

## Summary

### 1. Outline of the Project

Country: Malaysia

Project Title: Project for the Capacity Building of National Institute of Occupational Safety and Health in the Field of Occupational Safety and Health

Issue/Sector: Social security

Cooperation Scheme: Technical Assistance Project

Division in Charge: Human Development Department, JICA

Total cost (aid only):

Period of Cooperation (Duration):

(R/D): November 15, 2000–November 14, 2005

Partner Country's Implementing Organization: Department of Occupational Safety and Health, Ministry of Human Resources

Supporting Organization in Japan: Ministry of Health, Labor and Welfare, Japan Industrial Safety and Health Association

Related Cooperation:

#### 1-1 Background of the Project

While the real GDP of Malaysia showed an average annual growth of 7% between 1988 and 1997, the number of serious occupational accidents and diseases in industries has also been increasing.

The Seventh Malaysian Plan 1996-2000 mentions the upgrading of occupational safety and health programs (in the fields of transportation, manufacturing and construction in particular) and the reinforcement of the capacity of the National Institute of Occupational Safety and Health (NIOSH). In the Eighth Malaysian Plan 2001-2005, the continuous reinforcement of this sector based on the Occupational Safety and Health Act is being planned.

With such conditions in mind, the Malaysian government recognized that the establishment of occupational safety and health is a critical issue, and requested technical cooperation from Japan in order to upgrade the NIOSH's training and research capacities and improve occupational safety and health in government-affiliated organizations, private companies and factories. In response to this request, the Japanese government decided to implement this project.

#### 1-2 Project Overview

(1) Overall Goal

To decrease the rate of occupational accidents and illness in Malaysia's industrial sector

(2) Project Purpose

To upgrade the capacity (technical support, human resource development, collection and dissemination of information) of the National Institute of Occupational Safety and Health (NIOSH)

(3) Project Outputs

Capacity of technical support

- 1) To acquire methods to assure working environment controls
- 2) To develop preventive measures related to occupational and work-related diseases
- 3) To improve work control system from an ergonomic perspective

Capacity of human resources development

- 4) To improve Occupational Safety and Health (OSH) training programs and research and development activities

Capacity of public information

- 5) To improve the function of collection and dissemination of information in order to raise awareness of occupational safety and health
- 6) To strengthen functions aimed at providing necessary information for policy development

(4) Project Inputs (as of March 31, 2005)

Japanese side:

Long-term experts            9 persons in total (Chief Advisor, Health Control/Ergonomics, Industrial Hygiene, Coordinator)

Short-term experts            37 persons in total

No. of trainees received in Japan    30 persons in total (21 persons for Individual Training and 9 persons for Group Training Course)

Equipment supply            approx. 160 million Japanese yen (planned for FY2000-2005)

Local cost                      approx. 34 million Japanese yen (planned for FY2000-2005)

Malaysian Side:

Assignment of counterparts:        60 persons (increased due to increase in the number of NIOSH staff)

Procurement of land and facility for the project:    Establishment of project office within NIOSH

Local cost                      350,000 ringgit

2. Evaluation Team Overview

Members of the evaluation team

(Area in charge: name, title)

Team leader:

Akira Hashizume

Executive Technical Advisor, Human Development Department, JICA

Occupational safety administration:

Eiichi Moriyama

Head of International Office, Industrial Safety and Health Dept., Labor Standards Bureau

Industrial hygiene:

Yoshiyuki Fukuzawa

Deputy Director, Technical Dept., Japan Industrial Safety and Health Association

Health control/ergonomics

Hideki Igisu

Professor, Department of Environmental Toxicology, University of Occupational and Environmental Health, Japan

Planning evaluation:

Ayumi Suzuki

Social Security Team, Group II, Human Development Department, JICA

Evaluation analysis:

Yukiko Saito

OPMAC Corporation

Evaluation Period

From September 28, 2005 to October 15, 2005

### 3. Overview of Evaluation Results

#### 3-1 State of output achievements

The overview is as follows.

##### (1) To acquire methods to assure working environment controls

Methods aimed at improving working environments and activities through the acquisition of technical skills, including the acquisition of methods and technologies for identification, sampling, measurement and evaluation of chemicals in the working environment, evaluation methods pertaining to workers' exposure to chemicals and methods pertaining to local ventilation systems, were implemented, and related technologies were acquired through technical transfers from the Japanese experts to

their Malaysian counterparts. Also, standard operational procedures necessary for the operation of the aforementioned equipment were transmitted.

(2) To develop preventive measures related to occupational and work-related diseases

Activities aimed at facilitating the acquisition of technical methods for survey and analysis of the state of occupational diseases and the state of medical checkups and adequate systems for the evaluation of the health effects of the occupational risks uncovered by the aforementioned surveying and analysis, the acquisition of diagnosis-based treatment methods, and the acquisition of adequate skills pertaining to the use of personal protective equipment (PPE) (protection against dust and noise) were implemented, and related technologies were acquired through technical transfers from the Japanese experts to their Malaysian counterparts. Also, handbooks for the standard operation of the related equipment were developed.

(3) To improve work control system from an ergonomic perspective

From the perspective of ergonomics, activities aimed at acquiring technical methods for identifying and analyzing problems in the workplace and ensuring adequate health effects evaluation in relation to risk factors based on the results of said analysis, and the consideration of methods to ensure occupational safety and health based on ergonomic considerations were implemented, and related technologies were acquired through technical transfers from the Japanese experts to their Malaysian counterparts. Also, handbooks for the standard operation of the equipment in question were developed.

(4) To improve Occupational Safety and Health (OSH) training programs and research and development activities

The initial plan was to review the existing NIOSH training program so as to ascertain the problems and needs in the area of training, and to improve the current curriculum. However, the operation of the training program, the preparation of educational materials and the review of curriculum are being implemented independently by the Training Division of NIOSH, and as such there was little necessity for the Japanese experts to be directly involved in this reviewing. On the other hand, it has been confirmed that the technologies acquired by the counterparts through this project are being utilized effectively for reviewing the training program and the curriculum. As a result, the number of training courses provided by NIOSH during the project period increased significantly. Research activities were also initiated.

(5) To improve the function of collection and dissemination of information in order to raise awareness of occupational safety and health

Seminar workshops were held, attracting many participants. Publications such

as NIOSH newsletters were issued, and information aimed at raising the level of awareness of safety and health-related issues was disseminated. Equipment provided for the purpose of preparing digital educational materials dramatically upgraded the capacity to prepare educational materials as well as the capacity to disseminate information. In terms of information collection, collaboration with government-affiliated organizations, including DOSH (Department of Occupational Safety and Health), SOSCO (Social Security Organization) as well as private companies, is being sought.

(6) To strengthen functions aimed at providing necessary information for policy development

NIOSH personnel are participating in the Working Group for the Preparation of Safety and Health Guideline as members of the group, with DOSH serving as superagency. In addition, the latest information on occupational safety and health administration from Japan has been provided on occasions such as visits by the Japanese short-term experts.

### 3-2 Summary of Evaluation Results

#### (1) Relevance

The project conforms to Malaysia's development policy and industrial needs as well as to Japan's ODA policy for Malaysia. Therefore, the relevance of the project is confirmed.

Firstly, Chapter 17 "Health" of the Eighth Malaysian Plan 2001-2005 mentions the importance of OSH at workplaces and states that the introduction of OSH programs should be approached as one of the strategies. There has been no policy change to date.

Secondly, the increase in the number of cases of technical guidance and surveys of working environments implemented by NIOSH as well as increase in the number of people undergoing medical checkups shows that the services provided by NIOSH meet the needs of the industrial sector.

Thirdly, the project is consistent with the JICA Assistance Plan for Malaysia in which "development of human resources in the field of OSH" is stated under the "Human Resources Development" section.

Fourthly, it was considered reasonable that the project employ an approach wherein the capacity of NIOSH (in terms of technical skills, human resource development and collection and dissemination of information) is improved and OSH awareness is raised widely among those involved, including private companies, so as to mark the inauguration of support for Malaysia in the field of OSH.

## (2) Effectiveness

The project purpose, namely the upgrading of the capacity (technical support, human resource development, collection and dissemination of information) of NIOSH, was achieved. The project counterparts acquired knowledge and technical skills from the Japanese experts and gained confidence in the performance of their duties as a result. The counterparts are putting these technical skills to use in their daily work, in such capacities as the provision of training, technical assistance services, information collection and dissemination services, research and development, and the formulation of policy recommendation to DOSH and other organizations.

Firstly, in order to improve technical skills, the project saw the first-time preparation of four handbooks by NIOSH, and the Occupational Medicine Center was established in June 2002 (which has been used by approx. 3000 people to date). In 2003, occupational medicine mobile services initiated the first trials of this kind in Malaysia (used by 928 people as of August 2005), demonstrating the high level of effectiveness of the project. The number of cases of technical assistance is similarly increasing, and companies have been expressing a high level of satisfaction with such assistance.

Secondly, in terms of human resource development, NIOSH has expanded the breadth of its training contents, revised some courses and increased the number of participants being accepted as a result. In addition, the project oversaw cooperation in NIOSH's research activities, including the provision of 79 technical books on OSH as reference material (the current number of books on OSH in the NIOSH library is the largest in Malaysia). These activities resulted in NIOSH staff members becoming involved in national-level research projects and the publication of a NIOSH Journal (from 2004).

Thirdly, in terms of the collection and dissemination of information, it is considered that the effectiveness of the provision of equipment in the project is significant. The Information, Services, Communication and Technology Unit of NIOSH produced thirteen videos on OSH. By storing these educational materials together in an optical jukebox, NIOSH became able to provide these materials to its branches on demand through its computer network. NIOSH is also actively engaged in communicating OSH information via the Internet. The NIOSH website is updated daily and receiving approximately 35,000 hits per month. Furthermore, based on the feedback from the participants of the training program, NIOSH has implemented quality control on its own services. Based on the aforementioned facts, the effectiveness of the project has been confirmed.

### (3) Efficiency

It has also been confirmed that the project is, for the most part, being implemented efficiently. The nine long-term experts and 37 short-term experts as well as the equipment provided, equivalent to about 160 million yen in total, are being utilized efficiently. In particular, as for the short-term experts, it is considered that the selection and sequencing of topics for technical transfer were highly appropriate. The definite and clear objectives of each course provided by the short-term experts fulfilled the needs of the counterparts. The equipment provided by Japan was also appreciated in Malaysia and is being utilized efficiently. Although the frequency of the usage of said equipment depends on the demand in terms of analysis in industries, it is necessary to introduce even relatively less-frequently used equipment, considering the fact that NIOSH is the country's core institute in the field of OSH and it is expected to be prepared to meet any future demands. No particular problems in terms of efficiency were found in the implementation of this project.

### (4) Impact

Contributions to the achievement of the overall goal of the project, namely decreasing the rate of occupational accidents and illness in the industrial sector in Malaysia, will be affected by various factors outside the ambit of this project, such as the state of the enforcement of the Occupational Safety and Health Act, as well as economic conditions, industrial composition, the presence of foreign workers and awareness within industrial circles in Malaysia. Therefore, it is difficult to verify the causal chronology of the project. However, based on interviews with stakeholders on the Malaysian side, it can be concluded that the activities undertaken through this project are definitely having a positive impact for the achievement of the overall goal. As for other impacts, it can be pointed out that the number of guidelines published by DOSH increased during the project implementation period, which suggests that the project was an influencing factor.

### (5) Sustainability

The level of sustainability of the project was confirmed in terms of policies, organization, finance and technical skills.

Firstly, in terms of policies, DOSH is continuously engaged in the formulation of new acts, regulations and guidelines pertaining to OSH. This shows the active commitment of the government in regards to OSH in the workplace. In an interview

with DOSH, it was mentioned that further enhancement of the enforcement of related acts and regulations and the supervisory framework thereof would be undertaken. Thus, the significance of NIOSH as the national core institute in the field of OSH will also be maintained from the political perspective.

Secondly, in terms of organization, NIOSH has extended its services in its four branches and is increasing the size of its staff. In addition, it is planning to open a new NIOSH branch in Sabah. Therefore, the organization is expanding.

Thirdly, in terms of finance, NIOSH reliably covered the operating costs of the project each year during the project period. The amount in question increased on a yearly basis by about 10,000 ringgit. Thus, it can be said that NIOSH has been responsible for the operation of the project. As for future expectations, NIOSH is putting forth active efforts to increase the number of participants in its training program as well as the number of service users, and the top management of NIOSH has also agreed to disseminate the effects of the project.

Fourthly, in terms of technical skills, it is considered that the counterparts acquired useful technical skills and knowledge through the project and gained confidence in the conducting of their everyday work. Some NIOS staff members have been actively promoting collaboration with universities and other organizations on their own. Therefore, it is expected that the technical level and evaluation of NIOSH as a research institute will be maintained in the future.

### 3-3 Factors Contributed in the Production of Effect

#### (1) Planning

While seminars and workshops were held as part of the project, cooperation was also achieved outside the context of seminars that was not directly related to the project. For example, seminars aimed at doctors and medical workers were held in partnership with the Society of Occupational and Environmental Medicine (SOME) (with the project covering the cost), and meetings were participated in by DOSH and Japanese-affiliated companies who served as lecturers. It is considered that these various activities implemented outside the parameters initially prescribed by the project framework contributed to the achievement of the overall goals of the project.

Also, apart from technical transfers to NIOSH, the project implemented the publication of a JICA-NIOSH newsletter aimed at raising the awareness of OSH in the industrial sector, which was an effective approach that also led to the satisfaction of NIOSH's industrial needs.



## (2) Implementation Process

The recommendations in the Mid-term Evaluation (in which active participation in project activities by NIOSH staff was considered a favorable element in terms of personnel evaluation) have been incorporated. At the same time, the introduction of the “Training Bond” aimed at preventing staff turnover as well as introducing “Technical Talks” for the promotion of technical transfers between staff members were implemented in concrete form.

In addition, flexible measures were taken to encourage the participation of people other than NIOSH counterparts (such as DOSH employees) to the training programs aimed at technical transfers in Japan.

## 3-4 Problems and Factors that Raised Problems

### (1) Planning

As confirmed in the evaluation of the “Relevance” of the project outlined above, the selection of the target group of the project (NIOSH staff) was reasonable. However, the NIOSH staff members were recent university graduates and many of them had limited experience. Therefore, it is undeniable that it took some time in order for them to acquire advanced technical skills from the Japanese experts. On the other hand, the NIOSH staff members have realized categorical improvements in their own capabilities, and are satisfied that they are now able to provide services of higher quality. Thus, the project is considered to have been effective.

### (2) Implementation Process

Because NIOSH is an organization with a self-support accounting system, NIOSH staff members are required to secure profits through activities such as implementing training and providing technical support services, which take up a great deal of time and effort. Therefore, it was difficult for them to focus exclusively on technical transfers from the Japanese experts.

## 3-5 Conclusion

The project conforms to the development policy of Malaysia, the needs of the industrial sector and Japan’s assistance policy for Malaysia, and thus the relevance of the project can be confirmed. The project purpose, namely the upgrading of the capacity (technical support, human resource development, collection and dissemination of information) of NIOSH, has been achieved and it is considered that project has been

effective.

It has also been confirmed that the project is being implemented efficiently. It has been confirmed that nine long-term experts and 37 short-term experts in total, as well as the equipment provided, which is equivalent to approximately 160 million Japanese yen, have been utilized efficiently.

In addition, in terms of the project impact, contribution to the achievement of the overall goal, namely decreasing the rate of occupational accidents and illness in Malaysia, will be affected by various factors outside the ambit of the project, such as the state of the enforcement of the Occupational Safety and Health Act, as well as economic conditions, industrial composition, the presence of foreign workers and awareness in industrial circles in Malaysia. Therefore, it is difficult to verify the causal chronology of the project. However, it is considered that the project activities are definitely having a positive impact towards the achievement of the overall goal. The sustainability of the project has also been confirmed in terms of all aspects of policies, organization, finance and technical skills.

### 3-6 Recommendations (Specific Measures, Recommendations and Advices on this Project)

#### (1) Improvement of research functions of NIOSH

Research plays an important role in improving OSH. NIOSH has been strengthening its capacity as the country's primary institute in the field of OSH, and it is also engaged in interdisciplinary research activities. It is now one of the few institutes in Malaysia that are able to conduct comprehensive research in the field. Therefore, further capacity building of NIOSH in terms of research implementation is essential for the improvement of OSH in Malaysia. Upon doing so, it is expected that the results of research will be utilized in the training curriculum provided by NIOSH in a timely manner, in order to increase the number of participants in the training programs as well as the number of companies involved and to bring about a higher evaluation of the program, and thus to contribute to the strengthening of the NIOSH's financial base.

Although some within the NIOSH opined that, as an organization with a self-support accounting system, it is difficult to secure budgetary resources for research that is not necessarily linked directly to profits, an active, long-term approach to research is desirable.

#### (2) Improvement of capacity for information collection

The information dissemination capacity of NIOSH has been steadily strengthened. By utilizing the digital information distribution system provided through the project to its fullest extent, NIOSH has created digital information/imaging, OSH materials and a web system.

However, in order to further strengthen its information dissemination capacity, improvements are also necessary in the area of information collection, such as workplace OSH information and data on various disasters. It is recommended that NIOSH, in collaboration with the relevant departments and institutes such as DOSH, SOCSO and the Department of Labor, establish an efficient and integrated information collection system. It is also recommended that NIOSH actively grasp the state of workplaces, by, for instance, fully utilizing the occasion of information exchanges with the participants in NIOSH training courses in order to collect workplace information/data. Through these activities, it is expected that the information dissemination capacity of NIOSH necessary for formulating policies will be further upgraded.

#### (3) Completion of standard operating procedures for equipment

It has been recommended that NIOSH complete preparations pertaining to standard operating procedures (SOP) for equipment as soon as possible, particularly in relation to preparation currently underway. Upon doing so, priority should be placed on equipment which relatively few people know how to use. By preparing SOP, the risk of losing technical know-how will be minimized even in cases of staff turnover. Furthermore, since the techniques required for the preparation of biological samples prior to analysis are often complicated, these techniques should be shared widely among NIOSH staff members.

#### (4) Follow-up of the participants of NIOSH training courses

NIOSH operates the OSH Forum on its website and promotes the networking of companies. It is recommended that NIOSH utilize this OSH Forum in order to actively exchange opinions with the participants of training courses who recognize various problems regularly occurring at their workplaces, and to implement follow-up activities pertaining to said problems, and at the same time collect information from workplaces.

3-7 Lessons Learned (Matters Helpful for Discovering/Forming Similar Projects Derived from this Project and Implementation, Operation and Administration Thereof)

#### (1) Effective utilization of Japanese experts

Japanese experts made significant contributions to the upgrading of the capacity of NIOSH by holding seminars, workshops and conferences, as well as through daily technical transfers. In this project, they also lent assistance to seminars held by NGOs, such as SOME, which are not the direct counterparts of the project such as NIOSH, by dispatching lecturers and providing financial support. As a result, OSH awareness was enhanced among the seminar participants, which made a positive impact to NIOSH activities in such ways as increasing recognition of NIOSH and its importance.

#### (2) Numerous publications

The project produced many publications, including the JICA-NIOSH newsletter and handbooks. These publications have been distributed widely among companies, contributing to an increased awareness of OSH in the industrial sector. As a result, positive impacts such as an increase in the number of company participants in NIOSH activities were generated.

#### (3) Implementation of recommendations in the Mid-term Evaluation

NIOSH made various approaches in response to recommendations proposed in the Mid-term Evaluation. For instance, by incorporating involvement in JICA projects among the criteria in staff performance appraisals, counterparts were given motivation to improve their performances in work related to the project, and they became more actively engaged in such work. As for secondary technical transfers of the outputs of the training program in Japan, the importance of Technical Discussions (training sessions wherein technical skills are transferred to other staff members upon the trainees' return to their home country) was emphasized. In addition, the Training Bond system, which requires that staff members not leave their job for a certain period after participating in training in Japan, was introduced so as to prevent turnover among the counterpart personnel. These approaches contributed in large part to the achievement of the project purpose.

#### (4) Flexibility of the project

Although the main focus of the project was industrial hygiene, occupational health and ergonomics, the beneficiaries of the project also included staff members in other divisions of NIOSH (such as the Occupational Safety Division) and DOSH. Such flexible operation, wherein people other than those belong to institutes and divisions

directly in charge participation in project activities, contributed to the capacity building of OSH practitioners in Malaysia as a whole, and made a positive impact in regards to the achievement of the overall goal.

(5) Religious factors related to OSH

While the recognition of various factors, including companies' and workers' actual working practice, is essential in order to assure an adequate approach to OSH, working practices may be influenced by cultural and religious matters. A large portion of Malaysia's working population is Muslim, with distinctive practices in life and work that are tied to religion. For example, there are practices that seem to be common to a certain extent among Islamic countries, such as the frequency of accidents wherein tudungs (head scarves worn by Muslim women) get caught in machinery, or working habits involving special prayer times and working habits specific to the month of Ramadan. It is recommended that the experiences of this project also be used as reference material in relation to such aspects upon the future implementation of similar projects by JICA in other Islamic countries.