

Socialist Republic of Viet Nam

FY2015 Ex-Post Evaluation of Technical Cooperation Project

“The Project for Environmental Protection in Halong Bay”

External Evaluator: Junko FUJIWARA, OPMAC Corporation

0. Summary

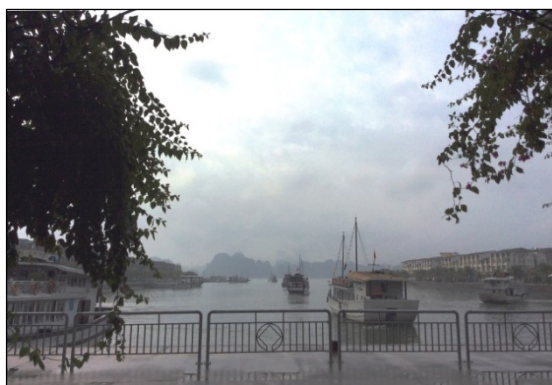
The intention of this project was to strengthen the implementation capacity on management of natural resources and environment for sustainable tourism in the Halong area by the end of the project period. Pollution would thereby be prevented together with the prevention on destruction of natural resources and the environment in Halong Bay and its vicinity.

The project relevance is high as project implementation was in line with Viet Nam’s development plan and development needs, as well as with Japan’s ODA policy. The project largely achieved its purpose by implementing the planned activities through achieving the five outputs: 1) improvement in the organizational and institutional coordinating function for the management of natural resources and environment; 2) enhancement of environmental monitoring, environmental inspection skills, and capacity for administrative guidance; 3) development of appropriate measures for land use management in coastal areas; 4) strengthening the capacity for preparing measures for sustainable tourism, and; 5) implementation of environmental education and raising of public awareness, and dissemination of such results. Although numerous efforts to control the occurrence of pollutants were made to prevent pollution and the destruction of natural resources and environment, it was difficult to confirm the effects that were expected after the project at the time of this ex-post evaluation. Therefore, it is concluded that the effectiveness and impacts of the project are fair. The project cost was slightly higher than planned, while the period of the cooperation was as planned, so the efficiency of the project is deemed to be fair. The sustainability of the effects realized by this project is high. The direction of policy, the institutional, organizational, technical and financial aspects are at a level to enable the project effects to last after completion of the project.

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



Project Location



Tuan Chau Port where tourist ships are anchored.

1. Project Description

1.1 Background

Halong Bay, which belongs to Quang Ninh Province, is located in the north of Viet Nam, and forms a unique seascape of numerous islets and precipitous rocks. It was designated as a UNESCO World Natural Heritage Site in 1994¹ and is one of the most famous tourist spots in Viet Nam having been visited by as many as 2.5 million domestic and international tourists in recent years. The province as a whole, however, is designated as one of the major industrial development areas in the northern part of the country having large-scale coal production and traffic importance. The area surrounding Halong Bay has experienced rapid industrialization and an expansion in urban areas where coal mine development and the construction of cement factories, brick factories, and power plants were observed. There have been serious adverse environmental impacts caused by the discharge of water and waste from coal mines and factories, together with increasing domestic waste water and solid waste from the expanding urban areas and the growing number of tourist facilities. Furthermore, there has also been mangrove deforestation, soil erosion into the sea, uncontrolled land reclamation and the discharge of water, oil and waste from vessels.

With this background, this project commenced with the objective of strengthening the capacity for implementing the management of natural resources and environment for sustainable tourism in the Halong area.

¹ Out of ten selection criteria explained in the “Operational Guidelines for the Implementation of the World Heritage Convention”, Halong Bay was considered to meet two: ‘(vii) to contain superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance’, and; ‘(viii) to be outstanding examples representing major stages of the earth’s history, including the record of life, significant on-going geological processes in the development of landforms, or significant geomorphic or physiographic features’. It was added to UNESCO’s World Heritage List second to the Complex of Hue Monuments (cultural heritage) in Viet Nam.

1.2 Project Outline

Overall Goal	Pollution and destruction to natural resources and the environment is prevented in the Halong Bay (World Heritage) and its vicinity: Halong City, Cam Pha Town and Hoanh Bo District, Yen Hung District, and Van Don District of Quang Ninh Province.	
Project Purpose	Implementation capacity for natural resources and environmental management for sustainable tourism in the Halong area is strengthened.	
Outputs	Output 1	Roles of related organizations and institutional coordination for natural resources and the environment management in Quang Ninh Province are improved.
	Output 2	Environmental monitoring, inspection, administrative guidance in the Halong area are enhanced by DONRE and related organizations.
	Output 3	Appropriate measures for land use management on coastal areas of Halong Bay are developed for better balance between the environment and development in the Halong area.
	Output 4	Capacity for preparing measures for sustainable tourism in the Halong area is strengthened.
	Output 5	Effective environmental education and public awareness are implemented and the outputs are shared with other areas.
Total cost (Japanese Side)	Approximately 346 million yen	
Period of Cooperation	March 2010 to February 2013	
Implementing Agency	Provincial People's Committee, Department of Natural Resources and Environment, and relevant organizations in Quang Ninh Province	
Other Relevant Agencies / Organizations	N/A	
Supporting Agency / organization in Japan	Ministry of the Environment, Overseas Environmental Cooperation Center, University of Kitakyushu, Nippon Koei Co., Ltd.	
Related Projects	<ul style="list-style-type: none"> - "Environment Improvement Master Plan for Halong Bay" (Development Study) (1997 to 1999) - "Project for Institutional Development for Green Growth Implementation and Strengthening of Environmental Management System towards Sustainable Conservation for the Halong Bay" (Project Formulation Survey) (FY2015 to FY2016 (planned)) - "Ha Long City Water Environment Improvement Project (E/S)" (ODA loan) (L/A signed in July 2015) 	

1.3 Outline of the Terminal Evaluation

1.3.1 Achievement Status of Project Purpose at the Time of the Terminal Evaluation

It was assessed in the Terminal Evaluation conducted in November 2012 that the objective verifiable indicators (OVIs) had been either already observed or were likely to be observed. As a result of the analysis based on the situation at the time of the terminal evaluation, it was thought that the project purpose was likely to be achieved by the end of the project period.

1.3.2 Achievement Status of Overall Goal at the Time of the Terminal Evaluation

Although some facts indicating the contribution of the project to the overall goal were confirmed, it was judged too early to assess the prospects of the achievement of the overall goal as there was not sufficient evidence to prove the likelihood of achievement.

1.3.3 Recommendation at the Time of the Terminal Evaluation (including other impacts)

The following seven recommendations were made at the time of the Terminal Evaluation:

- “The Environmental Protection for Sustainable Tourism Strategy” (EPSTS) should be formulated in a holistic manner;
- In the preparation of EPSTS, it is recommended that more effort is made to ensure good collaboration among WGs and that attention is paid to links between the outputs of WGs.
- Such exercises as prioritizing the individual actions and plans comprised in EPSTS, and focusing on the core parts of the proposals of EPSTS would be particularly useful.
- In the course of the preparation of EPSTS, it is advisable that QN PPC’s existing and planned plans/programs are fully taken into account to ensure synergy. In this regard, it is also advisable that the measures/plans proposed by the project are reflected in or incorporated into the relevant Master Plans in the development sectors.
- It is strongly recommended that priority measures in EPSTS be duly incorporated into the QN PPC new development strategies including the “Green Growth Strategy”, and that there is QN PPC commitment for their implementation
- It is recommended that the inter-organizational network drives proactive participation on the part of stakeholders from the viewpoint of a bottom-up approach.
- It is highly recommended that preparation for the organization of a kind of standing committee should be made as soon as possible. This committee should take over the tasks undertaken by the Committee for Environmental Management (hereinafter as “CEM”) in order to ensure the implementation of EPSTS.

The relevant officials of Quang Ninh Province confirmed in an interview in this ex-post evaluation that all the above recommendations had been implemented after the project ended.

In other words, EPSTS was finalized through close collaboration and cooperation among relevant people in the project. The development strategy of Quang Ninh Province reflected EPSTS with the aim of sustainable tourism and environmental conservation. The People's Committee of Quang Ninh Province showed a strong commitment and took leadership in promoting the Green Growth Strategy. A Committee for Green Growth was organized as a standing committee for promoting the province's overall strategy.

2. Outline of the Evaluation Study

2.1 External Evaluator

Junko FUJIWARA, OPMAC Corporation

2.2 Duration of Evaluation Study

Duration of the Study: October 2015 – September 2016

Duration of the Field Study: January 3 - 31, 2016, and April 2 - 16, 2016

2.3 Constraints during the Evaluation Study

The effects of the project outputs and sustainability were assessed in this ex-post evaluation through a questionnaire survey with the implementing agency followed by interviews to confirm answers. There were also beneficiary surveys² targeting 16 relevant project officials, ten tourists, ten local people, four tourist boat owners and seven local enterprises as reference for identifying whether or not there was any achievement in the project output and the degree of achievement, together with the extent to which the contribution had been made against the project purpose.

Due to time constraints and budget limitations, a sufficient number of samples enabling quantitative analysis were not secured in the beneficiary survey. The results are therefore referred to in this evaluation as qualitative information for reference.

² The beneficiary survey was conducted from 7 to 12 January 2016. The number of valid responses was 47. The Evaluator asked officials of the implementing agency, prior to the survey implementation, if the contents of the survey questionnaire were appropriate and revised them according to their replies. Eight males and eight females, were selected as recommended by the implementing agency, out of whom nine were from the Department of Natural Resources and Environment (hereinafter as "DONRE"), one from the Environmental Police Department, Provincial Police (hereinafter as "EP"), one from the Halong City People's Committee, one from the Viet Nam National Coal Mineral Industry Group, one from the Hoanh Bo District People's Committee, one from the Halong Bay Management Department (hereinafter as "HBMD"), one from the Provincial Women's Union (hereinafter as "WU"), and one from the Provincial Youth Union (hereinafter as "YU"). The breakdown of tourists, local people, tourist boat owners and local enterprises were: 19 females, 12 males; and by age, one in their 20s, eight in their 30s, ten in their 40s, six in their 50s, five in their 60s and one in their 70s. The survey with relevant project officials, local people and local enterprises was conducted within Halong City. Local enterprises were selected from the list owned by the implementing agency, whereas the survey for tourists and tourist boat owners was conducted in the sea port for Halong Bay world heritage tours.

3. Results of the Evaluation (Overall Rating: B³)

3.1 Relevance (Rating: ③⁴)

3.1.1 Relevance to the Development Plan of Viet Nam

In the “Five-year Socio-economic Development Plan 2006 - 2010”, the national development plan of Viet Nam on which the planning of the project was based, environmental issues were one of three pillars along with economic and social issues. The development plan of the Red Delta Region where Quang Ninh Province is located put emphasis on environmental conservation with sustainable economic growth to be secured. On the other hand, the Quang Ninh Province’s “Five-Year Socio-economic Development Plan (2006 to 2010)” prioritized the sustainable implementation of economic, industrial and tourism development as target development issues. Along with the development of the tourism and the coal industry (major income resources of the province), the conservation of the world heritage site, which was exposed to environmental destruction caused by the said industry development, was emphasized.

At the time of the ex-post evaluation of this project, policy direction continued to be the same at both national and provincial levels. One of twelve strategies in the national-level policy, the “Socio-economic Development Strategy for the Period of 2011 - 2020”, was ‘environmental conservation and improvement, and a positive and effective response to climate change’, while the “Five-year Socio-economic Development Plan for the 2011 – 2015 Period” took over the mission of the “8th Five-year Socio-economic Development Plan 2006 - 2010.” At provincial level, plans related to the sustainable development and environmental conservation of Halong Bay area were introduced such as the “Halong Bay World Heritage Comprehensive Management Plan (2011 to 2015)”, the “Quang Ninh Province Climate Change Plan”, and the “Land Use Plan and Five-Year Land Use Plan at District Level from 2011 to 2015.”

In light of the above, at its completion, the project was found to be relevant to Viet Nam’s national development plan and to the Quang Ninh Province sector development plan.

3.1.2 Relevance to Development Needs of Viet Nam

Quang Ninh Provincial People’s Committee and JICA implemented a development study “Environment Improvement Master Plan for Halong Bay” (Development Study) (1997 to 1999) aiming at harmonization between the natural environment and economic development, utilizing environmental measures such as organizational and infrastructure development. However, at the time of project planning, it was apparent that there was no single common environmental conservation policy which had been developed by the province due to the fact

³ A: Highly satisfactory, B: Satisfactory, C: Partially satisfactory, D: Unsatisfactory

⁴ ③: High, ② Fair, ① Low

that collaboration and coordination among the relevant authorities did not go well. It was confirmed that it was necessary to enhance the capacity of environmental management in terms of manpower and technology. It was also confirmed that the development and implementation of a land use policy with a good balance between development and the environment was needed.

The implementing agency confirmed at the time of project completion that there was still a need for strong and consistent organizational sustainability in terms of strengthening environmental management skills and organizational capacity. It was also confirmed that there was a similar need in the area of tourism development where there should be a good balance between sustainable economic development and environmental conservation.

To summarize, from project planning to completion, the development strategy formulated and implemented at provincial level required 1) environmental management skills, 2) organizational capacity development, and 3) land use policy development skills. Therefore, relevance with development needs at the time of project completion is confirmed.

3.1.3 Relevance to Japan's ODA Policy

This project was relevant to Japan's Assistance Policy as 'environmental conservation' was among those highly prioritized areas described in the country assistance policy of the Government of Japan toward Viet Nam (2009). The project was also categorized in the "Urban Water Environment Management Program" of JICA. The program aimed at 'improvement of water quality in public water areas and the reduction of pollution levels in order to meet the variable needs of water use in Viet Nam', for which the output 'improvement in the capacity of the Ministry of Natural Resources and Environment (hereinafter as "MONRE") and provincial DONREs dealing with the management of the urban water environment' was set. The project, which was concerned with environmental management skills in the region centering on the Halong Bay water area thus contributed to the accomplishment of the above program.

3.1.4 Relevance to Appropriateness of Project Planning and Approach

The Committee for Environmental Management, CEM, comprised of DONRE and other relevant departments, was established under the project and was chaired by the Vice Chairman of the Quang Ninh Provincial People's Committee⁵. Four working groups were

⁵ 21 people from following the 19 organizations joined CEM: the JICA Viet Nam Office, MONRE, the Quang Ninh Provincial People's Committee, DONRE, the Department of Planning and Investment (hereinafter "DPI"), the Department of Finance, the Department of Culture, Sport and Tourism (hereinafter "DOCST"), the Department of Construction, the Department of Education and Training (hereinafter "DOET"), the Department of Transportation, the Department of Industry and Trade, the Department of Agriculture and Rural Development, HBMD, EP, YU, WU, the Halong City People's Committee, the Hoanh Bo District People's Committee, and the Cam Pha City People's Committee.

organized with the departments concerned to jointly implement activities⁶. The Project Management Board (hereinafter “PMB”) was organized with five DONRE staff members on the initiative of the province, to collaborate and cooperate with CEM and working groups.

While DONRE was mainly involved in project activities to strengthen their capacity for the fulfilment of their duties, there was also enhancement in the capacity for coordination among the relevant authorities involved in environmental conservation. These had certain budgets and responsibilities allocated from the province, and there was enhancement of their cooperation system. The approach was found to be effective as a collaboration system for implementing ‘environmental conservation for sustainable tourism.’

In summary, this project was highly relevant to Viet Nam’s development plan and development needs, as well as to Japan’s ODA policy. Therefore its relevance is high.

3.2 Effectiveness and Impact⁷ (Rating: ②)

3.2.1 Effectiveness

3.2.1.1 Project Output

A hearing from the implementing agency confirmed that all five outputs had been achieved at the end of the project.

Output 1 (‘improvement in the roles of related organizations and institutional coordination for the management of natural resources and environment in Quang Ninh Province’): In addition to the accomplishment of the quantitative indicators and implementation of activities such as ‘CEM providing more than 40 comments, recommendations as well as administrative guidance for each working group’, ‘the dissemination of environmental conservation strategies through seminars, etc.’, a qualitative improvement in the coordination function was confirmed in this ex-post evaluation. This included the coordination skills of DONRE and relevant organizations through activities conducted during the project period for the elaboration of documents relevant to environmental conservation, and the stipulation of regulations etc. Organizational collective efforts were confirmed as PMB and working group members stayed in touch with each other, coordinated and discussed, advocated to the Provincial People’s Committee and to CEM members.

Output 2 (‘Enhancement by DONRE and related organizations of environmental monitoring, inspection and administrative guidance in the Halong area’): Following the

⁶ 13 organizations sent 26 people to participate in the project’s working groups: DONRE, DPI, DOCST, DOET, HBMD, EP, YU, WU, the Halong City People’s Committee, the Hoanh Bo District People’s Committee, the Cam Pha City People’s Committee, the Yen Hung District People’s Committee, and the Viet Nam National Coal Mineral Industry Group.

⁷ Sub-rating for effectiveness is to be put with consideration of impact.

achievement of the quantitative indicators: ‘to formulate an environmental monitoring plan’, ‘to achieve more than 80% of the figure indicated in the environmental monitoring plan’, ‘to implement inspections including administrative guidance for at least 80% of disclosed violation acts causing environmental pollution’, it was confirmed in this ex-post evaluation that qualitative skills had been improved. These skills were in the elaboration of documents and administrative guidelines related to environmental conservation, the implementation of environmental monitoring, and the disclosure of legal violations by entrepreneurs through environmental checks and inspections.

Output 3 (‘Development of appropriate measures for management of land use of coastal areas of Halong Bay for a better balance between the environment and development in the Halong area.’): As defined in its indicator, relevant measures for land use and the restriction on reclamation were examined and submitted to CEM and accepted by them, the importance of measures for the prevention of abusive land use, the conservation of coastal area, and the development of surrounding areas having been shared⁸.

Output 4 (‘Strengthening of the capacity for preparing measures for sustainable tourism in the Halong area.’): Not only was their indicator ‘three measures under each strategy are submitted to Quang Ninh Province’ achieved, it was confirmed that quality of the content was concrete and viable enough to obtain the approval of the Provincial People’s Committee.

Output 5 (‘Implementation of effective environmental education and public awareness and the sharing of the outputs with other areas.’): Effective environmental education and PR activities such as mobile environmental education, eco-fairs and eco-classes were implemented. It was confirmed that these were shared with DONRE of Hanoi City, Hai Duong Province, Bac Kan Province, and Tay Nguyen Province, and non-pilot areas of the Quang Ninh Province.

3.2.1.2 Achievement of Project Purpose

The achievement of the project purpose was considered and judged according to the results of three the indicators set for the project. The indicators and their actual results are shown in Table 1.

⁸ Countermeasures for coastal area conservation, land zoning, and land use management were integrated in the “Coastal Environment Protection Corridor”, a spacious corridor on the coast of Halong Bay. The corridor works as a buffer zone for active land use management between the land-side development area and the Halong Bay sea area aiming at the environmental protection of Halong Bay. It also ensures the conservation of biodiversity and ecosystems, and sustainable tourism.

Table 1: Achievement of Project Purpose

Project Purpose	Indicator	Actual
Implementation capacity for natural resources and the environmental management for sustainable tourism in the Halong area is strengthened.	Number of measures implemented is increased by 2013.	<ul style="list-style-type: none"> - Measures taken in action played an important role that contributed to the decision making and the elaboration of plans for the province - Numerous countermeasures were raised although the total number was not counted.
	More than 40 suggestions, recommendations, and solutions are proposed by WGs to CEM by 2013.	<ul style="list-style-type: none"> - More than 40 viable and effective suggestions, recommendations, and solutions had been assessed by PMB and submitted to CEM by the end of the project.
	More than 20% staff in related organizations evaluated their capacity on sustainable tourism and environmental management to be improved by 2013 compared with the level of 2010 when the project started.	<ul style="list-style-type: none"> - Beneficiary surveys were conducted in 2010 and 2012 that targeted DONRE, DOCST, HBMD, tourist boat owners and people in the tourism industry. A improvement in capacity of more than 20% was confirmed. - The questionnaire referred to experiences and skills in policy making, planning, and tourism development policy.

Each of the three indicators set for the project purpose was accomplished within the project period as described above. In addition, project effects became clear as model activities were piloted and their outputs confirmed. This helped raise awareness not only among project relevant organizations but also at the Quang Ninh Provincial People's Committee. Therefore the project achieved its purpose.

3.2.2 Impact

3.2.2.1 Achievement of Overall Goal

The achievement of the overall goal was also considered and judged according to the result of the indicators set for the project. The indicators are shown in the following table.

Table 2: Overall Goal and Indicators

Overall Goal	Indicator
Pollution and destruction to natural resources and the environment is prevented in the Halong Bay (World Heritage) and its vicinity: Halong City, Cam Pha Town and Hoanh Bo District, Yen Hung District, and Van Don District of Quang Ninh Province.	1. Environmental data in Halong Bay and its vicinity (water environment, biodiversity, and satisfaction level of tourists) are improved by 2015 compared with those in the level of 2010.
	2. The practice in the Halong area is recognized to be effective at the national level by 2015.
	3. CEM functions continuously after the project as an authorized / official organization for integrated environmental protection of the Halong Bay and its vicinity.

Actual results of each indicator are described below.

(1) Improvement in environmental data for Halong Bay and its vicinity (Indicator #1)

■ Water Environment

Quang Ninh Province made a forecast of the water quality in the province in the “State of Environment Quang Ninh Province (2010)”. This forecast was based on its findings concerning the environmental quality of the coastal water area from 2006 to 2010 and on analyses for the causes of environmental pollution.

Table 3: Forecast of the Water Quality of the Halong Bay Area (as of 2010)

Indicator	Forecast
Sea water pH	- No big change in sea water pH, ranging from 7.5 to 8.5, within the permissible limits of regulation.
Total Suspended Solids (TSS)	- A tendency for TSS to decrease, within the permissible limits of regulation, fluctuating around 15-30mg/l, lower in the dry season than in the rainy season.
Chemical Oxygen Demand (COD)	- In coastal areas of Ha Long, Cam Pha: a reduction on the content of COD to lower than the previous period (before 2010). - In the core area of the Halong Bay World Natural Heritage site, little fluctuation, within the permissible limits of regulation
Oil	- Oil content in the ports, especially the ports for coal remaining locally polluted, ranging from 0.1 to 0.2 mg/l.

Source: the State of Environment Quang Ninh Province (2010)

Note: “pH” is an indicator of solutions. A value of 7 represents neutrality; higher numbers represent increasing alkalinity and lower numbers increasing acidity. “Total Suspended Solids” are those particles with diameter of 2mm and less which float or are suspended in water. TSS include fine particles clay comprised of minerals with less settleability, zoo- and phytoplankton and their corpses, fragments, adhering micro-organisms, organic matters from wastewater and industrial discharge liquor, and metallic sediments. “Chemical Oxygen Demand” indicates the amount of water-dissolved oxygen consumed by organic contaminants dissolved or suspended in water when decomposing.

Table 4 shows data for the quality of ocean water in the Halong Bay area from 2010 to 2015. Compared with 2010 (project commencement year), values for each parameter stayed more or less the same, which were within the range anticipated in the SoE (See Table 3). Figures for sea water pH and TSS remained as anticipated throughout the five years. Those for oil were within the range of forecast from 2010 to 2013 (2014 and 2015 measured over 0.2ml). Data for COD was not available except for 2013 and after, which made it impossible to confirm a circular trend.

Table 4: Water Quality in the Halong Bay Area

Parameter	Environmental Monitoring Parameters in Halong Bay Area						Allowable Value		
	2010 (Project start year)	2011	2012	2013 (Project end year)	2014	2015 (Ex-Post Evaluation)	Aquaculture, aquatic creatures protection area	Seaside resort, water sport area	Other area
pH	7-8.3	7.6	8.0	7.9	7.5	7.8	6.5-8.5	6.5-8.5	6.5-8.5
DO (mg/l)	7.1	7.8	7.4	7.9	6.7	6.5	≥5	≥4	-
TSS (mg/l)	33.7	35.1	29.6	22.9	28.6	23.5	50	50	-
COD (mg/l)	-	-	-	-	8.45	12.88	3	4	-
Ammonia (NH4+) (mg/l)	-	0.10	0.15	0.23	0.19	0.12	0.1	0.5	0.5
Zinc (Zn) (mg/l)	0.02	0.04	0.04	0.04	0.04	0.04	0.05	1.0	2.0
Manganese (Mn) (mg/l)	-	0.07	0.08	0.04	0.05	0.03	0.1	0.1	0.1
Iron (Fe) (mg/l)	-	0.09	0.08	0.13	0.12	0.19	0.1	0.1	0.3
Mineral oil (mg/l)	0.036	0.018	0.01	0.042	0.32	0.23	Not detectable	0.1	0.2
Coliform (MPN/100ml)	-	103	154	234	289	176	1,000	1,000	1,000
T-N	-	-	-	-	10.38	10.67	-	-	-
T-P	-	-	-	-	0.22	0.12	-	-	-
Clarity	-	1.9	2.0	2.1	1.4	1.5	-	-	-
Salinity	-	24.2	26.2	24.8	25.5	27.8	-	-	-
Turbidity	-	11.3	12.2	13.3	10.7	9.6	-	-	-

Source: “Environmental Status Report for Quang Ninh Province, 2011-2015”, QCVN10:2008/BTNMT (National Technical Regulation on Coastal Water Quality)

Note: “Dissolved Oxygen (DO)” refers to the level of free, non-compound oxygen present in water. In general, DO reaches a saturation value in pure river water. As the number of organisms increase due to severer water contamination, larger amounts of oxygen are consumed as aerobic microbes decompose organic matter, and thus the DO level declines. “mg/l” is a unit that describes the degree of concentration of contaminants and their content. “MPN (most probable number)” is often used for indicators of relatively low concentration such as environmental water.

Compared with Viet Nam’s Technical Regulation on Coastal Water Quality, the parameters that indicated water quality in the coastal areas of Halong and the Cam Pha area at the time of the ex-post evaluation were less than the upper limit of the standard except for COD and oil⁹. Water contamination caused by organic matter was continuously observed and eutrophication was a possible reason for the COD figure being far above the standard.

Efforts on the part of Quang Ninh Province such as pollutant control, technological innovation and waste treatment against adverse impacts caused by development works (e.g. coal development, leveling and reclamation works on coastal areas, marine transport, a growing number of tourists, population increase, urbanization, the effects of climate change etc.) were key to improvements in the quality of the environment of the coastal area. These improvements were also achieved through a ban on sea transshipment in

⁹ QCVN10:2008/BTNMT (National Technical Regulation on Coastal Water Quality). This standard has three categories: 1) aquaculture, aquatic creature’s protection areas; 2) seaside resorts, water sports areas, and; 3) other areas. For this Project, the first category was applied to the Halong Bay world natural heritage area, the second to coastal tourism spots, and the last to the coastal areas of Halong and Cam Pha. The environmental monitoring parameters shown in Table 4 are those measured at the environmental monitoring points in Halong Bay that are not only part of the natural heritage area.

Halong Bay¹⁰, a change in the ports for tourist boats¹¹ and a complete resettlement of the floating population¹². The fact that DONRE and other relevant organizations of the province jointly implemented this project as a whole and selected sustainable tourism development and green growth strategy is considered to have been a large contribution in sustaining and improving the quality of the water environment.

■ Biodiversity

The Institute of Marine Environment and Resources and HBMD conducted aquatic ecosystem surveys in 2007 and 2008, since which there has been no comprehensive data collection on the same scale. Therefore no quantitative data was available for this ex-post evaluation.

According to the “Environmental Report for Quang Ninh Province (2011 to 2015)”, a degradation of biodiversity in the province had been caused by decrease and loss of habitat, over-exploitation, pollution and biological contamination. Direct causes were: exploitation of biological resources, forest fires, conversion of patterns of land use, environmental pollution, and intrusion of alien species. Indirect causes were: population pressure and migration and the promotion of development works in accordance with macroeconomic policy. “Environment Planning in Halong Bay to 2020; Vision to 2030” was one of the development policies implemented by Quang Ninh Province, targeting areas of mangroves, seagrass beds and coral reefs, the number of near-extinct, rare and precious species ‘not to be at a level lower than 2010’, in 2020. There is no target for 2015.

To summarize, it was impossible to measure the degree of improvement in biodiversity by 2015 in this ex-post evaluation due to the absence of a provincial strategy and policy that targeted the said year.

■ Satisfaction level of tourists

Quang Ninh Province has actively encouraged private investment into their activities for the promotion of environmental sustainability and to promptly respond to tourists’ needs¹³ while sustaining the activities relevant to the project in various ways (See 3.4).

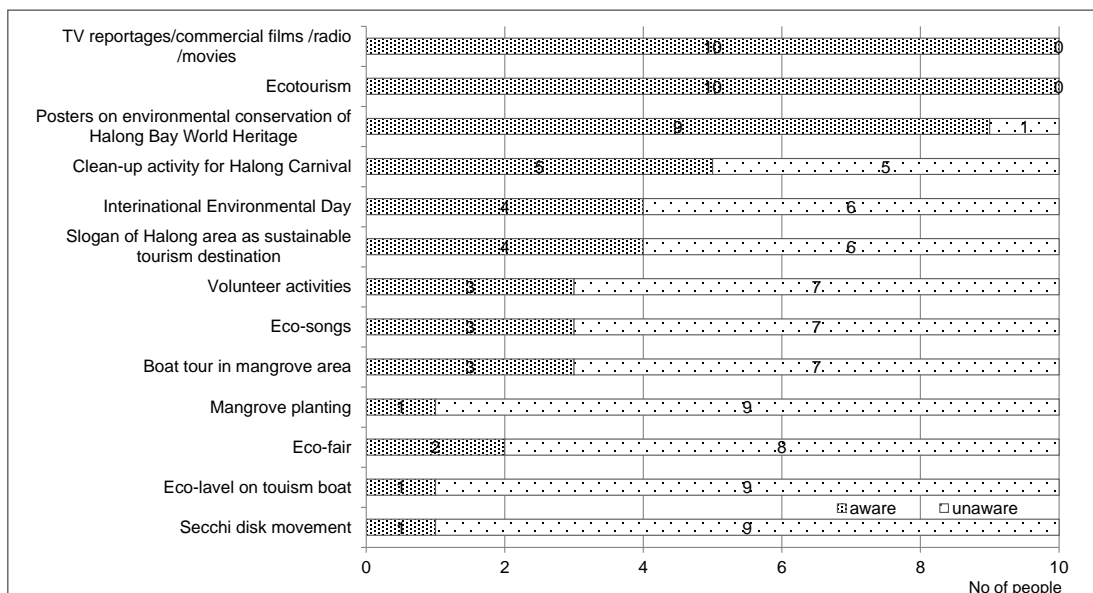
¹⁰ “Decision to prohibit the transport of materials in Halong bay including coal, cement, clinker and other dry bulk that disperse dust into the environment” (2013). Clinker refers to semi-decomposed mineral substances burned in high heat. Dry bulk carriers are designed to transport unpackaged bulk cargo such as iron ore, coal, grains, salt, aluminum mass, and copper ore in their cargo holds.

¹¹ The new port was opened in January 2016.

¹² “Policy to relocate residents of the water villages from the Halong Bay World Heritage site”.

¹³ As of January 2016, the tourism hub of the World Heritage site has been completely moved from Bai Chay port to Thuan Chau port, which is an example that reflects the province’s efforts. A private investment as big as 10,000 billion VND was poured into these new port facilities. The quality of the tourist boat services has been much

Figure 1 shows to what extent tourists, who were targeted under the beneficiary survey in this ex-post evaluation, were aware of the environmental conservation activities in Halong Bay. It was found that there was a high awareness of ‘visual’ media such as TV commercials, radio programs and posters, as well as ‘participatory’ activities such as ecotourism and clean-up campaigns. When asked if they had become more aware of environmental conservation after their trip to Halong Bay, all ten tourists surveyed responded that they had. This implies that the activities in Halong Bay have been an opportunity to change awareness for the environment on the part of tourists. “I used to litter before”, “I became more aware of choosing the right places and ways to throw out garbage”, “I became more interested in environmental issues”, “I began to discuss environmental conservation with other people”, “I now choose specific places for smoking” were some of the comments received. Some of those interviewed were even willing to donate money for conservation.



Source: Beneficiary survey results

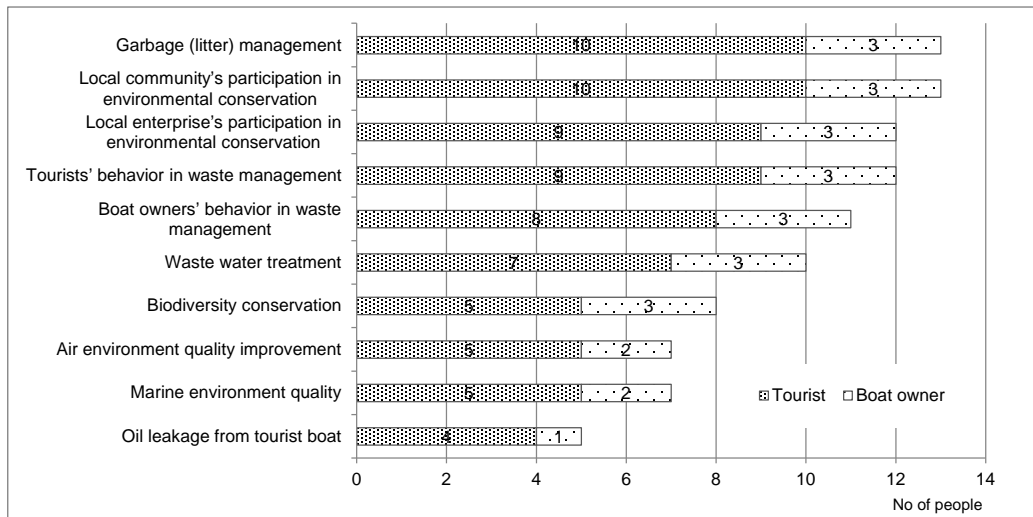
Note: Number of respondents was ten in total (tourists). They gave multiple answers from given choices including ‘other.’

Figure 1: Tourists’ Recognition of the Environmental Protection Activities in Halong Bay (reference)

Figure 2 shows the results of the survey dealing with the ‘space for improvement in the Halong Bay tourism area’. This was taken by ten tourists and four boat owners who were also targeted in the beneficiary survey of this ex-post evaluation. More opinions were

improved in Thuan Chau port where their boats can be refueled at other facilities. Operation licenses at the former port, Bai Chay, will no longer be updated as this was the site of environmental pollution due to deteriorated facilities.

heard regarding garbage and litter, than those regarding wastewater, biodiversity or the marine environment. The misbehavior in garbage management on the part of tourists and boat staff were particularly noted. By paying environmental fees as an official duty, awareness among the boat owners interviewed in the beneficiary survey was raised and their behaviors towards environmental protection¹⁴ changed. Raising awareness among tourists and boat staff to a greater extent is recommended.



Source: Beneficiary survey results

Note: The number of respondents was 14 in total (ten tourists and four boat owners). They gave multiple answers from given choices including 'other.'

Figure 2: Space for Improvement in the Halong Bay Tourist Area (reference)

In light of the above, although it is still deemed necessary to pay thorough attention to raising the awareness of tourists and to provide instructions to people in the tourist industry, the province's efforts are highly evaluated. Therefore positive impacts on 'tourists satisfaction' by the project have been confirmed to a certain extent.

(2) Recognition of practices in the Halong Area at national level (Indicator #2)

The "Quang Ninh Province Socio-Economic Development Plan", which is currently under implementation from 2016, integrates the environmental protection plan. According to the hearing with the implementing agency, the plan was initiated by Quang Ninh Province, the idea of integrating environmental protection into the development plans of other sectors coming from their experiences of the project implementation.

¹⁴ This is in accordance with the decision to regulate the management of tourist boats (approved in 2011 and replaced with another decision for implementation). The tourist boat service management is now carried out by the Quang Ninh Provincial People's Committee, while before it was the responsibility of the Quang Ninh Provincial Department of Transportation. This gives more comprehensive management by a stronger authority. The Provincial People's Committee promotes the modernization of tourist boats and fishing boats.

The implementation of this project was one of the turning points for the province in its shift to green growth strategy. The government of Viet Nam, ministries and other provinces regard Quang Ninh as a model province to visit and learn from. Provinces such as Phu Quoc and Quang Nam have taken and applied the corridor concept. As the efforts of Quang Ninh are recognized and disseminated in provinces which have similar geographic features, effectiveness is judged as high.

At national level, the “law on sea and islands natural resources and environment,” was approved in 2015. The law introduces strategies to exploit, use and protect the sea and islands natural resources and environment in a sustainable manner; manage shores and islands, and; survey share information about the sea and islands natural resources and environment. The People’s Committee and DONRE of Quang Ninh Province provided comments on its draft such as synthetic management of natural resources, and protection corridor of sea and islands based on their experiences in the project. Thus, the effects of this project are indirectly disseminated to the nation.

In light of the above, it is judged that practices in the Halong Area have obtained recognition at the national level.

(3) Continuity of CEM (Indicator #3)

It was confirmed that CEM, the project’s steering committee, no longer existed at the time of the ex-post evaluation. According to the implementing agency, a permit could not be obtained from Quang Ninh Province for operation at the provincial level after the project, and it was succeeded by DONRE. The Committee for Green Growth, which was established as the steering committee for the Green Growth Strategy of Quang Ninh Province to promote the province’s strategy, took over after two years.

In light of the above, CEM did not continue after the project but the Committee for Green Growth is now promoting environmental management and protection in a more comprehensive manner than CEM. Therefore the indicator is judged to have been achieved.

To summarize, the project has achieved its overall goal at a limit level. Under the first indicator, ‘improvement of the environmental parameter by 2015’, water quality improvement and improvements in the satisfaction level of tourists were achieved to a certain extent. However, it was difficult to measure the degree of improvement in biodiversity at the time of this ex-post evaluation. The second indicator was achieved as other provinces in a similar situation replicated the successful implementation of the Halong area. Although CEM did not continue, the Committee for Green Growth, the body promoting the province’s Green Growth Strategy continues to promote

environmental conservation in a more inclusive position than CEM. Therefore the third indicator is judged to have been accomplished.

3.2.2.2 Other Impacts

Various positive impacts on the natural environment were achieved under the project together with other indirect impacts. Meanwhile no negative impact was confirmed during or after project implementation. There is little likelihood of a negative impact after this ex-post evaluation. Resettlement and land acquisition were not applicable in this project.

In light of above, since this project has to some extent achieved the project purpose and overall goal, the effectiveness and impact of the project are fair.

3.3 Efficiency (Rating: ②)

3.3.1 Inputs

The project inputs (plan and actual) are summarized in the table below.

Table 5: The Project Inputs (Plan and Actual)

Inputs	Plan	Actual
(1) Experts	Chief Advisor/Environment Management, Environment Monitoring and Analysis, Pollution Source Management (inspection and guidance), Land Use Management, Sustainable Tourism, and Environmental Education & PR (72 man-months in total)	Chief Advisor/Environment Management, Environment Monitoring and Analysis, Pollution Source Management (inspection and guidance), Land Use Management, Sustainable Tourism, and Environmental Education & PR (74.1 man-months in total)
(2) Trainees received	Training in Japan, in-country or in third countries	Training program in Japan: 1) Natural Resources / Environment Management 2) Water Resource Monitoring/Pollution Source Management 3) Land Use Management 4) Sustainable Tourism, Eco-tourism and Environmental Education Period: January, March, November 2011, and June 2012 Participants: 35 people (437 days in total)
(3) Equipment	Equipment (including vehicles, office equipment and that for environmental monitoring)	GIS software, GPS, vehicles, office equipment, spare parts and reagents for water quality analysis
(4) (Others)	Hiring of local consultants and others	Operational expenses borne by the Japanese side (hiring of local experts and other expenses at USD 673,532)
Japanese Side Total Project Cost	340 million yen in total	346 million yen in total
Viet Nam Side Operational Expenses	Assignment of counterpart personnel, maintenance of facilities and equipment (budget allocation for office space and equipment, and running cost of equipment procured under the project.	Assignment of counterpart personnel (31 people), facility provision (project office), operational expenses borne by Vietnamese side (USD 328,100)

Source: Ex-ante evaluation sheet (2009) and project completion report (February 2013)

3.3.1.1 Elements of Inputs

The inputs of the project were provided by both the Japanese and Vietnamese sides almost as planned. The working volume of experts increased by 2.8 man-months¹⁵. According to the questionnaire survey followed by interviews with Vietnamese officials, there was no problem in the quantity and quality of inputs provided by the Japanese side.

3.3.1.2 Project Cost

As shown above, the total project cost was 346 million yen in contrast to 340 million yen, which is higher than planned (102%). The increase was mainly because of the working volume of dispatched experts which was judged as an essential input in order to achieve the effects of activities within the project period.

3.3.1.3 Period of Cooperation

According to the information provided by JICA, the project was originally planned from October 2009 for a period of three years. In actual, the project started in March 2010 and lasted until February 2012. Although a six months' delay was observed, no problem was confirmed and there neither was an extension in the cooperation period. Thus the actual period of cooperation was as planned (100%).

In summary, although the project period was within the plan, the project cost exceeded the plan. Therefore, efficiency of the project is fair.

3.4 Sustainability (Rating: ③)

3.4.1 Related Policy and Institutional Aspects for the Sustainability of Project Effects

The Quang Ninh Province's "Five-Year Socioeconomic Development Plan" prioritized both tourism development and environmental protection, and this did not change even after the project. Strategies and plans implemented during the project period were still implemented after the project, or integrated into succeeding strategies and plans with the same direction. It was also confirmed that plans formulated in the project were also continued in a manner that reflected their contents.

¹⁵ The increase in working volume was extended by the addition of four experts for the following reasons: 1) Chief Advisor/Environment Management expert worked on collaboration with the yen-loan project, elaboration of recommendations for producing the effects of JICA's "Urban Water Environment Management Program", collation of concrete proposals, and development of recommendations for the next phase. 2) Land Use Management expert: same as the above. 3) Sustainable Tourism expert supported and gave instructions for additional activities in application of the eco-label, to reflect the idea of 'programs and development strategies for sustainable tourism' in the 'Quang Ninh Province Tourism Development Plan (2011-2015)' and its elaboration. 4) EE & PR: The expert extended his technical assistance for Output 5, to collaborate with and obtain synergy effects with other activities, also establishing the environmental education association (EEA).

3.4.2 Organizational Aspects of the Implementing Agency for the Sustainability of Project Effects

The organization and role of the implementing agency and its relations with higher authorities were enhanced by the project implementation. Coordination skills were strengthened, as were awareness of and efforts for environmental issues. This has not changed after the project completion.

According to the interview with the implementing agency in this ex-post evaluation, leaders of the Provincial People's Committee and the relevant departments of DONRE were paying more attention to environmental issues. They had also strengthened organizational and systematic coordination skills. DONRE staff members involved in the project were allocated in important positions in their departments after project completion. Project management skills were improved through the project activities, and other staffs were influenced in positive ways, as know-how was shared. The function and role of CEM, which was established in this project, were taken over by the Committee of Green Growth for the implementation of the "Quang Ninh Province Green Growth Strategy."

In light of the above, the organizational structure necessary for sustaining the effects brought by the project is considered to be fully established and maintained.

3.4.3 Technical Aspects of the Implementation Agency for the Sustainability of Project Effects

The activities conducted in the project were carried out regularly by DONRE and other relevant organizations. Work continues on activities such as routine maintenance and improvement of skills even after the project. The main skill areas introduced through the project activities and their present situation are confirmed below:

(1) Environmental monitoring, environmental checks and inspection skills

Environmental monitoring, environmental checks and inspections are regularly implemented as routine work by the departments of DONRE and relevant organizations¹⁶. Skill development has been targeted through training during project implementation, the results having been disseminated up to the present time. Training opportunities provided by DONRE and MONRE and opportunities for learning through participation in conferences and meetings are provided for staff members so that they can maintain their technical capacity.

Laboratory equipment and analytical instruments provided during project implementation

¹⁶ DONRE: Environmental Monitoring Analysis Center (40 persons), Sub-Department of Environmental Protection (25 persons), Inspection Department (3 persons), Department of Water Quality, Mineral Resources and Climate Change (5 persons), HBMD (7 persons), Division of Natural Resources and Environment at District Level (10 persons in total)

for environmental monitoring were being well operated at the time of ex-post evaluation. The number of monitoring points in Halong Bay increased to as many as 40, out of which 27 were connected online for data transfer with DONRE at any time. Data is disclosed on the website, and disseminated locally.

(2) Land use management skills

Skills learned through the project are maintained. Geographical information systems (GIS) and satellite images are presently used to determine and analyze current land use and its transitions, which is used as a basis for solutions of disputes on land use¹⁷.

The corridor concept and its methodology was initiated by land use management experts through project implementation, and applied and introduced at provincial level in Quang Ninh. After the project, this was succeeded by the “Socio-Economic Development Plan (2016 to 2020)”, the “Environmental Protection Plan to 2020 in the vision of 2030”, and the “Tourism Development Plan to 2020 in the vision of 2030”.

(3) Skills for sustainable tourism development

Measures submitted during project implementation were reflected in the above policies and plans¹⁸. A project for wastewater treatment in the coastal area, and activities for natural environment conservation in tourism spots, ports and fishing grounds were approved by Quang Ninh Province and some of them are already in practice.

DONRE has been examining possible measures to obtain budget for updating the tourism resource database in new projects. The database was developed during project implementation, for which there has been no budget allocation to update its software since project completion. On the other hand, information accumulated in the database has been utilized by reflecting and integrating the contents into the province database. Eco-label activity piloted during project implementation, for which there was an increased work volume for one of the Japanese experts, was still under consideration for effective use after project completion¹⁹.

(4) Skills for environmental education and PR

Knowledge for the implementation of pilot activities under the project (mobile

¹⁷ Planning Division (10 persons) and Sub-Department of Environmental Protection (25 persons from DONRE, and the Division of Natural Resources and Environment at District Level (10 persons in total).

¹⁸ Tourism Resource Development Division of DOCST, HBMD, and the Department of Culture, Sports and Tourism at District level.

¹⁹ The implementing agency found at the time of the ex-post evaluation that eco-label should function with a license system that requires approval and indicators. It is necessary for practical realization that cooperation is secured among relevant departments, that there is an introduction of regulations, and a raising of awareness for tourists. The implementing agencies were still working on coordination even after project completion.

environmental education, eco-lectures²⁰, etc.) has been gained and skills and experiences accumulated and utilized in such events as World Environmental Day, World Water Day, Biodiversity Conservation Day and Earth Hour Day²¹. A high level of communication skills are needed for these activities as a wide variety of people are targeted in the events. DONRE and other relevant organizations try to maintain and improve their skills through events and activities for which they establish committees for careful preparation.

Results of some model activities which were shared with all areas in Quang Ninh Province, for which the high level and effects had been confirmed, were passed on at the time of the ex-post evaluation. Mobile environmental education, eco-fairs and eco-classes, which were integrated with other activities, were continued. Environmental education is now part of the “School Environmental Program.” On the other hand, secchi disk movement²² is no longer continued at present. This was introduced on boats owned by fishermen, who moved to land. DONRE did not confirm whether or not tourist boat owners still continue and sustain their activities.

To summarize (1) to (4) above, the technical sustainability of the implementing agency is judged as high. There were some activities for which DONRE was still examining the necessary actions, i.e., updating of databases and the application of eco-labels, as necessity for each activity was confirmed. There has been no change in direction and it is judged there is no problem in the longer-term. It is recommended as an immediate task that continual improvements are made on equipment for environmental monitoring, environmental checks and inspections. It is also desirable that there is continuing creation of learning opportunities through training and ground practices as staff members involved in activities are numerous and personnel changes can occur at any time.

3.4.4 Financial Aspects of the Implementation Agency for the Sustainability of Project Effects

Table 6 shows the budget allocated for environmental protection in Quang Ninh Province. From 2012 to 2015, there was a stable procurement of the budget for DONRE. Total expenditure on the part of provincial departments except DONRE, also for cities, districts

²⁰ Lectures conducted on environmental problems caused by climate change on coastal area and islands in Viet Nam, biodiversity, environmental issues and waste treatment in Quang Ninh Province. Participants take exams and a training certificate is given to successful candidates.

²¹ DONRE, WU, YU, District People’s Committee and departments, Farmers’ Association, Vietnamese Fatherland Front and Vietnamese Veterans’ Association are involved.

²² One of the project activities. The “secchi disk” refers to a circular plate with a diameter of 30 cm to measure the clarity of seawater. The disk, with a sinker on its bottom, is lowered into the water in a horizontal state by rope from a ship until it is no longer visible. This depth indicates the clarity of the seawater. By introducing and disseminating “secchi disks” for tourist boats in Halong Bay, it was expected that it would be possible to accumulate data on the degree of seawater turbidity in the bay over a wide area and for long term, thus raising awareness of the environment of fishermen, tourist boat staff and tourists.

and communes exceeded the budget allocated to DONRE²³.

Table 6: Budget for Environmental Protection in Quang Ninh Province (2012 – 2015)

Unit: billion VND

Breakdown of budget		2012	2013	2014	2015
DONRE budget *					
Budget		29,880	34,184	33,000	36,626
Expenditure		13,459	13,611	13,881	15,591
Expenditure in the whole of Quang Ninh Province for environmental protection (except DONRE)					
Provincial level		163,795	104,701	21,000	52,246
Cities, districts and communes		644,168	662,529	579,464	441,548
Total		807,963	767,230	600,464	493,794

Source: information provided by DONRE of Quang Ninh Province

Note: Figures of DONRE budget reflect only those allocated from the Quang Ninh Provincial People's Committee.

It is mandatory in Viet Nam as stipulated in a resolution at national level that provinces and government organizations should allocate at least 1 % of their budget for environmental protection. The Provincial Congress in Quang Ninh also approved a provincial resolution to order its departments and others to allocate as much as 3 % of the total provincial budget for environmental protection from 2016 to 2020.

The equipment provided under the project was mainly for laboratory tests and analysis used for environmental monitoring. The operational and maintenance cost was not so high as to create a financial burden.

Other financial sources are: environmental fees collected mainly at coal mines which is worth 300 billion VND spent for environmental load mitigation; 18 % of revenue from Halong Bay tourism, which is spent on protecting the environment and maintaining world heritage, and private investments which the provincial government continues to actively encourage. Some investors have shown interest in implementing projects in such areas as Cam Pha Town and Van Don District where further development can be expected. Quang Ninh Province encourages all tourist boats and fishing ships (both large and small types) to be equipped with advanced facilities, and the quality of tourist boat service in Thuan Chau port are improving.

In light of the above, the provincial budget is expected to be sufficient, and that allocation for environmental protection is also expected to be fair. Therefore no specific problems have been found in the financial sustainability of the project effects.

²³ The expenditure at provincial level was on a decline as emergency response such as for flood damage and other natural disasters is more prioritized than routine operations under orders at the national level. Quang Ninh Province has been asking the central government to decentralize their authority in order to allow each province to decide how to use their budget by themselves.

To summarize, no major problems have been observed in the policy background or in the organizational, technical, financial aspects of the implementing agency. Therefore, sustainability of the project effects is high.

4. Conclusion, Lessons Learned and Recommendations

4.1 Conclusion

The intention of this project was to strengthen the implementation capacity of management of natural resources and the environment for sustainable tourism in the Halong area by the end of the project period. Pollution would thereby be prevented together with the destruction of natural resources and the environment in Halong Bay and its vicinity.

The project relevance is high as project implementation was in line with Viet Nam's development plan and development needs, as well as with Japan's ODA policy. The project largely achieved its purpose by implementing the planned activities through achieving the five outputs: 1) improvement in the organizational and institutional coordinating function for the management of natural resources and the environment; 2) enhancement of environmental monitoring and inspection skills, and capacity for administrative guidance; 3) development of appropriate measures for land use management in coastal areas; 4) strengthening the capacity for preparing measures for sustainable tourism, and; 5) the implementation of environmental education and the raising of public awareness and dissemination of results. Although numerous efforts to control the occurrence of pollutants were made to prevent pollution and the destruction of natural resources and the environment, it was impossible to confirm the effects that were expected after the project at the time of this ex-post evaluation. Therefore, it is concluded that the effectiveness and impacts of the project are fair. The project cost was slightly higher than planned, while the period of cooperation was as planned, so the efficiency of the project is deemed to be fair. The sustainability of the effects realized by this project is high. The direction of policy, the institutional, organizational, technical and financial aspects will enable the project effects to last after completion of the project.

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

4.2 Recommendations

4.2.1 Recommendations to the Implementing Agency

None.

4.2.2 Recommendations to JICA

None.

4.3 Lessons Learned

Long-term assistance through several different schemes

This project was implemented following the “Environment Improvement Master Plan for Halong Bay.” The loan agreement for the “Ha Long City Water Environment Improvement Project” (E/S) was signed in 2015 and work is continuing on studies and designs. Furthermore, the “Project for Institutional Development for Green Growth Implementation and Strengthening of Environmental management System towards Sustainable Conservation for the Halong Bay” for which Quang Ninh Province DPI is the implementing agency, has been under implementation since 2015. However, these studies and projects were started and completed individually and several months to ten years passed have in between. Efforts taken and recommendations made in the previous projects have not necessarily been taken up and neither have the project effects been efficiently and synergistically realized.

In order for Japanese cooperation projects to secure an important position in the regional development of partner countries, the advantages and superiority of Japanese cooperation should be confirmed. Specific components that properly meet development needs should be included in the projects and a long-term and flexible response towards change in development needs is required. It is recommended that JICA provides assistance to a target area through multiple schemes in a seamless manner to make its cooperation highly effective and sustainable.