

# Maritime Education and Training

### Project Sites

#### Alexandria



## 1. Background and Objectives of Evaluation Survey

Over the last twenty years, JICA has implemented various schemes of cooperation with Egypt's Arab Maritime Transport Academy (AMTA), now the Arab Academy of Science & Technology and Marine Technology (AAST&MT). The objectives of the cooperation programs were to strengthen maritime education in the Middle and Near East and African regions to promote the shipping industry. The characteristics of the cooperation have been as follows.

- (1) Collaborative projects in which project-type technical cooperation, grant aid and third country training program-group training courses are combined along a single theme.
- (2) A pioneering example of South-South cooperation which JICA recently emphasized from the perspective of the improvement of efficiency of cooperation and the support for shifting development of recipient countries in to donor countries.
- (3) A representative cooperation aid project in Egypt, which is a priority country for Japanese aid.

The objective of this evaluation survey was to extract lessons and recommendations for future cooperation projects conducted in Egypt, cooperation in the field of maritime education, the liaisons between multiple schemes of cooperation, as well as the promotion of cooperation in the Middle and Near East and Africa regions as part of the follow up to the second Tokyo International Conference on African Development (TICAD II) held in Tokyo in October 1998. In addition, the evaluation aimed to provide feedback for the planning and implementation of effective projects in the future.

In implementing this evaluation survey, JICA assigned Mr. Katsutoshi Kamata of the Nikkan Kogyo Shimbun, Ltd., as a team leader in order to focus on "evaluation from the perspective of tax payers" with a view to ensuring the transparency of JICA cooperation.

## 2. Evaluated Projects

Arab Maritime Transport Academy (November 1976-November 1980, Project-type technical cooperation, November 1980-May 1982, follow up cooperation, FY1984 and FY1990, After-care cooperation).

Education and Training System/Machinery and Electricity (May 1982-May 1983, Individual experts)

Maritime Education (I, II), (FY1985-FY1994, Third country training program)

Project for Replacing the Training Vessel (FY1990 and FY1991, Grant aid)

## 3. Members of Evaluation Team

### Team Leader:

Mr. Katsutoshi KAMATA, Journalist, Nikkan Kogyo Shimbun, Ltd.

### Evaluation Planning:

Ms. Tatsuko ICHINO, Public Relations Division, General Affairs Department, JICA

### Project Impact Analysis:

Mr. Kunio NISHIMURA, Senior Researcher, CRC Overseas Cooperation Co., Inc.

## 4. Period of Evaluation

7 March 1999-26 March, 1999

## 5. Background and Outline of Cooperation

### (1) The Position of the Shipping Sector in Egypt's National Policy

During the ten years of the Sadat administration (1973-1982) Egypt's GDP recorded an annual average growth rate of approximately 7%. This was underpinned by an expansion in petroleum production and the reopening of the Suez Canal, and the shipping industry played an extremely important role in both these developments. However, shipping related infrastructure such as harbor and port facilities and ships and a supply of human resources including sailors did not keep pace with this rapidly growing demand for shipping, and by the beginning of the 1980's, there emerged a marked imbalance between demand

and supply.

The Mubarak government (1982-) which followed the Sadat administration, made the strengthening of the shipping sector as one of its priority issues, and sought to provide maritime infrastructure and increase harbor and port facilities and Egyptian owned shipping tonnage by positively introducing overseas capital. In addition, with regard to maritime education, it placed the AMTA under the jurisdiction of the Ministry of Maritime Transport, and expanded the academy's organization while maintaining its characteristics as an international maritime education institution. As a result, in the fifteen years between 1975 and 1990, Egyptian shipping tonnage rose 4.2 fold, and the AMTA established itself as the leading institution in the Middle and Near East and African regions, meeting international standards (STCW Treaty<sup>1)</sup>, etc.) for maritime education and training facilities. The number of Egyptian sailors rose 34% between 1991 and 1994, and they have served in public and private ocean freight companies, as well as domestic sailors on the River Nile and in shipping companies in Europe, the Middle and Near East and African Regions.

**(2) Outline of Cooperation with the Arab Maritime Transport Academy (AMTA)**

The Arab Maritime Transport Academy (AMTA) was established in Alexandria in Egypt in 1972 using funds from the Arab League<sup>2)</sup> member nations based on a resolution at the 12th Transport and Communications Council of the Arab League held in March 1970. The objective was to train ocean shipping crews and land workers in order to increase domestic shipping fleets with the aim of providing domestically-run transport for petroleum produced in Arab League nations and improving the international trade balance. Therefore, AMTA was characterized as an educational institution to contribute to the training of sailors of not only Egypt, but also other Arab countries.

With assistance from the United Nations Development Program (UNDP) and other donors, AMTA was scheduled to put operations on track by 1977. However, the schedule was delayed due to a lack of funds and in January 1974, a request for technical cooperation was made to Japan. As AMTA came under the jurisdiction of the Egyptian Maritime Agency in June 1975, Japan implemented project-type technical cooperation for AMTA for four years from November 1976 strengthening the maritime training functions at AMTA's Maritime Training

Center, the Navigation Department and the Maritime Engineering Department. When that cooperation ended, Japan successively implemented follow-up cooperation until May 1982, followed by the dispatch of two individual specialists for one year.

In response to the proposal of Egyptian Minister for Foreign Affairs, Mr. Boutros Boutros-Ghali, who visited Japan in 1984 for "a triangular cooperation concept" in which Japan and Egypt assisted African countries in collaboration, Japan implemented a Third country training program for "Maritime Education" with the objective of improving the skills of maritime workers in African countries at the AMTA from FY1985 to FY1994.

In addition, in FY1990 and FY1991 in view of the fact that the deterioration of the training vessel had become the obstacle to the training of sailors, a new training vessel was provided by grant aid.

In the meantime, the AMTA was reorganized in order to strengthen and expand the education system and in September 1994, it was renamed the Arab Academy of Science and Technology (AAST). In October 1996, it was renamed again as the Arab Academy of Science & Technology and Maritime Technology (AAST&MT).

A chronology of cooperation projects with AMTA is shown in Figure 1.

**6. Conclusion**

**"I hope we can have other AIDA IVs with many more countries."**

"This evaluation survey placed the greatest emphasis on the perspective of the "taxpayer" in Japan, who has little opportunity to visit sites where ODA is implemented. Accordingly, the focus was on field surveys into whether the cooperation implemented by Japan was being properly utilized by the Egyptian side and whether the situation of cooperation could be satisfactorily explained to taxpayers living in Japan.

Below I report several of my impressions gained from the survey results and concrete proposals for the future.

**Figure 1 Cooperation with AMTA**

	1976	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	
Project-type technical cooperation	—————																			
Individual specialists							—————		—						—					
Third country training program -group training courses											—————									
Grant aid																—————				

### **(1) Supply of spare parts**

It was confirmed that the equipment supplied by Japan so far is being adequately utilized by the Egyptian side. With regard to the problem of continuous requests in the past for spare parts supply, considering the current adequate utilization of the equipment and the difficulty of substituting the spare parts with non-Japanese products the problem should be addressed if the requests continue in the future.

### **(2) Appeal to taxpayers**

It deserves special mention that the maintenance inspection of the ocean-going maritime training vessel, AIDA IV, which was provided through Grant Aid by Japan, revealed long-term maintenance of cleanliness and sanitation inside the ship. It is one example of good practice of economic cooperation which can be presented to Japanese taxpayers.

In addition, having finished the evaluation survey, I truly hope that we will have various AIDA IVs with many more countries.

### **(3) Combining dispatch of experts and counterpart training in Japan**

Considering from our survey and the several follow-up survey reports in the past, a successful combination of the dispatch of "outstanding" long-term and short-term experts, mainly from the Institute for Sea Training of the Ministry of Transport and the acceptance of counterpart trainees from the Egyptian side was the key to success in this cooperation. This combination has been a constant key factor and could be a lesson for other projects.

### **(4) Necessity of Relaunch of Third Country Training Program-group training courses**

The Third Country Training Program-group training course (South-South Cooperation) implemented until FY1994 needs to be restarted. Judging from the requests from officials of the AAST&MT, JICA should promote training program conducted jointly by Egypt and Singapore, who have world renowned skills in logistics. We should also use our brainpower to involve neighboring Arab countries.

The Egyptian side has requested the dispatch of logistics experts because the strengthening of port and harbor functions, including Alexandria harbor, is currently a major issue. If logistics capacity would be dramatically improved, the distribution costs (large reduction in cost of imports) would be significantly reduced and the balance of trade will be improved.

As for third country training programs-group training courses, in connection with item (2) mentioned previously, I would like to suggest one plan in which trainees from Arab countries including Egypt, could board the AIDA IV and embark on an ocean voyage to Singapore. There, practical training by Singaporean specialists could be carried out and it is possible that traveling to Japan would be part of the training program. At that time, in addition to aggressive PR activities in Singapore, I would suggest a plan that involves taking on board trainees from other Asian countries such as Vietnam and the Philippines in addition to Singapore en route from Singapore to Japan. If the capacity of the AIDA IV was not enough, the



AIDA IV, the training vessel provided with Gant Aid

Seiun-Maru of the Institute of Sea Training could be sent to assist AIDA IV from Japan in order to create synergy, as well as effective PR.

Under Japan's new African aid program formulated on the basis of TICAD II (the 2nd Tokyo International Conference on African Development) held in Tokyo in October 1998, there is a section which reads, "4: For South-South Cooperation (1) assistance for 2,000 Africans to receive training under South-South Cooperation over the next five years". I strongly hope that the suggestions I have described so far in this section will be incorporated into Japan's African aid program based on TICAD II.

### **(5) Improving the quality of evaluation**

In order to make "evaluation by experts" more effective, in other words, to improve the quality of the evaluation survey itself, it should be compulsory to observe the Japanese organizations that have dispatched long-term experts for the implementation of technical cooperation in advance in Japan.

To be honest, I am not at all confident that I could have carried out a satisfactory evaluation survey in Egypt without a visit to the training vessel Seiun-Maru in Tokyo Bay and a visit to the Institute for Sea Training headquarters in Yokohama.

### **(6) Towards the future of economic cooperation**

After returning to Japan from the field survey in Egypt, I had the following conversation with an old friend who is a company president in the private sector.

This person previously worked for many years in a major private think tank and finally became the director of its Washington office. In relation to JICA, in his think tank days, he participated in an Indonesian town planning project and spent two months in the country.

After returning to Japan, I was praising the current condition of the AIDA IV provided by Japanese grant aid and his response was, "Who set up the AIDA IV? Do you know the name of the Japanese ship building company that built the vessel" The gist was that he suspected that the ship building company set up the Egyptian side to request Japanese cooperation. I was surprised that he would think such a thing.

However, on reflection, this type of reaction has been common in the past and will certainly continue in the future.

To begin with, there are probably many people who wonder why Japan has to use its taxpayers' money to assist Egyptian maritime education. In fact, it can be said that it is unnatural not to have such doubts. It is thus all the more essential to persistently introduce in Japan successful cases of cooperation from a variety of countries. So-called development education at school level is part of this and is extremely important. From this perspective, I would like to praise the "Salmon Campaign" efforts that JICA began in April 1999.

We must look beyond the small circle of economic cooperation and ODA. The importance of thorough and persistent efforts to obtain the understanding of "outsiders" who have completely different values and are generally disinterested in overseas affairs must be stressed.

Based on current population statistics, the Japanese population will begin to decline in eight years time from 2007. It will be the first time that Japan has experienced a population decline. Based on my own dogmatism and prejudice, I see the citizenry of an aging population with a declining birth rate becoming even more introspective. Specifically, it will be a society that gives little regard to other countries and is only interested in its own daily living. It is highly likely that many other advanced countries, which are also facing the aging of their population, will be in the same situation. If that happens, what will happen to today's developing countries? It is easy to predict a situation that far exceeds today's "donating fatigue". Without a great deal of understanding and cooperation from the nation, it will no longer be possible to sustain the development of economic cooperation and ODA. Therefore, in addition to producing reports of JICA's technical cooperation projects in various countries and publishing them as pamphlets, it is important to turn them into promotional materials such as the production of videos and CD-ROMS."

## 7. Evaluation Results Based on the Five Evaluation Criteria.

### (1) Efficiency

At AMTA, the seamless combination of project-type technical cooperation, grant aid and third country training programs was effective in improving the maritime education function of the AMTA and passing on the results to other African countries. Even after the Project-type technical cooperation finished, training and advice was continued through follow-up cooperation and individual experts, and spare parts for equipment were provided in a further two instances of after care cooperation, achieving sustained assistance in order to maintain and increase cooperation impacts. The provision of the training vessel by grant aid was also conducted timely, as a replacement vessel for the previous training ship which had worn out.

Judging from previous reports, the quality, quantity and timing of the dispatch of experts, the acceptance of trainees and the provision of equipment were all largely appropriate in this series of Japanese cooperation, and human resources

development and technical transfer to AMTA were carried out smoothly. In particular, it was a significant factor for facilitated effective technology transfer that many of the counterparts who received training in Japan worked continuously in the project without leaving their jobs or getting transferred to other posts.

In the third country training program that was implemented for ten years between FY1985 and FY1994, in addition to the dispatch of two Japanese experts as training instructors per year between FY1985, when the project began, and FY1998, and one expert per year between FY1989 and FY1993, there was an intake of one counterpart for training in Japan each year between FY1985 and FY1990.

As the Third Country Training Program was targeted at trainees from a variety of countries with different shipping circumstances regarding maritime transport, this dispatch of experts and training in Japan made a significant contribution to strengthening AMTA's system for the smooth management and operation training. In addition, as years passed by the number of experts dispatched and the counterpart training in Japan gradually fell, dropping to zero in FY1994, the final year. This suggests the clear improvement in the training management and implementation capacity of AMTA.

### (2) Effectiveness

Twenty-four counterparts were trained through project-type technical cooperation and even twenty years after the project finished, most of them are still working at AAST&MT, which is the successor to the AMTA. Further, the training vessel provided by grant aid has been utilized effectively. Between February 1992, when it was transferred to the Egyptian side, and March 1989, it made a total of 37 training voyages. Fourteen of these were lasting four to five months in the Mediterranean or the Red Sea. By March 1999, 1,333 trainees had received maritime training using the training vessel. Therefore, the AMTA which was established as a maritime training institution through Project-type technical cooperation and Grant aid, has been steadily carrying out maritime education activities. The total number of students entering AAST&MT up to 1998, including the AMTA era, has exceeded 60,000 when students from the Middle and Near East and African region are included.

In addition, in the third country training program that was targeted at African countries over the ten years between FY1985 and FY1994, 146 trainees from 31 countries received training. In the training program, subjects were set up based on the transport circumstances of the participating countries. According to questionnaires answered by ex-trainees, they were very satisfied with the content of the training program. Therefore, the objective of the training, which was to improve the skills of people working in the shipping industry in Africa, was fully achieved.

The AAST&MT has improved its functions and capabilities as a maritime academy while obtaining the cooperation of Japan. The main reasons for its current development were: the high level of ability and consciousness of the Japanese staff and the counterparts, the fact that many of the trained counterparts remained at the AAST&MT, as well as the strong

leadership of the current president who has been involved since the initial establishment of the AMTA.

### (3) Impact

The AAST&MT has produced large numbers of quality maritime industry workers and the network of graduates is expanding worldwide. In the results of the survey, nearly all of the trainees from African countries who received the third country training program are still working in the shipping industry and making use of the knowledge and skills learned in the training in their actual work. Furthermore, most of the trainees held seminars and lectures in the workplace after returning to their countries, thereby carrying out a further transfer and extension of the technology they learned in training, increasing its impact.

In addition to increasing confidence in the capability of navigation training and bringing about an increase in students entering the AAST&MT, the provision of the training vessel AIDA IV also has a PR impact as a symbol of Japanese cooperation when it visits European and Arab countries for navigation training.

Therefore, the AAST&MT has come to occupy an important place among neighboring countries as a maritime academy thanks to Japan's sustained and appropriate cooperation and the enthusiasm of the Egyptian side.

### (4) Relevance

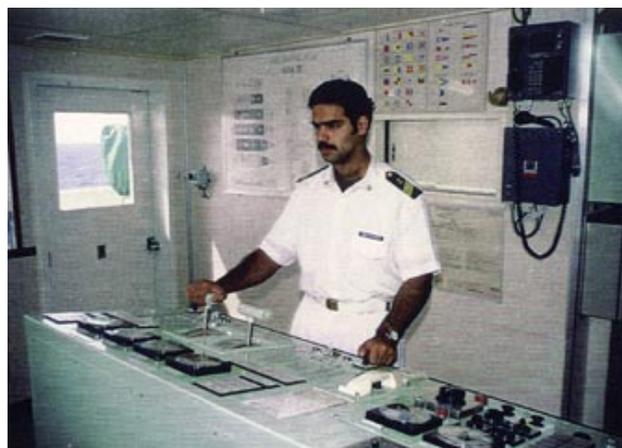
In this section, based on the results of a forecast study of international demand for sailors carried out by the Baltic International Maritime Council (BIMCO)<sup>3)</sup> and the International Shipping Federation (ISF) in 1995, I shall consider whether there will be a high need and relevance for maritime education in Egypt in the future.

Demand and supply forecasts for sailors based on the estimate of the BIMCO and the ISF are shown in Table 1. Staff includes captains, navigation officers, chief engineers, communications officers, pursers and doctors while crew includes seamen, oilers and cooks.

The worldwide trend in the demand and supply of sailors until 2005 will include more shortages of staff and excess supplies of crew. In terms of staff, the 1995 shortage of 17,969 (4.4 % of all shipping staff) is predicted to increase to 42,464 in 2005. Meanwhile, in 1995, there was an oversupply of crew amounting to 218,865, which is forecast to rise to 304,794 in 2005.

Demand and supply for sailors in Egypt registered an oversupply of both staff and crew in 1995. However, with a gradual reduction in supply, it is forecast that a balance between demand and supply will be balanced in 2005.

Further, looking at demand and supply for sailors in the African region, which was targeted by the third country training program, there has been an increase in demand and a decrease in supply for both staff and crew since 1995. As the shortage of sailors is forecast to grow, the African region has a particularly high need for maritime education. The results of



A navigation exercise on the AIDA IV training vessel

the questionnaires to the participants in the third country training program conducted in this evaluation also showed the high demand and necessity for the development of human resources in the shipping sector of African countries.

According to 1995 statistics, African countries own a considerable proportion of commercial ships over the world at approximately 15%. For African countries, the shipping industry has an important position in the national economy. In light of this, it is important for African governments concerned with the shipping industry to acquire the latest knowledge and technology. On the other hand, the STCW Treaty, which was established to create unified standards for maritime skills, requires many specialized qualifications to finish the whole curriculum to become a proper officer, imposes a great burden on those who try to fulfill the requirements. The AAST&MT has earned a position as a maritime training facility that meets international standards, including the STCW Treaty, and it should play a very important role in the maritime education in the African region.

### (5) Sustainability

AAST&MT overcame the financial crisis immediately after its establishment as AMTA and has established a function and organizational management structure as a maritime training institute. Many of the counterparts who received technology transfer in the series of Japanese cooperation projects still work at AAST&MT and conduct maritime education. The effect of Japanese cooperation has not been limited to individual counterparts but has been adequately absorbed into the whole organization of AAST&MT.

The equipment provided by Japanese cooperation, including items supplied over twenty years ago in project-type technical cooperation, is currently being well treated and utilized. In addition to the devoted instruction work by Japanese experts, I have nothing but praise for the attitude of the counterparts and instructors who still faithfully follow the instructions given by the Japanese experts in the maintenance and management of the equipment. The training vessel AIDA IV provided by Grant aid after the end of the project-type technical cooperation is also kept spotlessly clean and well maintained and managed. This is one example that demonstrates AAST&MT's awareness of the importance of the maintenance and management of

equipment and its great efforts to achieve it. While the maintenance and management of equipment at AAST&MT is good overall, there are some factors that make it difficult to adequately maintain the maritime education function in the future such as the deterioration of equipment and the obsolescence of equipment due to the progress of technology, as well as the difficulty in obtaining spare parts in Egypt and neighboring countries. It is also nearly ten years since the training vessel was built and an overall will soon be needed.

Revenue and expenditure at AAST&MT is shown in Table 2. Operating expenses are largely financed out of tuition fees, and personnel expenses account for over half of expenditure. Until 1994/1995, there was a rough balance between annual revenue and expenditures. However, now the subsidies from the Egyptian government have been discontinued, ensuring a stable independent source of revenue is a major issue for AAST&MT. AAST&MT has the technological capability to operate and manage a third country training program and is also enthusiastic about recommencing such training program. As already mentioned, needs for maritime training are particularly high in the African region and from the perspective of geography, culture and language, it would be more beneficial for such training to take place in Egypt rather than in Japan. However, in addition to the fact that Japan paid all of the

training expenses necessary for third country training programs in the past, the AAST&MT does not receive any subsidies from the Egyptian government, so it will be difficult to implement such training by its own funds.

### (6) Conclusion

Since immediately after the establishment of AMTA, Japan has implemented various forms of cooperation like the project-type technical cooperation, follow-up cooperation, after care cooperation, and training by individual experts in order to assist the improvement, maintenance and expansion of the maritime education function at AMTA. In addition, Japan provided the training vessel AIDA IV by grant aid, which markedly strengthened the maritime education capabilities of AMTA. Many of the counterparts who improved their teaching capabilities through this series of cooperation projects remain involved in maritime education at the AAST&MT, which was reorganized out of the AMTA and are disseminating the knowledge and technology widely. The third country training program that was implemented at AMTA over a ten-year period also made a significant contribution to the establishment of AMTA as the leading maritime academy in the African and Middle East regions, a feat which was envisaged from its time of establishment.

**Table 1 Demand and Supply Forecasts for Sailors**

Unit: number of people

			1995	2000	2005
Global	Staff	Demand	426,912	445,367	464,940
		Supply	408,943	415,397	422,476
	Crew	Demand	605,648	612,986	619,880
		Supply	824,513	861,667	924,674
Africa	Staff	Demand	23,137	24,117	25,103
		Supply	10,567	9,975	9,415
	Crew	Demand	34,980	35,456	35,777
		Supply	33,201	28,658	24,732
Egypt	Staff	Demand	2,105	2,201	2,308
		Supply	2,857	2,696	2,545
	Crew	Demand	4,405	4,458	4,520
		Supply	6,283	5,423	4,680

**Table 2 Revenue and expenditure at AAST&MT**

Unit: US\$

	1992/1993	1993/1994	1994/1995
<b>1. Revenue</b>			
Egyptian government subsidy	2,204,209	1,653,157	1,377,630
Tuition fees	6,956,442	7,825,968	9,403,682
Interest on deposits	596,539	508,535	568,161
Miscellaneous revenue	283,856	233,505	984,037
<b>Total</b>	<b>10,041,046</b>	<b>10,221,165</b>	<b>12,333,510</b>
<b>2. Expenditure</b>			
Personnel expenses	5,408,392	5,639,124	7,336,572
Maritime and equipment operating expenses	2,968,469	2,917,275	2,845,872
General expenses	636,286	658,664	842,511
Equipment depreciation expenses	818,147	818,147	829,979
Capital investment	81,316	109,066	448,907
<b>Total</b>	<b>9,912,610</b>	<b>10,142,276</b>	<b>12,303,841</b>

Thus, it is possible to say that the cooperation for AMTA is one successful example of Japanese aid according to the effective combination of various forms of cooperation, as well as each cooperative effort has been adequately absorbed by the AMTA side.



Equipment for tanker operation provided through project-type technical cooperation.

- 1) An international treaty covering standards of training, qualifications and duty for sailors. It establishes the minimum requirements for staff qualifications, including captains, and for the granting of such qualifications with the objective of increasing safety in maritime operations.
- 2) The Arab League was founded in May 1945 between Egypt, Iraq, Syria, Lebanon, Jordan, Saudi Arabia and Yemen with the objective of strengthening ties between member countries and preserving independence and sovereignty by coordinating the policies of member states. Egypt was suspended as a result of the March 1979 signing of the Israel-Egypt Peace Treaty, but was reinstated in May 1989.
- 3) Forecasting demand and supply for sailors is extremely difficult as there are many variable factors such as economic growth, volume of trade, change in shipping tonnage, competitiveness due to disparities in the wages of sailors, reserve rates, technological innovation and introduction of labor saving methods. As a result, BIMCO and the ISM made the estimate for demand and supply of sailors over the next ten years based on the demand and supply for sailors as of 1995 assuming an annual worldwide increase in tonnage of 1.5% and assuming that the hiring and retirement patterns of the last five years would continue.