

Indonesia

Rating Schools Establishment Project

Evaluator: OPMAC Corporation

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Field survey: September 2008

1. Overview of Project and Cooperation Based on Yen Loans



Location of project sites



Educational training equipment that was installed at Mauk Rating School, which was constructed near Jakarta under this project

1.1 Background:

In Indonesia, which is the world’s largest archipelagic nation, marine transport plays a large role in supporting the economy as a major means for transporting goods. Since the time of appraisal (1995), it has been pointed out that the development of infrastructure such as harbor facilities and the development of education and training system for seafarers are necessary in order to improve the safety of transport while maintaining efficiency.

Seafarers in Indonesia are broadly divided into “officers,” who are higher-level seafarers, and “ratings,” who are lower-level seafarers¹. The reality was that even though there were a sufficient number of officers, there were insufficiencies with ratings both in terms of quality and quantity. In addition, with regard to qualified ratings, there were only a few who were educated at the 2 national rating schools; many such seafarers obtained their qualifications through short-term education implemented independently by the harbor master of major ports and harbors. As a result, it was pointed out that such seafarers had not attained the capacities required in the STCW Convention².

¹ In this evaluation report, officers are referred to as “maritime officers” (Nautical, Technical) and ratings are referred to as ratings (Nautical, Technical). Maritime officers have certificates ranging from First Grade (DOC/EOC-I) to Fifth Grade (DOC/EOC-V).

² STCW Convention: International Convention on Standards of Training Certification and Watchkeeping for Seafarers (1978: STCW78). Indonesia was ratified in 1987. This Convention has been amended several times, but comprehensive reexaminations were carried out in the amendments made in 1995 (STCW95). To prevent accidents

As it is anticipated that the demand for seafarers will increase in the future, and also in order to fulfill the training requirements imposed in the STCW Convention, the expansion of educational institutions for training ratings was desired.

1.2 Objective:

The purpose of this project is to contribute to the improvement of the quality of seafarers while responding to demands for seafarers in the future by building rating schools and procuring educational training equipment in Jakarta, Sibolga, and Ambon to mainly educate ratings. This is expected to lead to improvement of the facilitation and safety of marine transport, expansion of the capacities of Indonesian commercial ships, and increase in opportunities for education and employment of local people.

Logical framework applied to the ex-post evaluation

Goal	Contribute to an increase in the facilitation and safety of marine transport, expansion in the capacities of Indonesian commercial ships, and increase in opportunities for education and employment of local people.
Project purpose	Improve the quality of seafarers while responding to the demand for seafarers.
Outputs	Rating schools will be constructed in Jakarta, Sibolga, and Ambon.
Inputs	<ol style="list-style-type: none"> 1. Implementation of civil engineering works (construction of rating schools) 2. Procurement of equipment for education and training. 3. Consulting services <p>(Plan: Project cost of 9.421 billion yen/Project period from October 1995 to August 2001)</p>

at sea, the STCW Convention makes it compulsory for seafarers to have attained the required minimum capacities, and based on this, the government of the member country that represents the nationality (flag state) of registration of the vessel that seafarers are to board will supervise and monitor the agencies educating the seafarers, certify their capabilities, and issue certificates of qualification. Countries that are recognized by the International Maritime Organization (IMO) as fulfilling the international standards based on the STCW Convention are listed on the "White List" (list of concluding countries that are recognized as having appropriately established domestic measures for observance of the Convention). (Details are explained on the Ministry of Land, Infrastructure, Transport and Tourism Web site at the following address: <http://www.mlit.go.jp/sogoseisaku/kotsu/bunya/kaiji/stcw.html>). The White List is continuously reviewed, and as of May 2008, approximately 120 countries including Japan and Indonesia are listed on the White List (MSC.1/Circ.1163/Rev.3 May 16 2008: Parties to the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW), 1978, as amended, confirmed by the Maritime Safety Committee to have communicated information which demonstrates that full and complete effect is given to the relevant provisions of the Convention). The abovementioned IMO is a specialized agency of the United Nations that carries out activities for the purposes of improving marine technology and safety of sea navigation, preventing marine pollution, etc.

1.3 Borrower/Executing agency:

Republic of Indonesia / Education and Training Agency (ETA), Ministry of Transportation

1.4 Outline of Loan Agreement:

Loan amount/Disbursed amount	8,008 million yen/2,832 million yen
Exchange of Notes/ Loan Agreement	December 1, 1995/December 1, 1995
Terms and conditions -Interest rate -Repayment period -Procurement	2.5% p.a. (2.3% p.a. for consulting services) 30 years (including a grace period of 10 years) General untied (Consulting services are partially untied)
Completion date of loan	May 29, 2006
Main contractors	Tomen Corporation (Japan), Mitsui Engineering & Shipbuilding Co. (Japan), Shimizu Corporation (Japan), PT. Dextam Contractors (Indonesia) (JV)
Consulting services	Overseas Shipbuilding Cooperation Centre (OSCC) (Japan), PT. Bina Cita Mayapada (Indonesia) (JV) (OSCC's operations are taken over by Shipbuilding Research Center of Japan (SRC) in 2004)
Feasibility study (F/S), etc.	JICA, 1975, "Republic of Indonesia: Rating Schools Planning Study Report (Preparatory Study)" JICA, 1994, M/P "The Study on Integrated Modernization Plan for Sea Transportation in Eastern Indonesia"

2. Findings (Rating: C)

2.1 Relevance (Rating: a)

The overall and policy importance of the development of education and training system for seafarers does not change from the time of appraisal and the time of ex-post evaluation. When taking into consideration that the rules for educational equipment and facilities have been reinforced based on the amendments made to the STCW Convention in 1995, the relevance of the equipment and facilities for education and training that are deemed as being necessary

having been supplied in this project is high. Although reliable data on the needs for training seafarers at the present point in time and in the future in Indonesia could not be obtained, based on an increase in the number of vessels in recent years, it can be assumed that there are needs for training seafarers. Accordingly, this project has been highly relevant with Indonesia's national policies and development needs at the times of both appraisal and ex-post evaluation.

2.1.1 Relevance with Indonesian development policies

At the time of appraisal, it was pointed out that in Indonesia, which is an archipelagic nation, marine transport plays a large role in supporting the economy as a major means for transporting goods, and that it is necessary to develop infrastructure and education and training system for seafarers in order to maintain the efficiency of transportation and improve safety. Also in the conditions before ex-post evaluation that had been described in the Project Completion Report (PCR) submitted by Indonesia after completion of the project, it was considered that as Indonesia is an archipelagic nation, the maritime industry should be promoted and efforts should be made to improve training of seafarers. In particular, Indonesia has considered itself to be a major maritime country supplying able, competent and qualified seafarers to the international shipping industry labor market, and deems it important to continue to be listed on the White List of the STCW Convention³. Furthermore, in Impress No. 5 in 2005 (Presidential Decree No. 5 (2005)), the reinforcement of the Indonesian shipping industry has been emphasized, and as stated in 2.1.2 (1) below, the number of Indonesian vessels has increased greatly afterwards. The importance of developing educating and training system for seafarers remains the same as with the time of appraisal and the time of ex-post evaluation.

2.1.2 Relevance with needs

(1) Relevance with developmental needs

1) Supply and demand of seafarers

Although credible data from which the condition of supply and demand of seafarers can be judged could not be obtained, it is considered that the needs for training seafarers in Indonesia have not changed.

Table 1: The state of worldwide supply and demand of seafarers

Unit: Persons

	Supply	Demand	Excess or deficiency
Officers	466,000	476,000	△10,000
Ratings	721,000	586,000	135,000

Source: Estimates by BIMCO/ISF (December 2005)

³ Although Indonesia was listed on the White List, in November 2000, Indonesia was faced with the possibility of being excluded from the White List for the following term if the required standards were not met. Being continuously listed on the White List is perceived to be linked to the training of seafarers who could be accepted around the world and the maintenance of employment of seafarers. The White List is updated every 5 years, and Indonesia was able to be included in the White List that was updated in 2006 (based on an interview with the Directorate General of Sea Transportation). In an interview with the Maritime Education Training Center (METC), it was pointed out that the continuation of Indonesia being listed on the White List at the time when it is updated in 2011 is important in terms of national interests.

Among data for worldwide supply and demand of seafarers, there are estimates created in 2005 based on the Baltic and International Maritime Council (BIMCO)/International Shipping Federation (ISF). As shown in Table 1, these estimates indicate that there is an excess supply of ratings on the worldwide level.

The PCR indicates an increasing trend in the demand for seafarers; one of the reasons behind this can be the impact of the abovementioned Impress No. 5 (Presidential Decree No. 5) that was issued in 2005 for the purpose of strengthening the shipping industry in Indonesia. According to the Directorate General of Sea Transportation, the number of Indonesian ships and vessels increased by approximately 1,800, from 6,041 as of the end of March 2005 to 7,846 as of the end of March 2008, and it is perceived that the demand for seafarers rose in accordance with this increase⁴. Furthermore, with regard to establishment of rating schools, it is pointed out in the ETA's Strategic Planning 2005-2009 for Education Training that there is an increase in the need for seafarers on a domestic and international level due to a decrease in interest in seafaring occupations in Europe and the United States, that the completion of the rating schools in Medan⁵, Jakarta, and Sorong, for which preparations for establishment have been ongoing since 1996, is planned during the 2005-2009 strategic planning period⁶ of Education and Training Agency (ETA), the Ministry of Transport that the establishment of these rating schools incorporates the intention of supplying seafarers to domestic and international markets, and that the supply of seafarers in the international market is linked to the securing of employment of Indonesian seafarers and to an increase in foreign currency reserves.

At the same time, when looking at the number of certificates issued in 2004 and subsequent years, an average of approximately 8,200 certificates for qualifications as a rating have been issued, but this includes the ratings who obtained a certificate in order to update their existing qualifications; when taking into consideration the increase in demand starting in 2005, it cannot be denied that there is the possibility of a deficiency in the supply as explained by the Indonesian side.

Table 2: Issuance of certificates of qualifications for ratings

Units: Certificates

⁴ If making the assumption that an average of 20 seafarers board each vessel based on annual 11-month contracts, it can be estimated that the demand for seafarers for this 3-year period increased by approximately 40,000 people, and in addition, when assuming that the number of ratings is half this number, it can also be estimated that there was a demand for approximately 20,000 ratings (estimate based on an interview with the Directorate General of Sea Transportation (December 2008).

⁵ Thought to be referring to Pangkalan Brandan.

⁶ Improvements in the quality of training of seafarers is recognized as an issue, and in addition to the establishment of rating schools, the development of infrastructure based on foreign assistance projects (other than Japan, there are assistance projects by the United States, Germany, and Netherlands), the issuance of a ministerial decree relating to the Quality Standards System for seafarers, etc. are being promoted as approaches by the Indonesian government.

Year	2004	2005	2006	2007	2008 ^{Note 1)}	Average
Persons who have acquired rating qualifications	7,976	6,834	7,412	11,559	7,427	8,242

Source: Directorate General of Sea Transportation

Note 1): As of December 18, 2008

Note 2): In addition to those who have participated in various qualifications courses after newly graduating from junior high school, "Persons who have acquired rating qualifications" also include cases where a person who had already acquired qualifications before the 1995 amendments to the STCW Convention updates his/her qualifications to those after the amendments ("updating"), as well as cases where a person is upgrading his/her qualifications from a lower rank to a higher rank ("upgrading"); since this distinction is not made when certificates are issued by the Directorate General of Sea Transportation, the number of persons who have acquired rating qualifications indicated above are also considered to include seafarers who have carried out "updating" and "upgrading."

2) Observance of STCW95, an international convention

The STCW78 was amended to the STCW95 in 1995. In the STCW, not only do the member countries train seafarers based on accredited training programs, but regulations on educational and training equipment are also reinforced, such as by making training using radar simulators and ARPA⁷ simulators compulsory. In this project, as the provision of the equipment that is necessary based on the STCW95 was planned and realized, it is considered that relevance from the perspective of observance of STCW95 is high. In addition, from among private institutions for training seafarers, there are some that make their students participate in short-term courses at the Mauk Rating School (Jakarta) that was established in this project for the required training and education, due to a lack of expensive educational and training equipment as well as a lack of instructors who can handle such equipment at their own schools. Furthermore, there are also some shipping companies that have made their seafarers participate in short-term courses, and thus it can be said that in addition to students who enroll in the Mauk Rating School as new graduates from junior high schools, the Mauk Rating School is fulfilling a large role in terms of observance of the STCW95.

2.2 Efficiency (Rating: b)

The construction of the school buildings and facilities and the procurement of educational materials and equipment at Mauk, Jakarta were completed almost according to the original scope. For the other 2 locations, however, the sites were changed, and they had not been completed by the time of the field survey (September 2008). The project period was much longer than planned, but with regard to project cost, the project was implemented at a cost lower than originally planned when looking at only the Mauk Rating School.

2.2.1 Outputs

⁷ APRA: Automatic Radar Plotting Aid. Radars/ARPA simulators are equipment used in training for accurately manipulating radars and ARPA, which are a type of navigation aid equipment, acquiring the capabilities to judge the information from radars and ARPA, and preventing collisions at sea, etc.

The construction of school buildings and facilities and the procurement of educational materials and equipment at Mauk were completed almost according to the original scope. The 2 sites other than Jakarta where schools were to be built (Sibolga and Ambon) were changed to Pangkalan Brandan in North Sumatra and Sorong in Papua, respectively. The major reasons for changing the location from Sibolga to Pangkalan Brandan was because the candidate construction site was a low-altitude swamp, and also because it was remote from the city center, whereas the major reason for changing the location from Ambon to Sorong was because there was a deterioration of public safety conditions in Ambon⁸. With regard to Pangkalan Brandan and Sorong, contract negotiations with contractors could not be completed by the end of the loan disbursement period. At the time of the ex-post evaluation, the Indonesian government had been planning the establishment of rating schools based on the government budget, and had already started construction on the Sorong Rating School. For Pangkalan Brandan, plans are being made to change the project site to Aceh and construct a school there, and there are also plans to construct a separate rating school in Ambon as well.

Table 3: Comparison of planned and actual project outputs

Item	Planned	Actual
Civil works, procurement of materials and equipment	Project sites: Jakarta (Mauk), Sibolga, Ambon 1) Construction of rating school buildings and facilities 2) Procurement of materials and equipment for education and training	Project site: Jakarta (Mauk) 1) Construction of rating school buildings and facilities 2) Procurement of materials and equipment for education and training
Consulting services	Total: 241 M/M a) Foreign: 129 M/M b) Local: 112 M/M	Total: 483.5 M/M a) Foreign: 141.5 M/M b) Local: 342.0 M/M

Source: Project Completion Report (PCR) and reports from consultants

Relevance of the selection of the project site (Sibolga)

At the time of appraisal, and in the explanation in the PCR of the necessity of the project at the time of appraisal, there were statements that indicate that consideration was given to the geographical balance when selecting construction sites for the rating schools⁹. However, a JICA expert who was dispatched to the Maritime Education Training Center (METC) during the project implementation period has pointed out the difficulty of securing human resources for instructors, the inconvenience associated with job-searching activities of graduates, etc. with regard to Sibolga (one of the original sites at which construction of a rating school was planned). In addition, in the Implementation Plan (IP; prepared by ETA in June 2001)

⁸ In January 1999, a religious unrest resulting in the deaths of 1,300 people broke out, and public safety conditions deteriorated suddenly. Even afterwards, conflicts resulting in injuries and deaths occurred from time to time.

⁹ Also in the ETA's Strategic Planning (2005-2009), there are plans for taking the national geographical balance into consideration and for placing priority on underdeveloped areas in particular in implementing education and training from 2005 to 2009.

pertaining to the plan for construction at Pangkalan Brandan, the difficulty of job-searching activities and recruitment of instructors and students arising from the difficulty of access to Sibolga, and the high land development costs at the site have been pointed out¹⁰. Taking geographical balance into consideration was emphasized in terms of policies, but there remain doubts regarding its relevance as to whether selection of the project site was carried out in the planning phase upon taking into account demand-side factors of students and shipping companies and a supply-side factor of the assignment of instructors¹¹. Although a change was made in Sibolga as a site during the project implementation period, it is perceived that this change was one of the factors that resulted in a delay of the project¹².

2.2.2 Project period

While the project period (planned) was originally set to be from October 1995 to August 2001 (5 years and 11 months), the Mauk Rating School was completed almost according to the original scope in February 2004, which also cover the guarantee period: however, the other rating schools were not completed, and lending was completed in May 2006 (10 years and 6 months, 177% as compared to the plan). Currently, the Indonesian government is planning or implementing the establishment of rating schools with the government budget. As of the time of ex-post evaluation, the Sorong Rating School was under construction, with total project costs of 152 billion Rp and a project period of 2006 to 2008. With regard to the Pangkalan Brandan project site, a change was made to shift the site from Pangkalan Brandan to Banda Aceh in Nanggröe Aceh Darussalam; construction is planned to start in 2009, and the planned project cost is 270 billion Rp¹³.

¹⁰ Even at the time of this ex-post evaluation, it was pointed out in interviews with shipping companies at which graduates of the Mauk Rating School had found jobs that there was a geographic advantage of the rating school being located near Jakarta (making well-timed recruitment possible); also in an interview with a METC staff member, the difficulty of securing instructors for rating schools was made known.

¹¹ In the 2008 version of the roster for the Indonesian National Shipowners' Association (INSA), 898 companies were listed as shipping companies. Upon analyzing the number of shipping companies listed in the roster according to their location, they were found to be located on Java (out of the 584 companies on Java, 517 were located in Jakarta), Sumatra (out of the 172 companies on Sumatra, 2 were located in Sibolga, 7 in Belawan, and 21 in Medang), Maluku (out of the 12 companies on Maluku, 9 were located in Ambon), and Papua (out of the 10 companies on Papua, 4 were located in Sorong). While almost all of the shipping companies listed in the roster possessed vessels of Indonesian nationality so that this was not an exhaustive list that includes foreign shipping companies, when comparing the candidate sites for constructing the other rating schools, it can be estimated that access to shipping companies in Sibolga is limited.

¹² In JICA's "Republic of Indonesia: Rating Schools Planning Study Report (Preparatory Study)" that was published in 1975, the necessity of establishing rating schools in Ujung Pandang, Belawan, Ambon, and Surabaya is pointed out. Afterwards, in JICA's "The Study on Integrated Modernization Plan for Sea Transportation in Eastern Indonesia" that was published in 1994, it was considered that Ambon or Sorong would be appropriate sites at which to establish rating schools in eastern Indonesia. According to the Implementation Plan prepared in June 2001 by ETA for the purpose of explaining the change in the site from Sibolga to Pangkalan Brandan, the ETA had originally selected Jakarta due to its easy access, Belawan, and Ambon as project sites, taking the results of these JICA surveys into account. However, a change was made in sites from Belawan to Sibolga due to the difficulty of land acquisition in Belawan.

¹³ At the time of the ex-post evaluation (October 2008), detailed designs were already complete. In addition, the construction of a rating school in Ambon was also being planned.

Table 4: Comparison of planned and actual project periods

Item	Plan at time of appraisal	Actual
1. Signing of L/A	October 1995	December 1995
2. Employment of consultants	October 1995 to September 1996	May 1996 (no objection to S/L, TOR, LOI) to January 1998 (no objection to contract)
3. Detailed design	September 1998 to November 1999	February 1998 to October 1998
4. Civil works and procurement of equipment (Mauk Rating School ^{Note 1})	October 1996 to August 1998	November 1998 to April 2002
5. Mauk Rating School	November 1998 to February 2000	October 2002 to February 2004 (including guarantee period)
6. Sibolga Rating School	February 1999 to May 2000	Site changed. As of the time of the ex-post evaluation, the site was changed to Banda Aceh, and construction is being planned there (planned for 2009 budgetary appropriation)
7. Ambon Rating School	May 1999 to August 2000	Site changed. As of the time of the ex-post evaluation, the site was changed to Sorong, and construction was underway (2006 to 2008)

Sources: PCR, project-related documents

Note 1): With regard to the procurement procedures for constructing rating schools at the 2 locations to which the project sites were changed, procedures were being promoted after obtaining approval for the site changes (December 2002), but procurement procedures were not completed by the end of the loan disbursement period.

Note 2): For this project, the loan disbursement period came to an end on December 28, 2001. Afterwards, on March 6, 2002, the disbursement period was extended for a period of 4 years and 5 months to May 28, 2006.

There are several reasons given for the delay in this project, such as the procurement procedures, procedures for changes to the plan in accordance with changes to the project sites, and coordination with local agencies¹⁴. Firstly, while a long period of time was required for employing consultants (planned period: 12 months, actual period: 21 months; delay of 9 months), the reasons for this can be attributed to time being required to prepare a short list (S/L), since confirmation of the qualifications of consultants on the long list was conducted, as well as to confirm the conformity of financial proposals with Presidential Decree No. 16 of 1994 (Keppres 16/1994)¹⁵ and conduct contract negotiations. Furthermore, until procurement of contractors, the facts that most of all expatriates including consultants evacuated to their home countries due to social turmoil that arose in Indonesia in 1998 after the Asian currency crisis, and consultation services commenced after the turmoil had receded (it is estimated that services were stopped for approximately 4 months from May to August 1998), that the devaluation of the rupiah against other foreign currencies, and review on the project budget associated with this was linked to a delay in procedures, that in approving the P/Q results, it

¹⁴ Based mainly on the PCR.

¹⁵ Presidential Decree No.16 Year 1994 regarding Implementation of State Revenues and Expenditures March 22, 1994.

took the Ministry of Transportation(MOT) time (7 months) to conduct evaluations on disqualified firms in particular, that it took a long period of time (11 months) for the JICA to concur¹⁶, that the procedures associated with the changes in the project sites (tender documents, procedures to obtain concurrence from JICA, preparation of IP, implementation of environmental assessments, etc.) were delayed¹⁷, and that due to a change in the political administration, there were some setbacks of operations occurred in the process for internal procedures in the Ministry of Transportation all are given as reasons behind the delay. With regard to Sorong, to which the project site was relocated from Ambon, time was required to change the design in accordance with the site relocation, prepare tender documents, and preliminarily coordinate with the provincial government with regard to infrastructure development¹⁸. At the Pangkalan Brandan project site as well, time was required to coordinate with other agencies in order to prepare a detailed plan of the project site, including usage of existing facilities¹⁹. Although the successful bidders for the 2 project sites in this project were determined in January 2006, agreement was not reached on the price, and the loan disbursement period came to an end²⁰.

2.2.3 Project cost

Although the project cost (planned cost) was 9,421 million yen (of which the amount of yen

¹⁶ The period from August 1999 to July 2000 during which JICA's procedures for concurring on the P/Q results took place also overlapped with the period during which reviews were conducted on changing the project sites, and during reviews on P/Q results, reviews pertaining to the bid lots were also implemented. With regard to procurement lots, in the plan at the time of appraisal, building construction and equipment procurement for the 3 schools were handled as 1 lot, taking into view the advantageousness of project management, such as coordinating construction work and equipment installation, as well as the necessity in the aspect of operation and maintenance, such as ensuring compatibility of the equipment of the 3 schools.

¹⁷ From the decision made internally by ETA regarding the changes in the sites (August 1999) until the JICA concurred on the site changes (December 2002), it took 3 years and 5 months. Afterwards, P/Q procedures were initiated in procuring firms for civil works and equipment procurement of the 2 project sites, and JICA had concurred on the bid evaluation results in December 2005, but as the bidding price was higher than the price estimated by the ETA side, a contractual agreement could not be reached with the bidder.

¹⁸ At Sorong, development of basic infrastructure such as electricity supply was to be carried out by the Sorong regency based on agreement with the ETA, but due to a change in the administrative policies of the province, responsibility for such development was transferred from the regency to Sorong city, and infrastructure development could not be implemented in a timely manner. The conditions were such that it was necessary to conduct technical reviews once again on preparation of the land on which infrastructure development was not carried out.

¹⁹ The concerned project site was owned by a national oil company PT. PERTAMINA, and had been used by its employees as a recreation facility. At the time, the site had already been left idle, and PT. PERTAMINA had also agreed with the ETA to voluntary conveyance of the land, from the perspective of reducing operation and maintenance costs. However, it was discovered that legal procedures were necessary for transferring the proprietary rights, and it was decided to respond to this situation through a lend-lease contract. Based on this, it was not possible to solidify detailed plans pertaining to the project site without coordinating with other agencies, and thus it took time for this coordination.

²⁰ Reasons such as 2 years having had passed since the implementation period for bidding (bid announcement in January 2004, bid opening in February 2004) and the progression of inflation associated with a rise in fuel prices in 2005 were pointed out. In particular, with regard to Sorong, as the bid price by the lowest bidder was approximately 1.5 times the planned price (owner estimate), discussions were made on changing the scope, etc., but agreement was not reached (the Indonesian government was passive in reflecting provisions regarding the price escalation in the contract).

loan was 8,008 million yen), the actual project cost was 3,168 million yen (of which the actual amount of yen loan was 2,833 million yen), which was 33.6% (35.3% with regard to yen loan) of the planned cost.

Table 5: Comparison of planned and actual project costs
(Planned cost) (Actual cost)

Units: Million yen

Item	Foreign currency	Local currency	Total
	JICA	GOI	
Civil works/procurement of materials and equipment (Mauk Rating School)	2,488 (871)	4,974 (1,702)	7,462 (2,573)
Consulting service	377	136	513
Contingency	124	466	590
Tax	-	856	
Total	2,989	6,432	9,421
	JICA subtotal:8,008		

Source: Appraisal documents

Note: Exchange rate: 1 Rp = 0.045 JPY

Price contingencies: 2.0%/year for Japanese yen; 2.0%/year for Indonesian rupiah

Physical contingencies: Civil works: 10.0%; procurement of materials and equipment and consulting service: 5.0%

Reference year for cost estimation: April 1995

In the above table, the amounts inside the parentheses for Mauk Rating School under both Japanese yen and Indonesian rupiah include contingencies, but tax was excluded.

Units: Million yen

Item	Foreign currency	Local currency		Total
	JICA	GOI		
Civil works/procurement of materials and equipment (Mauk Rating School)	1,708	782	-	2,490
Consulting service	262	81	-	343
Land preparation, etc.			52	283
Tax	-	-	283	52
Total	1,971	863	335	3,168
	JICA subtotal: 2,833			

Sources: PCR, hearings, project-related documents

Note: Exchange rate: 1 Rp = 0.013 JPY

“Land preparation, etc.” as part of the GOI portion, includes the land preparation cost for Sibolga, which was an original project site, environmental impact assessment and land compensation, etc. at the project site after the change of the site, only when those costs were made clear. Tax was estimated as being 10% of the disbursed amount of the loan for the consultants and the contractor.

When looking only at civil works and equipment procurement cost for Mauk Rating School, the cost is 96.7% of the planned cost. In addition, modifications were made to the consultant contracts due to the changes in the sites, and physical site inspections, designs, and bid assistance work are being implemented for the other 2 project sites.

In this project, although the project cost was lower than planned, the project period was much longer than planned; therefore the evaluation for efficiency is moderate.

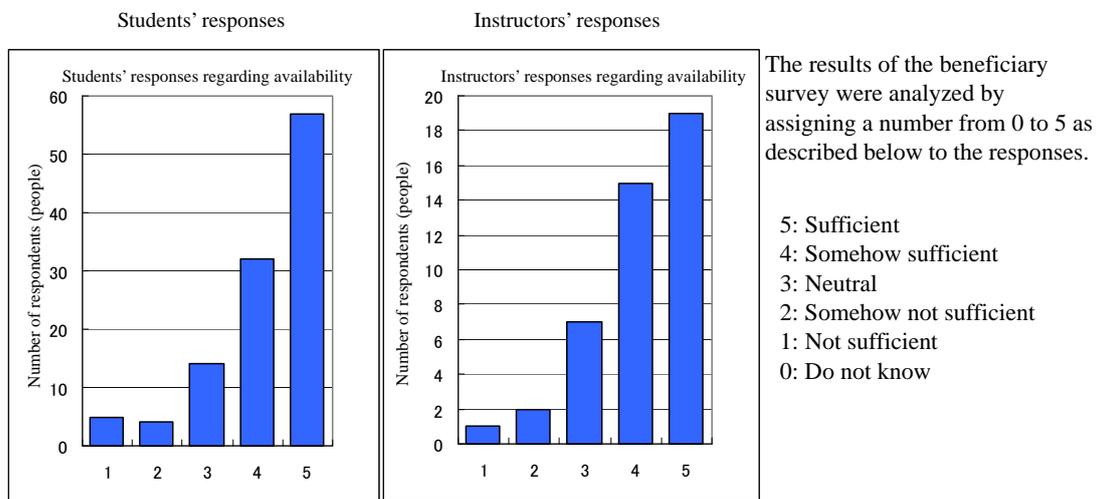
2.3 Effectiveness (Rating: b)

The following are evaluations of the current state of (1) the usefulness and sufficiency level of equipment and facilities for education and training, (2) contributions toward an increase in the quality of education of seafarers, and (3) the number of persons who have acquired qualifications, etc., with regard to the Mauk Rating School, which was the only school for which construction was completed in this project.

2.3.1 Usefulness and sufficiency level of equipment and facilities for education and training

When looking at the statements of purpose of students enrolled at Mauk Rating School based on a beneficiary survey²¹ using survey forms given to the students, the response that was most popular was “to find a good job” (99 out of 116 people), followed by “good facilities and equipment” (97 out of 116 people); it is evident that people outside of the school think favorably of the development conditions of the facilities and equipment for Mauk Rating School.

Table 6: Availability of equipment and facilities



Note: The mean of the 112 effective responses received from the students was 4.18 (standard deviation was 1.076), whereas the mean of the 44 effective responses received from the instructors was 4.11 (standard deviation was 0.993).

In the beneficiary survey given to students and instructors, a question regarding the usefulness of the various equipment and facilities from their respective perspectives was also provided. From among the 44 instructors who provided responses, 26 responded to this question, and from among the 116 students who provided responses, 98 responded to this

²¹ The beneficiary survey at Mauk Rating School was given to all of the 31 students being enrolled in the course for acquiring qualifications as a rating at the time of the ex-post evaluation (October 2008), and to 4th- and 5th-term students enrolled in the course for acquiring qualifications as a maritime officer (Fourth Grade) who were systematically sampled upon creating a list with their names in alphabetical order. For the survey, the sampled list and the survey forms were personally delivered to the school on October 15, 2008, and the school was notified that the survey forms would be collected 1 week later on October 22; the surveys were conducted anonymously. The survey forms that were collected consisted of 31 forms from students in the rating course (collection rate of 100%) and 85 forms from students in the maritime officer course (collection rate of 100%). Sampling of the instructors was not random, as the survey was given to those from whom cooperation was obtained, but was anonymous. From among the 47 survey forms that were distributed, 44 forms were collected (collection rate of 94%). The survey on shipping companies (17 companies) is based on the list obtained from Mauk Rating School. Survey forms were sent to all of the 17 shipping companies, and responses were obtained from 6 of these companies (collection rate of 35%).

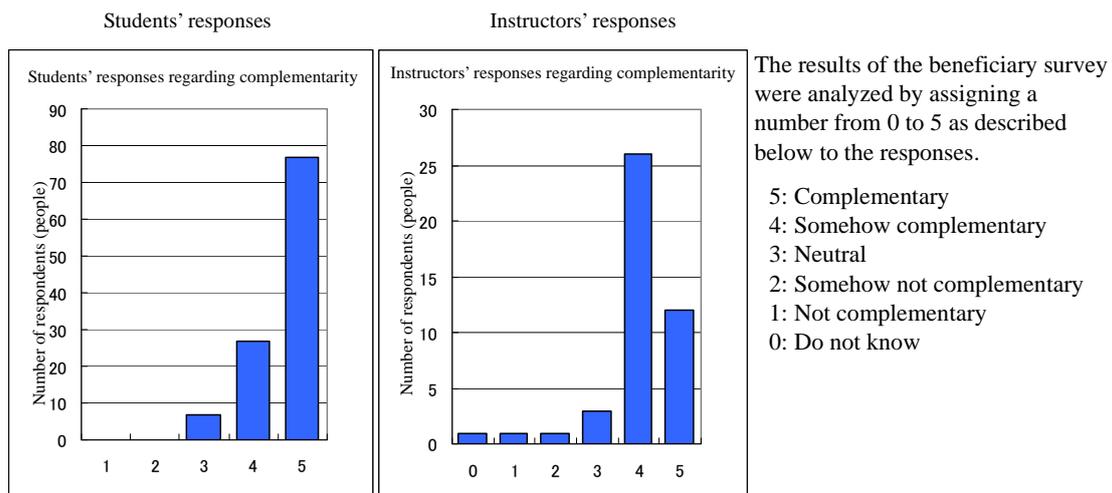
question; it can be perceived that usefulness is generally acknowledged²². Based on the results of the beneficiary survey, there were many responses that indicate that there is sufficient availability of equipment and facilities in relation to the number of students, as shown in Table 6. However, in interview surveys and in the column for freely writing down remarks on the survey form, it was pointed out that there are not enough equipment and facilities in comparison to the number of students. Concretely, a lack of computer-based/Internet-related equipment as well as practical educational and training materials for fulfilling quality standards (QSS) (such as engine simulators), and a lack of laboratories have been pointed out. At Mauk Rating School, a multimedia laboratory that was not provided in this project has been developed based on budget allocation by the Indonesian government. In addition, there were also opinions saying that adjustments to the training schedule and restrictions on the number of students admitted had been carried out due to a shortage of equipment and facilities.

2.3.2 Contributions to improving the quality of education of seafarers

(1) Complementarity of the curriculum with equipment and facilities

Upon confirming the complementarity of the curriculum with equipment and facilities based on the beneficiary survey, the following responses were obtained. It can be perceived that responses from both students and instructors generally acknowledge the complementarity of the curriculum with equipment and facilities.

Table 7: Complementarity of the curriculum with equipment and facilities



²² Some students responded that they do not acknowledge the usefulness of several types of equipment in education and training. This consisted of communication equipment, which 6 people from among the 18 students in the ratings program (Nautical Department) responded as not being useful, and electric training equipment, which 4 people from among the 13 students in the ratings program (Technical Department) responded as not being useful.

Note: Excluding responses that were categorized as “Do not know,” the mean of the 111 effective responses received from the students was 4.63(standard deviation was 0.602), whereas the mean of the 43 effective responses received from the instructors was 4.09 (standard deviation was 0.811).

Based on a focus group discussion (FGD)²³ that was held among instructors, with regard to consistency of equipment and facilities with the curriculum, it is necessary to satisfy the minimum required standards of the Ministry of Transportation’s Directorate General of Sea Transportation, and as a result, procurement of equipment and facilities has been carried out up until now by using Indonesia’s domestic budget. For example, the multimedia laboratory is a facility that was constructed after completion of this project. According to the instructors at Mauk Rating School, although the required standards are almost fulfilled, they are not completely fulfilled (condition at the time of ex-post evaluation). There were also opinions from students regarding the library in the form of requests to provide books other than handbooks that would enable the students to increase their motivation. From the instructors and staff, there were requests to add books, and to provide reference books such as those related to navigation and engines; they also pointed out that there were no manuals available.

In the responses given on survey forms, instructors indicated that it was necessary to update textbooks. In addition, with regard to the curriculum itself, there were opinions from students suggesting that an enhancement of practical education, increase in the number of English language classes, addition of swimming classes, and expansion of computer- and Internet-related education were desired. In particular, the importance of English language education when boarding ocean vessels is recognized.

A JICA expert was dispatched to the Maritime Education Training Center²⁴, and it is believed that guidance and advice related to the launching of an education system and to the curriculum were provided in relation to the rating schools. In addition, as mentioned above, the opinion of the JICA expert is reflected in the change of the Sibolga project site.

2.3.3 Current state of the number of persons with qualifications, etc.

The number of enrolled students/participants in short-term training programs, the number of graduates/participants who had completed short-term training programs, number of female students, number of dropouts, and the number of instructors are as follows²⁵. Although the

²³ The FGD among instructors was held on October 13, 2008 for approximately 2 hours starting at 3 P.M. at a classroom in Mauk Rating School. There were 6 participating instructors, and the major topics for discussion were (1) the background as to how they came to teach at Mauk Rating school and their expectations for the school; (2) the complementarity of equipment and facilities with the curriculum, their sufficiency, operation and maintenance, etc.; and (3) comparisons with other rating schools.

²⁴ At the time of evaluation, dispatching of JICA experts had ended.

²⁵ At Mauk Rating School, 7th-term students looking to acquire qualifications as a rating had completed their education and training, and at the time of the ex-post evaluation (September 2008), 8th- and 9th-term students were being trained. There are approximately 25 students in each term, and the training period runs for a total of 9 months, comprised of 3 months of campus study and 6 months of on-board training/sea service. In addition to ratings, maritime officers are also being trained at Mauk Rating School (candidates for Fourth Grade and Fifth Grade

number of enrolled students/participants in short-term training programs and the number of graduates/participants who had completed short-term training programs decreased in 2007, general trends show an increase in 2004 and subsequent years, and it is evident that management of the school has started taking firm root.

Table 8: Number of enrolled students/participants in short-term training programs, number of dropouts, number of graduates/participants who had completed short-term training programs, etc.^{Note 1}

Units: Persons

Year	2004		2005		2006		2007		2008	
	COC	COP	COC	COP	COC	COP	COC	COP	COC	COP
Number of enrolled students/participants	84	204	204	1,055	336	1,563	234	1,025	454	NA
Of which, number of females	0	0	0	0	0	0	0	0	0	0
Number of dropouts	4	0	8	0	17	0	5	0	2	0
Number of graduates ^{Note 5} /number of participants who have completed courses	0	204	38	1,055	159	1,563 ^{Note 6}	55	1,025	206	1,784
Number of instructors ^{Note 7}		48		72		72		73		82
Of which, number of instructors with qualifications		29		40		39		41		43

Source: Mauk Rating School

Note 1): The data received from the Directorate General of Sea Transportation is inconsistent with the data from Mauk Rating School. Although this may be caused by differences in the recognition of registration years, the actual cause is not clear.

Note 2): COP (Certificate of Proficiency): Issued by institutions for educating seafarers such as Mauk Rating School to persons who have completed short-term qualification courses based on the standards of the STCW Convention.

COC (Certificate of Competence): Certificate of qualification issued by the Directorate General of Sea Transportation to persons who have completed training at an institution for education seafarers and passed the examination based on the standards of the STCW Convention.

Note 3): From among the number of graduates above, the number of persons who have obtained a COC certificate include not only students who are admitted as new graduates, but seafarers who have already accumulated experience and are upgrading their qualifications (“upgrading” from a rating to a maritime officer, etc.) or are partaking in education and training that is implemented in accordance with the updating of the Convention from STCW78 to STCW95 for switching from the old qualifications to new qualifications (“updating”).

Note 4): As it is perceived that persons who have completed the short-term qualification course (course to acquire COP) are also participating in other different courses, the number in the table above represents the total number of participants.

Note 5): With regard to the shipping companies at which students had found employment, although a list of 17 companies, including foreign shipping companies, was obtained from Mauk Rating School, it was noted that students had found employment at more than 17 companies.

Note 6): In Table 10 below, it is reported that 1,662 people had obtained a COP certificate in 2006, indicating a slight inconsistency in the data.

Note 7): The number of instructors includes external lecturers.

In this project, it was planned for 200 people per school, or a total of 600 people for the 3 schools, to be supplied as ratings, and for 70 people per school, or a total of 210 people for the

Nautical and candidates for Fourth Grade and Fifth Grade Technical) (training period runs for a total of 3 years for Fourth Grade, consisting of 2 years of campus study (within the school) and 1 year of on-board training/sea service, and a total of 2 years for Fifth Grade, consisting of 1 year of campus study and 1 year of on-board training/sea service).

3 schools, to be supplied as maritime officers²⁶ with 2005 as the target year. However, as mentioned above, the only school from among the 3 schools that was completed during the loan disbursement period was Mauk Rating School. The number of persons who enrolled in Mauk Rating School and who acquired qualifications as a rating was 55 in 2007 (28% as compared to the original plan of 200), and 35 in 2008 (number of ratings that does not include those who underwent upgrading and updating as shown in Table 9), which was 18% of the original number planned. The total number of persons who acquired qualifications as a maritime officer (Fourth Grade and Fifth Grade) was 72 in 2008 (103% as compared to the original plan of 70)²⁷.

Table 9: Number of persons who acquired qualifications at Mauk Rating School between 2005 and 2008 (COC)

		Units: Persons				
Course		2005	2006	2007	2008	Total
Rating	Subtotal (a)	33	15	55	36	139
Nautical (DOC-R) (b)		0	6	29	15	50
Technical (EOC-R) (c)		0	8	26	20	54
Upgrading		30	0	0	0	30
Nautical (DOC-R) (updating)		0	1	0	0	1
Technical (EOC-R) (updating)		3	0	0	1	4
Maritime officer	Subtotal (d)	5	144	0	170	319
Fourth Grade Nautical (DOC-IV) (e)		0	0	0	44	44
Fourth Grade Technical (EOC-IV) (f)		0	0	0	28	28
Fourth Grade Nautical (DOC-IV) (upgrading)		0	32	0	33	65
Fourth Grade Technical (EOC-IV) (upgrading)		0	32	0	32	64
Fifth Grade Nautical (DOC-V) (upgrading)		0	0	0	23	23
Fifth Grade Technical (EOC-V) (upgrading)		0	0	0	10	10
Fifth Grade Nautical (DOC-V) (updating)		5	45	0	0	50
Fifth Grade Technical (EOC-V) (updating)		0	35	0	0	35
Persons having acquired COC (qualification as rating and maritime engineer)	Total	38	159	55	206	458
Comparison with original plan (200 ratings/school) (limited to new graduates) ((b)+(c))/200		0%	7%	28%	18%	-
Comparison with original plan (70 maritime officers/school) (limited to new graduates) ((e)+(f))/70		0%	0%	0%	103%	-
Comparison with original plan (200 ratings/school) (not limited to new graduates) (a)/200		17%	8%	28%	18%	-
Comparison with original plan (70 maritime officers/school) (not limited to new graduates) (d)/70		7%	206%	0%	243%	-

Source: Mauk Rating School

In addition to the above, Mauk Rating School has been implementing short-term training (courses on Basic Safety Training, Radar Simulator, etc.) at the request of shipping companies and private-sector seafarer education and training institutions. Although seafarer education is

²⁶ The plan was for 200 ratings and 70 ratings to be supplied from each rating school in 2005.

²⁷ In 2008, there were no students who had enrolled as new graduates who acquired qualifications as a maritime officer (Fifth Grade). When including those who were upgrading and updating their qualifications, the number of persons who acquired qualifications as a maritime officer (Fourth Grade and Fifth Grade) is 170 people (243% as compared to the original plan).

being implemented at private seafarer education and training institutions, such schools lack educational equipment such as simulators. In order for students who have undergone training at such training institutions to take the seafarer qualification examination, private education and training institutions must conclude a memorandum of understanding (MOU) with schools equipped with equipment and facilities for implementation of training such as Mauk Rating School and receive approval as an institution that can implement education and training²⁸. In particular, due to regulations on equipment and facilities for education and training becoming reinforced, as exemplified by training using radar simulators and ARPA simulators being made compulsory based on the amendments made to the STCW Convention in 1995, Mauk Rating School is considered as having a large role, as it is equipped with the necessary equipment and facilities, as well as instructors who can handle such equipment and facilities. The total number of people who participated in courses from 2004 to 2008 and received a Certificate of Proficiency (COP) exceeds 5,000 (Table 10 below). In particular, there are large numbers of people participating in courses such as Basic Safety Training, Survival Craft and Rescue Boat, Advanced Fire Fighting, etc. This is also thought to be contributing to an increase in the quality of seafarers.

Table 10: Participants in short-term training programs at Mauk Rating School (COP)

Units: Persons

Type of training	2004	2005	2006	2007	2008	Total
Basic Safety Training (BST)	102	375	501	216	436	1,630
Survival Craft and Rescue Boat (SCRB)	48	204	321	216	277	1,066
Radar Simulator (RS)	25	31	18	26	52	152
ARPA Simulator (AS)	0	31	0	0	52	83
Ships Security Officer (SSO)	29	0	0	0	0	29
Advanced Fire Fighting (AFF)	0	151	130	180	247	708
Medical First Aid (MFA)	0	131	147	51	129	458
Medical Care (MC)	0	63	0	0	79	142
Tanker Familiarization Course (TFC)	0	0	160	107	151	418
International Safety Management (ISM) Code	0	69	160	81	147	457
Pengenalan ISPS Code	0	0	160	107	173	440
Restricted Operator Certificate (ROC-GMDSS)	0	0	45	0	0	45
General Operator Certificate (GOC-GMDSS)	0	0	20	41	41	102
Total	204	1,055	1,662	1,025	1,784	5,730

Source: Mauk Rating School

Note 1): The above courses have been carried out with seafarers from shipping companies and students from private schools.

Note 2): The above courses are short-term training courses for obtaining a COP, but there are also courses of which the purpose does not include obtaining a COP (courses on becoming used to handling equipment, etc.)

²⁸ It is necessary for education and training institutions, at which students who have completed the programs can take the national examination to become a seafarer, to receive approval from the Maritime Education Training Center (METC) based on the Indonesian Quality Standards System. Private education institutions that cannot meet all of the requirements on their own account can send their students to be trained at another education and training institution in order to fulfill the qualification requirements for allowing graduates to take the examination. From among such training institutions, Mauk Rating School has concluded MOUs with 13 schools pertaining to education and training (according to materials received by Mauk Rating School in February 2009). Mauk Rating School has concluded MOUs with private schools mainly in western Indonesia, such as in South Sumatra, West Sumatra and Lampung provinces on Sumatra Island and in Jakarta.

In addition, although it is generally possible to calculate the internal rate of return (IRR) for this project based on differences in lifetime earnings after acquiring qualifications and on investment/operation and maintenance costs, it was not calculated at the time of ex-post evaluation due to there still being a small number of graduates as the school was newly established, the extreme difficulty expected for identifying them despite the small number of graduates, and the fact that the IRR had not been calculated at the time of appraisal.

Therefore, this project has produced certain effects, and its effectiveness is moderate.

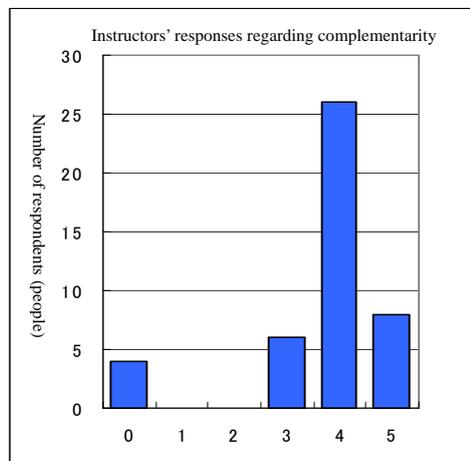
2.4 Impacts

2.4.1 Contributions to the needs of the marine transportation industry

As the number of graduates is still small, thus making it premature to conduct evaluations related to the expansion of the capabilities of Indonesian commercial ships brought about by the supply of ratings and on improvements in safety and facilitation of sea transport enabled by improvements in the quality of maritime officers and ratings, the following is an evaluation that is based on the results of the beneficiary survey on the level of contribution of this project to the needs of the marine transportation industry.

When instructors were asked to provide responses regarding the complementarity of equipment and facilities with the needs of shipping companies according to 5 levels of assessment, it is considered that complementarity is acknowledged to some extent, as shown in Table 11. In the focus group discussion (FGD) that was held among instructors, it was indicated that there is complementarity in the sense that the education and training at Mauk Rating School satisfies the minimum standards necessary, since the needs of shipping companies differ, and after finding employment at a shipping company, new employees undergo training that is unique to each company. In addition, there were also comments that indicate that in terms of the discipline that shipping companies place emphasis on, training is carried out in a stricter manner as compared to the other 2 rating schools.

Table 11: Responses by instructors regarding the complementarity of equipment and facilities with the needs of shipping companies



The results of the beneficiary survey were analyzed by assigning a number from 0 to 5 as described below to the responses.

- 5: Complementary
- 4: Somehow complementary
- 3: Neutral
- 2: Somehow not complementary
- 1: Not complementary
- 0: Do not know

Note: Excluding responses that were categorized as “Do not know,” the mean of the 40 effective responses received from the instructors was 4.05 (standard deviation was 0.597).

At the time of the survey, it is believed that there are at least 17 different shipping companies at which graduates of Mauk Rating School had found employment (12 companies in Jakarta, 4 in Surabaya, and 1 abroad). Visits were made or survey forms were sent to the 17 companies (including employment agencies that dispatch seafarers), and responses have been received by 6 companies as of this reporting period. Although it is difficult to generalize the responses due to a small number of responses, the strengths of the Mauk Rating School can be considered as its geographically close location to Jakarta, ample equipment and facilities, and its high discipline. Weaknesses include the fact that communications and interactions with Mauk Rating School were limited up until now, responses to revisions by the International Maritime Organization (IMO), and its geographical farness. Transmission of relevant information (such as number of graduates, timing, etc) through the Internet and other means is sought after.

According to interview surveys, which were implemented concurrently, and responses on survey forms, the following were given as points that are emphasized by shipping companies and employment agencies in hiring seafarers, and are considered as being elements that should be kept in mind for future education and training.

- Satisfaction of IMO standards
- Capabilities in the English language
- Attitude, discipline, sense of responsibility
- Knowledge
- Techniques
- Ability to obtain a US visa without any problems

2.4.2 Impacts on increases in education/employment opportunities of the local people and on increases in the living standards of the local people

According to the beneficiary survey that was conducted on current students at Mauk Rating School, the hometown (birthplace) of the respondents is as shown in Table 12 below: more than 76% are from Java Island, and from among the students from Java Island, almost 60% are from Banten, West Java, and Jakarta. At the same time, when looking at the breakdown of home provinces according to course, the ratio of students in the course for acquiring qualifications as a rating who are from the province of Central Java is comparatively high; there are also enrolled students who are from Sumatra Island, and it is evident that the students enrolled in this course make up a geographically broader scope as compared to the students enrolled in the course for acquiring qualifications as a maritime officer. The provision of educational opportunities to the people of Java Island, and particularly to the local people of Jakarta, West Java, Banten, etc. is thought to contribute to an increase in future employment. As “to find a good job” was the choice that was the most popular as the students’ purpose for studying at the school, and shipping companies consider it a strength that Mauk Rating School is located near Jakarta, it is believed that contributions will continue to be made toward the expansion of their educational and employment opportunities.

Table 12: Home provinces of current students (birthplace)

Name of province	Total (Number of respondents = 115 people)	Breakdown	
		Course for acquiring qualifications as a rating (Number of respondents = 31 people)	Course for acquiring qualifications as a maritime officer (Number of respondents = 84 people)
Aceh	1.7%	3.2%	1.2%
Jambi	2.6%	6.5%	1.2%
Lampung	2.6%	3.2%	2.4%
North Sumatra	1.7%	6.5%	0.0%
South Sumatra	1.7%	3.2%	1.2%
Sumatra ^{Note 2}	0.9%	3.2%	0.0%
Subtotal for Sumatra Island	11.3%	25.8%	6.0%
Banten	12.2%	6.5%	14.3%
West Java	20.9%	6.5%	26.2%
Jakarta	25.2%	6.5%	32.1%
Yogyakarta	0.9%	0.0%	1.2%
Central Java	11.3%	32.3%	3.6%
East Java	5.2%	12.9%	2.4%
Java ^{Note 2}	0.9%	0.0%	1.2%
Subtotal for Java Island	76.5%	64.5%	81.0%
Subtotal of other regions	9.6%	9.7%	9.5%
Unknown	2.6%	0.0%	3.6%

Total	100.0%	100.0%	100.0%
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Source: Results of beneficiary survey

Note 1): The totals may not add up due to rounding of numbers.

Note 2): Due to there being no answer written in the answer column, the province name is not listed.

As mentioned above, the 13 private educational and training institutions with which Mauk Rating School has concluded memorandums of understanding are located in western Indonesia (Jakarta, West Java, South Sumatra, Lampung, Padang, etc.), and through the short-term training courses of private institutions, educational opportunities and future employment opportunities are provided to the local people of western Indonesia.

2.4.3 Impacts on the natural environment

The impact on the environment during the construction period is unclear. To secure clean water for school operations, wells that were dug with this project and own funds are used, and purification facilities constructed with government funds are used. Sewerage facilities consist of facilities that were developed through this project. The operation and maintenance section of the rating school is periodically implementing water quality inspections of clean water and sewage water.

2.4.4 Resettlement

At the time of the appraisal and during the implementation period²⁹, the existence of a household on the land to be used for constructing the Maul Rating School was confirmed. Although the residents are currently living outside of the grounds of Mauk Rating School, they reside on land that is under the jurisdiction of the school; as of the time of the ex-post evaluation, a person from the household has been given jobs as a security guard for Mauk Rating School.

2.5 Sustainability (Rating: b)

Although points for improvement in terms of administration and operation/maintenance, such as the necessity of increasing the number of instructors and staff, securing a balance among instructors according to department and increasing their technical capacities, and sustained operation/maintenance of equipment and facilities for education and training, have been pointed out, due to its geographical superiority of being close to the job market, the high motivation of its instructors, the installation of equipment and facilities such as simulators, etc., Mauk Rating School is off to a good start.

2.5.1 Executing agency and operation and maintenance agency

²⁹ Considered as being illegal residents at the time of appraisal. During the implementation period, remarks were made in the progress report created by the consultant (March 30, 1998).

The executing agency for this project is the Education and Training Agency (ETA), which is under the Ministry of Transportation (MOT), and the Mauk Rating School, which was constructed in this project, is operated under the supervision of the Maritime Education Training Center (METC), which is an organization under the umbrella of the MOT's ETA. As a regulatory agency, the MOT's Directorate General of Sea Transportation establishes the minimum necessary standards for education and training institutions, and also gives approval for implementation of education and training.

There are 84 personnel members at Mauk Rating School, and the breakdown is as shown in Table 13; 23 personnel members are part of the administration section, and 61 are part of the education and training section. The personnel were originally people assigned by the ETA.

The current number of personnel is not enough, and it is perceived that 150 people are necessary. As a result, there are situations where even instructors have to concurrently carry out work in the administration section, and where there is not enough time for instructors to increase their knowledge and technical capacity³⁰.

For the education and training section, since there are large differences in the number of instructors between the nautical and the technical sections, it is deemed necessary for the school to increase the number of instructors in the technical section in the future through the ETA. Currently, since there are a smaller number of instructors in the technical section, adjustments are being made accordingly in the number of students³¹. In addition, the facilities and equipment that were built and provided through this project are maintained and operated by various units³² within Mauk Rating School.

With regard to the technical capacity of the instructors, it is important that the instructors acquire not only the latest maritime technologies in their respective fields of expertise but also the minimum technologies deemed as being necessary. Particularly, in addition to there being a

Table 13: Number of personnel at Mauk Rating School (2008)

	Number of personnel
Administration	23 persons
Education and Training ^{Note)}	61 persons
Of which, number of personnel in Nautical Section	26 persons
Of which, number of personnel in Technical Section	13 persons
Of which, number of personnel in General Section (languages, etc.)	22 persons
Total	84 persons

Source: Mauk Rating School

Note: When external lecturers are included the total number of instructors in the Education and Training Department is 82.

³⁰ From among the responses to the beneficiary survey given to current students, there were opinions that suggest that an increase in the capacity of instructors in operating navigation-related equipment and an increase in the capacity of English instructors are desired. In addition, it has been pointed out that there were some instances where instructors were engaged in administrative works and could not hold classes; requests for an increase in the number of instructors were received.

³¹ For example, with regard to the number of students in September 2008, there were 13 students in the technical field, out of the 31 students in the course for acquiring qualifications as a rating, and 103 students in the technical field, out of the 218 students in the course for acquiring qualifications as a maritime officer, demonstrating that the percentage of students in the technical field is low.

³² Specifically, such units consist of the Simulation unit, Laboratory unit, Household Affairs unit, etc.

necessity for instructors to increase their technical capacity regarding operation and maintenance of maritime technologies by use of simulations, it is also deemed necessary to regularly upgrade the simulators by using government funds.

Recruitment of students is carried out by using mass media such as newspaper advertisements, as well as brochures and pamphlets, and the hosting of events at junior high schools. The school entrance examination tests health conditions (fulfillment of IMO standards such as hearing and vision), academic aspects (mathematics, physics, English, etc.), psychological aspects, behavior, etc. In addition, discipline is considered as being the fundamental aspect of all activities. Even in finding employment for students, Mauk Rating School is building cooperative relationships with both domestic and overseas shipping companies, and is supporting students in gaining employment.

In both the course for acquiring qualifications as a maritime officer and the course for acquiring qualifications as a rating, practical training aboard a vessel is necessary, but since Mauk Rating School does not own a training vessel, the school is requesting shipping companies to accept students as on-board interns. At the time of the field survey (October 2008), the school had concluded a memorandum of understanding (MOU) with 3 shipping companies, but the acceptance of interns is not necessarily limited to companies with which a MOU has been concluded. There is an advantage to shipping companies in that the companies are able to preliminarily educate and train students that they can employ in the future, but it has been indicated that there are not very many companies that accept interns for ratings.

2.5.2 Technical capacity of operation and maintenance

During the project period, factory training, together with site training after installations have been made, were carried out. Training was planned as shown in Table 14.

Based on interviews at Mauk Rating School, 6 people participated in factory training in Japan over the course of 1 month in 2001³³.

From among these 6 people, 2 were working at the rating school at the time of ex-post evaluation. In addition, with regard to site training, training on radar simulators was carried out by the manufacturer over a course of 2 weeks before the school opened, and approximately 30 people participated in this training program. Also after

Table 14: Training Plan

Contents of training	Number of people	Period (days)
Factory training		
Steering trainer O & M	2	10
Radar observation trainer O & M	2	14
MF/HF and VHF Trainer O & M	1	10
Site training		
Steering trainer	2	10
Radar observation trainer	2	18
MF/HF and VHF trainer	1	10

Source: Tender documents for civil works and equipment

³³ Training consisted of 2 people being trained in GMDSS (Global Maritime Distress and Safety System) for 2 weeks; 2 people being trained as steering trainers for 2 weeks, and 2 people being trained in radar-related matters for 3 weeks (based on interviews at Mauk Rating School).

the school opened, training was implemented for approximately 1 week on other simulators. There is also some equipment that has been upgraded, and training related to operation and maintenance is continuously sought after at Mauk Rating School.

2.5.3 Financial conditions of operation and maintenance

At Mauk Rating School, much of the income is dependent on the government budget. The following shows trends in the budget (ceiling) in 2004 and subsequent years³⁴. In actuality, 95% to 98% of the budget amount is executed.

It is considered that with the increase in the number of students, school administration is gradually taking off, and the budget also indicates high growth every year. Labor costs have grown in accordance with increases in the number of staff members and the amount of salaries, and expenditures for the purpose of purchasing chemicals for laboratory use and spare parts, as well as for acquiring equipment and facilities for compliance with Indonesia's QSS are also being made. There is also an increasing trend in FY2009, and the budget level is one that is slightly below the O&M-related budget of the existing Barombong Rating School³⁵.

Table 15: Trends in the budget (ceiling) of Mauk Rating School

	Units: Million Rp				
	2004	2005	2006	2007	2008
Labor costs	261	754	2,094	4,208	9,546
Spare parts, etc.	195	1,303	1,586	2,722	5,550
Investment costs	0	338	100	4,030	2,745
Total	456	2,395	3,780	10,961	17,842

Source: METC

Note 1): Labor costs include honorariums given to instructors outside of the school, etc. The level of honorariums increased from 20,000 Rp in 2006 to 50,000 Rp per hour in 2007. FY2004 was the year in which Mauk Rating School opened, and there are some instructors and staff who received payments from the organizations from which they had come.

Note 2): Spare parts, etc. includes spare parts, stationery, chemicals for operation and maintenance, the cost of materials for education and training, the cost of repairs by external agents, etc.

Note 3): Investment costs is an expenditure related to the infrastructure, and includes facilities maintenance costs, chairs, tables, fences, costs for constructing laboratories, etc. In 2007, software for CBT (computer-based training), multimedia laboratories, and QSS-related equipment (materials and equipment such as welding equipment that was purchased in order to satisfy Indonesia's QSS) were applicable to expenditures, and in 2008, fences, expansion of engine holes, rubber boards, Internet systems, etc. were applicable to expenditures.

³⁴ According to interviews at Mauk Rating School, the tuition cost, insurance, etc. of current students is 90,000 Rp for 6 months, and 180,000 Rp for 1 year; in addition to these costs, approximately 600,000 Rp per month is also necessary every month for meals, etc. For Mauk Rating School, there is also revenue from tuition costs for short-term courses for participants/students from shipping companies and private educational and training institutions, but when taking necessary expenditures such as food expenses into consideration, it can be said that operation and management of the school is virtually dependent on government funds.

³⁵ The O&M budget for Mauk Rating School in 2009 such as for labor costs and for purchasing spare parts is 18 billion Rp, and in relation to this, the O&M budget for the Barombong Rating School is 26 billion Rp. In the case of the Barombong Rating School, O&M costs of 4 billion Rp are included as O&M of the training vessel that it owns.

2.5.4 Conditions of operation and maintenance

It was confirmed from the visual inspection that the school that was built and the materials and equipment for education and training that were installed are being operated/maintained and utilized. In general, although there are no problems with maintenance of electronic devices for which the manufacturer's distributor is located in Jakarta, support for mechanical equipment, including the procurement of spare parts, is difficult³⁶.

In addition, although the living environment of students is considered as being an important element in attracting excellent students and enhancing education and training, according to the beneficiary survey, opinions requesting for consideration to health such as through the quality of drinking water and meals, the development and improvement of a hygienic environment, amenities, dorm facilities (showers, toilets, air conditioning, etc.), and the construction of a mosque, etc. were given as points for improvement in the future.

From the above, as some problems have been observed in terms of the number of personnel and instructors, sustainability of this project is moderate (some concerns but no major problems).

3. Conclusion, Lessons Learned, and Recommendations

3.1 Conclusion

Changes were made to 2 of the project sites, and in the end, only 1 rating school was built. Although there were external conditions such as deterioration of public safety conditions that could not be controlled by the project as factors behind the site change, the reasons why construction could not be completed are thought to be factors related to the project site selection in the planning phase and to the implementation capacity in the implementation phase; the following lessons and recommendations can be provided for each. The Mauk Rating School that was completed through this project is off to a good start, and is evaluated as contributing to improvements in the quality of seafarers.

3.2 Lessons learned

In vocational education and training projects, it is necessary to reflect the conditions of the industry's demand and the analysis results of requirements for acquiring qualifications in the project design during the planning stage.

³⁶ In responses to the beneficiary survey given to instructors, the difficulty of obtaining spare parts for foreign products, and the difficulty of obtaining spare parts and requesting technicians from Japan were pointed out. In addition, it was also indicated that there are no manuals, and requests for adding reference books such as those related to nautical and technical fields were made.

3.23 Recommendations

With regard to implementation capacity, particularly planning and procurement capacity, it is necessary to promote strengthening the knowledge and experience of the ETA. In particular, the sharing of existing experience and knowledge that have been accumulated within the MOT organization is considered as being important, and it is desired for support by outside parties to be implemented in such a way that this accumulated experience and knowledge be effectively utilized.

Comparison of Original and Actual Scope

Item	Plan	Actual
(1) Outputs	Project sites: Jakarta (Mauk), Sibolga, Ambon	Project site: Jakarta (Mauk)
Construction works	(1) Construction of rating school buildings	(1) Construction of rating school buildings
Equipment procurement	(2) Procurement of materials and equipment for education and training	(2) Procurement of materials and equipment for education and training
Consulting services	Total: 241M/M a) Foreign: 129M/M b) Local: 112M/M	Total: 483.5 M/M a) Foreign: 141.5 M/M b) Local: 342.0M/M
(2) Periods		
Employment of consultants	October 1995 to September 1996	June 1996 (No objection to S/L, TOR, LOI) to January 1998 (No objection to contract)
Detailed design	September 1998 to November 1999	February 1998 to October 1998
Procurement of civil works and equipment (Mauk Rating School)	October 1996 to August 1998	November 1998 to April 2002
Mauk Rating School	November 1998 to February 2000	May 2002 to February 2004
Sibolga Rating School	February 1999 to May 2000	Site changed. As of the time of the ex-post evaluation, the site was changed to Banda Aceh, and construction is being planned there (Planned for 2009 budgetary appropriation)
Ambon Rating School	May 1999 to August 2000	Site changed. As of the time of the ex-post evaluation, the site was changed to Sorong, and construction was underway (2006 to 2008)
(3) Project costs:		
Japanese yen	2.989 billion yen	1.971 billion yen
Indonesian rupiah	6.432 billion yen	1.198 billion yen

	(142.933 billion Rp)	(92.1538 billion Rp)
Total	9.421 billion yen	3.168 billion yen
Of which, yen loan portion	8.008 billion yen	2.833 billion yen
Exchange rate	1 Rp = 0.045 yen (as of 1995)	1 Rp = 0.013 yen (weighted average of 1998 to 2006)