

## Grant 8190-TIM(TF)

# Hera Port Fisheries Facilities Rehabilitation Project

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### Summary

In June 2001, the World Bank informed ADB's Special Office in Timor-Leste that \$1 million from the Second Agriculture Rehabilitation Program (ARP II) had been set aside for the rehabilitation of Hera fishing port, located around 16 kilometers east of Dili. ADB was requested to execute this particular Project given its experience in fisheries projects in small countries in the Pacific region.

A fact-finding mission took place on 10-23 July 2001 and on 17 October 2001 the Project was approved and was subsequently declared effective on 27 October 2001. Due to limited capacity within the Fisheries Division, the procurement officer from ARP II was included in the Project Management Unit (PMU). Tender documents were issued to the shortlisted firms in December 2001, and after additional information and clarification regarding the concept of design and build were provided to shortlisted firms, the deadline for submission of proposals was extended until end-March 2002. An ADB consultant in Manila undertook a special evaluation of the technical proposals and the contract was awarded to Wakachiku Construction Co., a Japanese firm. The Contract was finally signed in August 2002 and work began in September 2002.

All these procedures delayed the commencement by nearly 12 months and the monsoon season 2001-2002 saw further erosion of the breakwater core material and subsequent erosion/damage to the revetment wall west of the breakwaters. After mobilization, work progressed fast on all breakwaters, face-walls of the harbor basin, adjacent aprons, dredging, fencing of the perimeter, installation of navigation aids, revetment walls, and construction of storage and working area.

An additional \$77,000 was allocated from the Consolidated Fund for East Timor (CFET) money to cover the installation and construction of navigation lights, as well as water storage tanks and fuel pipes. The Project was completed in August 2003, and the facilities are fully operational.

### Background

#### Rationale of the Project

The inshore marine resources of Timor-Leste are limited and vulnerable to overfishing, while the offshore resources of smaller pelagic species are fast growing and in robust abundance. To catch such species of sardines and smaller mackerels, larger fishing boats are needed and hence the need for a dedicated fishing harbor.

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## **Project Objective and Intended Outputs**

The Project's overall objective is to contribute to sustained food security of marine protein for the people of Timor-Leste. The scope of the Project was relatively modest comprising (i) rehabilitation and strengthening of three individual breakwaters totaling approximately 140 meters (m) in length, (ii) rehabilitation of the wharf faces of the harbor basin totaling approximately 400 m, (iii) dredging of the harbor basin, (iv) pavement of the aprons and side areas of the harbor basin, and (v) general leveling of surface.

The Project emphasized as much use of local labor, local purchase of materials, and lease and hire of equipment from people of Timor-Leste as possible. Furthermore, the Project incorporated training of Timor-Leste people at all levels in harbor construction to ensure sustainability with maintenance tasks.

## **Costs and Implementing and Executing Arrangements**

Total costs for civil works, goods and related services, and supervisory consultancy services were estimated at \$766,000 and contingencies at \$132,000. The Ministry of Agriculture, Forestry and Fisheries was the executing agency, and the PMU within the Division of Agriculture Affairs oversaw the implementation of the Project. Weekly site meetings were held between the contractor, the supervisory engineer, ADB representatives from its Timor-Leste office, and the Department of Fisheries.

## **Intended Impacts**

The intended impact of the Project is increased landings of smaller, fast-growing, and therefore affordable fish for the poorer strata of the population and at the same time ease the fishing pressure on the inshore resources, which are vital for most subsistence fishers' livelihood.

## **Implementation Performance**

### **Achievement of Outputs**

After the initial delay because of the unfamiliarity of domestic contractors with the design-and-build concept, all planned outputs were completed in August 2003. Additional work as such as navigation aids, fuel pipes, storage tanks, fencing, and working shed were also completed using savings in construction costs and additional funds from the Government's CFET funds.

## Costs

The civil works was contracted at a price of \$733,933. The original quantities of scope of work have all been within the contract amount. However, the delayed project implementation caused further erosion of some harbor structures, and additional and/or improved civil works necessitated three variations to the original contract. The extra amounts were taken from the contingencies. The final completion cost was \$0.9 million.

## Procurement and Construction

Some delay in the work program was encountered as a result of the Project's deliberate effort to employ and engage as many local people to participate in the construction as possible. Before commencement of work, the chiefs of the surrounding villages were consulted on how best to engage the local people and at the same time provide some training in construction techniques, placement of armor-rock for breakwaters, etc. To provide wider local employment opportunities, the solution agreed upon was the mobilization of a new group of people every 5 weeks.

This solution was probably the most socially just but it also created two unforeseen problems: (i) the contractor had to train new people every 5 weeks and naturally incurred delays in the process; and (ii) on a couple of occasions the workers were extremely reluctant to be laid off after 5 weeks. In the interest of spreading the work benefits as wide as possible, ADB did not want to change the solution agreed upon.

## Organization and Management Performance

A supervisory engineering firm was awarded a contract to oversee the project implementation. Weekly site visits were held and all issues were discussed up front and rectified where possible. The supervisory engineer also played an important role in evaluating the cost of the additional work to be undertaken and for which variations were issued. Detailed report of site visits were sent every week to ADB.

## Project Impacts

### Socioeconomic Impacts

The impact from the construction of the harbor itself is difficult to quantify at this stage because the intended impact of the Project hinges upon the resumption of the fishery for smaller pelagic fish species and resulting affordability of fish protein for the people of Timor-Leste.

However, the economic benefits to the people who were engaged directly as laborers as well as the Timor-Leste private sector that was contracted to supply all

aggregates, core material and armor rock, have been substantial. More than 800 local people benefitted from the Project, and the local private sector was involved in supply of goods and services.

### **Environmental Impacts**

As the Project was a rehabilitation project, no adverse environmental issues were associated with the actual harbor structures. During implementation, prudent steps were taken to minimize noise and dust, and accidentally spilled aggregates on public roads by the project-hired lorries were on every account cleaned up. Dredged material from the harbor basin was used as landfill within the harbor perimeter and subsequently graded and compacted, thus increasing the useable area of the harbor.

The longer-term environmental impact of the Project is to ease the fishing pressure on inshore resources and also achieve a sustainable fishery for offshore smaller pelagic fish resources.

### **Impacts on Capacity Building**

The many unskilled workers employed by the Project received useful training in the special requirements for marine structures construction. This should ensure a certain level of sustainability for the maintenance work of the harbor in the future. Also the operators of machines involved to place the heavy armor rock as the outer protection on the breakwaters should ensure that skills have been developed for future projects or maintenance involving coastal erosion or harbor development.

### **Overall Contribution to the Economy**

Hera port itself is expected to facilitate the development of the offshore fishing, which over a period of 5 years would result in an incremental catch of 1,360 tons as compared to the without-project scenario. The with-project situation will result in an increased intake of fish protein from 8% to 56% of the FAO-recommended per capita daily consumption of fish as compared with an increase from 8% to 28% in the without-project situation. The economic internal rate of return is calculated at 87%, under the assumption that the Government will promote the development of traditional offshore fishing vessels.

## The Future

Experience from other countries has clearly shown that the Government's role in fisheries should be regulatory but at the same time it should provide the necessary infrastructure for the best result of a private sector-led industry.

Hera port has virtually all the necessary facilities, e.g., ice plant, workshops, repair facilities, boat yard, fuel, water etc. to support a commercial fishery and all are obvious entities to be run by the private sector.

The next step for the Government is to promote fishery development especially smaller pelagic fish species using simple local technology. The perilous state of the majority of the world's fisheries is a direct result of well-meant but ill-conceived fishery strategy. Timor-Leste would be well advised to encourage additional vessels of the Lorosae-type, which not only is known in the country, can be repaired and even be built with sufficient economic efficiency, but also will generate maximum employment.

It would also be the time now to consider the introduction of a rights-based fishery, which, appropriately managed, would ensure the sustainability of the offshore fishery and create the maximum economic return to the economy. In nearly all other countries in the world, a rights-based fishery regime is being introduced as a last desperate attempt to halt further decline in their fisheries. Timor-Leste has a unique opportunity to avoid the dire consequences of a mismanaged fishery.

Except for possible small credit facilities to promote the particular offshore fisheries, there is at present no need for further investment by the Government in the sector. Once Timor-Leste achieves an enabling, but well-managed business environment for its fisheries, the domestic private sector should be very able to invest in fisheries themselves.

It is imperative that a supporting Fisheries Act and associated Regulations be given top priority to protect Timor-Leste's valuable resources.