conducted by Philippines Office:March, 2013

Country Name	The Project for Enhancement of Communications System for Maritime Safety and Security
The Republic of the Philippines	

I. Project Outline

Project Cost	E/N Grant Limit: 609 million yen		Contract Amount: 607 million yen
E/N Date	July 2007		
Completion Date	March 2009		
Implementing Agency	Philippine Coast Guard (PCG), Department of Transportation and Communication(DOTC)		
Related Studies	Basic Design Study: May, 2006 - March 2007		
Contracted Agencies	Consultant(s)	Oriental Consultants (As of Dec. 2008, the business was transferred to the Oriental Consultants from the Pacific Consultants International)	
	Contractor(s)	NA	
	Supplier(s)	Toyota Tsusho Corporation and Japan Radio Co. ltd.	
Related Projects (if any)	Japan's cooperation: -The Project on Philippine Coast Guard Human Resource Development Project (Technical Cooperation, 2002–2007) -Philippine Coast Guard Education and Human Resource Management System Development Project (Technical Cooperation, 2008-2013) -Individual Expert Dispatch on Coast Guard Administration (2009-2012) -Maritime Telecommunication System Development Project (Loan, 1989-1996) -Maritime Safety Improvement Project (Loan, phase 1 for 1990-1994 and phase 2 for 1995-2001)		
Background	At the sea surrounding Philippines, marine crimes, such as drug/arms smuggling, bomb fishing, and piracy has continued to be major concerns. The Philippine Coast Guard (PCG), an agency under the Department of transportation and Communications (DOTC) performs search and rescue, safety administration, environmental protection, and law enforcement within its area of responsibility. However, PCG's communication system had relied on old equipment which operated only on a limited coverage. Precise and encrypted information, required for immediate and coordinated search and rescue operation, was not able to be transmitted quickly within the organization. The Manila Coast Station had been out of operational since the microwave circuit between stations was cut off by radio wave interference from mobile communication. Furthermore, the Philippines has not carried out Global Maritime Distress and Safety System (GMDSS) which was already established in other major Asian countries. Given these circumstances, there was a pressing need to improve the current communication system.		
Project Objectives	Outcome To enhance the capability of communication system at Philippine Coastal Guard by the procurement of communication equipment for the VSAT Satellite Communication System, Microwave Communication System and VHF/HF Radio System as well as the rehabilitation of Manila Coastal Station *VSAT : very small aperture terminal *VHF/HF: very high frequency (wave) / high frequency (wave)		
	Outputss Japanese Side: 1) VSAT Satellite Communication System Hub Station – Operation Centre (1 station) Fixed Station – 9 stations (Cebu, Zamboanga, Palawan, Batangas, Iloilo, San Fernando, Davao, Legaspi, Cagayande Oro) Transportable Station – Operation Centre (1 station) 2) Microwave Communication System – 6 stations (Headquarter, Operation Center, Transmitting Station, Receiving Station, Sangley Point, HICGD) 3) VHF/HF Radio System -3 Headquarters of Coast Guard Districts and 20 affiliated Coast Guard Stations and Operation Centre 4) Manila Coast Station – Rehabilitation of Operation Centre, Transmitting Station, and Receiving Station (3 stations) Philippine Side: 1) Obtaining radio station (or frequency) license 2) Negotiation and contract of satellite circuit to be leased 3) Finishing the grading and installation of fences at Transmitting station 4) Construction or repair of engine generator rooms 5) Provision of commercial power supply		

II. Result of the Evaluation

Summary of the Evaluation
In order to promote safety of life and property at the sea and to safeguard marine environment and its resources, it was utmost important to enhance the capability of communication system at PCG. For that purpose, provision of the communication equipment for the VSAT Satellite Communication System, Microwave Communication System and VHF/HF

Radio System and the rehabilitation of the Manila Coastal Station was strongly needed.

This project has achieved its objectives of enhancement of the capability of communication system at Philippine Coastal Guard. The coverage of VSAT and VHF/HF has been achieved mostly as planned. At present, eight VSAT systems out of ten are functioned and remaining two systems are supposed to be resumed once PCG completes the relocation work. Sufficient communication for search and rescue operation for Manila Coast Guard Station, GMDSS operation and NAVTEX (navigation telex) services have become available mostly as planned. However, one microwave system which connects Operation Center and Transmitting Station occasionally has communication failure caused by high-rise buildings or weather condition. At present, in case communication failure occurs, the connection is carried out by the back-up circuit. In addition, it has a limited impact on the decrease of telecommunication cost due to the substantial amount of expenses needed for satellite migration.

As for sustainability, the project has some problems in financial aspect and the current status of operation and maintenance due to the insufficiency of budget and the unavailability of spare parts. For relevance, the project has been highly relevant with the Philippine development policy, development needs, as well as Japan's ODA policy at the time of both ex-ante and ex-post evaluation. For efficiency, the project period slightly exceeded the plan.

In light of the above, this project is evaluated as satisfactory.

1 Relevance

This project has been highly relevant with the Philippine development policy ensuring maritime assets, maritime practices, and upgrading air and maritime capability, development needs to enhance the Coast Guard's communication effectiveness, as well as Japan's ODA policy at the time of both ex-ante and ex-post evaluation. Therefore, its relevance is high.

2 Effectiveness/Impact

This project has mostly achieved its objectives of enhancement of the capability of communication system at Philippine Coastal Guard. As the data for 2010 was not available, the evaluation was carried out based on the actual value for 2012[1]. The coverage of VSAT and VHF/HF has been achieved mostly as planned. All ten VSAT systems functioned after the completion of the project. However, due to the expiration of fuel used for a satellite, the satellite link communication service for VSAT was suspended in September 2011. In response, PCG conducted VSAT antenna re-pointing and configuration works for all the ten systems in order to connect the new satellite. Eight systems out of ten have been successfully completed the works. Remaining two systems (Cebu and Davao) were required to replace the antenna in order to connect the new satellite[2]. PCG has been waiting for allocation of the budget.

As for Manila Coast Guard Station, sufficient communication for search and rescue operation, GMDSS operation and NAVTEX (navigation telex) services have become available mostly as planned. However, one microwave system out of five lines among six stations, which connects Operation Center and Transmitting Station[3], has not been occasionally functioned due to communication failure caused by high-rise buildings. Therefore, at present, in case communication failure occurs the search and rescue (SAR) communication between Operation Center and Transmitting Station has been temporarily carried out by the back-up circuit. It is required for PCG to set up the repeating station to utilize the microwave system provided by the project. Other four lines have been functioned by the microwave system provided by the project.

Though there are uncertain factors such as weather conditions which might always affect the communication network, the project contributed, to some extent, to the timely execution of communication procedures in the daily routine. According to the data for the SAR and counter-terrorism operations, the response time has been decreased from 2 days (before the project) to 1-2 hour (after the project). However, it has a limited contribution to the decrease of telecommunication cost as the substantial amount of expenses needed for satellite migration offsets the benefits generated by VSAT. In addition, there might be a risk of electrification or the high radiation of electromagnetic waves for neighborhood residents around the transmitting station because there is a possibility of neighborhood residents entering into the transmitting station where antennas are located due to lack of the absence of permanent tall fence. Illegal settlers have been also increasing in the transmitting station because of the absence of permanent tall fence and partly due to the difficulty of implementing relocation procedure of PCG[4] which requires legal processes and advance coordination with concerned authorities and respective government agency. Despite the situation, the expected effects of the project are observed as described above.

In light of the above, effectiveness/impact of this project is high.

Quantitative Effects

Indicator(unit)	baseline value (BD year 2006)	target value (2010)	actual value (at ex-post evaluation) 2012
1) (VSAT)Dedicated communication link secures encrypted communication (coverage of the maritime areas of the Philippines with VSAT communication)	(actual value) 0%	(planned value) 100%	80%

[1] One of the indicators set out at the Basic Design, the Indicator 4 "number of ships assisted by GMDSS, was not used as the data for 2012 was not available.

[2] In case of Cebu, the antenna should be relocated within CGD (Cebu) property. In Davao, the antenna should be elevated on the CGD (Davao) building.

[3] Microwave system provided by the project connects not only between Operation Center and Transmitting Station, but among Headquarters, Operation Centre, Transmitting Station, Receiving Station, Sangley Point, and H1CGD.

[4] Resettlement of illegal settlers is out of the project scope, while it was mandatory for rehabilitation of existing facilities in the antenna yard.

2) (VHF/HF)Encrypted function is able to transmit all required information (ratio of CGSs with functioning VHF/HF system to total CGSs)		(actual value) 0%	(planned value) 38%(the system is to be procured to 20 CGS among 52 CGSs)	38%
3) Manila Coast Station	1)Sufficient communication for SAR operation (ratio of use of the rehabilitated microwave system to all communication for SAR to/from Manila Coast Station)	0%	100%	80%*
	2)GMDSS becomes operational (ratio of MF Coast Stations that operate GMDSS to all MF Coast Stations)	0%	Improved by 10% (only at Manila Coast Station)	10%
	3)NAVTEX services (coverage of the maritime areas of the Philippines with NAVTEX communication)	0%	Achieved to 50%	50%

Data Source: Report of the JICA Individual Expert for Coast Guard Administration (as of Sep.3, 2012)
Note:
*As pointed out on the above, the microwave system (indicator 3-1) has not been fully functioned since there is 1 line that does not function. It will fully function when PCG sets up the relaying point in order to get around the interception caused by the high-rise buildings.


VSAT antenna

Coverage of Manila NAVTEX

Squatters area showing within the 50 meters perimeter of the Antenna

3 Efficiency

The project cost was within the plan (ratio against the plan: 100%), and the project period slightly exceeded the plan (ratio against the plan: 108%) because the construction was temporarily suspended by the request of the Navy even after their approval. The outputs of the Japanese side was produced mostly as planned, but the outputs of the Philippine side, such as permanent fence at transmitting station, were not yet fully produced as planned due to the unavailability of fund and much time being required for the process of contract negotiation. Therefore, efficiency of this project is fair

4 Sustainability

PCG is responsible for the operation and maintenance of the communication systems as well as physically maintaining the facilities / equipment provided by the project. The project has some problems in financial and the current status of operation and maintenance due to the insufficiency of budget for constructing the repeating station for Microwave System and relocation of two VSAT antenna in CGD Cebu and CGD Davao, and the unavailability of spare parts (and some measurement apparatus in Coast Guard districts). Much effort has been made to obtain the budget even from the outside. Furthermore, the PCG conducted trainings for the technical personnel so that they can manage the simple maintenance and operation even with their limited budget. No problem has been observed in the structural aspect of the executing agency that takes initiative to maintain and enhance the staff's technical level. Therefore, sustainability of the project is fair.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency

1) PCG should relocate VSAT antenna for remaining two districts (Cebu and Davao) so that stable and sufficient capacity link is fully realized and dedicated communication link can be fully secured in encrypted communication.
2) PCG should set up the repeating station in order to have stable connection between Operation Centre to Transmitting Station by the microwave system provided by the project in order to get around the interception caused by the high-rise buildings in Bonifacio area.
3) PCG should obtain the budget to construct the proposed permanent fence in Transmitting Station with DOTC, in order to demarcate the PCG's land area from the houses of the illegal settlers.

Lessons learned for JICA

Commitment agreed with counterparts before project implementation in terms of plan and budget allocation should be closely assessed in the process of the implementation as well as after the project. In this project, if appropriate remedial measures, in case of nonperformance of commitment such as the installation of fences, had been taken, the project could have avoided the problems encountered.