

Safety Requirements for Household Appliances



Project Sites Riyadh

1. Background of Project

Various household electrical appliances are sold in markets of Arab countries. It is an important issue to standardize household electric appliances in terms of consumer protection. The Saudi Arabian Standard Organization (SASO), which is a standardization organization in Saudi Arabia, has been making efforts towards learning about inspection technology and gaining knowledge on various household electrical appliances. They are aiming at establishing a standard and a product inspection technique, and are known as the most advanced standardization organization in the region. On the other hand, regarding the same type of organizations in the surrounding countries, it would be difficult to say that the activities toward standardization are carried out sufficiently. This is because there are negative factors such as the lack of know-how and the delay in engineer training. Under such circumstances, the Government of Saudi Arabia has asked Japan to assist with the Third Country Training Program which aim to strengthen their skills in special technologies in order to maintain safety in household electrical appliances as well as to promote the skills of specialists and technicians in the field. For the training program, SASO plays the role of an implementation organization.

2. Project Overview

(1) Period of Cooperation

FY1996 – FY2000

(2) Type of Cooperation

Third-country Group Training

(3) Partner Country's Implementing Organization

The Saudi Arabian Standard Organization (SASO)

(4) Narrative Summary

1) Overall Goal

Considering consumer protection as the principal objective, technical skills are obtained to minimize

the possibility of household electrical appliances damaging the human body in order to achieve product safety.

2) Project Purpose

Targeting household electrical appliances that can be potentially dangerous, the method for satisfying the international standard and the domestic standard of products is learned and resolved into the products.

3) Outputs

- a) International standards such as IEC and SSA are understood.
- b) The operational principle of the electrical product is understood.
- c) Precautions for use of the electrical product are understood.
- d) The role and meaning of the standards are understood.
- e) The direction of administrating consumer protection is examined.

4) Inputs

Japanese Side

Short-term experts	9
Trainees received	16
Equipment	1 million yen
Training expenses	1,318,619 Saudi Real (approx. 43 million yen)

Saudi Arabian Side

Instructors and management staff	8
Facility and equipment for Experiments	

(5) Participant Countries

Oman, Bahrain, Morocco, Egypt, Syrian Arab Republic, Tunisia, Kuwait, Lebanon, and Yemen.

3. Members of Evaluation Team

JICA Saudi Arabia Office
(Commissioned to Mr. Mahmood Khan Zafar Muhammad)

4. Period of Evaluation

2 December 2000 – 24 December 2001

5. Results of Evaluation

(1) Relevance

In the Arab countries, since the demand for household electrical appliances is high, preparing the standards in order to secure the products has a high priority and is an urgent issue. Based on this, the execution of this training course and the theme is appropriate.

(2) Effectiveness

The number of training participants for the entire five-year period was 102. In addition to the lectures on the Japanese consumer protection system and product safety theories, there was a trip to observe factories for household electrical appliances as well. According to the questionnaires from the training participants (21 replied out of 102), 16 evaluated this training as being "useful."

(3) Efficiency

Japan has been executing a cooperation of standardization for SASO since 1980. In conducting this training program, the needs of the countries participating in the training could be understood in advance through SASO. The technology transfer by the Japanese short-term experts showed some difficulties. This is because, even though the training was conducted in English, there were some trainees who did not understand English very well. Moreover, if any other reflections were pointed out in terms of efficiency, it would have been the training opportunities given for SASO instructors. If SASO instructors had any opportunities to be trained in Japan to gain new knowledge after the 1990's, this training project would have been executed more effectively.

(4) Impact

According to the questionnaire from the training participants, 16 out of 21 said that they were making use of the knowledge obtained from the training in the actual work at their organizations. Considering cases where some participants were placed in charge of diffusing the knowledge obtained in this training, where others were involved in setting up regulation enactment, or improving laboratories, the knowledge obtained in this training is contributive to the capacity development of the participants' organizations.



Laboratory training on safety affirmation

(5) Sustainability

In this project, SASO had a major role in planning, designing and implementing the training. This contributed to strengthening SASO institutionally. There were also requests for new subjects that had been written off in the curriculum, such as fire protection. There remain training needs in the field of standardization throughout the region that should be fulfilled even after this project. Therefore, SASO is expected to meet these requests by conducting training courses on their own. The neighboring countries are also expecting SASO to become a leading force in the region.

6. Lessons Learned and Recommendations

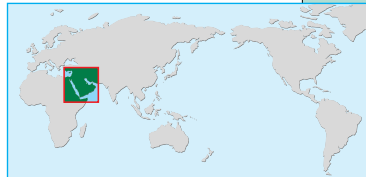
(1) Recommendations

The Government of Saudi Arabia needs to give more support to SASO in order to make it possible for them to play a leading role in the electrical safety field in the region. Moreover, the facilities and its system of the SASO laboratory need to be renewed to constantly meet the requirements for electrical safety investigation. Lastly, SASO and other organizations in Saudi Arabia should be more concerned with cooperating with each other in order to meet their individual technical needs.

7. Follow-up Situation

After this project was completed, SASO asked to start Phase 2 of this project. However, considering the importance of building Saudi Arabia's capacity to develop by self-help efforts, Japan has decided to closely watch the work of the SASO instead of conducting a Phase 2.

Improvement of Technical Education of Electronics in the College of Technology in Riyadh



Project Sites Riyadh

1. Background of Project

Saudi Arabia is attempting to establish new industries that can depart from its oil-dependent economy. At the same time, the Government of Saudi Arabia is promoting a "Saudization" policy where foreign workers in important sectors will be replaced with Saudi nationals. To promote these policies, the Government urgently needs to train mid-level engineers capable of understanding theories on technical expertise, and have practical technical skills and are Saudi Arabian nationals.

Under such circumstances, the Government decided to place special emphasis on the electronics field, and set up the Electronics Department (ED) in the College of Technology in Riyadh (RCT).

The Government of Saudi Arabia highly valued Japan's achievement in the past project-type technical cooperation "Technical Electronics Institute in Riyadh", covering the secondary school level, and its rich experiences and techniques in the electronics field. Thus, a project-type technical assistance was requested to improve curriculums of four fields (industrial electronics/control technology, computer technology, communications technology and general electronics) provided by the Electronics Department of RCT.

2. Project Overview

(1) Period of Cooperation

1 April 1997 – 31 March 2001

(2) Type of Cooperation

Project-type Technical Cooperation

(3) Partner Country's Implementing Organization

General Organization for Technical Education and Vocational Training (GOTEVOT)

The College of Technology in Riyadh (RCT)

(4) Narrative Summary

1) Overall Goal

The demand for engineers with appropriate knowledge and skills in the electronics field in Saudi Arabia is satisfied.

2) Project Purpose

The technical education of electronics at the Col-

lege of Technology in Riyadh is upgraded.

3) Outputs

- a) Improvement of curricula and syllabi
- b) Development of teaching materials
- c) Development of teaching methodology in experiments and practical exercises
- d) Improvement of teaching equipment
- e) Improvement of counterparts' capabilities

4) Inputs

Japanese Side

Long-term experts	4
Short-term experts	58
Trainees received	17
Equipment	192 million yen

Saudi Arabian Side

Counterparts	47
Land and facilities	
Equipment	10 million riyal (approx. 320 million yen)

3. Members of Evaluation Team

Team Leader:

Hiroyuki MATSUMOTO, President, Tokyo National College of Technology

Evaluation of Management:

Shinji OMORI, President, Tsuyama National College of Technology

Evaluation of Education and Research:

Masayuki NAGAO, Professor, Toyohashi University of Technology and Science

Evaluation Planning:

Noriaki MURASE, Second Technical Cooperation Division, Social Development Cooperation Department, JICA

Evaluation Analysis:

Masayuki TAKAZAWA, RECS International Inc.

4. Period of Evaluation

5 January 2001 – 16 January 2001

5. Results of Evaluation

(1) Relevance

This Project has contributed to the improvement of capabilities for RCT as a training center for engineers, thus meeting the Government's policies that promote new industries and Saudization. The ED of RCT is considered to be the center of excellence in the field of electronics education, and the expectation from the industry is high. Therefore, it was highly relevant to appoint RCT as the counterpart for this Project.

(2) Effectiveness

Improvements in the general curriculum were done mainly by GOTEVOT, but the Project counterparts were appointed as task members for the curriculum improvements, and greatly contributed to its completion. As a result, expansions were seen in areas of specialized subjects and practical exercises, and the time allocation for basic subjects such as mathematics and physics were also increased. English language was also strengthened so that students would understand English textbooks and manuals better.

As for teaching material development, since GOTEVOT held the initiative in selecting and improving teaching materials, it was difficult for RCT to develop its own, except teaching aid materials for practical exercises. Among the counterparts, some were appointed from GOTEVOT to take part in the improvement of teaching materials, therefore the output of teaching materials development was achieved to a certain extent.

As for teaching methods, improvements were seen in methods of experiments, and selection and operation of equipment. Thus, outputs were achieved to a certain extent. Furthermore, improvements in curricula will be carried out accordingly with the complete revision of the overall curriculum under the instructions by GOTEVOT.

Moreover, since training sessions for the counterparts resulted in improvement in their capabilities, it can be said that the project purpose was achieved.

(3) Efficiency

The counterparts highly evaluated the Japanese experts' performance. However, some short-term experts, due to their personal reasons, were dispatched during the examination period or Ramadan, resulting in an inefficient technical transfer. There were also some opinions that the dispatch period was too short. Equipment supply had been generally adequate in terms of quality, quantity and timing, and had been efficiently converted to the outputs expected. Some equipment had been delayed and some had outdated specifications due to the rapid progress in the field of electronics. However, this did not cause any major hindrance to the project as a whole.

(4) Impact

Overall, spontaneous efforts were seen by the counterparts as trainers. Many counterparts who had been dispatched to Japan as trainees shared the contents with those who had not gone. GOTEVOT started revising curricula and syllabi for electronics of the colleges throughout the country, and in the "Committee for Revising Curricula and Syllabi" established by GOTEVOT, many counter-



Practical training in the Electronics Department

parts in RCT were appointed as members of the task force.

(5) Sustainability

The status of RCT has already been well established in the country. The Electronics Department of RCT has also tried to reform itself, such as by improvement of its curricula, or commencement of training to private companies. Therefore it can be said that sustainability as an organization is high.

The management after the project will be sustainable, as level of facilities and equipment is satisfactory, and the motivation and capability of the counterpart personnel are high. Since GOTEVOT is positive about supporting college education, it can thus be said that financial sustainability is also high. Although equipment must be self-supplied after the termination of the project, it is considered possible unless there is a major change in the Government's financial situation.

6. Lessons Learned and Recommendations

(1) Lessons Learned

Due to the rapidity of technical progress in the field of high technology, frequent updating of equipment and its specifications is necessary. Caution is needed when selecting such equipment, since the most updated equipment is preferred.

(2) Recommendations

GOTEVOT is actively promoting the establishment of new training colleges. The results obtained by this project are applicable to the management of these new colleges. It is also recommended that RCT prepare training sessions for its staff, so that they are able to keep abreast of the rapid innovation of electronics.