

Terminal Evaluation

Asia

1. Outline of the Project

Country:

Republic of the Philippines

Project title:

Technology Development for Electronic Navigational Charts (ENC)

Issue/Sector:

Mapping, Social Infrastructure Development

Cooperation scheme:

Dispatch of Expert Team

Division in charge:

Second Southeast Asia Division,
Regional Department 1 (Southeast Asia)

Total cost:

160 million yen

Period of Cooperation 15 June 2000 - 14 June 2003

Partner Country's Implementing Organization:

Cost and Geodetic Survey Department (CGSD),
National Mapping and Resource Information Authority (NAMRIA)

Supporting Organization in Japan:

Japan Coast Guard

Related Cooperation:

Mini Project; "Hydrographic Surveying and Nautical Charting SURVEYING AND NAYTICAL CHARTING"
Dispatch of Expert ; "Digitization and Databasing of Nautical Charts"

1-1 Background of the Project

The Cost and Geodetic Survey Department, the National Mapping and Resource Information Authority (CGSD/NAMRIA) of the Philippines has published 185 nautical charts, however except for some charts, most of them were based on the old data collected around the time of World War II. The government of the Philippines has the responsibility to organize 37 international nautical charts about Philippines waters in accordance with the decision of International Hydrographic Organization (IHO), but technical restriction has brought the development of nautical charts to a standstill. Electronic Navigation Charts (ENC) has higher accuracy and convenience than traditional paper hydrographic charts, and the East Asia Hydrographic Commission (EAHC) has tried to disseminate ENC techniques, but the Philippine Government had almost never tried to produce ENC. The Government of Japan was the first to publish ENC as well as holding ENC seminars in East Asia. The Japanese government played an important role in producing and promoting ENC and has been expected to play the leading role to transfer ENC techniques. The government of Japan started cooperation through the Mini Project in 1991 and transferred hydrographic survey techniques to CGSD. To cope with the remarkable technical innovation, the government of the Philippines requested the government of Japan a technical cooperation to transfer new techniques.

1-2 Project Overview

To introduce the Philippines to the ENC organizing techniques which may greatly contribute to the assurance of safety on marine transportation, the project transferred the Philippines its base; the techniques to acquire digital data of hydrographic survey and ENC producing.

(1) Overall Goal The Electronic Navigation Charts (ENC) are continuously being updated.

(2) Project Purpose Personnel in NAMRIA acquire skills for producing and updating ENC and related skills in hydrographic surveys.

(3) Outputs

- 1) The system of digitalized and systemized hydrographic survey for data collection is established.
- 2) The skills and the system of producing and upgrading ENC are established.

(4) Inputs

Japanese Side:

Long-term Experts 3 Equipment 52 million yen

Short-term Experts 8 Local Cost 5 million yen

Trainees Received 6

Philippines' Side:

Counterparts 17

Land and Facilities

Local Cost (project operation cost) 2 million yen

2. Evaluation Team

Members of Evaluation Team

Team Leader/General: Junsaku KOIZUMI, Special Technical Advisor, JICA
ENC Technology: Shoichi KOKUTA, Director, International Affairs Office, Technology Planning and International Affairs Division, Hydrographic & Oceanographic Department, Japan Coast Guard
Evaluation Planning: Yasuhiro KAWAZOE, Staff, Southeast Asia Division, Regional Department I
Evaluation Study: Kyoko KOJIMA, INTEM Consulting, Incorporated

Period of Evaluation	25 November 2002 - 3 December 2002	Type of Evaluation:
		Terminal Evaluation

3. Results of Evaluation

3-1 Summary of Evaluation Results

(1) Relevance

To improve the maritime safety, it is necessary to develop ENC in coastal countries. The government of the Philippines announced the national plan such as "The Medium-Term Philippine Development Plan 2001-2004 (MTPDP)" and "Medium-Term Public Investment Program of DENR 2002-2003(MTPIP)" in which marine safety improvement was one of the subjects being focused. The project was one of the measures to realize the national objectives, and it is evaluated to be meaningful and to have great appropriateness.

(2) Effectiveness Through the project implementation, two kinds of nautical charts in large scale (Manila Bay) and small-scale (northwest Luzon) were developed. In the process of organization, the counterparts acquired basic techniques to continuously organize ENC in other areas. For updating techniques, the equipment and manuals were delivered, but the progress was too slow because the equipment delivery was delayed, and it took more time to learn the technique than expected. It is the future issue to settle those techniques to counterparts.

(3) Efficiency Appropriate achievement has been observed in terms of survey and production skills of the ENC, therefore the efficiency of this field was high. However, the progress of the project was behind schedule, so it would have been better if such measures were taken to enhance the efficiency as to promote the understanding of ENC by the counterparts prior to the project commencement.

(4) Impact The project greatly contributed to the system development for surveys and ENC organization. The overall goal will be accomplished under the conditions of the counterparts' keen learning and the constant acquiring of practical experience for ENC data maintenance and updating. As many ships all over the world use the ENC when sailing the ocean seabed off the Philippines, the project would contribute to the improvement of safety on international voyage, and can be evaluated to have long-term positive impacts.

(5) Sustainability The government of the Philippines has dealt with ENC development as one of the national policies to improve the marine safety, in accordance with the international decision and national plans. Therefore, the effects of the project are expected to be widened by the Philippine side from the political and budgetary point of views. As for the survey and ENC organization, through counterparts' accumulating experiences in the daily works, further system development is possible. It is a future issue to update ENC because the counterparts need to acquire the technique through their experiences.

3-2 Factors that promoted realization of effects

(1) Factors Concerning the Planning The CGSD, as the implementing organization, works for the ENC project including budget allocation and wages of the staff. The supervising organization, NAMRIA, regards ENC production as one of the prioritized development subjects in consistent with the national policy. Even after the completion of the project, NAMRIA will allocate the staff and budget to CGSD for ENC production. These facts contribute to the project's political and organizational sustainability.

(2) Factors Concerning the Implementation Process The project has been thoroughly monitored by OCTDEP. OCTDEP is organized by the senior staff of CGSD, the Japanese experts and counterparts for the purpose of ensuring the smooth implementation and improvement of the project. Meeting almost every month consisting of the assistant officer to the CGSD chairperson and the director of the CGSD adviser, and OCTDEP was mandatory. The report of the project including the discussion results at OCTDEP is periodically presented to its supervising organization, CGSD. These activities contributed to the appropriate management of the project.

3-3 Factors that impeded realization of effects

(1) Factors Concerning the Planning s N/A.

(2) Factors concerning the Implementation Process

1) As for the geodetic transformational technology, the project implemented the GPS geodetic survey and geodetic transformation around the Manila Bay as on-the-spot inspections. However, the geodetic distortion around the Manila Bay is simple and parallel transformation (distortion correction) would be enough in most cases. There was no chance to practice the utilized geodetic transformation technique at the areas with larger distortion. Therefore, participants just learned the theory without enough practices. If the on-the-spot inspections were implemented at the area with large distortions such as Mindanao, the participants could have learned the transformation techniques much better.

2) Some of the counterparts had to engage in the urgent official works of CGSD and could not join the training, which made them miss an entire day of training. It should be worthy to notice that the specified survey about the Philippine waters was decided to be implemented during the project period, and there were counterparts who could not join the training owing to the survey.

3) The delay of equipment arrival adversely affected the progress of the whole project activities. As a result for the transfer of the ENC updating application techniques, only the theory was transferred to the participants and technique practice could not be implemented.

3-4 Conclusion

The system of ENC development and survey technology has been developed in line with the project purpose. However, the system of ENC updating has not been established yet because of the delayed equipment delivery and the delayed progress of the project. Another factor was that the engineers of the Philippine side did not have enough basic knowledge on ENC (new technology) at the beginning of the project. To make the effects of the project be linked to future development, it is essential that the transferred techniques on ENC be updated.

3-5 Recommendations

(1) NAMRIA does not have the clear policy of ENC development on the entire the Philippine waters. Therefore, it is recommended that the future ENC development plan (including allocation of personnel and budget) should be prepared with a long-term perspective.

(2) As for the core positions (chief and section head levels) on ENC development, to affirm the system of ENC development, it is desirable that the core staff who are assigned in longer periods be in charge of the duty to conduct the works continuously.

(3) For the ENC organization and updating, it is essential to conduct surveys, maintenance and management of equipment, and updating and maintaining software. Therefore, it should also be essential to continuously assure the budget on those activities.

(4) It should be recommended that the ex-participants should notify the ENC and ENC project activities by holding seminars for the publications and information offered to the supposed users of ENC. Activities to inspire the public and disseminate the acquired techniques are recommended to be conducted through the internet.

(5) The survey and geodetic transformation on Manila Bay and northwest Luzon were implemented, but these areas are with a little geodetic distortion. To upgrade the technical level in that field, it is recommended to implement the on-site practice of the geodetic transformational technology in areas with larger geodetic distortion.

(6) The ENC organization has completed its duties in the Manila Bay and the northwest Luzon which are the targets of the project, therefore the counterparts fully understood the ENC symbols. However, there are many symbols not included in these areas, and thus should be recommended that ex-participants learn them through the on-site practice when generating the ENC for other areas.

(7) To update ENC, not only theory but also knowledge and technique should be acquired through practical training.

3-6 Lessons Learned

(1) The Japanese side made efforts to dispatch the same short-term experts in the field of ENC development and survey techniques for three to five times so as to provide continuous technology transfer to the Philippine side. This enabled the experts to understand the status of the Philippines and the upgrading speed of the counterparts' technical levels, and that the experts could conduct effective cooperation in terms of the contents of training and improvement of the technical levels. For other projects, utilizing similar methods considering the contents of activities and required outputs should be considered.

(2) The delay of the equipment input at the beginning of the project adversely affected the progress of the project. Therefore, it is recommended that a project should be conducted and managed, taking the activity plan of the project and equipment procurement schedule into consideration.

3-7 Follow-up Situation

CGSD/NAMRIA requested the Team Leader to extend the project period for another two years after the completion of the current project by the Letter dated 29 November 2002. The Letter included the details of the tentative schedule and the activities during the extension period of the project. Understanding the importance of the Philippines' request, the Team conveyed the request to the Japanese authorities concerned. After a while, NAMRIA informed the Japanese side that they would send an official request to the Japanese government through diplomatic channel. After the discussion among Japanese authorities who were involved, it was decided that the program would be extended by another two years mainly for the technique transfer for the ENC updating.