

# Terminal Evaluation

## Latin America and the Caribbean

### 1. Outline of the Project

**Country:**

Republic of Chile

**Project title:**

International Training Course on Molluscan Aquaculture Engineering

**Issue/Sector:**

Fisheries

**Cooperation scheme:**

Third-Country Training Program

**Division in charge:**

South America Division, Regional Department III (Latin America and the Caribbean)

**Total cost:**

26 Million Yen

**Period of Cooperation**

Fiscal Year 1998 - 2002

**Partner Country's Implementing Organization:**

North Catholic University (Coquimbo)

**Supporting Organization in Japan:**

N/A

**Related Cooperation:**

Long-term Expert Dispatch; "Molluscan Aquaculture"  
Grant Aid; "Marine Research and Aquaculture  
Coastal Center Project"

### 1-1 Background of the Project

Latin-American countries, especially those along the Pacific coast, have long made shellfish a part of the national diet. Recently these countries have shown an increased interest in aquaculture engineering as a means to establish a stable shellfish production base. The Government of Japan dispatched an expert in this field to Chile (1981-88, 1991- ) and implemented a Grant Aid Project (FY1985) to build the Marine Research and Aquaculture Coastal Center of the North Catholic University, the implementing organization of the Project "International Training Course on Molluscan Aquaculture Engineering". As a result, North Catholic University became a state-of-the-art facility in the field of aquaculture research and has come to be recognized as the foremost facility of its kind. The United Nations Food and Agriculture Organization (FAO) planned and implemented international training courses in 1986 and 1997 based on the above mentioned facts.

Against this background, the Government of Chile requested the Government of Japan to implement a Third-country Training Program whereby the knowledge and techniques of molluscan aquaculture engineering could be disseminated to other Latin-American countries utilizing the Marine Research and Aquaculture Coastal Center of North Catholic University.

### 1-2 Project Overview

JICA, together with North Catholic University as the implementing organization, implemented the Training to participants from Latin-American countries to improve the aquaculture engineering techniques and knowledge.

#### (1) Overall Goal

The participants from Latin-American countries contribute to the development and promotion of molluscan aquaculture and other marine-products aquaculture.

#### (2) Project Purpose

Participants from Latin-American countries acquire the techniques and knowledge of natural and artificial aquaculture

engineering, utilizing the acquired molluscan aquaculture engineering techniques and knowledge and organizing the concept of molluscan aquaculture development.

### (3) Outputs

- 1) Participants understand the general concept of the equipment and design of aquaculture facilities customized to the biological requirements.
- 2) Participants learn aquaculture technology, such as food production (natural and artificial) and brood stock management and larvae production.
- 3) Participants learn aquaculture engineering, such as the design of facilities and selection of equipment.
- 4) Participants understand the economic and administrative aspects of aquaculture.
- 5) Participants learn methods of aquaculture project development.

### (4) Inputs

Japanese side:

Short-term Experts	4
Local Cost	245, 371 Dollar (18 Million Yen)

Chilean side:

Counterparts	34
Local Cost	96,000 Dollar (7 Million Yen)

### (5) Participant Countries

Chile, Argentine, Brazil, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, Republic of El Salvador, Guatemala, Honduras, United Mexican States, Nicaragua, Panama, Peru, Uruguay and Venezuela.

## 2. Evaluation Team

**Members of Evaluation Team** JICA Chile Office  
(Commissioned to local consultants: Andrés Hoyl, Alonso Von Marées)

**Period of Evaluation** November 2001-March 2002  
**Type of Evaluation:** Terminal Evaluation by Overseas Offices

## 3. Results of Evaluation

### 3-1 Summary of Evaluation Results

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#### (1) Relevance

The selection of the participating countries was appropriate as they are very much concerned with aquaculture engineering and have taken various measures in this direction, from industrial production to laboratory experiments and small-scale pilot projects.

#### (2) Effectiveness

According to the results of the questionnaires polling ex-participants, 87 percent said that they understood over 80 percent of the contents of the course, and 78 percent of the lecturers said that the achievements of the participants were "very good". The evaluation of the quality of the final project exercise by the participants was mostly favorable, although the knowledge level of the participants before the course was directly linked to their outputs. The participants' organizations mentioned that the contents of the training course were appropriate. Judging from the comments mentioned above, the delivered result of the Training was effectively associated with attainment of the Project Purpose.

### (3) Efficiency

The abilities of North Catholic University and lecturers were excellent and the activities were pursued properly. As regards participant selection, the delivery of the information on applications and the process of selecting participants was appropriate, but as it turned out there was considerable diversity in the knowledge and techniques among participants. This fact made it necessary to start some topics at a very basic level in order to help the less qualified participants, therefore somewhat negatively affecting the more qualified. However, the Training was efficient as a whole, giving sufficient consideration to the various different needs among participating countries and different knowledge levels of the participants.

As for the practical training and visits to companies in the molluscan aquaculture field, it can be said that the companies visited were very well selected, and participants appreciated the effort which went into the selection, as well. Judging from the observations mentioned above, the input was efficiently turned to the fruitful outputs, and participants were satisfied with the Training.

### (4) Impact

The impact of the course was large for the following reasons. The results of the questionnaire survey to senior managers of organizations where ex-participants work show that 60 percent considered the number of molluscan aquaculture companies to have increased from 1998, and all of ex-participant's superiors believed that attendance to the training program had strengthened activities related to molluscan aquaculture in their institutions. The training course actually contributed to molluscan aquaculture and the promotion of the development of other fishery aquaculture. It should especially be mentioned that the 78 percent of interviewed ex-participants started up a new molluscan aquaculture project and disseminated their acquired knowledge through preparing regulations. The molluscan aquaculture research section of the research institute where ex-participants worked was both strengthened and promoted.

### (5) Sustainability

North Catholic University was able to manage and coordinate the training course by itself. The sustainability of North Catholic University was considered to be high because it has acquired the most advanced aquaculture technology and knowledge and will be able to apply them. Chilean policies regarding South-south Cooperation, along with the North Catholic University policies, should remain unchanged at the mid term period, and it is expected that implementation of courses will continue.

## **3-2 Factors that promoted realization of effects**

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### (1) Factors concerning Planning

N/A

### (2) Factors concerning the Implementation Process

- 1) North Catholic University owns facilities appropriate for the Training (those for coastal aquaculture and institutions such as the Marine Research and Aquaculture Coastal Center), and this led to close cooperation during Project implementation.
- 2) The good relationship between North Catholic University and Chilean companies working in the field of aquaculture was another important factor supporting the success of the cooperation.

## **3-3 Factors that impeded realization of effects**

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### (1) Factors concerning Planning

N/A

### (2) Factors concerning the Implementation Process

- 1) There is a room for improvement in the selection of participants because their academic and technical achievement varied considerably and, as a result, from time to time it was necessary to start a class with the most basic issues, which diverted some time away from technology transfer.
- 2) The participants from different countries had different needs. Hence, there were times when 14 out of 17 participants did not show any interest to the topics discussed in the Training.

## **3-4 Conclusion**

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The participants from Chile and other Latin-American countries had the chance to use the well-maintained facilities of North Catholic University and were able to enhance their knowledge and improve their techniques on molluscan aquaculture.

### **3-5 Recommendations**

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(1) The selection of participants must be improved because their academic and technical backgrounds vary, which made it necessary to start some classes from a very basic level and this subtracted from the time available for the transfer of the core part of the technology.

(2) JICA should gather more information on participants before the commencement of Training and should develop a course curriculum in line with the areas and the subjects participants are interested in.

### **3-6 Lessons Learned**

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In developing an international training course, it is necessary to select participating countries based on their geographical, climatic and economic needs.

### **3-7 Follow-up Situation**

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N/A