

Environmental Management



Project Site Singapore

1. Background of Project

Japan and Singapore agreed on the Japan-Singapore Partnership Program (JSPP) in January 1994, and to extend the technology and knowledge it had accumulated through self-help efforts based on cooperation from Japan to neighboring countries, which were at an earlier stage of development, by means of the collaborative Dispatch of Experts and the holding of training. As a part of JSPP, Third-country Training Program started in Singapore in 1994, funded equally by the Government of Japan and the Government of Singapore.

Singapore had achieved economic growth faster than other ASEAN countries through industrialization, while succeeding to maintain comfortable living conditions and prevent environmental pollution through an effective environmental policy. To expand the Singapore experience to neighboring countries, the Third-country Training Program, "Environmental Management" was newly established in JSPP in 1996.

2. Project Overview

(1) Period of Cooperation

FY1996-FY1999

(2) Type of Cooperation

Third-country Training Program

(3) Partner Country's Implementing Organizations

Ministry of Environment
Center for Environmental Training
Technical Cooperation Directorate of Ministry of Foreign Affairs

(4) Narrative Summary

1) Overall Goal

Air and water quality is improved in the Asia-Pacific region.

2) Project Purpose

Trainees enhance their capacity in environmental management (developing and implementing a system) in respective countries.

3) Outputs

- Trainees understand the strategies, actions and enforcement procedures of national and local governments to strengthen environmental management.
- Trainees understand air and water quality and solid waste management including toxic and hazardous waste.
- Trainees understand the importance of public awareness and education.

4) Inputs

Japanese Side

Short-term experts	4
Training expenses	12 million yen

Singaporean Side

Instructors and management staff	
Training facilities, equipment and educational materials	
Training expenses	21 million yen

(5) Participant Countries

Cambodia, Indonesia, Viet Nam, Sri Lanka, Thailand, China, Nepal, Pakistan, Bangladesh, Philippines, Malaysia, Laos, Palestine, Fiji, Papua New Guinea, Mauritius

3. Members of Evaluation Team

JICA Singapore Office
(Commissioned to Applied Research Corporation)

4. Period of Evaluation

13 October 1999-31 March 2000

5. Results of Evaluation

(1) Efficiency

Although it was indicated that some of the short-term experts and trainees lacked proficiency in the English language, the management and curriculum of the training courses were highly evaluated by the trainees. Therefore, it was judged that the training program was managed efficiently as a whole.

(2) Effectiveness

As a total, 64 trainees participated in the courses over four years. Out of the respondents to the questionnaire, 90 percent answered that more than 50 percent of the skills and knowledge attained from the course was or would be applicable to their environmental administration work (environmental assessment, Feasibility Studies and national environmental projects). In conclusion, the purpose of the training had been mostly achieved.

(3) Impact

Most trainees had shared the knowledge they gained with others (colleagues in their offices, staff of NGOs and governments and others in their countries) by means of meetings and workshops after returning home. Accordingly, the courses produced a multiplier effect in the respective countries of trainees, with significant impact overall.

(4) Relevance

According to the country reports submitted by trainees and answers to the questionnaire, environmental management was regarded as one of the key issues for development of their nations. Recently, many nations had responded to environmental concerns by establishing an environmental bureau and environmental laws, demonstrating the priority and commitment of governments in this area. Thus, implementing this training program was quite relevant.

(5) Sustainability

Center for Environmental Training, the implementing

organizations, was able to plan training courses matched to trainee needs and to implement the courses efficiently and smoothly. Sustainability was thus considered to be good.

6. Lessons Learned and Recommendations

(1) Lessons Learned

Course organizers should start the applicant selection process at an earlier stage in order to select participants who are proficient in the English language.

It is hard to promote Japanese aid through Third-country Training Programs since the Japanese contribution is largely invisible. Although the training is based on the skills and knowledge transferred originally by Japanese technical cooperation, the course should include more extensive lectures by Japanese instructors and a greater number of visiting Japanese private companies so that Japan's role is better understood.

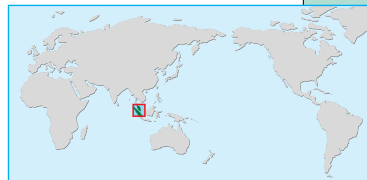
(2) Recommendations

Another training program implemented through Japanese cooperation related to the environment in Singapore was entitled "Urban Environmental Management". The two courses could be combined with an overall emphasis on urban environmental management, which is Singapore's specialty.

7. Follow-up Situation

Based on the above recommendation, the contents of the "Environmental Management" courses were integrated with the "Urban Environmental Management" course from 1999.

Advanced Management Consultancy



Project Site Singapore

1. Background of Project

JICA had implemented Grant Aid (1983-1985) and Project-type Technical Cooperation (June 1983-May 1990) in support of productivity improvement in Singapore. In order to expand the outputs of this cooperation to other ASEAN countries, JICA had implemented the Third-country Training Program "Management Consultancy" for five years since 1990.

In 1991, a more advanced Third-country Training Program, "Advanced Management Consultancy" began. In 1996, it was decided that the program would be extended another four years.

2. Project Overview

(1) Period of Cooperation

FY1991-FY1999

(2) Type of Cooperation

Third-country Training Program

(3) Partner Country's Implementing Organization

Productivity and Standards Board (PSB)
 Technical Cooperation Directorate, Ministry of Foreign Affairs (MFA-TCD)

(4) Narrative Summary

1) Overall Goal

Quality of consulting work related to productivity improvement is improved in the Asia and Pacific region.

2) Project Purpose

Trainees are able to conduct comprehensive and high level consulting work, to manage consulting projects and guide other consultants.

3) Outputs

- Trainees acquire more practical and applicable consulting techniques.
- Trainees improve their management ability for consulting projects.
- Trainees acquire training skills to guide other consultants.

4) Inputs

Japanese Side

Short-term experts	9
Training expenses	56 million yen

Singaporean Side

Instructors and management personnel	36
Training facilities, equipment and educational materials	
Training expenses	29 million yen

(5) Participant Countries

Bangladesh, Brunei, Cambodia, Fiji, Indonesia, Laos, Malaysia, Mongolia, Nepal, Sri Lanka, Thailand, Viet Nam, Myanmar, Palestine, Hungary.

3. Members of Evaluation Team

JICA Singapore Office
 (Commissioned to Applied Research Corporation)

4. Period of Evaluation

13 October 1999-31 March 2000

5. Results of Evaluation

(1) Efficiency

The cost and utilization of resources was always within the budget and plans, and utilized effectively. According to the implementing organization, PSB, judging from projects regarding management consultancy implemented in the participating countries, the multiplier effect was attained through the sharing and institutionalizing of knowledge. Therefore, the resources allocation was considered to be very efficient.

(2) Effectiveness

A total of 172 members participated in the courses over the nine years. Out of 48 respondents to the questionnaire, all indicated they had applied the knowledge and skills attained in the courses in their actual work. Their supervisors also recognized the improvement of their skills, in many cases. As a conclusion, the purpose of the training program was almost achieved.

(3) Impact

Almost all of the respondents had shared the knowledge they had gained with others like their colleagues by means of holding workshops and meetings. Moreover, half of respondents institutionalized the procedures and practices taught into an instruction manual or wrote a report of the items taught for the benefit of others. Many trainees had been engaged in the training of staff of governmental organizations and NGOs in the field of productivity improvement. Accordingly, the impact of the courses is seen by the multiplier effect attained in respective countries.

(4) Relevance.

Almost all respondents answered that the contents of the courses were of use and related to their actual work to some extent. However, trainees from countries such as Cambodia and Viet Nam indicated that the skills and knowledge attained in the course could not always be applied to their work due to the lack of budget in their countries. The content of the courses should have been revised to match the technological level of these countries.

(5) Sustainability

PSB was able to implement the courses efficiently and smoothly. Sustainability was ensured.

6. Lessons Learned and Recommendations

(1) Lessons Learned

It is hard to promote Japanese aid through Third-country Training Programs since the Japanese contribution is largely invisible. Although the training is based on the skills and knowledge transferred originally by Japanese technical cooperation, the course should include more extensive lectures by Japanese instructors and a greater number of visiting Japanese private companies so that Japan's role is better understood.

(2) Recommendations

It was judged that training program achieved its original purpose sufficiently in the approximate ten-year period of cooperation.

Effective Management of Port Operation



Project Site Singapore

1. Background of Project

Having been involved in foreign trade more actively due to rapid industrialization, ASEAN countries confronted the difficulty of maintaining and managing their ports. Since Singapore had well-equipped ports and the Port of Singapore Authority Institute (PSA) had received trainees from overseas, Japan held two training programs namely, "Port Management and Operation" and "Management and Maintenance of Port Equipment" in PSA as a part of urgent action plan of human resources development in ASEAN pacific region, agreed in the ASEAN+3 Foreign Ministers Meeting in July 1985. The government of Singapore, appreciating the results of the course "Port Management and Operation", requested the Government of Japan to organize another Third-country Training Program called "Management of Port Operations", which had been implemented for five years since 1990.

2. Project Overview

(1) Period of Cooperation

FY1995-FY1999

(2) Type of Cooperation

Third-country Training Program

(3) Partner Country's Implementing Organizations

Port of Singapore Authority Institute (PSA)
 Technical Cooperation Directorate, Ministry of Foreign Affairs

(4) Narrative Summary

1) Overall Goal

Management efficiency of port operation is improved in participant countries.

Trainees utilize acquired knowledge to improve port operation system effectively in their country.

2) Project Purpose

Capability of trainees on port management are Strengthened.

3) Outputs

- a) Trainees exchange knowledge and experience regarding management of port operations, and enhance their views.
- b) Trainees understand and acquire skills and knowledge for efficient port operations.

4) Inputs

Japanese Side

Short-term experts	5
Training expenses	22 million yen

Singaporean Side

Instructors and management staff	
Training facilities, equipment and educational materials	
Training expenses	25 million yen

(5) Participant Countries

Bangladesh, Cambodia, China, Fiji, Indonesia, Maldives, Mauritius, Myanmar, Papua New Guinea, Palestine, Samoa, Solomon Islands, Thailand, Viet Nam, India, Tonga, Brunei

3. Members of Evaluation Team

JICA Singapore Office
 (Commissioned to Applied Research Corporation)

4. Period of Evaluation

13 October 1999-31 March 2000

5. Results of Evaluation

(1) Efficiency

The cost and utilization of resources was always within the budget and plans, and utilized effectively. According to an implementing organization, PSA, judging from projects regarding port management implemented in the participating countries, the multiplier effect was attained by sharing the knowledge and institutionalizing it, and therefore, the resource allocation was considered to be efficient.

(2) Effectiveness

A total of 77 members participated in the courses over five years. All 24 respondents to the questionnaire indicated that they had applied the knowledge and skills attained in the courses in their actual work. All answered that they applied the knowledge to many projects related to the management of port operations. Their supervisors also recognized the improvement in their skills, in many cases. As a result, the purpose of the training program was considered to be mainly achieved.

(3) Impact

Almost all respondents had shared the knowledge they had gained with others, such as their colleagues by means of workshops and meetings. Moreover, 58 percent institutionalized the procedures and practices taught into an instruction manual or wrote a report on the subjects taught for the benefit of others. Some trainees started projects for institutional reform to manage port operations effectively in their countries. Especially, in Palestine a department for organizing training programs related to port operations was newly established. Accordingly, the impact of the course is considered high, as seen by the multiplier effect achieved in respective countries.

(4) Relevance

The majority of respondents (79%) answered that more than half of the skills and knowledge attained from the courses would be applicable to their work. However, trainees from Fiji, Cambodia, and Viet Nam answered that less than half of the knowledge could be utilized because their countries did not have modern port systems and equipment. Therefore, the selection of participating countries and the contents of training should have been more carefully considered.

(5) Sustainability

PSA was able to implement the courses efficiently and smoothly. Sustainability was ensured.

6. Lessons Learned and Recommendations

(1) Lessons Learned

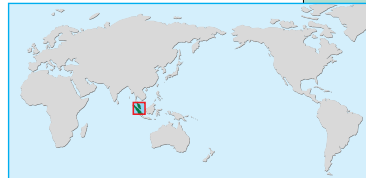
It is hard to promote Japanese aid through Third-country Training Programs since the Japanese contribution is largely invisible. Although the training is based on the skills and knowledge transferred originally by Japanese technical cooperation, the course should include more extensive lectures by Japanese instructors and a greater number of visiting Japanese private companies so that Japan's role is better understood.

(2) Recommendations

The training course should include lectures on Environmental Impact Assessment for expanding ports, from environmental viewpoints.

Trainees from countries where modern ports were not yet established requested information on the latest skills related to the construction and management of ports, and lectures on the use of computer-assisted management in ports operations. Because the skills transferred in the course were possibly too advanced and not appropriate for many participating countries, the course should provide cost effective skills that match the circumstances of participating countries, while also including some sessions on advanced technology.

Mechatronics System Technology



Project Site Singapore

1. Background of Project

JICA had implemented Project-type Technical Cooperation for the establishment and management of the Japan-Singapore Training Center for five years from June 1978, in order to support Singapore in the training of middle-class engineers, an urgent necessity following its rapid industrialization. The center was later transformed into the Japan-Singapore Technical Institute. JICA then supported the institute for another five years through Project-type Technical Cooperation, to give higher level training matching the advanced industrial structure in Singapore. Once more, the institute changed its name, this time to the "Japan-Singapore Institute". JICA dispatched a long-term expert in 1994 to raise the academy to a university level institute and establish the field of mechatronics engineering.

The Government of Singapore requested the government of Japan to implement Third-country Training program aiming to expand transferred skills in the above cooperation to other Asian and Pacific neighbor countries.

2. Project Overview

(1) Period of Cooperation

FY1995-FY2001

(2) Type of Cooperation

Third-country Training Program

(3) Partner Country's Implementing Organizations

Technical Cooperation Directorate of Ministry of Foreign Affairs
Nanyang Polytechnic (Former Japan-Singapore Institute)

(4) Narrative Summary

1) Overall Goal

Knowledge and skills attained in the courses are utilized to promote the manufacturing industry in

the Asia-Pacific region.

2) Project Purpose

Participants obtain knowledge and skills in various mechatronic technologies.

3) Outputs

- Trainees understand the application of robotics and assembly technology in an automated environment.
- Trainees comprehend the machine system elements and peripherals for automation.
- Trainees understand CAD/ CAM applications, related hardware and peripherals, system capabilities and operating requirements.
- Trainees comprehend machine vision technology and its applications in image processing and simulation.

4) Inputs

Japanese Side

Short-term experts	5
Training expenses	13 million yen

Singaporean Side

Instructors and management staff	21
Training facilities, equipment and educational materials	
Training expenses	14.5 million yen

(5) Participant Countries

Cambodia, China, Fiji, India, Laos, Malaysia, Nepal, Philippines, Sri Lanka, Thailand, Viet Nam, Mauritius, Papua New Guinea.

3. Members of Evaluation Team

JICA Singapore Office

(Commissioned to Applied Research Corporation)

4. Period of Evaluation

13 October 1999-31 March 2000

5. Results of Evaluation

(1) Efficiency

The cost and utilization of resources had always been executed as planned, and utilized effectively. According to the Japan-Singapore Institute, considering the mechatronics related projects implemented in the participating countries, the degree of sharing the knowledge between ex-trainee and their colleague, the efficiency of this course could be concluded high.

(2) Effectiveness

A total of 95 members participated in the courses over five years. The trainees' knowledge of and skills in mechatronics were enhanced: 28 out of 32 respondents to the questionnaire answered that they had applied the attained knowledge in their work after they returned their countries. Their supervisors also recognized an improvement in their skills, in many cases. As a conclusion, the purpose of the training program was almost achieved.

(3) Impact

According to the results of the questionnaire, nearly all respondents had shared the knowledge they had gained with others, such as their colleagues by means of workshops and meetings. Moreover, many also institutionalized the procedures and practices taught into an instruction manual or wrote a report of the subjects taught for the benefit of others. Many had initiated small projects related to mechatronics, in the Ministry of Industry in their country. Accordingly, the impact of the courses is seen by the multiplier effect it has attained.

(4) Relevance

As to the relevance of the skills and knowledge transferred in the courses, trainees from some countries, such as Cambodia, Nepal, Papua New Guinea, indicated the difficulty in applying the knowledge gained as mechatronics was still at the infancy stage in their respective countries. Therefore, the training plan should be examined carefully in terms of selecting participating countries and considering the contents of the training course.

(5) Sustainability.

The Japan-Singapore Institute and Nanyang Polytechnic were able to implement the course efficiently and smoothly. Sustainability was ensured.



Exercise in a computer classroom

6. Lessons Learned and Recommendations

(1) Lessons Learned

The course organizers need to start the selection process of participants earlier in order to identify participants who are proficient in the English language.

It is hard to promote Japanese aid through Third-country Training Programs since the Japanese contribution is largely invisible. Although the training is based on the skills and knowledge transferred originally by Japanese technical cooperation, the course should include more extensive lectures by Japanese instructors and a greater number of visiting Japanese private companies so that Japan's role is better understood.

(2) Recommendations

For some participant countries the topic of the course was still far too advanced and inappropriate. It is recommended that the course be limited only to participants from countries which have reached an appropriate level of development to ensure that they benefit from the advanced course. Alternatively, courses at different technical levels should be organized for different groups of countries at the appropriate level of development.

Skills and techniques learned in the course were costly to apply in some participant countries where technologies and infrastructure was not sufficiently developed. The training should include instruction on cost-efficient techniques that match the circumstances of participating countries.

7. Follow-up Situation

Based on the above recommendation, Nanyang Polytechnic is planning to organize courses at different technical levels for different groups of countries.

¹⁾ As for partnership program, refer to page 260

Productivity Management (Targeting African Countries)



Project Site Singapore

1. Background of Project

JICA dispatched a study team to four countries of SADC (Southern African Development Community), namely, Tanzania, Zambia, Botswana, and South Africa, for project formulation in May 1997, aiming to carry out research on the situation of industrial development, industrial policies and need for industrialization in SADC countries. The research found that SADC countries were now promoting industrial development more than before, and to this aim needed assistance with productivity management and promoting investment and small-scale enterprises, supported by industrially developed countries.

Meanwhile, Japan had transferred skills in the area of productivity improvement targeting the National Productivity Boards (NPB) from 1983 to 1990. In order to expand the above achievements to Africa and other Asian countries, NPB had conducted the Third-country Training courses, "Management Consultancy" and "Advanced Management Consultancy" for five years from 1990.

In addition to the above, Singapore was also keen to provide technical cooperation for southern African countries. Thus, the training program, "Productivity Management" started with collaboration between Japan and Singapore, targeting SADC countries, as a part of the Japan-Singapore Partnership Program (JSPP).¹⁾

2. Project Overview

(1) Period of Cooperation

FY1997-FY2001

(This evaluation covers activities from 1997 to 1999)

(2) Type of Cooperation

Third-country Training Program

(3) Partner Country's Implementing Organizations

Singapore Productivity and Standards Board (SPSB)

Technical Cooperation Directorate of Ministry of Foreign Affairs

(4) Narrative Summary

1) Overall Goal

Productivity of industries in the southern African countries is increased.

2) Project Purpose

Trainees understand the link between productivity and quality control, including the comprehensive approach for quality control.

3) Outputs

- a) Trainees understand productivity concepts and impacts of productivity management on organizations, industries/ sectors and the national economy.
- b) Trainees understand how productivity is measured at the national, industry/sectoral and organizational levels.
- c) Trainees develop productivity improvement programs for use at the organizational level.
- d) Trainees set goals and draw up plans for quality improvement activities.

4) Inputs (in 1997 and 1998)

Japanese Side

Short-term experts	5
Training expenses	13 million yen

Singaporean Side

Instructors	6
Training facilities, equipment and educational materials	
Training expenses	13 million yen

(5) Participant Countries

Botswana, Lesotho, Malawi, Mauritius, Namibia, Congo, South Africa, Tanzania, Zimbabwe, Seychelles, Swaziland, Mozambique, Egypt, Ghana,

East Timor

3. Members of Evaluation Team

JICA Singapore Office
(Commissioned to Applied Research Corporation)

4. Period of Evaluation

13 October 1999-31 March 2000

5. Results of Evaluation

(1) Efficiency

Training expenses covered by the fixed budget and other inputs were utilized according to the original plan. The officers from SPSB evaluated the training courses as highly efficient, and judging from similar projects implemented in the participating countries, the multiplier effect was attained by sharing the knowledge and institutionalizing it. Many trainees requested further opportunities for site visits. Due to the restricted schedule, the alternative of using visual aids such as videos would have enhanced the efficiency of the training course.

(2) Effectiveness

Most trainees who responded to the questionnaire indicated that they enhanced their ability to examine, assess and measure productivity performance, and that they drew up plans in quality improvement activities. Eight out of nine respondents answered that they had applied the knowledge attained in the courses in their work after returning home. In many cases, supervisors also recognized the improvement in skills. As a conclusion, the purpose of the training program was almost achieved.

(3) Impact

Nearly all respondents had shared the knowledge they had gained with others, such as staff in ministries, NGOs and governmental agencies. Trainees had also institutionalized the procedures and practices taught through developing an instruction manual or writing a report on the courses for the benefit of others. Some trainees had initiated a number of projects related to productivity management after returning home. Many trainees were engaged in the training of staff of NGOs and governmental agencies that worked in the field of productivity management. Accordingly, the impact of the training program was dramatic, as shown by the multiplier effect it produced.

(4) Relevance

In some participating countries, productivity centers were newly established with the function of making and revising policies regarding productivity management.

As to how relevant the training courses were compared with the needs of trainees, almost all of the respondents indicated that the knowledge they attained in the courses could be utilized in their work. Many trainees required the training courses for productivity management in the public sector as well as the private sector.

(5) Sustainability

SPSB was able to plan the training courses matched to trainee needs and to implement the course efficiently and smoothly. Sustainability was, therefore, considered to be sufficient.

6. Lessons Learned and Recommendations

(1) Lessons Learned

It is hard to promote Japanese aid through Third-country Training Programs since the Japanese contribution is largely invisible. Although the training is based on the skills and knowledge transferred originally by Japanese technical cooperation, the course should include more extensive lectures by Japanese instructors and a greater number of visiting Japanese private companies so that Japan's role is better understood.

(2) Recommendations

Four courses related to productivity management, including this course, were implemented in 1999. To avoid the duplication of contents in training courses, it is important to revise the contents when the annual course curriculum is planned.

The training course should devote more time to lectures on productivity management in the public sector since most of the trainees are from governmental organizations.

To make the course more effective and efficient, the training should give trainees opportunities for site visits and lessons by visual means such as video, so that trainees can understand a variety of situations.

7. Follow-up Situation

Based on the above recommendation, since 2001, the training course has utilized equipment for presentations such as videos and OHP and multimedia presentations.

¹⁾ as for partnership program, refer to page 260