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# ROUTES TO RECOVERY IN POST-TSUNAMI ACEH & NIAS INFRASTRUCTURE RECONSTRUCTION THROUGH THE IRFF PROJECTS

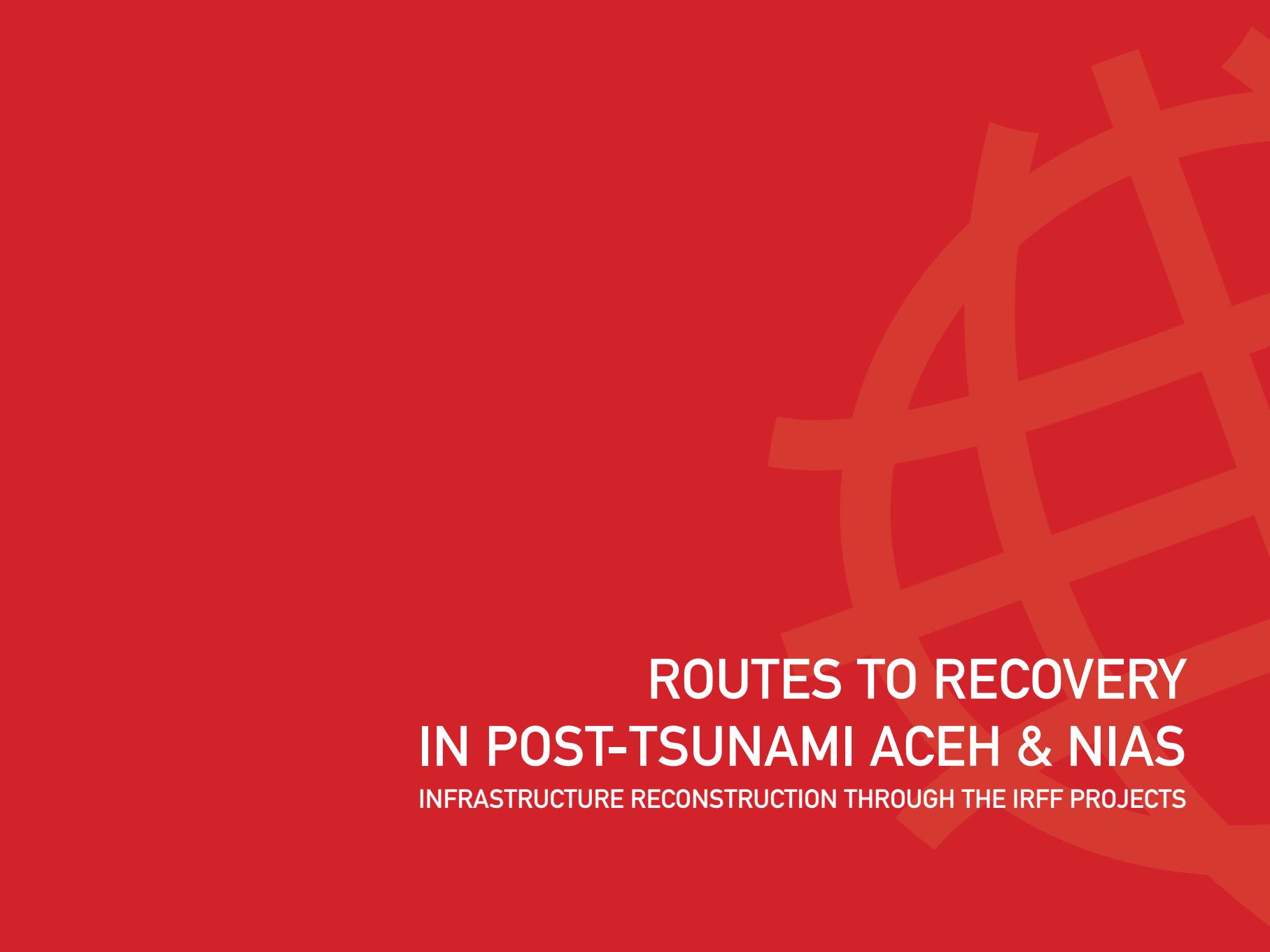


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# Preface

The recovery from the catastrophic tsunami of December 2004 and the subsequent earthquake in March 2005 posed a huge challenge for the Government of Indonesia (GOI). The province of Aceh and the island of Nias were the hardest hit. The loss of life, human displacement, economic disruption and devastation were enormous. The scale of the combined disasters proved overwhelming and required global support. This wave of destruction created a bigger wave of solidarity from Indonesia's friends in the international community.

The Multi Donor Fund (MDF) for Aceh and Nias was established on May 10, 2005, by the GOI and the international community to assist in the coordination of funds made available for post-disaster reconstruction. The MDF pooled approximately \$678 million of pledges from 15 bilateral and multi-lateral donors (European Commission, Netherlands, United Kingdom, World Bank, Sweden, Denmark, Norway, Canada, Asian Development Bank, United States of America, Germany, Belgium, Finland, New Zealand and Ireland) and has established itself as a trusted partner for the GOI in the recovery process.

In response, GOI created a dedicated reconstruction and rehabilitation agency (*Badan Rehabilitasi dan Rekonstruksi (BRR)*) to provide leadership and management across all aspects of the recovery. BRR's priorities were to provide housing and rebuild essential infrastructure. The World Bank, as a partner agency to the MDF and the GOI played a vital role in the post-disaster recovery programs. One such program was the Infrastructure Reconstruction Financing Facility (IRFF) which focused on the reconstruction of key water supply and drainage systems, roads, water resources and ports infrastructure in Aceh and Nias. Although the implementation of the IRFF faced many challenges and delays because of weak local capacities and difficult conditions, the project is near completion with a significant part of its outcomes successfully completed. This report presents a sketch of the local people's candid responses towards selected projects under IRFF and the impact they have had on their everyday lives.

It is evident that the IRFF has had significant positive impacts. We celebrate this achievement and are proud of the collaboration, dedication and hard work of so many who helped build back a better future for Aceh and Nias. We also thank our friends in the international community for their continued support.



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## Abbreviations & Acronyms

IREP	Infrastructure Reconstruction Enabling Program
IRFF	Infrastructure Reconstruction Financing Facility
MDF	Multi Donor Fund for Aceh and Nias
NGO	Non-Governmental Organization
USAID	US Agency for International Development

# Routes to Recovery

## Infrastructure Reconstruction in Aceh and Nias through the IRFF Projects

The earthquake and tsunami of December 2004 left behind a trail of death and devastation in the coastal areas around the Indian Ocean, including in Indonesia, Thailand, Sri Lanka and India's Tamil Nadu province. More than 300,000 people perished in the aftermath, 230,000 of them in Indonesia's Aceh province in the northern part of the island of Sumatra. The eight-minute tremors registering 9.3 on the Richter scale – the second largest earthquake ever recorded – and the ensuing 30-meter high waves flooding as far as two kilometers inland, destroyed everything in their wake: ports, roads, bridges, dams, buildings and people's homes. A subsequent earthquake in March 2005 caused

severe damage and loss of life on the island of Nias, in neighboring North Sumatra province, and parts of Aceh. The reconstruction of damaged infrastructure was thus a top priority for the Government of Indonesia in the recovery efforts that followed these devastating natural disasters.

The magnitude of the destruction in Aceh and Nias elicited world sympathy and mobilized nearly US\$7 billion to fund reconstruction and rehabilitation programs. The Government of Indonesia (GoI) coordinated the overall reconstruction effort through the *Badan Rehabilitasi dan Rekonstruksi* (BRR---the Agency for the Reconstruction of Aceh-

Nias), an autonomous body created by the GoI to lead the recovery and reconstruction efforts. The BRR's mandate came to an end in April 2009. The national planning agency, Bappenas, now has responsibility for coordination of the remaining reconstruction efforts following the closure of BRR.

The Multi-Donor Trust Fund for Aceh and Nias (MDF) was set up to support the GoI's efforts to coordinate and mobilize donor support for the reconstruction and rehabilitation of Aceh and Nias. The MDF pools approximately US\$678 million in contributions from 15 donors to support the implementation of the government's

recovery and reconstruction program. The MDF is governed by a Steering Committee with representatives from the national and provincial governments, donors, and civil society, and administered by the World Bank as trustee of the fund. The MDF has contributed about ten percent of the overall reconstruction funds for Aceh and Nias. These funds are channeled through 23 projects in areas including recovery of communities, large infrastructure and transport, strengthening governance and capacity building, sustaining the environment, enhancing the overall recovery process, and economic development and livelihoods.

The enormous task of reconstructing large infrastructure in Aceh and Nias was implemented through a coordinated effort between GoI and the MDF. Through the MDF, US\$

137 million was allocated through the Infrastructure Reconstruction Financing Facility (IRFF). The Government of Indonesia provided an additional US\$107.3 million in cofinancing for the project through the BRR. IRFF is supported by a US\$42 million Infrastructure Enabling Program (IREP), also funded by the MDF. These two projects work in tandem to support the design, finance and implementation of more than 52 separate infrastructure subprojects implemented by the Government of Indonesia. Implementation of the projects was initially through the BRR but after its closure has transitioned to the central Ministry of Public Works (MPW) in close coordination with Provincial Public Works. The World Bank provides supervision as the MDF's Partner Agency for the two projects.

The IRFF project finances a range of infrastructure reconstruction works which include national, provincial and district roads, bridges, ports and water systems of high quality. Through these works, IRFF is contributing to the reconstruction of a strategic transport network in Aceh and Nias. IRFF utilized local infrastructure investment plans and the IREP strategy created in conjunction with the BRR, to identify possible projects for implementation. Environmental impact assessments and associated management plans ensure that environmental safeguards are in place. The difficult operating environment has posed challenges, both physical and institutional, for project implementation. The disasters had a major impact on infrastructure, especially the hardest-hit areas along Aceh's west coast. Bridges, roads, ports

and other infrastructure were completely wiped out, and local institutional capacity was already weakened by several decades of conflict.

The projects focused primarily on reconstructing essential transport infrastructure, providing access to centers of economic activity. In some cases, such as the “New Town Road” in the capital city of Banda Aceh, brand new roads were built. This is intended to ensure that the eventual resumption of people’s pre-tsunami livelihoods can have a better chance of succeeding. In contrast, a number of roads selected for rehabilitation had not only been damaged by the earthquake and the tsunami, but had also been badly neglected during 25 years of armed conflict in Aceh between government forces and the Free Aceh Movement (GAM).

The infrastructure reconstruction program also included the rebuilding of seaports, drainage systems, and water systems. Sections of the damaged coastline and river estuaries were rebuilt and further reinforced by new sea barriers and tidal protection walls.

IRFF and IREP have already achieved significant results. They have supported the design, finance and implementation of more than 52 separate infrastructure subprojects implemented by the Government of Indonesia. As of September 30, 2010, 50 of these subprojects had already been completed, two were under construction, and one project was in preparation stage. These two projects working in tandem have thus far constructed approximately 500 kilometers of national and provincial roads, 87 kilometers of district roads, five ports and 11

water supply systems. The final strategic investment in large-scale infrastructure by the MDF is now getting underway as IRFF begins the construction of a 50 kilometer stretch of national road from Calang to Meulaboh on the west coast of Aceh, including the Kuala Bubon Bridge. This project is expected to provide livelihood benefits and access to basic services for more than 900,000 inhabitants.

Little has been reported on the overall impact of the newly built and reconstructed infrastructure in the areas affected by the earthquakes and tsunami. In an effort to document candid perspectives of people living in the areas where IRFF and IREP projects have been implemented, the project engaged a journalist to visit some of the project sites to conduct interviews with people directly or indirectly

affected by selected infrastructure works. This booklet presents the result of this informal canvassing. It was intended to provide a sketch of the responses of local people towards these projects and the impact the projects may have had on their everyday lives.

In addition, the views and perspectives of local public officials, such as district chiefs and senior administrators, were also sought and are included here. Most of the commentaries, however, came from people speaking out openly and honestly on how they viewed the changes taking place around them following the construction and rehabilitation of urban and rural roads, ports, water systems and other facilities.

The following collection of stories is not intended as an analytical report or an in-depth study of the impact of the projects. It instead provides a journalistic account intended to capture impressions and perceptions from ordinary people in Aceh and Nias on how the recovery effort has affected their lives, and influenced their expectations, their frustrations, and how they cope with the new realities after the disasters six years ago.

The people in post-tsunami Aceh and Nias face considerable challenges as they venture beyond recovery. With the new facilities provided through the IRFF and IREP projects, however, they now have a stronger foundation for rebuilding their livelihoods and moving towards sustainable economic growth.

# Highway of Hope

<b>Project Name</b>	:	<b>New Town Access Road, Banda Aceh</b>
Cost	:	US\$ 2.99 Million
Construction Completion Date	:	31 March 2009
Asset Management Hand Over	:	9 April 2009



**Before**



**After**



The two-kilometer new highway, south of Banda Aceh, the capital of Aceh province, was still unnamed, three months after it was officially opened on April 2009. But the four-lane freeway, known by its project title – New Town Access Road Stage 2 – has already attracted considerable economic activity.

On both sides of the road, starting from the four-way intersection called *Simpang Surabaya* until it joins the Sukarno-Hatta Artery road, new shop houses, homes and restaurants have mushroomed. Some of the more imposing buildings include the Office of the Aceh Prosecutors Office, a Toyota show room and dealership, and a brand new petrol station run by the state-owned Pertamina oil company. Close by, a large terminal serves inter-provincial buses traveling to and from areas

like Medan, in neighboring North Sumatra.

The New Town Access Road Stage 2 is a brand new thoroughfare, unlike the coastal highways destroyed by the 2004 tsunami which killed close to 200,000 people in northern and western Aceh. However, the road was always part of the Banda Aceh master plan to expand the city limits and build a network of protocol roads supporting the expansion.

“Its construction was accelerated so the area can develop faster and revives the local economy,” says Banda Aceh vice-mayor Illiza Sa’aduddin Djamal. As an extension of the New Town Access Road Stage 1, built by the Aceh-Nias Reconstruction and Rehabilitation Board (BRR), the Stage 2 Road was

identified by the local authorities as a project to be developed by the Infrastructure Reconstruction Financing Facility (IRFF) with support from the Infrastructure Reconstruction Enabling Program (IREP).

Vice-mayor Djamal has high hopes that the road will be a key element in developing the city’s tourism industry. “We are collaborating with the administrations of Aceh Besar and Sabang districts to create a special tour package that would include all these three areas,” she says. It is the same for the other new inter-connecting highway.

Djamal envisions attracting domestic tourists as well as visitors from neighboring Malaysia and other Asia countries in Asia, to enjoy Sabang’s beaches and marine

treasures, the natural beauty of Aceh Besar and the history and culture to be found in Banda Aceh. “Visitors can come here and witness how a land devastated by civil war and natural disaster can be transformed into a peaceful and potentially prosperous society,” she says.

To the residents of Batoh village, located off the new highway, many changes have taken place, most of them for the better. Tarmiji, 52, owner of the DhapuKopi restaurant, is one good example. Not long after the tsunami, when land values plunged to its lowest, Tarmiji took a chance and bought two shops at the strategic corner where the New Town Access Road crosses the Simpang Surabaya-Batoh-Lampeuneureut Artery Road. As owner of a mini-supermarket in downtown Banda

Aceh, he had planned to set up another branch in the new location, thinking that it would serve the growing number of residents in the neighborhood. Many survivors of the tsunami, traumatized by their losses, had moved away from the coast and settled further inland, some of them in areas bordering the new road.

About a year ago, Tarmiji changed his mind, deciding instead to invest in a coffee shop rather than a mini-mart. Given, the Acehnese penchant for drinking coffee, it was the right decision. His two-floor coffee shop – one of only two of this size in Banda Aceh -- is standing room only when he regularly shows soccer matches on his gigantic 2 by 1.5 meter flat screen monitor.

“I will be doing a lot better when the new road is really busy,” says

Tarmiji. His 24 employees get no salary. Instead, they share in the restaurant’s earnings as his way of instilling responsibility and accountability in managing the business.

At the other end of the road, where it forms a T-junction with the Sukarno-Hatta ring road, retired school teacher Juned Daud, who owns and runs a shop selling school supplies, shares the same optimism. As *keuchiek* or chief, of Lampeuneureut village, he has seen the value of land around the new road, once a patchwork of swamp and paddy fields, rise almost tenfold, from Rp 200,000 per square meter just two years ago. Even so, he has seen outsiders fight to get plots of land closest to the road. “I heard someone is looking for land big enough for a mall, and willing to pay good money,”

says Juned, who is amazed at the number of people trying to buy land around the new road, despite the spiraling prices.

As the village chief, he is happy that the area where he lives no longer floods during the rainy season, thanks to the drains built to catch excess water and channel it elsewhere. The area behind his house, for example, used to be perennially inundated during the monsoons, and the water would lie stagnant for a long time, creating health hazards like dengue-causing mosquitoes. Today, the water has disappeared and the area is dry all year round.

While admitting that the road has brought many benefits, he also points to one negative side-effect: increased criminal activity gravitating towards crowded

areas like bus terminals and commercial enterprises. “We worry that they may spill over into our neighborhoods,” he said. To anticipate security problems, he and other people have formed a neighborhood watch program. A group of village volunteers also take turns patrolling the area at regular times during the day.

For Mohammad Abubakar, the new road has brought nothing but good news. An elementary school teacher, Abubakar’s home is on a side lane off the new road. Before it was built, he would take one hour every morning to drop off his three children to school on his motorcycle. Now it takes him only half an hour. He and his siblings moved to the area after they lost three members of the family to the tsunami.



Rusnah, 35, a housewife and mother whose husband works at a nearby construction site, says the new road means that her three children do not need to walk through swamps to reach their schools. It has also cut the travel time for her to go into town to do her marketing. “Instead of walking to the nearest mini-bus station about two kilometers away across swamp land, I just wait by the new road for the bus or *labi-labi* to come along,” says Rusnah.

While life has been a lot easier and richer for most of the residents, especially young couples, some of the older people miss the former carefree lifestyle of depending on nature for a lot of their sustenance. Usop, 56, and his wife Rusmiah, 47, had to sell the bit of land that was not bought up for the road project. Not wanting to move

anywhere, Usop bought land farther inland and he and his wife continue to help farmers whose rice fields have shrunk significantly. But where almost everyone is glad that the swamps are gone, they actually miss them. “We used to pick wild spinach every day,” says Rusmiah, who now has to go to the local market to buy what she needs.

Today, the biggest challenges facing the community and the Banda Aceh government is to ensure the new road, linking four villages, is maintained and put to appropriate use. Not long after it was officially opened, the thoroughfare became a night-time racetrack for young motorcyclists. Not any more.

Banda Aceh vice-mayor Djamal had anticipated this problem and knew just how to deal with it.





“Every Friday after communal prayers, we gather youths and communicate with them on the need to maintain the facilities around their neighborhood,” said Djamal. She claims such ‘socialization’ is unending, and can be done in many ways different ways. “We sponsor competitions and reward neighborhoods which succeed in maintaining the cleanliness and safety of their living areas,” she says.

From her perspective, the final objective is to instill in local communities a sense of ownership towards public facilities like the new road so that they will voluntarily care for them without a lot of prodding from the government.



# Water from the Krueng Aceh

<b>Project Name</b>	:	<b>Siron Water Supply, Aceh Besar</b>
Cost	:	US\$ 1.77 Million
Construction Completion Date	:	30 September 2009
Asset Management Hand Over	:	13 April 2009



**Before**

**After**

***Project Description:***

*To provide clean drinking water to 10,000 households in Banda Aceh and Aceh Besar.*

Hung across the entrance of the Provincial Clean Water Company (PDAM) in the Aceh Besar district town of Siron is a banner that reads, “Water is precious, pay your water bill on time.” It is a gentle reminder that consumers must pay for the privilege of using clean water piped right into their homes, something new to families who for as long as they can remember relied on ground-water wells.

“Many residents seem to think water is a gift of God and that it should be free,” fumed an exasperated Ayub, director of the Siron water supply facility, which was completed in March 2009 using funds from the World Bank’s Infrastructure Reconstruction Financing Facility (IRFF).

The Siron Water Supply project is one of the post-2004 tsunami reconstruction programs that the Aceh provincial government undertook to improve the delivery of public services. It was built to supply clean water to about 7,500 households in the newly developed residential area of Baitussalam, where most of the housing and infrastructure was destroyed in the 2004 tsunami, and to some 2,000 homes located around the site of the Siron treatment plant itself.

The source of the water is the Krueng Aceh River, which flows past the facility. Channeled through a 200-meter intake, 40 liters of water a second flows into two treatment and filtration plants and then stored in large reservoir tanks. From there, it is run through a 19.5 kilometer pipe system to

homes around Siron and to the Baitussalam housing complex about three kilometers away.

"They should be grateful, right?" Ayub asks rhetorically, "but getting them to pay their bills on time is like pulling hens' teeth." He has offered them a variety of enticements, like free umbrellas, if they pay their water bills on time, even if it is once every three months. He claims only 60 percent of his customers pay on time -- if at all -- the monthly average fees of Rp 15,000 to 20,000 per month.

It is not that residents have been uninformed about the responsibilities that come with having clean water piped into their homes. An awareness campaign was conducted among groups of villagers by the IRFF teams long before the project was completed.



The reluctance of consumers, mostly laborers and farmers, to pay for their clean water can be traced to the fact that they had to pay Rp 650,000 for the initial pipe connection. "This is a bit high for the people," says Mawardi Ali, a Siron resident and a member of the Aceh provincial parliament. He says many of them kept hoping that a non-government organization would come along and reimburse them for the installation costs before they subscribed to the service.

Another reason why residents seem to be taking a cavalier attitude towards paying for the water use is that almost all homeowners in the district of Aceh Besar, have water wells of their own. "Many of Siron's residents, like myself, welcome the clean water because the well water

tastes very metallic," says Mawardi. He still gets some of his water from the well to wash his motorcycle and water the garden, but uses the piped supply exclusively for drinking and cooking.

Another Siron resident who seems quite happy with the new water supply facility is Mulyani, 35, a mother of two young children and wife of a government employee. She lives on a lane just off the main road that cuts across her village. After her children go off to school in the morning, she tends the booth located in her front yard, offering a small selection of snacks and other sundry items.

"I like the convenience of having clean water inside the house," says Mulyani, who no longer has to buy bottled water for drinking. Like





Muwardi, she now uses the well to water her garden, planted with flowers and herbs.

She is very happy about the new piped water supply, saying that before it was installed the water level in her well was getting so low she and her husband were seriously thinking of boring another well. In fact, many households own more than one well. But it would have cost Rp 1 million and they didn't know how to get that much money. When the new project was announced, she rushed to register with the village chief to be a customer. "I was the first," she says proudly.

Most of the 20 households located in Mulyani's lane now get reticulated water and, like her, they wait until their water bills pile up for three months or more before they go to

Ayub's office and hand over the money. Most Siron residents are not really averse to paying. They realize there is a price to pay for the convenience, and Mulyani for one understands that getting piped water means digging fewer wells. Even so, she still asks, plaintively, "Please ask them to lower the monthly fee."

Final commissioning of the plan is dependent on actions to complete construction of a bridge over the Krueng Aceh River.



# The Way to Calang

<b>Project Name</b>	:	<b>Dayah Baro-Ujong Serangga, Calang Aceh Jaya</b>
Cost	:	USD\$ 0.71
Construction Completion Date	:	17 March 2008
MoU of Asset Operation / Maintenance	:	26 October 2007



**Before**



**After**



Tarmiji, born and bred in Calang, capital of Aceh Jaya district, is a true survivor. In the days when the Free Aceh Movement (GAM) rebels used to cause havoc in some communities, Tarmiji narrowly escaped being shot at while tending his store. In December 2004, after the quake struck, Tarmiji loaded his wife and kids on his motorcycle and raced towards the hills, escaping the tsunami that totally demolished the town.

During the hard times after the disaster when all infrastructure was destroyed and supplies were hard to come by, Tarmiji rode his motorcycle to less-affected areas to buy packets of cigarettes to be sold in Calang. His first post-tsunami store was a make-shift tent, from which he sold basic foodstuff.

Today, Tarmiji is a thriving entrepreneur whose business ventures are all located on a road that has come to symbolize Calang's recovery and future development. Destroyed by the tsunami five years ago, the newly-rebuilt Dayah Baro-Ujung Serangga feeder road now links Calang to the Banda Aceh-Calang highway. Cutting across six villages, it is now home to more than 5,000 people who have returned to pick up the threads of their lives.

"I was the first to buy land here and the first to set up shop," says Tarmiji, whose hardware store sells everything from household goods to light construction materials. Next to it, is the supermarket he also owns and operates, which catered to the thousands of expatriates working for NGOs and international organizations in rebuilding Calang after the tsunami.

According to Tarmiji, the surrounding land which sold for Rp 300,000 per square meter has tripled in value since the three-kilometer road was constructed. Although empty lots can still be found, new construction and existing shop houses, office buildings, mosques and homes are clear indicators that the area is growing rapidly.

No one could be happier with the new road than Aceh Jaya regent Aznar Abdurrahman, who was elected to his job just over a year ago and has already laid out plans to rebuild and develop Calang town. "This road is the key to developing the area," he says. "But we are starting from zero and we still need a lot of help," who is confident the areas around the road will soon be developed.

#### *Project Description:*

*Construction of new two lane road to provide transportation access to Calang.*

As one of the districts hardest hit by the 2004 disaster, Calang has a lot of catching up to do with the other areas along Aceh's picturesque west coast. All but one house in the town was left standing when the 30-meter waves spawned by the tsunami swept up two kilometers inland. Ironically, it was owned by one of the town's richest man, Mohamad Amin, also known as 'Nek Beng' because of the frequency in which he deposits his money in the local bank. One of the few residents to survive, he has decreed that his house should remain untouched for posterity. Destroyed along with the buildings were the town's infrastructure – roads, sources of clean water and the electricity network.

The biggest problem Abdurrahman foresees is the shortage of electricity

as the economy of Aceh Jaya district continues to grow. With only one megawatt at its disposal, Calang must rotate its power supply among the villages. That means frequent blackouts. "Another thing we need very urgently if Calang is to grow rapidly is the quick construction of the Banda Aceh-Calang highway along the west coast," says the regent. Built by Korean construction company Ssangyong and funded by USAID, about three-quarters of the 200-kilometer road has yet to be completed.

Nevertheless, Calang seems to be attracting people ready to try their luck at building a new community. If a bank is willing to open a branch, it can only mean more business is on the way. Bank Rakyat Indonesia (BRI) first came to the area in 2006 when the Dayah





Baro-Ujung Serangga road was just being planned. Today, the bank's customers have been growing by 30 percent a year.

"We have been getting more customers since the new road was built," said Bustanil, chief of the BRI branch, which is located in a row of shop-houses on the Dayah Baro-Ujung Serangga road. Many of the bank's customers are small and medium-entrepreneurs, traders and coffee-shop owners. But increasingly, farmers from outlying areas who make a living from rubber plantations or from growing betel-nut and nutmeg are opening accounts as well. Among people seeking credit from the bank are gold panners. Bustanil recalls one miner bringing in six kilograms of gold to be traded for cash.

But what makes the banker certain that the road will become a growth area is the knowledge that the Calang central market will soon be open for business. For 65-year Alawiyah, who lives at the end of the road, it will mean a shorter and more comfortable ride to do her shopping. She and her family were also among Calang's few survivors, living in the hills on coconuts for three days until the water receded and she was able to come down to her destroyed home. It was almost three years before Alawiyah and her family were able to move back into their house, rebuilt with the help of one of the many NGOs which descended on Calang to help with the reconstruction.

Five years after the tsunami, the BRR, which coordinates recovery



efforts in Aceh and Nias, ended its mandate in April 2009. At the same time, most of the hundreds of international NGOs working in Aceh completed their programs, packed their bags and left. In the past five years, they had contributed significantly to the reviving local economy. With their departure, a big gap has been left behind, yet another challenge that the Calang community will have to face.

One sign that Calang may be on the mend, is the Irma Fashion store, located in the building where the Calang central market will soon open its doors. The store, selling cosmetics and imported clothes and handbags, stands alone, amid all the empty shops around it. Now, that's confidence.

# Bounty from the Padang Lageun Sea Barrier

<b>Project Name</b>	:	<b>Coastal Barrier, Aceh Jaya</b>
Cost	:	US\$ 1.92 Million
Construction Completion Date	:	17 October 2008
MoU of Asset Operation / Maintenance	:	25 April 2008



**Before**

**After**

***Project Description:***

*To stabilize the river mouth thereby providing safe access to the sea for the fishing community, and prevent flooding of the riverbanks.*

Just a few hundred meters off the Banda Aceh-Calang highway, along Aceh's west coast, is a scenic spot where the Padang Lageun River empties out into the Indian Ocean. In the past, this river has been the cause of much distress to the

residents living along its banks. "It flooded all the time during the monsoon season," recalls Banta, a long time resident who has seen knee-high waters inundate his yard and his house when the westerly winds blow.

It is the same story for nine other villages, located 12 kilometers inland. Another problem was the heavy sedimentation that settled at the mouth of the river, preventing or making it difficult for fishermen to take their boats out to sea.

Then came the 2004 tsunami, which destroyed everything in its path,

aggravating the damage caused by the perennial flooding. In the course of reconstructing and rehabilitating the badly-hit west coast, the area along the river was identified as needing urgent assistance.

In collaboration with the Aceh Jaya administration, the BRR-IRFF embarked on two projects. The first was to build a protective barrier, jutting out 100 meters out to sea from the mouth of the river with the aim of breaking up the incoming waves and reducing the amount of silting. The second was to truck in heavy rocks to reinforce about 600 meters of the river bank. The project also included the planting of coastal pine trees to help prevent sand erosion.

Completed in March this year, the sea barrier appears to have stopped the flooding and prevented excessive sedimentation at the mouth of the river, a welcome change both for the

fishermen living on the estuary as well as the farmers living farther inland, tending their plantations and cultivating their crops.

The fishermen have also noticed an increase in the number of crabs, shrimps and mussels found along the river. "I can catch about 10 to 20 crabs weighing 1.5 kilograms each after setting my nets at night," says Yunardi, a fisherman who was elected *keuci* or chief of Padang Lageun village. Depending on the season, a fair-sized crab can sell for Rp 35,000 to 40,000.

The previous night he also harvested two buckets-full of mussels from the river banks. Yunardi's catch is picked up by a buyer and sold at fish markets in either Calang or Banda Aceh. Sometimes, he will take the fish to the market himself.

The crabs and the mussels are a welcome source of additional



income when strong westerly winds prevent him from venturing out to sea, from where like most of the other fishermen, he usually brings in a daily catch of 30 kilograms of grouper and snapper fish. Around the small islands just offshore, the fishermen also come across lobsters, a more lucrative but harder to find delicacy.

While the fishermen are happy with the seawall and the barriers, they would like the jetties on both sides to be extended about 100 meters farther out to sea. “Otherwise, we worry that in a year’s time the sedimentation will again block the passage of our boats,” says Yunardi, who during the tsunami, managed to swim with the waves until he grabbed onto the top branch of a tree.

Farther inland, perennial flooding proved to be the biggest problem for farmers working on their rubber plantations and rice fields. The narrow road crossing a broad swathe of swampland is the only link between the villages and the Banda Aceh-Calang highway. “Sometimes, when the winds and the waves from the sea are really bad, the floods cover the road and prevent us from reaching the main road for as long as two weeks,” says Padang village chief Mohammad Yuni.

This means they can not replenish their basic necessities and most importantly, they are unable to deliver their produce to the main road to be picked up and brought to the markets in Calang, the closest town. Like the 80 other families in the village, Yuni grows pumpkins,

squash and other vegetables to augment the income they get out of growing rice and working in the rubber plantations.

They also sell seasonal fruits like the durian, which grow abundantly in the area, and have been experimenting with the cultivation of cocoa, which in other districts has become a major product. The villagers regularly wade out into the marshes to gather shellfish and fresh-water fish to add to their daily diet.

All this has been made easier since the newly-built seawall and barriers reduced the amount of flooding, which often lasted for up to six months. Now, five years since his narrow escape from the tsunami, Yuni is now more optimistic about the future than ever before.

# The Two in One Road

**Project Name** : Trieng Gadeng-Pangwa, Gigieng-Iboih, Pidie

Cost : US\$ 1.17 Million

Construction Completion Date : 5 May 2008

Asset Management Hand Over : 19 February 2009



**Before**

**After**

Although Aceh's eastern coastline was spared the direct impact of the 2004 earthquake and tsunami, it nevertheless suffered extensive damage from the side-effects.

Hundreds of hectares of land were inundated by one-meter high waters and overflowing rivers. The floods devastated farmlands, roads and other infrastructure.

The district of Pidie was identified as one of the worst hit areas, with its network of roads heavily damaged by the floods. It had a devastating effect on the transportation system and as a consequence, on the local economy.

BRR and international organizations rushed to the rescue, providing funds for the repair and widening of two access roads into Pidie Jaya's district capital of Meureudu.

But affairs of the state were to change the course of the project, which had been agreed between the MDF and the Pidie district government and duly signed on April 2006.

A few months later, however, the Indonesian parliament or House of Representatives (DPR) approved a request by the Aceh provincial government to have Pidie divided into two separate districts: Pidie and Pidie Jaya.

So what was once a project of two roads for one district became two roads for two separate administrative units. The Trieng Gadeng-Pangwa section is now located in the new district of Pidie Jaya while the Gigieng-Iboh portion remains in Pidie. Together, the road passes through four sub-districts.

"Now I understand the difficulty of extending the JK 13 road," said Pidie Jaya district head, H.M Gade Salam, referring to another road reconstruction project funded by the MDF.

He did acknowledge that the Trieng Gadeng-Pangwa road had brought significant benefits since its completion a few months ago.

"This is an important road, and yet it is the most damaged, so we are certainly grateful," said Gade Salam, who has been on the job for a mere five months.

This particular road reconstruction project also happens to be one that has been added to the original 12 infrastructure projects funded by the MDF, in special consideration of the neglect it suffered during the years of armed conflict.

The five-kilometer Trieng Gadeng-Pangwa road was almost totally destroyed by the after-effects of the tsunami. In fact, today the road is divided in two by the unfinished reconstruction of the Cot Lheu Bridge, located midway through the road.

Nevertheless, the upgraded road is benefitting local residents like Abubakar, who was a fishermen before the tsunami and who is now trying his luck at growing watermelons.

According to Pidie District Head, Gade Salam, agricultural produce is the area's biggest source of revenue, rice being a surplus commodity.

“This is the only place that produces watermelons in this district,” said Abubakar, who grows the fruit on two hectares of land about 300

meters onshore.

In fact, he may be the only farmer growing hybrid yellow-skinned watermelon, a result of painstakingly cross-pollinating the blossoms.

Abubakar harvests his watermelon patch three times a year. A buyer *Project Description:* comes to pick up *Improvement of a kabupaten road.* his crop to resell them at markets in Banda Aceh and Medan.

Perhaps still recalling his days of catching fish, Abubakar also raises freshwater fish and shrimps in a pond, although it doesn't fetch as much money as watermelons.

“This is why the new road has helped my work,” he said, “It takes me a lot quicker to get to the market, and less of my watermelons

get squashed on their way to the market."

Meanwhile, some 15 kilometers away, the Gigieng-Iboih road has had an even greater impact on the residents living in the area.

At the Iboih Junction where the road meets the Banda Aceh-Medan highway, *ojek* (motorcycle taxi) drivers do brisk business getting residents to and from their homes to the corner, where they usually transfer to a mini-bus for the eight-kilometer ride to the market or center of Sigli, capital of Pidie.

Are they happy with the newly-reconstructed road? "Of course, we have less flat tires and we don't need to change bolts that often anymore," said one *ojek* driver. He charges Rp 4000 (US\$ 0.40) for

rides from point to point along the four-kilometer road.

Some of their regular customers come from the nearby Teuku Cik Di Pasi Foundation, which runs a mosque, a *dayah* (Islamic religious classes) for 450 students in the evenings and dormitories for 43 elementary to secondary school students, orphaned by the three decades-long armed conflict.

"The students stay at the dorm but go to school elsewhere, mostly by walking or by *ojek*," explained Tengku Abdurrahman, who manages the place and teaches religious instruction.

The 15-year old foundation, which bears the name of the respected *ulama* (religious leader) which established it, is unique in that it receives no assistance from





the government, surviving solely on donations from altruistic businessmen from as far away as Medan, capital of North Sumatra province.

But it is mostly the residents around the area that provide the foundation with regular support, particularly during the post-tsunami days, when it took in 23,000 refugees, who pitched up tents on its 1.5 hectare-sized grounds. An elementary school was set up by an international organization for the refugee children, who returned to their homes a year ago and the school relocated somewhere else in the neighborhood.

To the students of this *dayah*, the new road has unquestionably been a big boon.

Mohammad Yun, the *keuci* or village chef of Jaya Tunong, could not agree more. The 103 households under his supervision earn a livelihood from farming, mostly rice and from fishing.

Many families also grow chillis, onions and produce a snack called *emping* from the seeds of the *melinjo* tree, which grow profusely in this area. The produce are then collected by a *muege* or buyer, who then sells them at the market in Sigli.

“The wives take care of the farming while the men go out to sea and fish,” said Mohammad Yun, although he admits that the fishing has been limited because of the monsoons.

That’s when the family finances rely on the sale of home-grown produce and on the road that enables the local economy to sustain them.



# The Simpang Mamplam and The Keude Samalanga Roads

<b>Project Name</b>	:	Simpang Mamplam - Keude Samalanga, Bireun
Cost	:	US\$ 0.62 Million
Construction Completion Date	:	8 March 2008
Asset Management Hand Over	:	24 February 2009



BeforeAfter

Nurdin Abdul Rahman, the district head of Bireuen, is a man in a hurry. Elected to his job in 2006, he is full of ideas and suggestions on how to accelerate development in the district he governs. “We need more feeder roads, more power supply, more water sources if we want to

attract investors and develop our agro-industry,” says Nurdin,

acknowledging the contribution of the newly-reconstructed Simpang Mamplam - Keude Samalanga road towards that effort.

In fact, this particular area was selected not just as a post-tsunami reconstruction project, but also to repair damage to the infrastructure caused by neglect during three decades of armed conflict in Aceh.

To make up for lost time, Nurdin’s vision is to set up an industrial zone where the area’s prime agricultural products like rice, cocoa and soya bean can be processed and exported directly without having to go through Medan in North Sumatra province, which has been the case in the past.

He thought of setting up a cocoa processing plant but gave in to the district head of neighboring Pidie Jaya district, who pre-empted him by announcing his own plans to build one. “But we are talking with them about building a warehouse in Bireuen where they can store the cocoa shipments before they are delivered to Lhokseumawe port for export, and that’s why we need more roads like this one,” says Nurdin, referring to the IRFF-

constructed Simpang Mamplam-Keudee Samalanga road project.

The residents who live along his road may agree with their district chief, but for different reasons. To them, the road, which passes through seven villages, provides an alternative route to the sub-district of Samalanga and to the town of Bireuen itself. Before, when it was filled with potholes and subject to frequently flooding, people were forced top take the much longer route via the Banda Aceh-Medan highway.

“With the new road, we don’t need to use the national highway any more and it’s shorter,” notes Syaifuddin, chief of Reum Barat, a village of about 850 people. Ironically, Syaifuddin is the first to admit that



had it not been for the tsunami, which eventually brought an end to the armed conflict and established peace across the province, the repairs to the road would probably never have been done.

The danger now is the heavy traffic on the road, much of it public transport taking full advantage of the refurbished short-cut. As a result, the 3.8-kilometre road now has 10 speed-bumps or so-called “sleeping policemen” in an effort to slow down traffic. At first, the local administration even thought of banning vehicles over a certain capacity, but in the end it decided against it for fear it would affect the delivery and pick-up of locally-produced commodities.

Syaifuddin says because the road has been widened and the drainage

system improved, making the road look more attractive, residents are now making the effort to cultivate decorative plants and flowers in their front yards. The new road also seems to have motivated residents to collectively carry out a clean-up program every Friday, clearing debris from drains and cutting back grass and weeds.

The fact that the local people are generally well-educated and enjoy stable incomes may explain their awareness for environmental concerns. “Many children from neighborhoods along this road go on to attend universities,” says Syaifuddin, whose wife works for the Bireun district government.

The spirit of *gotong royong*, or mutual assistance, is also applied when it comes time to harvest the





rice fields, which happens twice a year. In fact, residents who own paddy fields follow a system in which they plant rice together at the same time, ensuring that uniformity prevents birds and bugs from ruining the crop. “This allows the rice to ripen longer in the stem, requiring less drying time after it is harvested,” Syaifuddin explains, pointing to the fact that most houses have their own rice barns.

Besides rice farming, some of the villagers have vegetable gardens set a little farther back from the road, producing sweet potatoes and peanuts, which are picked

up by *mueges* or buyers, who then sell them at the market town of Simpang.

Syaifuddin himself owns four hectares of fresh-water fish ponds. The area used to be a shrimp center, but production has been mysteriously declining in the past 10 years. Although he still reserves some of the ponds for shrimp-breeding, Syaifuddin mostly produces fish.

All this economic activity could never be sustained if the Simpang Mamplam - Keude Samalanga road had not been rebuilt.

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# Paving the Way for Profit

<b>Project Name</b>	:	<b>Bireun Roads, Bireun</b>
Cost	:	US\$ 1.52 Million
Construction Completion Date	:	8 November 2008
Asset Management Hand Over	:	24 February 2009



**Before**

**After**

The Bireuen road package encompasses two separate roads: the 5-kilometer Simpang Teupok Baroh to Lhok Awe-Awe and the 1.85 kilometer Simpang Tambu to Lhok Dagang.

Although they were both built with the same specifications, the end result

*Project Description:  
Improvement of kabupaten roads* is distinctly different, perhaps due to the different socio-economic backgrounds of the impacted population.

The area around the Simpang Teupok Baroh road leading towards Lhok Awe-Awe is mostly a residential neighborhood. The homes have spacious yards, shaded by coconut or *pinang* (betel nut) trees. In some areas, rice paddies separate clusters of houses.

There is an air of busy activity as men work on an irrigation drain while further on, the side roads were being repaired. And coffee houses are found at corners where the road cuts across smaller side roads.

According to the Bireuen administration, this road is slated to become a major protocol road aimed at providing the local economy with easy access to the district capital.

Sixty percent of the population impacted by the new road are farmers while 25 percent are fishermen and the rest are involved in cottage industries and civil servants working in the town of Bireuen. On the average, each household have two sources of income.

While agricultural products are the mainstay of the district's livelihood, the cottage industry seems to be a big part of it.

In the village of Kuala Jeumpa, just 50 meters off the road, Jamali, helped by his wife Yusra, fry thinly sliced bananas, sweet potatoes and breadfruit to make the famous Bireuen *kripik* or chips.

On a good day, they can sell about 100 kilograms of packaged chips at a stall by the side of the Banda Aceh-Medan highway. "We could make more if we had the capital," said Yusra. However, come Ramadhan in less than two months time, Yusra and her husband will get orders and business will pick up again.

They personally deliver the packaged chips in big baskets





astride a motorcycle, to a stall on the side of the highway, or to special food stores. "This is why I'm so happy that the road is fixed," said Jamali, who used to deliver the chips by bicycle, walking it rather than actually riding it, to prevent them from getting crushed.

Farther down the road, eight newly-built fishing boats lay waiting to be put in water. "They have been ordered by a rich member of the people's council in Banda Aceh who wants to start a tuna fishing operation," said Fadli, whose father built the boats helped by three carpenters.

He said fishermen usually go out to sea with three boats at a time, returning after a night out, with about 60 kilograms of tuna. This

is then taken to nearby Peudada town to be processed and sent to Singapore.

One person who is not too happy with the new road, even though he has weighed the benefits, is Syarifuddin, the principal of the Batee Timoh Public Elementary School.

“I fear for the safety of the children because the road has become well-used and motorcycles or cars tend to go quite fast on such a new road,” said Syarifuddin.

He had proposed to the chiefs of villages alongside the road to build speed bumps to slow down the traffic, but they disapproved of the idea.

“We need to have a program to teach motorists about safety on the road,” said Syarifuddin.

A few signs pointing to places off the road advertised the sale of embroidered cloth. But none were opened for business that particular day.

As if to support all this economic activity, at the end of the road is a women’s savings and loans cooperative, whose 283 members come from 28 villages, some nearby others farther out.

The members, who mostly need money to provide capital for their industries, can borrow up to Rp 3 million, paying a 2 percent monthly interest rate after becoming a member.

“In our three years of existence, we have never had any members defaulting,” said Yurdani, who manages the cooperative.

The cooperative has been so successful, it is now experimenting with an insurance program for its members.

However, the economic activity that has clearly been fueled by the completion of the Simpang Teupok Baroh to Lhok Awe-Awe road, is not seen on the other section of the project.

Down the Simpang Tambu road towards Lhok Dagang, it is evident that the residents here, who mostly raise fresh-water shrimps and milk fish, are less well-off than people living on the ‘other’ road.

Here, amid the fish and shrimp ponds, the homes look worn and dilapidated, even though they were built after the tsunami, and the scene along the road lacks the signs of prosperity found on the other road.

In front of one house next to a fish pond, Musa Asalam at the village of Lhok Dagang village, sits at an open stall, with a weighing scale and big ice-chest next to him, filled with 10 kilograms of jumbo shrimps from the nearby ponds.

“I offer it to passersby, and whatever is left goes to the *muege* who comes at 5 pm,” said Asalam, referring to the fish agent who collects fish from people like Asalam. He owns no pond of his own but farmers trust him to sell their daily catch on the road side.

Asalam admits that the road has been good for business. “More people pass through this road now that it’s been repaired,” he said.

Farther inland, in the village of Lhok Dagang, slightly off the main road Suleiman the village chief agrees the project road has brought some benefits.

He owns one hectare of rice field in the nearby sub-district of Pandrah, where he harvests once a year and the road has made it much easier for him to go back and forth to work.

A school bus, provided by one of the NGOs now picks up children from the village for the one-hour ride to schools in the town of Jenieb, including Suleiman’s children.

But Suleiman is unhappy that the promise to repair the side road





used during the construction has not been fulfilled. Trucks carrying material and heavy equipment had to use this side-road past his home because the bridge to the access road was too narrow and too weak to take in the trucks.

“Not only that, because we did not ask for money for the use of our roads, the villagers were promised tents to be used for ceremonies, and the chairs that go with them,” complained Suleiman, “but until now, we were given nothing.”

Suleiman’s case illustrates the importance of a small but relevant aspect that is often either forgotten or insufficiently addressed by infrastructure project managers.



# The Port at Gunung Sitoli

<b>Project Name</b>	:	<b>Gunung Sitoli Port, Nias-North Sumatra</b>
Cost	:	US\$ 3.67 Million
Construction Completion Date	:	31 October 2008
Asset Management Hand Over	:	19 December 2008



**Before**



**After**



One Saturday morning in July, the wooden cargo boat Cahaya Baru I unloaded sacks of rice onto a waiting truck at the harbor of Gunung Sitoli, capital of the small island of Nias off the western coast of Sumatra. Ship captain Arefa had waited an hour for his turn to berth alongside the wharf, behind a line of other boats. One boat carried construction materials: sacks of cement, barbed wire and reinforcing steel rods. Another boat had just unloaded crates of chicken eggs.

“It’s been a lot busier now that the port has been rebuilt,” said Arefa. By his estimation, 60 cargo boats use the Gunung Sitoli docks every month, a 20 percent increase since the port’s reconstruction was completed in January 2009.

Across the way, by the old wharf, the roll-on roll-off cargo and passenger ferry Pulo Tello rested alongside the wharf, prior to its next departure to the North Sumatran port of Sibolga on the mainland, a distance of some nine-hours sailing time.

For the past four years, the town of Gunung Sitoli had to make do with just one wharf, while the pier next door one was rebuilt following the heavy damage caused by the 2004 earthquake and tsunami and another major quake, registering 8.5 on the Richter scale, four months later. While the first disaster caused the deaths of 122 people, the second tremor killed 800 more and left another 2,000 people injured.

The double-disaster also altered

Nias' shoreline. In some areas, the coast actually moved as much as 100 meters inland, with the land surface itself rising as much as 2.9 meters in some parts of the island. As a result, much of Nias' infrastructure was heavily damaged, particularly the Gunung Sitoli port.

#### *Project Description:*

#### *Reconstruction and rehabilitation of the deep water port for Nias Island*

Regarded as a vital cog in the local economy, it was accorded a top priority in the list of recovery projects approved by the Government and international organizations. “The port is the gateway to Nias,” said Regional Secretary Marthinus Lase, pointing to its importance of serving not just Nias itself, but also South Nias and the newly-created districts of North Nias and West Nias.

As the island slowly recovers from the trauma and the destruction, the people are back to fishing and producing the island's two main crops - copra and rubber. These commodities are loaded on boats and taken to Sibolga, the nearest mainland port. The same boats bring back much-needed consumer items and processed products.

"What we really appreciate about the new port is that a re-organization of the system has taken place," says Lase. "With the frequency of boats coming in, the goods don't stay too long in the warehouses." Given the popularity of the new port, he feels the old wharf and the 20-metre-long bridge linking the two should have been rebuilt to improve the port's overall capacity.

The new port is only meant for vessels of 10 tons or more, but

with the growing number of boats serving Gunung Sitoli, the harbor master seems to be bending the rules and allowing smaller crafts to dock there as well.

Moored next to the old wharf, the Pulo Tello was taking a break before its next 12-hour trip back to Sibolga. She makes the trip every fortnight, carrying up to 25 cars or 21 trucks and 400 passengers. "The boat is always full and people want it to run twice a week rather than every fortnight," said Tema Hendate, an official of PT Pelindo, the state-owned company which manages the port. As with cargo boats, Hendate has seen a sharp increase in the number of passengers traveling to and from Gunung Sitoli port.

According to Hendate, now that the island has two new districts, the Nias district government is





seriously thinking of increasing the frequency of the Pulo Tello to once a week and to include stops in both those districts.

Likewise, there are plans to increase the sailing frequency of the bigger, 3,000-ton passenger ferry MV Lawit, which makes regular runs from Jakarta to Padang, Nias and Sibolga and then back to Jakarta, from once to twice a month.

“The demand for traveling has been increasing ever since the new port was built,” said Hendate. However, he lamented the fact that there is still no proper terminal to accommodate the growing number of passengers using the port’s facilities. Nias District Secretary Lase raised the same complaint. “There are no facilities separating the passengers from the cargo being loaded and unloaded, and

that creates safety problems,” he said.

Lase also feels that with rising activity at the port area, more warehouse space needs to be built to improve efficiency. “Right now, we would be most grateful if someone would repair the 20-metre-long bridge linking the two port areas as well as the other port,” he said.

With two new districts created this year, making it a total of four, Nias has ambitions to become a separate province from North Sumatra by the year 2020, inviting businessmen to invest in the island. “We are inspired by the new port because it has opened up new horizons for us,” said Lase.





