

# Rehabilitating Aceh's ports

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## Introduction

When the tsunami struck on December 26th, 2004, the devastation it wrought was nowhere worse than in the province of Aceh in Sumatra, Indonesia. So far, 126,000 people are confirmed dead, but the full total will probably never be known. As well as destroying lives, the tsunami also destroyed many key infrastructure facilities. The ports along the west coast, by definition located along the seashore and thus very vulnerable, were among the worst hit. Not only has this complicated the process of bringing aid, much of which is best moved by sea, but in a province where commercial fishing is a key industry, the loss of the ports has had a huge impact on the local economy. But, where there is disaster, there is also opportunity. There has been an extremely generous financial and humanitarian response from the international community, and now there is an exciting opportunity to rebuild a new vibrant economy in the province.

## Strategy for redevelopment

The task facing UNDP and its port specialist Gerry Byrne, who is surveying all the key port areas and planning their redevelopment, is daunting. The present estimate is that there will be a requirement for over 30 million tonnes of material required for the reconstruction of Aceh and Nias, and a very large proportion of that will have to be brought in by sea over the next two to three years. There are 11 major or regional ports in the devastated areas of Aceh and on the island of Nias that were badly affected by the second major quake of March 28th, and in much need of work. The problems vary from cases where the entire port was completely washed away (Calang) to blockages created by massive rocks dumped in key channels. Perhaps most seriously, the earthquake, which caused the wave, also caused entire land masses to shift up or down by up to two metres, meaning that many ports are now submerged beneath the water or lifted above it. In one case – on the island of Simeulue, the earthquakes have lifted the township and the port out of the sea by over a metre. Most of the fishing port, ferry terminal and storage sheds were either destroyed or rendered unusable. The main wharf is still standing, but the deck now resembles a roller coaster with variations of over a metre along the structure – it is unusable, except for handcarts. At the other extreme, the town of Singkil at the southern end of the province has sunk by over a metre. At high tide, there is half a metre of water in the main street and all the port facilities are submerged at high tide.

The strategy for most, says Gerry, is to begin with rehabilitation: making ports functional so that vital aid supplies can be brought ashore and the fishing industry can begin functioning again. In the long term, UNDP will then work with the government to build much-needed new facilities that will result in ports that are an improvement on what was there before.

## Rehabilitation of the port of Ulee Lheu

The first major port to undergo rehabilitation is Ulee Lheu, the main passenger port in the provincial capital Banda Aceh. This port has the opposite problem to that of Simeulue: here the land sank and the road connecting it to the mainland was washed away. The wave deposited five tonne rocks on the jetty and swept away the ferry pontoon – which was discovered months later by a UNDP team washed up on an island about 15 kilometers away.



The deck of the roadway to the ferry terminal at the key city of Meulaboh was lifted completely off the piles and is now sitting on the sea bed.

Photo: Gerry Byrne/UNDP



The pontoon for Ulee Lheu port was ripped from the port by the tsunami, and dumped on these rocks fifteen kilometres away. It is damaged, but salvageable.

Photo: Saifu/UNDP



Singkil district on the South West coast of the province: This is the isolated palm oil terminal – the tsunami and subsequent changes in land levels mean one of the huge storage tanks has floated off its foundations.

Photo: Gerry Byrne/UNDP

The pontoon, which is a steel and concrete structure 20 metres long by seven metres wide, was holed and is now lying partly submerged on one of the island beaches. Fortunately, it has three separate watertight compartments, and efforts are underway to pump most of the water out and tow it back to the harbour.

Before the tsunami, the Ulee Lheu harboured the mooring for a large floating power station that provided base load power for Banda Aceh. The tsunami wave picked up the power station whole and deposited it about three and a half kilometers inland on top of



Photo: Gerry Byrne/UNDP

The tsunami turned Ulee Lheu port into an island. The main port can be seen on the left, and to the right of the port are the remains of the access road. The first part of UNDP's rehabilitation project is to reconstruct this road.



Photo: Gerry Byrne/UNDP

At Ulee Lheu port the tsunami pulled rocks weighing up to five tonnes from the breakwater and dumped them on the main wharf, about twenty metres away.

some houses, cars and a main road. No one has figured out a way to get the power station back into the water and it is likely either to be cut up for scrap or left as a very large monument to the power of the tsunami wave. Surprisingly the dolphins and the landing ramp where the power station was moored suffered almost no damage. One bollard was missing and some of the chains restraining the fenders have since been stolen by enterprising entrepreneurs for scrap. The facility will now be turned into a good berth for large landing craft and for small Ro/Ro ships.

Initial surveys of the port found more reasons for optimism. Although the port has been turned into an island and the large terminal building destroyed, the wharves are in surprisingly good condition. A hydrographic and sonar survey was undertaken of the harbour and the location of all the rock, rubble, concrete and steel has been identified. This provided more good news: The deposition of tsunami rubble was less than feared, which will make dredging the harbour easier than anticipated. The main challenge in the next two months is to remove that material and to build access roads to the island and to all the wharves.

The road reconstruction is being done using rubble itself reclaimed from the tonnes of waste left by the tsunami; recovered and made useable by UNDP's Tsunami Waste Management scheme, which collects tsunami waste and recycles it, removing all reusable materials such as wood, rubble and metal. This waste is being supplemented

with building rubble from the many condemned buildings that were destroyed by the earthquake. Once there is road access to the port, work will then start on the port proper. Problems have been encountered: There is a large half-built ferry terminal building at the location, which is now damaged beyond use. UNDP had originally planned to break the building down into blocks of concrete which could be used to construct a breakwater, but scavengers – local people who gather scrap metal left behind by the wave and sell it to make a living – have already begun demolishing the ruin so they can retrieve the reinforcing steel encased in the concrete. This has benefits: Less funding is required for the remainder of the demolition – but it means that the resulting pieces of concrete may be too small to use in the breakwater. Policing such activity, however, is almost impossible.

### Moving forward

Because the task of restoring the ports is so huge, UNDP is developing each port as a project in and of itself. Ulee Lheu, because it was considered to be relatively easy to return to full use, is the first to get under way and is being supported by the Australian government. UNDP is now seeking donor support for other major port projects, including the construction of a dedicated fishing port in Calang to restore the local fishing industry. One of the most interesting opportunities that now presents itself is the potential for the development of the free port of Sabang, on an island just to the north of the capital Banda Aceh, into a regional hub port. Sabang is strategically placed geographically at the northern end of the Malacca Straits and with a window to all of the Indian Ocean. It has deep water and a well protected harbour which, historically, was a regionally important port for over 1,000 years. It also has in place, the necessary legislation to expand as a free trade port.

There is much in Aceh, including many ports, that have needed development support for many years. Until now, development has been restricted because of the political unrest in the province. This unrest thankfully, now appears to be at an end with the recent negotiations in Sweden between the Indonesian Government and the separatist movement. This, combined with sufficient support from donors, means that if these projects are seen through to their full potential, Aceh will finally have a fully functioning range of ports which will be vital for the prosperity and development of the province for years or even decades to come.

Photo: Gerry Byrne/UNDP



The port of Sinabang on Simeulue island (in the south of the province), the main port on the island, has lifted by over a metre due to land shifts caused by a second major quake on March 28th. The main wharf is now effectively a rollercoaster.

### ABOUT THE ORGANISATION

UNDP is the United Nations worldwide development network. It advocates change and provides countries with access to the knowledge, skills and resources their populations need to improve their lives.

### ENQUIRIES

For further information about UNDP's ports restoration project in Aceh:  
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