$ 500,000 to build radio, communications, media capacity and cultural rebuilding/empowerment support. There is no detail information on the progress of this program. TELKOM's Director for Business and Telecom Services stated that by March 2005, the company have spent around IDR 200 billion to restore basic infrastructure in the affected area, increasing the handling capacity of Aceh's telecommunication facility by 31% from 100,000 to 131,000 fixed connections (SST). Telkom also built 18 new base transceiver stations with the capacity of 44,000 connections (SST). During the reconstruction,

damaged fixed wire lines will be replaced by a fixed wireless network (CDMA – Telkom Flexi), the option with the least cost and the fastest deployment rate.

4.4 Education

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 had lost their education facilities and needed to be provided with alternatives. In 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.

DELIVERING THE RECOVERY PROGRAM

The first six months after the disaster saw intensive efforts to address the immediate education challenges. A long list of partners joined the Government in providing an immediate response, including international agencies and NGOs (such as UNICEF, Save the Children, JICA, KfW, GTZ) as well as private sector (such as the Coca Cola Foundation and the Sampoerna Foundation).

Most of the displaced children now have access to schooling facilities, albeit mostly temporary ones. 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;
- Provision of scholarships;
- Contracting and training of new teachers. UNICEF has recruited and trained 1,000 teachers to start teaching in July 2005. UNICEF paid six months of their salary and provincial government will cover the next six months.
- 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.

People touched by the magnitude of the damage and human suffering offered donations, pledges and volunteered their time to help in the rehabilitation, reconstruction and improvement of schools in Aceh and Nias.

Commitments to assist in more permanent rehabilitation continue to be pledged by various donors. During the emergency stage, these were being discussed with different level of the government: MoNE, the provincial education office, and district education offices. Some institutions also provided their assistance directly to schools. Now it is crucial that the government takes the lead role in the coordination.

A list developed by the EMIS section of the provincial office indicates that as of mid-June 2005, out of the 1,500 schools identified as damaged, 95 are being reconstructed (See Table 16). Funding for the remaining 1,400 schools is still not clear.[39] On the other hand, a list drafted by another part of the provincial office records various commitment from many agencies (See Table 17). If all of these commitments were to be honored, it is estimated that by the next school year (July 2006), more than 1,000 schools will be fully functioning.

Table 16: SUMMARY OF DAMAGED SCHOOLS AND STATUS OF ASSISTANCE

No	District	Tsunami/ Earthquake	No. of damaged schools	Assisted	Not yet assisted	MoU	surveyed
1	Aceh Barat	Yes	84	0	84		
2	Aceh Barat Daya	Yes	22	0	22		
3	Aceh Besar	Yes	110	12	98	42	21
4	Aceh Jaya	Yes	73	0	73	6	10
5	Aceh Selatan	Yes	3	0	3		
6	Aceh Singkil	Yes	157	0	157		
7	Aceh Tamiang		61	0	61		
8	Aceh Tengah		21	0	21		
9	Aceh Tenggara						no data
10	Aceh Timur		27	0	27		
11	Aceh Utara		271	10	261		
12	Banda Aceh	Yes	146	34	112	34	23
13	Bener Meriah		23	0	23		
14	Bireun	Yes	226	20	206	20	
15	Gayo Lues						no data
16	Langsa		2	0	2		
17	Lhokseumawe	Yes	20	0	20		
18	Nagan Raya	Yes	45	9	36		25
19	Pidie	Yes	45	5	40		32
20	Sabang	Yes	6	1	5		2
21	Simeleu	Yes	146	3	143		
	Total		1,488	94	1,394	102	113

Assisted:	construction preparation activities are taking place
MoU signed	schools surveyed and MoU signed but activities are not yet taking place
surveyed	schools surveyed by NGO/ donor, but commitment not yet confirmed

[39] The Master Plan estimated that a five year budget of US$ 875 million would be required.

Table 17: Donor Commitments in the Education Sector

Donor	Commitment	Description
Australia, DfID, France, Germany, Japan, Netherlands, New Zealand, USA etc.	US$ 41 mio	School reconstruction, equipment, materials, teacher training, vocational training for all types of school (Pre-primary to university). Assistance covers schools and university under MoNE and MoRA
ADB	US$ 10 mio	Decentralized Basic Education
UNICEF	US$ 90 mio	Reconstruction and rehabilitation of 500 primary schools, teacher training, contract teachers
NGO (Save the Children, World Vision, Plan International, Solidarite, Cordaid, others)	US$ 79 mio	Reconstruction and rehabilitation of around 400 schools, teacher training, furniture, learning material, scholarships.

THE WAY FORWARD

The Master Plan combines rehabilitation and reconstruction of schools with 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.

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

Gaps. Although the total of 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 which UNICEF does not cover. In addition to this, very little money is available for demand-side issues such as scholarships that allow children to pay for transportation, uniforms, books and reduce opportunity costs and 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 reconstruction of 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 MOUs to the proper authorities, making it difficult

to obtain an overall picture of commitments and needs, including the kind of assistance provided. Provincial and district education offices require technical assistance in order to coordinate donor assistance effectively. This involves a clear protocol and monitoring mechanism to ensure that donors honor MOUs and commitments within a certain period.

Whereas 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, including through an appropriate information campaign.

4.5 Health

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 traumatised.

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.[40] 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.

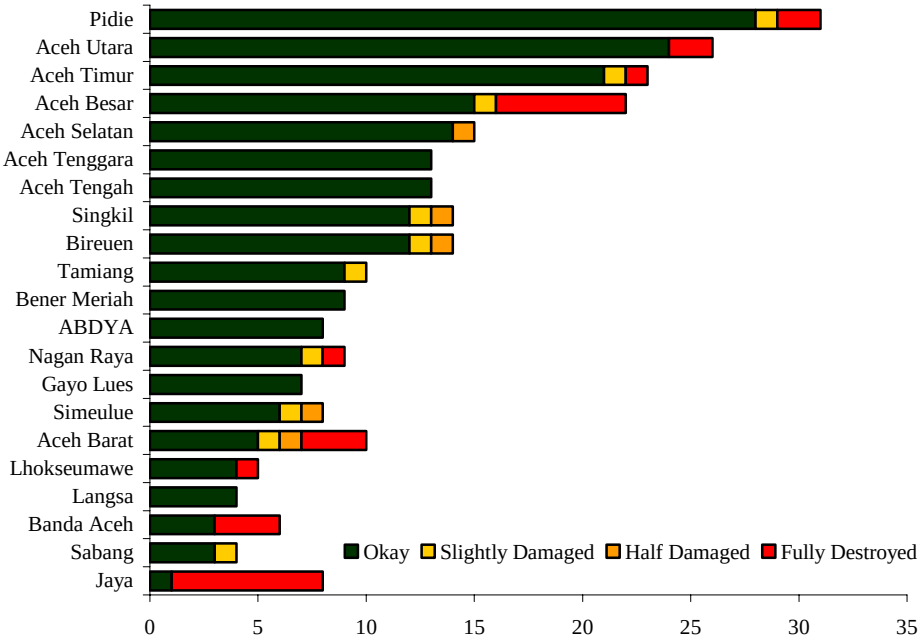
The disaster not only put extreme demands on the health system, but also reduced its ability to cope: Two private hospitals in Banda Aceh were completely destroyed with the loss of 80 staff. Five other hospitals were damaged with the loss of 276 staff.[41] In Aceh, 26 public health centres at sub-district level (*puskesmas*) and sub-*puskesmas* at village level were totally destroyed, 5 badly damaged and 10 slightly damaged. 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.[42] The earthquake of March 28th also destroyed the medical stores at Simeulue.

The numbers of medical and support staff who lost their lives are still not clear. Many staff who survived the disaster lost family and homes and could not return to work. Others continued to work under considerable stress.

[40] WHO, Rapid Assessment of Mental Health, January 2005.
[41] PHO data, 10 Feb
[42] WHOSitrep28Feb05.doc:

Figure 9: 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.
- Military forces, national and international NGOs, volunteers and the Singapore Ministry of Health helped re-establish services to survivors at existing facilities and field hospitals. Several NGOs together with the Italian government have committed to rebuilding health centres and sub-centres or staff housing and the provincial health office reports that work is now underway to rehabilitate all 58 damaged PHC and 120 sub-PHC.
- 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. Apart from Aceh Jaya and Simeulue, the medical supplies system is now returning to normal. A rudimentary health surveillance system was established to provide weekly reports on the incidence of 11 conditions. Enhancements to the health information system are due to be implemented in June.

Despite several gaps in the delivery of services, relief efforts appear to have had some success in reaching the most vulnerable groups, and may have prevented widespread disease and famine.

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.[43] By the end of January it seems that hospitals had bed occupancy rates of just 40-50 percent. Yet it was apparent that some survivors were unable to obtain

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

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).[44]

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 immunised against measles. Nevertheless, children in IDP camps suffered higher rates of illness from diarrhoea, 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.[45]

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 (vi) nutrition services. It also aims to develop community based services, particularly for psychosocial support.

Planning and implementation is hampered by sketchy estimates of the numbers and locations of populations. It also faces some difficulties because it is still not clear to what extent services are already reaching populations and what resources will be available to expand services. Finally, there is 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 WAY FORWARD

There is a need to rethink the way provincial and district levels of government work and relate to each other. The provincial health office is likely to play a key role in the coordination of programs across districts, and liaison with other sectors, NGOs and international organisations. It 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 needs to be responsive to the needs of affected populations and will need to establish clear and fair guidance on the extent to which services can be offered to all citizens of Aceh. In some instances non-IDP populations have inferior health indicators but the access to some services, such as free medication, is restricted to IDPs.

Coordination of inputs from the various actors also continues to present challenges. Some agencies are better at working with government and sharing information than others. There is concern that some agencies may not be following national or local guidelines for building or service provision

[44] WMMR-2005-03.DOC.

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

(including counselling and psychosocial interventions). It is known that some services such as immunisation 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. The re-establishment of the health workforce and development of an effective plan for transition of services from NGOs to local institutions are persistent concerns, particularly as the health sector response is likely to require much greater emphasis on mental health problems which are more complex and longer-lasting than physical injuries.

4.6 Livelihoods

THE CHALLENGE

Fisheries, agriculture and small enterprise were the most heavily affected sectors of the economy, and also three of its key driving forces. 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, victims most strongly want livelihoods support.[46] Restoring jobs and the real economy not only moves victims from dependence on aid to self-sufficiency, but also has the important psychological impact of providing daily activity.

A quick assessment in January estimated that the total damage and loss to the productive sectors reached US$1 billion,[47] comprising US$511 million damage in the fisheries sector, US$225 million in agriculture, and US$218 million in the enterprise sector.

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.[48] 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 brackishwater culture ponds were affected, only 1 percent cannot be restored. In Nias and Simeulue, 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.

Another fact that should be taken into account is that the assessment of losses was made of what was lost in a declining economy. There had been a significant shift in the population over the last 3 years to agriculture and fisheries as urban and service based industries declined. Most agencies are considering restoration of previous livelihoods, without clearly articulating the current and future needs and resource base. Over the next 3-5 years there will be significant growth, 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, there will be a significant impact as resources allocated to reconstruction decline.

Core recovery cost

The projected cost to recover the livelihood productive sectors in 2005 to a minimum is around US$183 million. The projects in the pipeline are significantly higher at $345 million (excluding $13 million funds allocated in the central government budget). This does not necessarily

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

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

48 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).

represent a significant oversupply of funds, as not all needs of the individual sectors are met and the assessment of damage and financing needs continues to be subject to adjustment. In fact, funding needs beyond 2005 are not assured, as some organizations may not be able to carry allocated resources into the next financial year.

Table 18: Comparison of productive sector recovery cost and funds available, 2005 (million US$)

		Funds available				
Sub-sector	**Estimated cost**	**APBN-BRR**	**Donors**			
			Multilateral	**MDTF**	**Bilateral**	**NGOs**	**Total**
Agriculture & Livestock	61	14	30		5	19	69
Fisheries	108	26	34		7	26	93
Industry & Trade	4	5			4	17	26
Manpower and transmigration	2	4	3		1	18	27
Cooperative and UKM	8	10			3	116	129
TOTAL	**183**	**59**	**67**		**19**	**196**	**345**

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.

DELIVERING THE RECOVERY PROGRAM

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-June, FAO, UNDP and ILO had contributed about US$45 million in five projects.[49] 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.

[49] Information UN-OCHA Expenditure Tracking (URL: http://ocha.unog.ch/ets/, last accessed June 18, 2005), with updates from the UNDP.

Livelihood Recovery Working Group

Donors and NGOs have come together to form a "Livelihood Recovery Working Group" (LRWG).[50] 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 database, by mid-June there were 62 organizations (NGO and donors) working on 190 livelihood-related projects across Aceh and Nias.[51] 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.

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. 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.[52] The work has allowed turning damaged public facilities operational again while the income enabled participants to reestablish small enterprises, rehabilitate paddies to plant rice this wet season and address basic household needs.

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 brackishwater aquaculture development centre and an aquaculture component for an ECHO project "Emergency assistance for food security and restoration of livelihoods amongst tsunami-affected farmers, fisher folks, 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.

Fisheries. The main activity in the fishery sector of 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.[53] Catholic Relief Services (CRS) is working on projects to recover fish markets in Meulaboh. USAID reported that there are some grants available

[50] URL: http://www.humanitarianinfo.org/sumatra/reliefrecovery/livelihood/
[51] This may not include small organizations who do not register their activities to HIC.
[52] Based on various reports at the websites of Oxfam, UNDP, USAID, Mercycorps, World Vision.
[53] www.e-aceh.org

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. The FAO is coordinating these efforts.

Three fishermen groups in Reudeup village, Panteraja sub-district of Pidie District received 45 boats donated by the Islamic charity, Dompet Dhuafa Republika (Jakarta-based daily newspaper), LAZ Peduli Ummat of Medan-based Waspada Daily newspaper, and Solo Peduli, allowing 90 households in the village to return to work.[54] Despite some successes, most fishermen are not able to return working yet. Many of them not only have no boats, but those who live in IDP camps may not even be near the sea.

Industry 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 targeting 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 lost business licenses re-issued, for example to apply for bank loans.

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.

THE WAY FORWARD

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

Supply of Human Resources and Materials: Some analysts have estimated that as many as 200,000 skilled laborers and tradespeople will be required for the reconstruction phase.[55] These skills do not currently exist 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 end of May, more than 20,000 people had registered, but less than 1,000 have been placed in jobs due to the current lack of demand.[56] Where skills gaps are identified and capacity for training can be mobilized, short-cycle skill 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.

An interesting example is the recent course for a group of 15 women in 'tile-making'. Although this was initially not considered a woman's job in the Acehnese context, the women showed great

[54] "Aceh fishermen set sail after meet the press", from Relief-web, April 20, 2005 (URL: http://www.reliefweb.int/rw/rwb.nsf/0/cad278e6265ba99749256fee000530f1?OpenDocument).
[55] "A Profile on the Construction Sector in Aceh," a preliminary briefing note by Bruno Dercon, Adviser to DFID, 3 June 2005.
[56] 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.

enthusiasm in making cement tiles and produced good quality. They were then offered an entrepreneurship development course to prepare themselves to set-up a small business producing and selling tiles.

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. 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. The issue of how to move to risk-sensitive asset renewal programs,[57] encourage innovation and to a more dynamic productive structure needs careful consideration.

Considering environmental impacts: Environmental factors need to be considered. 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.

Strategy

The strategy for economic development should be based on development scenarios which take long-term changes in Sumatra, Indonesia and ASEAN into account and which considers 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 look 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 larger businesses to get back into operation – this includes access to credit and rehabilitation of key infrastructure.

[57] An IOM report on the "Settlement and Livelihood Needs and Aspirations Assessments" also suggests that the livelihood programs should focus on supporting the re-establishment of former livelihoods or a shift to an alternative economic activity. It also recommends that livelihood assistance activities taking into account the changes in family roles resulting from the loss of either the household head or homemaker.

4.7 Environment

THE CHALLENGE

The earthquake and tsunami that hit Aceh's west coast caused an environmental disaster of extreme proportions. The main immediate environment impact is the immense amount of waste and debris. 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.

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.

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 in January and February 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 are among the tsunami casualties. Five Syah Kuala University lecturers on environmental subjects and two environmental NGO leaders are 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

Details of the environmental damage remain sketchy and considerably more assessments need to be carried out before an action plan can be formulated. An aerial photography survey at 1:10,000 of Aceh coastal areas is now underway with funding from Norway. There are also plans for survey using a marine research vessel in collaboration with Thailand. UNEP is supporting the Green Aceh Conference which will run from 21 to 23 June. The conference is conceived as a 'market place' of ideas. One of its aims is to mainstream environment in the Aceh development agenda.

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 Minster 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.

An immediate concern is sourcing legal and sustainable timber for Aceh reconstruction as supplies of certified sustainable timber are inadequate. 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.

As for rehabilitation, some shrimp ponds are already being reclaimed. Ideally, silvo-aquaculture approaches would be encouraged. 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.

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.

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.

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.

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.

I. 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.[58]
- 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 Masterplan. 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.

II. CATEGORIZING PROJECTS

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

[58] 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.

- **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 Moelaboh 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. Allocations are based on actual execution. Every fund is mapped to a project. As a result, projects are not double counted

Exchange Rate. Currency applied is in US Dollar. Coversions have been done based on the government's official assumption of US$1 = 9300 Rupiah. Data based on currency other than US Dollar has been converted using the latest exchange rate available.

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. One project could be divided into more than one sector if the project is cross-sectoral.

2. One project could have relief, reconstruction and broader development program components. 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.

III. 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, Red Cross Movement. National Labor Survey (Sakernas) – various editions, Central Bureau of Statistics (BPS).

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)

ANNEX 2: Summary of Needs, Projects, and Gaps (million US$)

	NEEDS			PROJECTS EXISTING & AGREED			GAP		
	Damage and Loss Assessment	Master Plan	Minimum to build back	Building back [1]	Better[2]	TOTAL	Damage & Loss	Master Plan	Core Needs
	A	B	C	D	E	F	F-A	F-B	D-C
Social Sector	304	1,537	346	669	247	916	612	-620	323
Education	128	875	147	252	53	305	176	-571	105
Health	92	221	104	234	116	350	258	129	130
Community, culture and religion	83	440	95	183	78	261	178	-179	88
Infrastructure and Housing	2,314	2,806	1,707	1,240	178	1,418	-895	-1,387	-466
Housing	1,437	568	666	474	7	480	-957	-88	-192
Transport	536	1,145	616	279	129	408	-128	-737	-337
Communications	22	41	25	23	1	24	3	-16	-2
Energy	68	463	78	22	1	23	-45	-440	-57
Water & Sanitation	30	345	35	194	31	225	195	-120	159
Flood control, irrigation works	221	202	237	91	5	96	-126	-106	-146
Other Infrastructure		43	49	159	4	163	163	120	109
Productive Sectors	1,182	158	185	345	35	380	-802	222	160
Agriculture & Livestock	225	52	61	69	3	72	-152	21	8
Fisheries	511	92	108	93	5	98	-413	6	-15
Industry & Trade	447	5	5	26	2	28	-418	24	22
Manpower and transmigration		2	2	27	1	28	28	26	25
Cooperative and SMEs		8	9	129	25	154	154	146	120
Cross Sectoral	652	645	262	199	91	290	-362	-355	-63
Environment	549	139	162	53	1	54	-495	-85	-109
Governance & Administration (incl. Land)	89	506	84	146	90	236	147	-270	62
Bank & Finance	14		16				-14		-16
TOTAL	4,452	5,145	2,500	2,453	551	3,004	-1,447	-2,141	-47

* 1 "Building Back" : Reconstruction program
2 "Better" : Development program

ANNEX 3: Summary of all Projects (million US$)

	Domestic Funds		Donors			Private	TOTAL
	APBN-BAPEL	APBN-Decon/Central	Multi-lateral	MDTF	Bilateral	NGOs	
Social Sector	81	41	266	72	162	294	916
Education	14	35	136		41	79	305
Health	38	3	75		70	165	350
Community, culture and religion	29	2	56	72	52	50	261
Infrastructure	176	38	260	150	370	425	1,418
Housing	38	1	134	150	11	147	480
Transport	67	16	26		299		408
Communications	6	1	1		17		24
Energy	11	3	10				23
Water & Sanitation			57		31	136	225
Flood control, irrigation works	45	9	32		10		96
Other Infrastructure	10	8	2		1	142	163
Productive Sectors	59	9	90		20	203	380
Agriculture & Livestocks	14	4	30		5	20	72
Fisheries	26	2	34		7	29	98
Industry & Trade	5	1			4	19	28
Manpower and Transmigration	4	2	3		1	18	28
Cooperative and SMEs	10		23		3	118	154
Cross Sectoral	111	31	39	29	28	52	290
Environment	10	1	23		3	18	54
Governance & Administration (incl. land)	102	30	16	29	25	34	236
Bank & Finance							
Total	427	118	655	251	580	974	3,004

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

	Domestic Funds		Donors			Private	TOTAL
	APBN-BAPEL	APBN-Decon/Central	Multi-lateral	MDTF	Bilateral	NGOs	
Social Sector	53	19	230	72	115	179	669
Education	14	16	136		41	45	252
Health	38	2	50		61	84	234
Community, culture and religion	2	1	45	72	13	50	183
Infrastructure	176	18	233	150	239	425	1,240
Housing	38	1	134	150	5	147	474
Transport	67	8	26		179		279
Communications	6		1		16		23
Energy	11	1	10				22
Water & Sanitation			31		27	136	194
Flood control, irrigation works	45	4	32		10		91
Other Infrastructure	10	4	2		1	142	159
Productive Sectors	59	4	67		19	196	345
Agriculture & Livestocks	14	2	30		5	19	69
Fisheries	26	1	34		7	26	93
Industry & Trade	5				4	17	26
Manpower and Transmigration	4	1	3		1	18	27
Cooperative and SMEs	10				3	116	129
Cross Sectoral	93	14	34	29	11	18	199
Environment	10		23		2	18	53
Governance & Administration (incl. land)	83	14	11	29	9		146
Bank & Finance							
Total	381	55	564	251	385	818	2,453

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

	Domestic Funds		Donors			Private	TOTAL
	APBN-BAPEL	APBN-Decon/Central	Multi-lateral	MDTF	Bilateral	NGOs	
Social Sector	28	22	36		47	115	247
Education		19				34	53
Health		2	25		8	81	116
Community, culture and religion	28	1	11		39		78
Infrastructure		20	27		131		178
Housing		1			6		7
Transport		9			120		129
Communications					1		1
Energy		1					1
Water & Sanitation			27		4		31
Flood control, irrigation works		5					5
Other Infrastructure		4					4
Productive Sectors		5	23		1	7	35
Agriculture & Livestocks		2				1	3
Fisheries		1			1	3	5
Industry & Trade						2	2
Manpower and Transmigration		1					1
Cooperative and SMEs			23			2	25
Cross Sectoral	18	17	5		17	34	91
Environment					1		1
Governance & Administration (incl. Land)	18	16	5		16	34	90
Bank & Finance							
Total	46	63	91		195	156	551

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

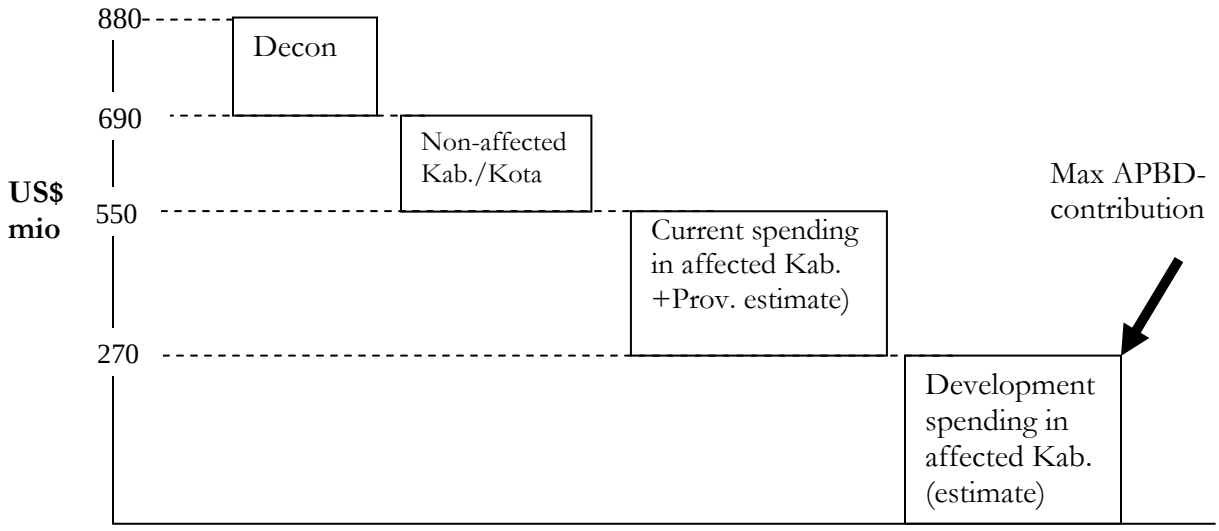
Sectors	APBN-BAPEL		APBN-Decon/Central	
	Reconstruction	Broader development program	Reconstruction	Broader development program
Social Sector	53.1	27.6	19.0	21.8
Education	14.0		16.4	18.8
Health	37.6		1.6	1.8
Community, culture and religion	1.5	27.6	1.0	1.2
Infrastructure	175.9		17.6	20.1
Housing	37.6		0.5	0.6
Transport	66.6		7.6	8.6
Communications	5.8		0.4	0.5
Energy	10.8		1.3	1.5
Water & Sanitation	0.0			
Flood control, irrigation works	44.8		4.3	4.9
Other Infrastructure	10.2		3.5	4.0
Productive Sectors	58.7		4.1	4.7
Agriculture & Livestocks	14.1		1.9	2.1
Fisheries	25.8		1.0	1.2
Industry & Trade	5.1		0.3	0.3
Manpower and transmigration	4.1		0.7	0.8
Cooprative and SMEs	9.7		0.2	0.2
Cross Sectoral	93.1	18.1	14.5	16.5
Environment	9.7		0.2	0.3
Governance & Administration (incl. Land)	83.4	18.1	14.2	16.3
Bank & Finance				
Total	380.9	45.7	55.1	63.0

ANNEX 7: NGOs Financing for Reconstruction (million US$)

Sectors	Reconstruction	Broader development program
Social Sector	179	115
Education	45	34
Health	84	81
Community, culture and religion	50	
Infrastructure	425	
Housing	147	
Transport		
Communications	0.1	
Energy		
Water & Sanitation	136	
Flood control, irrigation works		
Other Infrastructure	142	
Productive Sectors	196	6
Agriculture & Livestocks	19	1
Fisheries	26	3
Industry & Trade	17	1.5
Manpower and transmigration	18	
Cooprative and SMEs	116	1.5
Cross Sectoral	18	34
Environment	18	
Governance & Administration (incl. Land)		34
Bank & Finance		
Total	818	156

ANNEX 8: 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 9: 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