

by Japan. So far, the Japanese Government strictly required the recipient countries to furnish land and buildings. However, assistance for the construction of buildings is found as in the case of centers provided by other advanced countries depending upon the conditions of the recipient. If the scale of center should be enlarged, some developing countries might feel that it is beyond their capacity to furnish buildings and cover the whole running expenses.

(5) The fifth problem lies in the operation and management of center after establishment.

Overseas technical cooperation centers are established in principle after two surveys. However, due to changes of circumstances in recipient countries, these centers have often been faced with unforeseen obstacles in the way of establishment and training activities, such as shortage of expenditures for materials and labor borne by the recipient countries. Therefore, Japan is asked to give more case to the management of centers, not only at the time of establishment but also after the opening. Should problems arise at the time of transfer of staff or work on some new programs, or involving matters such as shortage on repair of equipment and materials, the OTCA should keep in close contact with the centers. It is suggested in some quarters that a roving mission to these centers must be sent regularly for technical guidance to experts and repair services to equipments.

Shortage of funds for running expenses which is to be borne, as a rule, by the recipient countries, has often hindered the planned schedule of the training and research of centers.

(6) The sixth problem is that of securing excellent Japanese experts who are essential in carrying out research, training and extension works in

the overseas technical training centers. In this connection, it is necessary, as in the case of assignment of Japanese experts overseas, not only to improve employment conditions, such as salary and accommodation in the recipient countries, and guarantee for their posts at home, but also to carry out sufficient orientation and training before they are assigned to the respective centers.

In this respect, such centers as the Prototype Production and Training Center in Singapore and Kyung-Puk Institute of Technology in Korea seem to have no problem as far as counterparts are concerned. These countries have assigned appropriate and capable personnel as counterparts.

On the other hand, a number of countries are troubled with a shortage of competent counterparts. The OTCA offers training for these counterparts but it frequently happened that those who were trained in Japan have been moved to other posts after return to their countries, and those who were trained in the centers as counterparts moved to other posts when they were not satisfied with employment conditions or locations.

The success of these centers is clearly dependent upon efforts to be shared cooperatively by Japan and the recipient countries. Whatever excellent experts are dispatched from Japan cooperation for these centers will prove unfruitful unless recipient countries try hard to cultivate local counterparts who will shoulder the work of the centers after the expiry of Japan's cooperation. In order to solve this problem, it is urged that Japan should render more positive cooperation in getting proper counterparts to settle the centers, while the recipient countries should make serious efforts towards recruiting and assigning for a necessary period capable and responsible personnel to function as counterparts.

## CHAPTER 5

### DEVELOPMENT SURVEY (Pre-Investment Survey)

#### *Section 1. Outline of Development Survey (Pre-Investment Survey)*

Development survey or pre-investment survey is to send out survey missions to conduct field surveys and to prepare and submit to the recipient Governments reports including analysis conclusions, recommendations, etc. on their development projects of public nature.

Surveys are conducted at the request of the Governments concerned through diplomatic channels, and cover a wide variety of projects, such as roads, bridges, ports and harbors, electric power, rail-

roads, telecommunications, exploitation of resources, city planning, fisheries, etc., but many of the surveys are related to the so-called "infrastructure sectors" of the economy. Surveys differ considerably from each other in extent in accordance with each development project, and range from exploratory and preliminary surveys to more elaborate feasibility-surveys.

Since these surveys generally take the form of technical cooperation on a government-to-government basis, all necessary expenditures are in principle to be borne by the Government of Japan,

with funds made available from the budget of the Ministry of Foreign Affairs (expenditures of survey for pre-investment and feasibility, expenditures of survey for development projects in the Lower Mekong Basin, expenditures of survey for the Asian Highway Construction Project) and also from the budget of the Ministry of International Trade and Industry (expenditures of survey for overseas development project).

The Development Project in the Lower Mekong Basin was launched in 1957 through the cooperation of various countries (22 countries) under the sponsorship of the Mekong Committee of ECAFE (i.e. The Committee for Coordination of Investigations of the Lower Mekong Basin), and Japan has participated in this Project since 1958 before the creation of the Overseas Technical Cooperation Agency. The OTCA surveys so far covered such surveys as Survey for important tributaries, Survey for the Prek Thnot Project, Survey for the Nam Ngum Project, etc.

On the other hand, the Asian Highway Construction Project aims at construction of a highway network extending over a total length of 5,500 kilometers from the Turkey-Iran border in the west through Viet-Nam to Indonesia in the east, and the Project is now being pushed forward on a large scale under the Asian Highway Coordinating Committee of ECAFE. Japan has extended cooperation to this Project since 1962 by dispatching technical experts, survey teams, etc.

During the period from the foundation of the OTCA up to the end of March 1968, Japan sent out 123 survey teams consisting of 935 members. Out of the 123 surveys so far carried out by Japan, Southeast Asia had by far the largest share of 80 cases, followed by Central and South America with 27 and the Near-Middle East with 16. As for the fields of survey, electric power, agriculture, manufacturing industries, airports, ports and harbors, telecommunications, etc., have large weights.

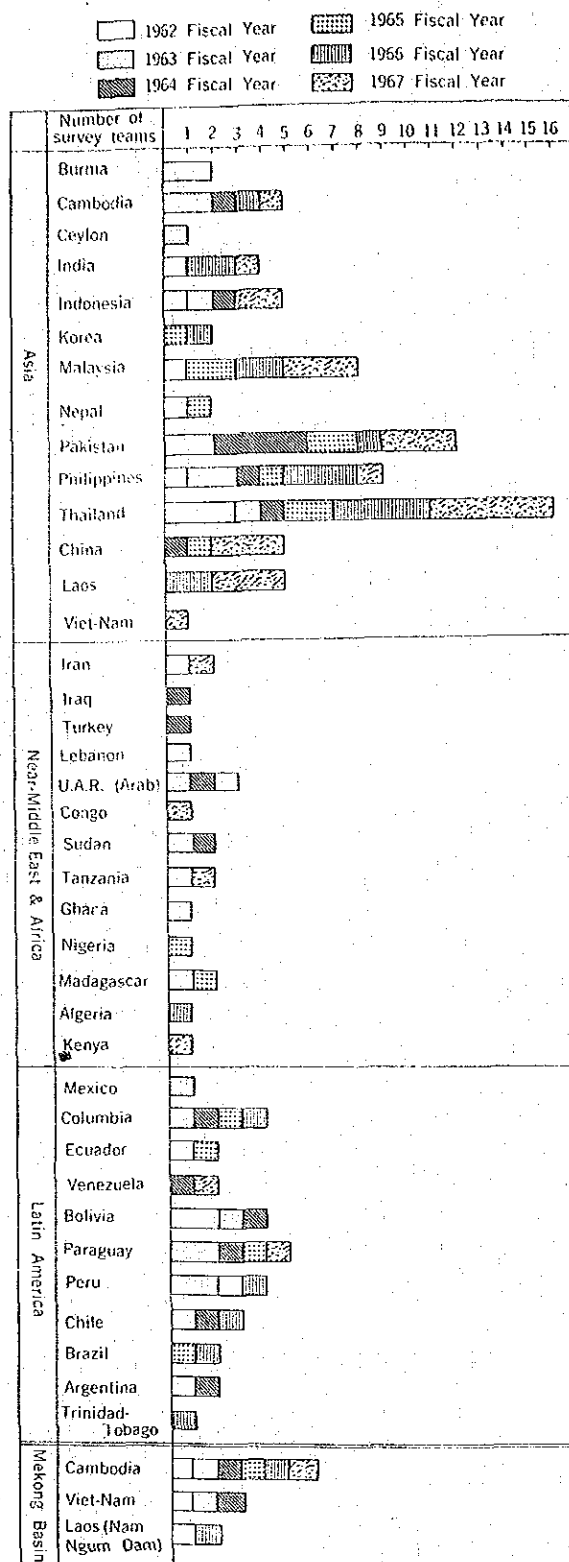
### Section 2. Results of Development Surveys in Fiscal Year 1967

21 survey teams were sent abroad in fiscal year 1967.

It should be particularly noted that the survey for the Nong Khai-Vientiane Bridge Construction Project aimed at connecting Thailand with Laos across the Mekong River was performed as part of the Asian Highway Construction Project under the coordination of the Mekong Committee. This will be the first bridge ever constructed over the main stream of the Mekong River.

Recently, requests from developing countries for cooperation in their industrial development are increasing. In connection with the development and promotion of the medium and small scale indus-

Development Surveys Recorded by Country, Fiscal Year



(June 30, 1962 through March 31, 1968)

tries of these countries, Surveys for Economic Cooperation to the Medium and Small-Scale Industries were planned for the regions of Southeast Asia, the Near-Middle East and Africa and Latin America, with a view to making recommendations and giving suggestions to the medium and

small scale industries development projects of these countries, as well as aiming at increased overseas activities of our medium and small-scale enterprises. Thus, in fiscal 1967 survey teams were sent out to the countries of Southeast Asia, Near-Middle East and Africa.

Also, under the Li Wu Chi Hydro-Electric Development Project in the Republic of China, for which further detailed surveys were made as a result of technical cooperation by Japanese experts dispatched since 1966, Chinese engineers came to Japan to receive technical training and to participate in preparing a report following completion of the survey. Such continuous and close cooperation between Japan and the Republic of China with various modes of cooperation systematically convinced for the step-by-step materialization of the development project is considered as a good example of project-base development surveys and will certainly provide proper direction and advice on the future course of development survey activities.

A more detailed survey (e.g., Survey for Nam Sai Yai Electric Power Resources Development Project in Thailand) which was conducted as a follow-up to the surveys carried out by Japan before, or re-visits of the head of a survey team to the recipient country to explain the content of the report prepared by the team should be promoted to enhance the effectiveness of such cooperation.

The following chart shows the surveys carried out by Japan during fiscal 1967, classified by regional groups.

#### Asian Region

1. Survey for Development of the Coastal Fisheries in Cambodia (A)
2. Survey for Harbor Construction Project at Songkla in Thailand (A)
3. Survey for Tropospheric Scatter Communication Link Between Kuching and Johore Bahru in Malaysia (A)
4. Survey for Water Works in Malaysia (A)
5. Survey for River Training in Western Part of Taiwan in China (A)
6. Survey for Nong Khai-Vientiane Bridge Construction Project (B)
7. Preliminary Survey for Modernization of Bitung Harbor and Repairment of the Roads in Sulawesi, Indonesia (A)
8. Survey for Economic Cooperation to the Medium and Small Scale Industries in Pakistan (C)
9. Survey of Consolidation Project for the Southeast Asia Telecommunication Network (A)
10. Survey for Nam Sai Yai Electric Resources Development Project in Thailand (C)

11. T.V. Network Construction Projects in Eastern and Western Provision of Pakistan (A)
12. Survey for Karnaphuli Hydro-Power Project in Pakistan (C)
13. Survey for Mineral Resources Development Project in Laos—2nd Stage (C)
14. Survey for Bangkok-Thonburi Bridge Construction Project in Thailand (A)
15. Survey for Li Wu Chi Hydro-Electric Development Project in China (C)
16. Survey for the Development of the Area around Great Lake in Cambodia Lower Mekong Basin in Cambodia (D)
17. Survey for Iron Ore Loading Facilities in India (C)

#### Near-Middle East and African Regions

1. Survey for Economic Cooperation to the Medium and Small Scale Industries in Near-Middle East Group (C)
2. Survey for Transportation System in Congo (A)

#### Latin American Region

1. Survey for Mineral Resources Development Project in Venezuela (C)
2. Survey for Agricultural Electrification Project in Paraguay (C)

N.B.

- (A) Covered by Expenditures of Survey for Pre-Investment and Feasibility.  
 (B) Covered by Expenditures of Survey for the Asian Highway Construction Project.  
 (C) Covered by Expenditures of Survey for Overseas Development Project.  
 (D) Covered by Expenditures of Survey for the Development Project in the Lower Mekong Basin.

#### (Asian Region)

1. Survey for Development of the Coastal Fishery in Cambodia
  - (1) Purpose of Survey and its Background
 

At present in Cambodia, the fresh water fishery is fairly developed, but there is nothing noticeable in the way of ocean fishery. Hence, promotion of the fishing industry in this country is considered as one of her most important economic development policies. A request for survey was made to Japan under these circumstances. The survey was conducted for the purpose of grasping the actual conditions of coastal fishery, collecting basic data on the developing of fishing industry, particularly selecting promising fish for assistance, as well as modernization of fisheries and the improvement of the marketing system.
  - (2) Description of Survey
 

The survey team carried out, for more than one month during the rainy season, a market research on marine products and surveys on the actual condi-

tions of fishing villages at Phnom Penh, Kampot, Ream, Sihanoukville, Sre Ambel, Khokong and Kohkapik, and ocean observations on coastal areas extending from Kampot to Kdat and in and around Koh Rong and Kohkong, as well as fish catch tests using small-sized dragnets, trammel net and diving investigations for shell-fish.

(3) After Survey

A further request was made to Japan to carry out, during the dry season, fishery tests and surveys at sea which could not be satisfactorily carried out in the rainy season.

## 2. Survey for Harbor Construction Project at Songkhla in Thailand

### (1) Purpose of Survey and its Background

In fiscal 1965, Japan sent a survey team for Harbor Construction Project at Songkhla to carry out basic technical surveys and construction of the Harbor. The survey team subsequently submitted to the Government of Thailand an interim report on its findings. The Government of Thailand, after review of this report, took up this project as one of the most important policies of the South Thailand Overall Development Project, and looks forward to its early materialization. However, since the previous survey was centered on technical aspects, the Government of Thailand this time requested Japan to carry out both economic and compensation surveys.

Pursuant to the above-mentioned request, a survey was conducted to make clear the effects of the harbor construction upon local development, the economic soundness, calculation of estimated cost of compensation, etc.

### (2) Description of Survey

The major part of economic survey carried out by the Japanese team for about one month was surveys on the districts of South Thailand and discussions with government agencies of Thailand. Prior to this survey, land surveying and soil investigation were carried out at the proposed construction site for about three months.

### (3) After Survey

The report on these surveys is being used by the Government of Thailand as valuable information to finalize the Harbor Construction Project at Songkhla.

## 3. Survey for Tropospheric Scatter Communication Links between Kuching and Johore Bahru in Malaysia

### (1) Purpose of Survey and its Background

As a telecommunication line connecting the provinces of Malay Peninsula with the provinces of Sabah and Sarawak, there exist at present only one circuit each at Kuching in the province of Sarawak and at Jesselton in the province of Sabah. This is an unstable short-wave circuit via Singapore. Un-

der the circumstances, the Government of Malaysia, which had earnestly desired to install a direct communication line between these provinces, planned as the first step to connect the distance of around 720 kilometers between Johore Bahru and Kuching through the Tropospheric Scatter Communication Link System. The Government of Malaysia requested Japan to carry out a survey on this project, taking this up as one of its development survey activities.

Accordingly, the survey was conducted with a view to selecting the construction sites of receiving and transmitting stations, carrying out wave transmission tests and designing a wireless circuit by the method of the Tropospheric Scatter Communication Link System.

### (2) Description of Survey

The Survey was started with a field survey on the proposed construction sites of receiving and transmitting stations by a preliminary survey team consisting of 4 members, who thereafter worked out a program for a full-scale survey following several discussions with agencies of the Malaysian side.

The full-scale survey included wave transmission tests extending over a period of four weeks by installing a receiving station on G. Pulau Sit (654 meters above sea level) on the Johore side and a transmitting station on G. Serapi Sit (910.7 meters above sea level) on the Kuching side. The transmission route covers the total length of 739.1 kilometers including the section of 541 kilometers at sea.

As a result of this survey, characteristics of 1840 MHz radio wave transmission was made clear, and it was found that there is a fair prospect for installation of more than 48 telephone circuits using a radio wave of 2 Ghz zone. Also, solar static occurring on this circuit was found to be practically negligible. However, it was found very difficult to apply this circuit to television broadcasting, and for this purpose it was desirable to make the video signal zone small, for which a complete and radical development of technology in this field was considered necessary.

### (3) After Survey

Based on this report, the Government of Malaysia issued a tender in which the Japan Electric Company Ltd. participated.

## 4. Survey for Water Works in Malaysia

### (1) Purpose of Survey and its Background

At present there is no water service either in the Kemaman district (estimated population of approx. 22,000 in 1967) or Dungun district (estimated population of approx. 14,000 in 1967), where the inhabitants live hygienically under unfavorable circumstances. The population served by city water

in Trengganu province including the above two districts accounts for 11.5% of the total population, which is much lower than the figure of 48% in Malay Peninsula.

The Government of Malaysia, in order to eliminate such a regional gap in conditions between the eastern coast and western coast, is now proceeding with the Eastern Coast Development Project, placing a particular emphasis on the betterment of the residents' welfare and the improvement of living standards. In 1964, a foreign consultant had already carried out preliminary surveys on the above two districts, but the Government of Malaysia requested Japan for a further survey in order to push forward this project.

To meet the above request, the survey was conducted by Japan for the purpose of preparing a "feasibility report" on water works in both the Kemaman and Dungun districts within Trengganu province along the eastern coast of Malaysia.

#### (2) Description of Survey

The survey team, consisting of seven members, conducted investigations in both the Kemaman and Dungun districts extending over a period of more than one month. Based on the results of this survey, they prepared a financial report including preliminary designs, construction costs, maintenance costs, calculation of annual revenues, etc. for the water works.

### 5. Survey for River Training in Western Part of Taiwan in China

#### (1) Purpose of Survey and its Background

A request was made from the Government of China in an attempt to work out a program for river conservancy in the alluvium district surrounding Choshui Chi including Tatu Chi, Kaoping Chi, etc., thereby establishing a permanent measure for taking and conducting water for irrigation purpose.

However, because of a difference in the nature and condition of each river and also because mere research on a general principle would be unable to meet the purpose of survey, the investigation was concentrated on Choshui Chi after consultations with the River Improvement Bureau of China. On this understanding, a basic survey was conducted on the river improvement project of Choshui Chi, by working out temporary programs for river route, intake water and sand guard, as well as clarifying its future problems.

#### (2) Description of Survey

The survey team, extending over a period of one month, studied general conditions of rivers and water utilization works in China, as well as carrying out field survey on Choshui Chi by using a helicopter, etc.

As an interim step, it is planned to construct a dam at a collecting basin both for irrigation and

sand arrestation, then to construct a dam at Choshui Chi for water utilization and sand arrestation, and along with these works, to carry out excavation work of a river route and its embankment work.

#### (3) After Survey

The chief of the survey team visited Taiwan for giving an explanation of the report and stating Japan's opinions. The Government of Taiwan gave the same priority to this project as one given to the fresh water river project in the northern part of the country, appropriating approximately 9 million yuan (1 yuan=7 yen) in the special budget for enlargement of the facility and increase of the staff, in addition to the national budget of the government. Also Japan is scheduled to receive two trainees for this project.

### 6. Survey for Nong Khai-Vientiane Bridge Construction Project in Thailand and Laos

#### (1) Purpose of Survey and its Background

Since Laos is an inland country having no sea, its foreign trade has been carried out by land transportation routes from Bangkok port through a land route and Mekong River to Vientiane. The Mekong River has been crossed by ferry boats, but the capacity has now reached the limit. The government of Laos proposed, at the 29th conference of the Committee for Coordination of Investigation of the Lower Mekong Basin in 1965, to take up this problem as one of the projects to be given top priority among the Comprehensive Development in the Lower Mekong Basin. Also, the A-No. 12 Route (Bangkok-Vientiane) included in this project is considered as one of the preferential routes in the Asian Highway Project proposed by ECAFE.

Under these circumstances the Mekong Committee, after examining this project, determined to push forward a feasibility survey for this project at the 31st conference of the Committee held at Vientiane in 1967, asking for cooperation from the countries concerned. The Government of Japan, accepting this offer, decided to carry out this survey in cooperation with Thailand, Laos and ECAFE.

This survey is aimed at connecting Nong Khai (Thailand) with Vientiane (Laos) on the No. 12 Route of the Asian Highway by constructing a bridge over the main stream of the Mekong River, as well as preparing a feasibility report after examining the possibility of extending the existing railroad between Bangkok and Nong Khai to Vientiane.

#### (2) Description of Survey

The first stage survey was conducted for the purpose of preparing a report necessary for determining the point where the bridge was to be constructed.

Three points had been selected as the most promising places for the bridge construction, as a result

of the surveys carried out by USOM (The United States Operations Mission) and the Thailand National Railroad. Land surveying and geological surveys were conducted by a Japanese team on these three selected places from the technical aspects. Along with these surveys, analyses were also made of the economic and financial feasibilities, together with the examination of the current traffic conditions and estimation of the future traffic volume in the planned area.

These findings were submitted as the first stage survey report to the Mekong Committee which, based on this report, determined to construct the bridge at Nong Khai.

As the second stage survey, a further detailed survey was conducted in the area of Nongkhai, which included a geological survey by boring at the site, land surveying on the access road, survey on the projected railroad line and surveys both on transportation economy and railroad site. Then, based on the results of the second stage survey, a report will be drawn up of the preliminary designs for bridge, road and railroad, evaluation of social and economic benefits, analysis of unit construction cost, etc. After examination by the Mekong Committee of the report, it is planned to prepare a feasibility report and then a final report.

## 7. Preliminary Survey for the Modernization of Bitung Harbor and the Repayment of Sulawesi Roads in Sulawesi, Indonesia

### (1) Purpose of Survey and its Background

The province of North Sulawesi is a main producing center for copra, an important item for the acquisition of foreign currencies by the Republic of Indonesia, and it is also a valuable treasury of land and sea resources with fishing grounds for carp, etc. in its vicinity. However, due to the civil war which continued for several years since 1957, the construction of Bitung Harbor, which was started in 1951 as a harbor to be substituted for Menado, was discontinued, and the road network and transport facilities within the province were destroyed elsewhere, thus placing them in completely non-operational conditions.

On the other hand, in the province of South Sulawesi, a road connecting the producing center of primary products such as rice, maize, etc. with Makassar was destroyed on account of civil wars and floods, and transport facilities were paralyzed elsewhere due to a lack of repairs. This situation consequently interfered with the smooth transport of goods within the province, resulting in the congestion of products or stagnation of copra production, thus heavily impeding the life of the people, agricultural production and economic activities.

The Government of Indonesia is now mapping out a five-year program with economic rehabilita-

tion as its nucleus for the establishment of the economic foundation and the elevation of the people's livelihood, and recently requested Japan for the dispatch of a survey team, asking for cooperation in the modernization of Bitung Harbor and the improvement and repair of the existing roads connecting the major cities in the provinces of South and North Sulawesi with the producing centers. To meet this request, Japan conducted, for the development of transportation on Sulawesi Island, surveys on Bitung Harbor and roads in its hinterland in the province of North Sulawesi as well as on Palopo Harbor and the roads within the province of South Sulawesi. A survey team was sent out for the preparation of a report on the preliminary design for the Bitung Harbor Improvement Project and a preliminary report on Roads and Palopo Harbor Project.

### (2) Description of Survey

The survey team consisting of nine members was organized into a Harbors Group and a Roads Group. They conducted surveys for 35 days and 45 days, respectively.

The Harbors Group laid the emphasis of its survey on the modernization program of Bitung Harbor, its natural environment and economic conditions of the hinterland, in parallel with general surveys of Menado, Makassar, Palopo, Parepare and other harbors. Based on the results of this survey, the Group set up a Bitung Harbor facility consolidation program, its associated facility consolidation program, its overall consolidation program and a Parepare Harbors pier improvement program.

The Road Group conducted surveys on the actual conditions of the area from Minahasa through Bolaang to Mongondow, covering the distance of some 60 kilometers in the province of North Sulawesi and also the distance of 800 kilometers extending from Makassar in the province of South Sulawesi, collecting data on the conditions of existing roads and bridges, transport systems and economic activities which were necessary for mapping out a program for the improvement and repair of existing roads and bridges. The Group then proposed the improvement and repair program for the existing roads as follows: The road extending over the distance of 213 kilometers including the national road of 90 kilometers in length between Menado and Wovotinkan within the province of North Sulawesi and the provincial road of some 337 kilometers in length from Maros through Singkang to Palopo within the province of South Sulawesi, as well as bridges on both roads, should be promptly repaired and improved for the first stage repair program.

## 8. Survey for Small-Scale Industries in Southeast Asia

### (1) Purpose of Survey and its Background

The industrial development programs of developing countries tend to lay stress on the development of steel, fertilizer, cement and other large-scale key industries and tend to place less weight on the measure for encouraging the growth of medium and small-scale industries. However, in order to promote harmonized economic and industrial development, it is essential to develop and foster medium and small-scale industries in parallel with the development of the key industries.

In the light of increasing requests from developing countries for Japan's cooperation in the development of medium and small-scale industries, the present survey was conducted to collect data on the investment situation in the developing countries and, further, as a means of conceiving some suitable measures for the promotion of overseas economic cooperation activities by our private enterprises.

### (2) Description of Survey

This survey team, which was organized as the Southeast Asian Survey Team, selected Pakistan and Cambodia as the targets of survey and carried out field surveys mainly in the districts of East and West Pakistan. The surveys on Cambodia were confined to collection of data of ECAFE and gathering of information on her recent industrialization measures.

Pakistan has, since its independence, vigorously pushed forward its industrialization policy, but still takes on the character of an agricultural nation as seen from the percentage of agriculture to gross national product (45.8% in 1966-1967). The country's industries still lie in the early stage of consolidation, but actually little progress is being achieved in this direction owing to the lack of promising resources other than natural gas, because raw materials are not easily available both in quality and quantity due to a chronic shortage of foreign currency, and for a number of other reasons. Hence, Pakistan still faces numerous difficulties in the way of attainment of industrialization.

The Government of Pakistan fully recognizes the importance of promoting the growth of medium and small-scale industries and is now engaging in the encouragement and guidance of these industries through its Small-Scale Industry Corporation and is also offering these industries financial assistance through the Industrial Development Bank of Pakistan.

The Government of Pakistan requested Japan's cooperation particularly in the organization of such industries as export business, import agent busi-

ness, industries associated with increased production of foodstuffs such as agricultural machinery, fertilizer, etc., and labor-intensive industries. However, when considering the raw materials available in Pakistan at present, the kind of industries in which Japan may offer cooperation are foodstuffs and food processing industries (milling, sugar refining, etc.), paper making and paper goods manufacturing industries, textiles and leather industries, metallic products industries (bolts, nuts, etc.) and natural gas industries.

Most of the above-mentioned industries belong to the scope of activity of medium and small-scale industries in Japan. Therefore, it is necessary for the Japanese Government to take positive steps to assist these industries on matters which are considered beyond their own control and capacity such as, for example, conducting detailed preliminary surveys, establishment of systems for advancing initial operating funds and for risk bearing, and thereby to stimulate overseas investment activities by our medium and small-scale enterprises.

At the same time, the Government must adopt suitable policies for extending after-care service for machinery and plants exported by our manufacturers, offer more positive technical cooperation through establishment of technical training centers and by dispatching more experts, and expand the scope and improve the conditions for yen loans (relaxation of loan requirements and inclusion of small-scale plans in the loan items).

The establishment of such a set-up on the Japanese side will be most important for extending cooperation to promote medium and small-scale industries in Pakistan, and will certainly encourage our enterprises to invest in the country.

## 9. Survey for Telecommunication in Southeast Asia

### (1) Purpose of Survey and its Background

In Southeast Asian countries, communications between these countries and their former ruling powers have been comparatively close, but communications among the countries in Southeast Asia are far from being satisfactory. Under these circumstances, the Asian Parliamentary Union (APU) held an "APU Special Standing Commission on Telecommunication" in Tokyo in August 1967, where a discussion took place on the Communication Network Consolidation Project to provide mutual linkage among the countries.

As a result of this discussion, a request to conduct a survey was placed with Japan which is one of the most advanced countries in the Southeast Asian region and which has also attained the world's highest level in the field of telecommunications.

Japan, to meet this request, sent out a survey

team which conducted basic technical and economic surveys for the consolidation and expansion of communication network linking these countries, a sector which is most retarded and which requires priority consideration in the telecommunication consolidation projects of Southeast Asian countries.

#### (2) Description of Survey

The survey team conducted a series of surveys in the Republic of China, Indonesia, Laos, Malaysia, the Philippines, Thailand and Viet-Nam for a period of one month to find out the condition of the telecommunications systems in these countries, the possibility of their expansion programs, and in particular the possibility of establishing a telecommunication network that would mutually link these adjacent countries.

These consolidation projects, which were the objectives of the present survey, were presented to the governments of the respective countries, APU Special Standing Commission on Telecommunications Committee, ECAFE Inland Transport and Communications Committee, etc., as resolutions, recommendations or important issues.

As a result of the examination of the importance, urgency, time factor, and opinions and requests of the countries concerned with respect to each of the projects, the following items were considered appropriate for Japan to extend her economic assistance.

Communication consolidation projects between adjacent countries:

1. Ishigakijima—Taipei OH circuit
2. Manila—Bangkok submarine cable
3. Vientiane—Nongkhai VHF circuit (L/S)
4. Hajai—Penang microwave circuit (L/S)
5. Penang—Medang VHF circuit (L/S)
6. Singapore—Djakarta submarine cable

Domestic communication consolidation projects:

1. Luang Prabang—Vientiane HF circuit
2. Vientiane—Pakse VHF circuit
3. Bandung—Surabaya microwave circuit (L/S)
4. Palembang—Djakarta microwave circuit (L/S)

#### (3) Post-Survey Situation

A brief report on this survey was submitted to the 3rd APU General Conference (Nov. 1967), together with the following recommendations:

1. The member countries should, after consulting with each other, determine the order of priority of the respective projects and exert their efforts towards the realization of the communications network system linking the APU member countries.
2. The APU member countries should strive to convey a correct understanding of the importance of this project to the advanced nations and international banking institutions.

#### 10. Survey for Nam Sai Yai Hydro-Power Project in Thailand

##### (1) Purpose of Survey and its Background

This is a feasibility survey following the earlier basic survey on the above-mentioned project that was carried out in 1965.

In order to cope with a sharp increase in electric power demand in Thailand (30% annually) and also to meet new situations such as the decision to construct a power transmission line between Korat and Bangkok, the present survey included a feasibility survey on item No. 2 of the recommendations made by the first survey team and also aimed at studying the basin development program which was already envisaged by the Government of Thailand itself in consideration of the possible effects of the power development project on the lower basin area.

##### (2) Description of Survey

The survey team, after discussing with the Government of Thailand, carried out a field survey for a period of 150 days and is currently blueprinting the project plans in Japan.

#### 11. Survey for Television Network Project in Pakistan

##### (1) Purpose of Survey and its Background

Japan's cooperation in the field of television broadcasting in Pakistan started with the dispatching of a group of experts under the Colombo Plan in 1961, followed with the dispatching of specialists to conduct a basic survey for the opening of television broadcasting and to offer guidance in the preparation of T.V. programs, management of T.V. broadcasting stations, etc.

Later, in 1965, a request was made by the Government of Pakistan for the dispatching of our survey team with respect to installing a relay network between the T.V. stations, but this was not realized because of the Indo-Pakistan War and other reasons. However, in 1967, when the officials in charge of the Pakistan T.V. Broadcasting Network Construction Project visited Japan, a discussion took place on the details of the survey requested by the Government of Pakistan, and this eventually resulted in the dispatching of our survey team.

With a view to accelerating the commencement of T.V. broadcasting in Pakistan, the target of the survey was centered on determining the most suitable spots for constructing broadcasting stations in major cities, selection of suitable relay systems to link these stations, and also to locate proper relay points.

##### (2) Description of Survey

The survey team, after its arrival in Pakistan, held discussions with the people of PTC (Pakistan Television Corporation) and carried out field surveys on the following items after making some modifications to the original program.

1. Selection of a suitable spot for constructing a



T.V. station in the district of Rawalpindi and survey of its service area.

2. Selection of a suitable relay system between the Metropolitan station (Islamabad) and Peshawar.
3. Selection of a system for direct and simultaneous exchange of T.V. programs between the Metropolitan station and Lahore station.
4. Selection of a suitable relay system between Karachi and Hyderabad and estimation of the scale of Hyderabad station.
5. Selection of a suitable relay system between Dacca and Khulna and estimation of the scale of Khulna station.
6. Selection of a suitable relay system between Dacca and Bogra and determination of the scale of Bogra station.
7. Selection of a suitable relay system between Dacca and Chittagong and determination of a suitable location for Chittagong station.

The recommendation on the above-mentioned survey items are as follows:

West Pakistan:

In connection with broadcast relaying the total coverage after construction of relay stations in the Metropolitan area, Hyderabad and Tatta will be from 22,220,000 (Grade A) to 24,240,000 (Grade B) including the existing stations, serving 56% and 61% respectively of the total population of West Pakistan, and the construction cost for this project is estimated at approx. ¥340,000,000. On the other hand, the total coverage in the case of using the existing stations of T & T (Pakistan Government Telecommunications Bureau) will be from 21,970,000 (55% of the total population) to 23,940,000 (60% of the total population), requiring an estimated construction cost of approx. ¥240,000,000.

East Pakistan:

In connection with broadcast relaying, the total coverage of all the relay stations including the Dacca new station will be from 21,500,000 (Grade A) to 29,000,000 (Grade B), accounting for 42% and 57% respectively of the total population in East Pakistan. The construction cost required is estimated at approx. ¥330,000,000.

In the case of using the stations of T & T, the total coverage of all the stations including the Dacca new station will be from 20,000,000 (Grade A) to 28,400,000 (Grade B), requiring the estimated construction cost of approx. ¥330,000,000.

## 12. Survey for Karnaphuli Hydro-Power Project in Pakistan

### (1) Purpose of Survey and its Background

Since the greater part of East Pakistan consists of the Ganges Plain, the power generating plants there are mostly thermal power plants using coal or oil as fuel. The only hydro-power plant in op-

eration is Karnaphuli Power Station.

The construction of Karnaphuli Power Station was started in 1952 as a link of the multi-purpose projects mainly involving power generation. It was completed in 1963 and started its operation with two sets of turbine generators having a capacity of 80,000 kW. However, EPWAPDA (East Pakistan Water Power Development Authority) thereafter noticed through various indications that the water storage capacity designed at the outset was much smaller than the actual capacity. Accordingly, the Agency conducted land surveying by taking air photos and examined the water storage capacity.

Then, with an aim of enlarging the capacity of the power station by further increasing its water storage capacity, the Agency requested Japan to conduct a feasibility survey through the Government of Pakistan. Accordingly, Japan sent out a survey team for the purpose of collecting data necessary for the preparation of a feasibility report on the enlargement of Karnaphuli Power Station.

### (2) Description of Survey

The survey team carried out, extending over a period of about 100 days, various surveys including investigations on the situation of power supply in East Pakistan, field surveys on the reservoir area and on the proposed construction site of the power station, collection of data on weather and water conditions, examination of construction materials, collection of integrated data, land surveying on the power transmission route and others. In parallel with these surveys, Pakistan undertook preparation of a map of the reservoir area by taking air photos, land surveying on the proposed site of the power station, etc.

However, since preparation of the map of the reservoir area is not yet completed, it is still impossible to examine the project in detail. In the meantime, an outline of the conclusion reached as a result of the present survey is as follows:

1. The role of Karnaphuli Power Station in the power supply system of East Pakistan is extremely important.
2. The power generating cost of Karnaphuli Power Station, i.e., 0.05 rupee/kWh or 4.2 yen/kWh, is higher as compared with those of other countries but much lower than those of other thermal power stations in East Pakistan, thus contributing greatly to the reduction of the average power generating cost in East Pakistan.
3. Assuming that the water storage capacity of Karnaphuli Power Station becomes 30% larger, its constant power supply will be increased by around 30%. Its future enlargement program must take into account the benefit to be gained from the surplus power during the rainy season.
4. The Karnaphuli Power Station is the only hydro-power station in East Pakistan, and its fu-

ture role as a peak power station merits due consideration.

5. What should be done in the future are confirmation of water storage capacity, stabilization of a constant power supply, detailed technical and economic examination on its enlargement program, detailed examination of the reservoir survey program, formulation of peak power introduction program, etc.

### (3) Post-Survey Situation

Upon completion of the reservoir area map by air photos, 2nd Survey team was scheduled to be sent from Japan in 1968.

## 13. Survey for Mineral Resources Project in Laos (Second)

(Deuxième investigations pour de plan d'exploration des ressources minierés der laos).

### (1) Purpose of Survey and its Background

At the request of Premier Phouma of Laos in 1966, the Government of Japan sent out a mineral survey team (1st), which conducted basic surveys on gold, copper, tin, lead and other minerals in Laos and examined the possibility of development of these minerals, thus leading to the conclusion that copper deposits in the Cham Passac district and tin deposits in the Nam Pa Thene district are the most promising.

After that, in May 1967, the Government of Laos, on the basis of the above survey report, requested Japan to carry out a detailed survey of the Cham Passac district which is one of the promising areas. Japan then conducted a survey on the copper deposits in this district, mainly through pit and trench prospecting as well as through boring prospecting.

### (2) Description of Survey

The survey team consisting of seven members conducted, over a period of one and a half months, field surveys in both the Cham Passac and Nong Khom Thong districts, such as geological surveys, analyses of minerals by Polarograph, pit and trench prospecting to the depth of 3 m under the ground, boring, prospecting and chemical prospecting. The survey team, after its return to Japan, carried out quantitative analyses, spectroscopic analyses and quality checks on the collected samples.

The Cham Passac district is located along the western bank of the Mekong River at the southern end of Laos, and the surface of the land is mostly composed of laterite, under which lies a stratum mainly consisting of red and brownish red sandstone that is considered to belong to the Mesozoic Era. This stratum appeared to be equivalent to the Middle Indosinian and Upper Indosinian strata of the Mesozoic Era which are widely distributed over the northern part of Laos, Viet-Nam and Thailand.

It was found from this survey that the copper deposits in the Cham Passac district do not derive from the ore deposits which exist in any specific horizon, and that they are smaller and less continuous in scale (longitudinal length of 15 kilometers, horizontal length of 5—10 kilometers and deposit depth of 0.3—0.4 m) and in grade (average grade of Cu 1—2%) than the deposits which were anticipated at the time of the first survey.

On the other hand, the deposits in the Nong Khom Thong district were considered to be of volcanic origin from the condition of their distribution and the composition of their ores. Since there is a fair possibility of the existence of large-scale deposits, exploitation on a large-scale is considered necessary in the future.

## 14. Survey for Bangkok—Thonburi Bridge Construction Project in Thailand

### (1) Purpose of Survey and its Background

There has been seen recently an intense concentration of population into the cities of Bangkok and Thonburi, consequently paralyzing the various functions of these cities seriously. Particularly concerning the aspect of transportation, the present situation is that there are only three bridges across the Chao Phya River which runs between the two cities, and this has given rise to a severe congestion of traffic between these two cities.

In order to relieve such serious conditions of transportation in the metropolitan areas, the Government of Thailand considered that top priority should be given to the Chao Phya River Bridge Construction Project among its 10-year Metropolitan Areas Consolidation Programs.

It set up a policy to construct two additional bridges across the Chao Phya River, so as to disperse the large traffic volume at the Memorial Bridge which has now become a point of the most serious traffic congestion in these areas.

This survey was conducted to examine the construction of the Chao Phya Bridge at Tha Chang Wangnah and the bridge across the Bangkok Noi Canal, as well as to blueprint the designs of these two bridges.

### (2) Description of Survey

The survey team stayed at the site for about two months and carried out geological and land surveys on the proposed construction site of the bridges, designed the bridges, and then submitted an interim report to the Government of Thailand.

On the basis of the design standards and other conditions agreed upon between the survey team and the officials concerned of the Ministry of Interior, Government of Thailand, the survey team is now proceeding with preparation of its feasibility report, a summary of which is given below:

The extension of the Bangkok—Thonburi Bridge

is 280 m against the width of the Chaopia River of 265 m. The bridge is of continuous three-span PC bridge design from the view point of both navigation and appearance. Its substructure work is by the steel pipe piling method, determined as a result of geological survey. The total estimated cost will be around 100,000,000 bahts, including the approach sections on both sides.

The Bangkok-Noi Bridge is an elevated bridge across the Bangkok-Noi River and spanning over the marshalling yard of the Bangkok-Noi Railroad Station, covering the total distance of some 500 m. The principal section of the bridge (about 400 m) is made up of a PC girder with a 30-meter span, and the total construction cost is estimated at around 20,000,000 bahts.

### (3) Post-Survey Situation

A feasibility report is at present under preparation, but the Government of Thailand, strongly desiring its early materialization, requested Japan to engage in the design work. In answer to this, Japan is now preparing to carry this project out with the "Expenditures for Design Work on Economic Development Project" included in the Ministry of Foreign Affairs Budget for 1968.

## 15. Survey for Li Wu Chi Hydro-Power Development Project in the Republic of China

### (1) Purpose of Survey and its Background

The Li Wu Chi Hydro-Power Development Project, consisting of both Chipan and the Tienshan Projects, is included in the Long-term Development Program of Taiwan Power Company.

In 1966, four specialists from Japan visited Taiwan to exchange views with officials of the Corporation regarding a re-examination of this project, as well as to study geological features, water conditions, etc.

This request called for a field survey, based on the recommendations given by the survey team in 1966, and also called for preparation of a basic survey report on the future development policy.

### (2) Description of Survey

The survey team consisting of six members carried out a field survey and collected data for one month and a half, and is now preparing a report on its findings. In connection with this project, four engineers from Taiwan visited Japan to engage in the preparation of the report.

## 16. Survey for the Development of the Area around Great Lake in Cambodia (Lower Mekong Basin)

### (1) Purpose of Survey and its Background

The northeastern part of Taihu is an area where development is particularly slow compared with other parts of Cambodia. However, it is considered possible, through irrigation, to cultivate a maximum land area of 1,300,000 hectares. The report

prepared by the Mekong Main Tributaries Survey Team of Japan in 1961 included a proposed plan to take water from the Stung Treng reservoir on the Mekong River to pour it into the Branch Stung Sen and irrigate the entire area by a big irrigation waterway network. However, as a result of surveys for the Great Lake Northeastern Area Agricultural Development Program conducted in 1966 by the Mekong Committee with the cooperation of Japan's Sambor Team, it was made clear that it is most practical to divide the area into 13 sub-areas and exploit these sub-areas separately with tributaries and Taihu as their water sources. They recommended to start as early as possible a detailed survey of the Stung Chinit Program, as well as to explore the northeastern area of Great Lake to establish a basic policy on the most effective and practical agricultural development program.

Based on these recommendations, the Government of Cambodia requested Japan to conduct the above-mentioned surveys, including both a feasibility survey for the Northeastern Coast Stung Chinit Program and a survey of the southeastern coastal district, as well as preparation of reports on the results of surveys.

### (2) Description of Survey

In fiscal 1967, a draft development program was studied and a survey work program was worked out based on the data obtained in advance. Then field surveys were carried out for about three months and a half mainly for the Stung Chinit Program, the results of which are now under review. The surveys were scheduled to be continued in 1968.

## 17. Survey for Iron Ore Loading Facilities Near Visakhapatnam in India

### (1) Purpose of Survey and its Background

Especially, the Bailadilla Mine located in the south of Madhya Pradesh Province is considered a most promising area for iron ore deposits, and surveys have so far been carried out to increase its production capacity and secure efficient transport means. Under these circumstances, the Government of India requested Japan for the dispatch of a survey team to examine the advisability of a program on the extension of Visakhapatnam Port and construction of a new iron ore shipping port near Visakhapatnam Port. The survey included examination of the advisability and investigations of the current status and expansion program of an iron ore transport railroad connecting the Bailadilla Mine and Visakhapatnam Port.

### (2) Description of Survey

The survey team is now engaged in preparation of its report, but their findings are summarized as follows:

With a recent increase in the freight handled and

also with the advent of big ore carriers, the consolidation of Visakhapatnam Port has become a matter of vital importance. However, since the extension of the existing Visakhapatnam inner port is next to impossible, the Government of India plans to improve its outer harbor and to install iron ore shipment facilities there.

The survey team generally agreed to the 3rd draft of a Visakhapatnam Outer Port Program worked out by the Government of India. The Japanese side, in this connection, gave recommendations to ensure extension of a breakwater and design the core berth compatible with ships of 15,000 ton class and execute a core-boring in detail.

On the other hand, the ore transport rail-line leading from the Bailadilla Mine to Visakhapatnam Port, which was constructed separately from the existing railroads, is providing fairly efficient ore transportation services. The future expansion program of its transport capacity has also been mapped out. As for the existing railroad lines where ore transport is now in operation the unfinished sections should be completed as early as possible, signal equipment and telecommunication facilities should be installed, and protective works for slopes, bridges, etc., should also be necessary.

#### (Near-Middle East and African Regions)

### 1. Survey on Economic Cooperation to the Medium and Small Scale Industries (Near-Middle East Team)

#### (1) Purpose of Survey and its Background

On the same principle as the aforementioned preliminary survey for extending economic cooperation to medium and small-scale industries carried out by Southeast Asian Team, this survey was conducted for three countries in the regions of the Near-Middle East and Africa, namely, Iran, Tanzania and Kenya.

#### (2) Description of Survey

The survey team conducted investigations on the various aspects of the above-mentioned countries, such as general circumstances, trade, international balance of payments, economic development programs, present conditions of industrialization, etc. As a result of this survey, it has become apparent that although some differences exist in each of the countries because of geographical, historical, racial and other factors, considerable similarities can also be found in the approach to develop medium and small-scale industries and that the policies to be taken by Japan in extending cooperation to the medium and small-scale industries of these countries could be basically similar.

The following points are common to these three countries: that is, the government authorities desire the formation and development of medium and small-scale industries; each country has domestic

capital but due to shortage of both entrepreneurs, engineers and technicians capable of constructing plants and managing enterprises, the development of medium and small-scale industries of each country has not been progressive; each country strongly desires the participation of advanced countries in its capital investment.

Accordingly, it was recognized that Japan should provide capital assistance to these medium and small-scale industries and to facilitate the experts of plants to these industries for the benefit of the recipient countries.

### 2. Survey for Congo Railroad-Navigation Improvement Project

#### (1) Purpose of Survey and its Background

Katanga Province in the southeastern part of Congo is rich in deposits of copper, cobalt, uranium, etc. These mineral ores are exported by the routes leading to Lobito Port in Angola, Beira Port in Mozambique, Dar-Es-Salaam Port in Tanzania and Matadi Port in Congo. The route to Matadi Port consists of a railroad between Sakania and Port Francqui, a watercourse along the Kasai River between Port Francqui and Kinshasa and a railroad between Kinshasa and Matadi. Transport by this route had difficulties and the Government of Congo requested Japan for a basic survey of the transportation system in order to solve the transport problems of mineral ores and also to establish closer contact between Kinshasa, the capital of Congo, and Rubumbashi which now occupies a very important economic position as a center of Katanga. The survey by the Japanese team was conducted to examine a railroad construction program leading from Port Francqui to Kinshasa, river transportation across the Kasai River, and the expansion of ports and harbors.

#### (2) Description of Survey

The survey team was divided into a railroad team and navigation team, and both teams conducted field surveys. The railroad team carried out land surveys mainly by airplanes.

The survey was conducted to make comparative analysis of construction costs, transport charges, transport costs, etc., of three lines—i.e., the central line selected by the survey team, the south line and the north line which was already studied when Congo was a Belgian colony. As a result, the recommendation was made that the central line (Kinshasa ~ Kenge ~ Kikwit ~ Luluabourg) should be most advisable for the trunk line and in materializing this project, it should be highly essential for the Government of Congo to set up a Preparatory Committee for the new railroad line construction, as well as to conduct a detailed and extensive field survey for at least six months.

The navigation team carried out surveys of a

navigation route from Port Francqui to Kinshasa and also of the ports of Port Francqui, Kinshasa, Matadi, etc. The team worked out tentative improvement measures and a planning of facilities for Port Francqui capable of handling the freight of one million tons per year, anticipating the future requirements.

### (3) After Survey

The chief of the survey team, after preparing its report, explained the results of the survey to officials of the Government of Congo. They are now studying how to settle the transportation problems based on this report. A Preparatory Committee referred to in this report is expected to be set up shortly.

## (Latin American Regions)

### 1. Survey for Mineral Resources Development Project in Venezuela

#### (1) Purpose of Survey and its Background

Petroleum and iron ore are the representative mineral resources of Venezuela, and large-scale geological surveys were in the past conducted mainly for these mineral deposits. The Government of Venezuela has recently planned to embark upon the systematic exploration of copper, lead and zinc deposits in view of its geographical and geological situation stretching north of the so-called the Andes copper deposits district in Peru, Chile, and Bolivia. Japan was requested in September 1966 for surveys on the conditions of the deposits and the possibility for their development.

#### (2) Description of Survey

The survey team conducted surveys, for a period of 40 days, on the mines of El Pao (copper), Santa Isabel (copper), Aroa (copper), Bailadores (zinc, lead, copper), Seborucho (copper), Carupano (lead, zinc) over the Andes Mountains.

### 2. Survey for Agricultural Electrification Project in Paraguay

#### (1) Purpose of Survey and its Background

The survey team carried out field surveys for the power generation program of the Pirapo River in southern Paraguay and also on the electrification program of the Amambay district in northern Paraguay and preparation of a feasibility report.

Both programs form part of the agricultural electrification project formulated by the Government of Paraguay. The power generation program of the Pirapo River is aimed at supplying electric power to the Japanese settlement at Alto Parana and its vicinity situated along the basin of the Pirapo River, Itapua State. On the other hand, the Amambay district electrification program is aimed at supplying electric power to Pedro Juan Caballero city and its vicinity. Field surveys and preparation of feasibility reports on both programs were under-

taken before by AID of the U.S.A. in 1964.

### (2) Description of Survey

The survey team consisting of six members carried out a field survey of the planned area, collected data and had discussions with the parties concerned for a period of 40 days. After completion of the survey, the said team examined the power generation program, the power demand program and economy of the program, and then prepared feasibility reports on both projects. However, due to a shortage of data on water conditions, further examinations are considered necessary.

## Section 3. Problems of Development Survey

When looking back upon the development surveys so far carried out by Japan, it must be admitted that this type of survey was a new work for the Japanese Government and we lacked in experience. Selection of projects, organization and dispatch of survey teams, preparation of reports were not always very systematic and sometimes survey were conducted without obtaining sufficient data from the recipient country concerning background and implications of the request.

For a future improvement measure, it is now being studied to strengthen prior surveys, to improve the quality of feasibility surveys, to undertake more positive follow-up measures and to establish closer coordination with financial assistance.

### 1. Strengthening of Prior Surveys

In order to enhance the effectiveness of pre-investment survey, a more elaborate prior survey should be made of the requested project. It is desirable that a prior survey team should be dispatched to examine what position the project concerned occupies in the national and local development plans of the country, with what background a request from a recipient country is made, how urgent the project is, what is the prospect for materialization of the project, etc., so as to judge the advisability of conducting a full-scale survey.

In parallel with this step, it is also pointed out that more comprehensive study of the project should be done in Japan with available documents and the recipient government should cooperate with this study in offering all available information. It will be necessary, as the case may require that the OTCA requests the assistance of research institutes to undertake this kind of study.

### 2. Improvement of Feasibility Survey

A feasibility report of project must be prepared for scrutiny by financial institutions when loan application is made.

However, feasibility reports submitted by Japanese survey teams often have concentrated much on technical studies without giving full considera-

tion to analyses of social and economic aspects of the project. It is necessary for Japan, therefore, to organize the future larger scale survey with longer period of dispatch.

For this purpose, it is essential to recruit and train highly qualified personnel to become experts on feasibility survey in developing countries, for example, to have project economists and competent consultant participate in each survey team to analyze the project from economic viewpoint. The OTCA should recruit many more specialists to meet ever-increasing demand from abroad for various surveys. Also, use of consultant firms should be more actively undertaken for feasibility surveys.

Drafting of feasibility report is done in Japan and this is much to be desired in improving the organizational set-up for the expeditions and systematic preparation of such report.

### 3. Follow-up after Survey

Since development surveys are aimed at formulating an economic development program of a recipient country, surveys should not end with submission of reports but with realization of recommendation. It is necessary, therefore, to take more advice follow-up measures after the submission of conditions and recommendations.

It is desirable to assist, if possible, the recipient government to realize the development program recommended by the Japanese survey team, if not

in tangible form of financial assistance, at least in intangible form of advisory or informative role.

### 4. Closer Coordination with Financial Assistance

Since development surveys are part of technical cooperation on a government basis, development projects for survey are mostly those of infrastructure sector. This means that some projects might not have possibility of early materialization. However, after a survey is made and the feasibility for materialization of a project is ascertained, both the recipient country and Japan would become interested in its early materialization. In many cases, the developing countries which are suffering from a shortage of funds earnestly desire to receive loans from such international financial institutions as the World Bank, Asian Development Bank or Overseas Economic Cooperation Fund of Japan.

It is therefore essential that the OTCA should keep close ties with the above-mentioned financial institutions or other investment companies who might extend financial assistance to the developing countries. In this connection, it must be mentioned that there is an increasing allocation of Japanese Government fund for detail design of development project on grant basis. In principle, such grant is given for detail design of a project on which a feasibility survey was made by the OTCA. This new step is taken precisely to link technical assistance with capital assistance.

## CHAPTER 6 MEDICAL COOPERATION

### *Section 1. Situations of Japan's Medical Cooperation Activities*

#### 1. Public Health and Medical Cooperation

More than one-half of the world's population is densely contained in the developing countries. Most of these countries won their independence after termination of the last world war, and as yet most of the industries of these countries are undeveloped and the living standards of the people are generally very low, with much to be done in these countries in the way of improvement of health and sanitation. Such being the case, there is a serious deficiency not only of medical facilities but of persons engaged in medical work, primarily doctors.

The ratio of medical doctors to population differs very sharply among Asian countries. For example, there is one doctor to every 900 persons in Japan, one doctor to 2,500 persons in Taiwan, and one doctor to 3,000 persons in the Republic of Korea. These represent the more well off cases; in other countries the situation is quite alarming.

The worst situation is seen in Nepal and Laos where there is only one doctor to every 50,000 population, followed by Indonesia with one doctor per 40,000 population, North Viet-Nam and Cambodia with one doctor per 20,000 population, and Thailand with one doctor per 10,000 population. In this manner, lack of doctors is a grave problem harassing many of the developing nations of Southeast Asia.

The same situation prevails in connection with medical facilities. While there are ten hospital beds per 1,000 population in Japan, in most developing countries there is not even one hospital bed per 1,000 population.

Study of the health situation from figures available on death rates, particularly the death rates of infants, shows that the infant mortality rates of the Philippines, Ceylon and Thailand, for example, are two to three times higher than that of Japan. Thus, the death rates in Asian countries are very high. At the same time, the general sit-

uation in these developing countries is that the pace of industrial development lags far behind the rate of increase of population, with the result that poverty is common.

Life expectancy also shows the same trend. With the exception of Japan, the average life span of the peoples in developing countries falls short of 50 years; in Nepal, Laos and India, the people live only for a short average of 30 years.

It is sometimes said that a country's cultural level is high if the death rate of the country's female population is lower than that of the male population. In Asia, particularly in the developing countries, the male population surpasses the female population in proportion to the degree of development needed by the country. In these countries, the female death rate is far higher than that of the male population, and the life expectancy of the female population is shorter.

As for the causes of deaths, contagious diseases are the biggest factor, with comparatively few adult diseases. That is, the larger proportion of illness in these countries is comprised of malaria, respiratory disorders such as pneumonia and bronchitis, and acute contagious diseases of the digestive system. In most of these countries, tuberculosis, which is a chronic contagious disease, still remains in the top bracket of diseases; only in a few of these countries, if any, do ailments of the nervous system such as disorders of the blood vessels or the heart, or cancer and other such diseases, assume a prominent position as in Japan.

In this manner, various conditions prevail which adversely affect the health of the peoples of developing nations. Diseases already under control in advanced countries such as tuberculosis, leprosy, venereal diseases and contagious diseases caused by parasites and virus, as well as psychiatry, public sanitation and dietetics, still remain to be given proper solutions in developing countries. Therefore, these peoples live desperately in fear of sickness in addition to hunger.

Under these circumstances, developing nations are looking forward eagerly to external assistance to offer them medical cooperation aimed at increasing and improving medical facilities, providing medical supplies and equipment, and dispatching of a wide scope of experts and specialists in clinical medicine, preventive medicine, public health administration, medical research and education.

As for Japan, she has exerted utmost efforts during the one hundred years since the Meiji Era to absorb the medical science and practice of leading nations, and today her medical techniques are highly developed and in no way inferior to any of the leading nations. However, the advancement of Japanese medical techniques has not so far re-

ceived due recognition from other countries.

In view of the constant fear of outbreak of disease that menaces the greater proportion of the peoples of Asia, it is only natural from a humanitarian standpoint for Japan to extend a helping hand to the developing nations in the field of medical assistance. Also, if the standard of health of developing countries around Japan improves, it will reduce the possibilities of social unrest and increase welfare, thereby to contribute to economic progress. Through the promotion of exchange of personnel and medical information between Japan and the developing countries, it will advance the level of medical science and medical treatment, especially in the field of tropical diseases.

The medical cooperation which Japan offers to these developing nations aims at cultivating as many doctors in as many medical fields as possible, but the extreme shortage of doctors in these countries tends to force these countries to make requests aimed simply to cover up the current absolute deficiency of doctors.

While this situation is probably unavoidable as far as these countries are concerned, we ourselves must constantly bear in mind that our country's medical cooperation must not simply be a means to supplement the deficiency of doctors in these countries.

Japan must take into consideration not only the medical problems per se but also the background elements such as political, economic and educational problems of these countries, and be conducted under a fully coordinated, long-range plan in respect of funds, materials and personnel. In addition, it is essential to dispatch capable doctors well qualified to conduct high-level medical research, educational guidance and practical treatment.

Moreover, we must always keep in mind that whatever form of technical cooperation is afforded to these developing nations, whether on a governmental or non-governmental basis, a long-range plan must be based on the education and cultivation of local specialists and doctors in each field in order that these developing countries can attain self-sustaining growth in medicine. For this purpose, the Japanese experts must be prepared to work in the developing countries for a longer period.

## 2. Past Achievements

Japanese overseas medical cooperation on a governmental basis started when doctors were dispatched to Ethiopia in June 1958, under the Near-Middle East and Africa Plan.

After that, a team of six experts including doctors and nurses were dispatched to Laos for four months from December 1959, to offer itinerant medical treatment to the local people. So far, medi-

cal experts have been dispatched to the following 27 different countries:

(1) Southeast Asia: The Philippines, South Viet-Nam, Laos, Cambodia, Thailand, Singapore, Malaysia, Indonesia, Burma, India, Pakistan, Nepal, Ceylon, Republic of China (Taiwan) and Republic of Korea.

(2) Near and Middle East: Saudi Arabia, United Arab Republic, Iran and Afghanistan.

(3) Africa: Ghana, Congo, Nigeria, Kenya, Ethiopia.

(4) Central and South America: Peru, Bolivia, Brazil.

A total of 256 experts have been dispatched to these countries, and 393 trainees have been received in Japan.

Also, 53 doctors and other experts have been sent as members of itinerant medical teams to Laos, Thailand, Indonesia, Burma and Nepal.

Besides these, medical equipment and supplies have been provided to Thailand, Burma, Indonesia, Laos, Malaysia, Nigeria and Brazil.

The medical fields in which experts are offering their services, as well as the fields in which trainees are offered training, are varied and wide. Experts are engaged in treatment of tuberculosis, surgical treatment, internal medicine, gynecology, pediatrics, ophthalmology, otorhinolaryngology, dentistry, plastic surgery, radiotherapy, treatment of leprosy, parasitic ailments, hydrophobia, virile diseases, cholera, bronchitis, pathology, public sanitation and many others.

On the other hand, the fields open to trainees under the group training course system are tuberculosis control, cancer control, family planning, and teratology. Fields open to individual training are mainly surgery, venereal diseases, virile diseases and public sanitation, while training is also available in radiotherapy, gynecology, internal medicine, dentistry, pediatrics, anesthesia, pathology, dietetics, treatment of parasitic ailments, pharmacology, use of electronic microscope, family planning, school sanitation, water sanitation, waste disposal and others.

Medical equipment and supplies provided are electron microscopes, X-ray equipment, X-ray mobile cars, equipment for Er-Tor cholera, equipment for surgical operations, machinery for producing artificial limbs, and a wide scope of others.

In addition, to the northeastern part of Thailand where had been sent earlier to offer medical treatment as well as to establish appropriate counter-measures against tuberculosis and malaria for people in remote places of the country, two medical teams were dispatched to offer itinerant medical treatment to the local people in districts adjacent to the central hospitals (e.g. Kalasin, Srisaket,

Buriram) that is used as the base of operations, not for the usual short term but for an extended period of service of two years.

Japan dispatches medical experts and offers medical equipment and supplies to the Virus Research Institute established in Thailand.

For Cambodia and Viet-Nam, Japan is constructing medical facilities and dispatching medical experts, in addition to providing medical equipment and supplies.

### 3. Medical Cooperation with WHO

Medical cooperation offered in cooperation with WHO deserves special attention. It was in 1964 that a common program for the study of Er-Tor cholera was initiated by Japan, the Philippines and WHO. Already, notable achievements have been reached, and the program to eradicate cholera has been advanced with greater effort since 1968.

Another important project is the cooperation which Japan is offering in Iran—to Department of Occupational Health at the Institute of Public Health Research and the School of Public Health, Teheran University—an important project recommended by WHO from the beginning. Cooperation is also being offered to Thailand and Cambodia with regard to control of tuberculosis, which is being promoted in cooperation with WHO.

## Section 2. Achievements during Fiscal year 1967

### 1. Survey

In carrying out the medical cooperation project for the fiscal year of 1967 a total of 37 experts were dispatched to various parts of the world to conduct prior surveys and to discuss concrete plans with recipient governments.

These surveys included survey for establishment of the Thai National Cancer Institute in Thailand, survey for establishment of the Virology Laboratory, in Burma, survey for providing polio vaccine and for eradication of Er-Tor cholera in the Philippines, survey for establishment of the Clinical Testment Department at the Central General Hospital Bandung, West Java in Indonesia, survey for establishment of the Department of Occupational Health at the Institute of Public Health Research and the School of Public Health, Teheran University in Iran, and survey for extending cooperation to the Institute of Tropical Medicine, National University of Pernambuco Medical School in Brazil.

### 2. Medical Cooperation to Viet-Nam

#### 1) Cho-Ray Hospital

The initial plan had been to use the 1966 budget for the construction of a clinic for cerebral treatment as well as for the building of living quarters for related Japanese personnel, but mutual agree-



ment on the details of the program could not be reached within the year owing to the difficult conditions prevailing in Viet-Nam during those years. Subsequent negotiations resulted in the attainment of an agreement on June 10, 1967, by merit of which proper contracts were concluded with related contractors on July 13. To construct a hospital building was a new form of medical cooperation. Original plan was to complete the project within the year under an eight-month construction schedule. Unfortunately, however, in the latter part of January 1968, the Cholon region where the hospital was located came under heavy attacks by the Vietcong forces. Refugees poured into the hospital, and in view of the danger to life, the project was suspended temporarily.

As a consequence, the project was not completed within fiscal 1967 but was carried over to fiscal 1968. It is to be mentioned, however, that two Japanese doctors and one moderator were commended by the local government for having offered medical treatment under the greatest difficulties and at the risk of their lives.

Japan provided medical equipment and supplies for medical treatment, but also at the time of Tet offensive, Japan sent emergency shipment of medical supplies to the Cho-Ray Hospital and the Saigon Hospital, and also received nurse trainees to Japan.

## 2) Saigon Hospital

This is an important hospital in the heart of Saigon, where two Japanese doctors are offering

Record of Medical Cooperation (April 1967~March 1968)

Country	Project	Experts dispatched		Number of trainees received	Cooperating organization
		Long term	Short term		
Indonesia	Central General Hospital Bundung, West Java	1 (1)		4	Kobe Univ.
Malaysia	Itinerant Medical Term Gastrocamera Diagnosis		9	2	Nisseki Hospital Juntendo Hospital
Singapore	Pathology	1			Welfare Ministry
Thailand	Virus Research Institute			11	Osaka Univ., Nisseki
	Somdet Chaopraya Hospital National Medical College	16 (10)	34		Tokyo U., Nagasaki Prefectural Tuberculosis Prevention Society
	Central Chest Hospital				
Viet-Nam	Cho-Ray Hospital, Saigon Hospital, Medical Treatment Survey	5 (2)	3	9	Nihon U.
Iran	Polio Control Public Hazard		1	1	Gifu U.
Philippines	Polio Control Cholera Control		5	1	Welfare Ministry
Kenya	Nakuru General Hospital Embu District Hospital	9 (6)			Nagasaki U. Osaka U.
Ethiopia	Imperial Central Laboratory and Research Institute	1 (1)			Welfare Ministry
Nigeria	Digestive System		1		Cancer Center
Afghanistan	Wazir Akbar Khan Hospital	2	1 (2)	1	Osaka U.
Burma	Virology Lab.		2		Kyoto U.
Cambodia	Med. Center	6 (4)	20		Welfare Ministry
Pakistan				3	
Ceylon				1	
ROK				1	
United Arab Republic				1	
Uganda				1	
Brazil				1	
Peru				2	
TOTAL			121	38	
		83 newly dispatched			
		80 short term			
		38 reassigned			
		41 long term			

their services in the field of surgery and anesthesia. It is playing a vital role as an emergency hospital, giving medical treatment to local civilians of the war-torn country.

Japan has offered medical equipment and supplies to the Hospital, in addition to receiving trainees in Japan to offer training in nursing techniques.

### 3. Other Medical Cooperation Activities

The kind of medical cooperation increasingly requested by developing nations calls for itinerant medical teams making up the deficiency of doctors particularly in remote regions of these countries. Since 1959, Japan has dispatched such medical teams to Laos, Thailand, Burma, Indonesia and Nepal, offering general medical treatment as well as group diagnosis for tuberculosis. Successively, during fiscal 1967, two such itinerant medical teams were dispatched to the northeastern part of Thailand (Buviram and Srisaket) to offer general diagnosis at hospitals which served as bases, gradually expanding their range of itinerant operation to more and more remote districts.

Also, in recent years an increasing number of requests are being placed with Japan for the dispatch of superior experts to the clinical and research institutes of existing universities, in addition to requests for the provision of advanced medical equipment.

By offering advanced medical cooperation centering on medical research and education, Japanese medical assistance is lately observed with greater expectation. These efforts are helping to raise the level of local persons engaged in medical work, and more and more trainees are desiring to come to Japan for study.

For example, these countries have seen the establishment of the Wazir Akbar Khan Hospital (plastic surgery), in Afghanistan, General Hospital of Kuala Lumpur (equipped with supersonic diagnosis equipment and gastro-camera), Malaysia, Central Chest Hospital (tuberculosis), Thailand, Somdet Chaopraya Hospital (Electroence. Phalography), in Thailand, Saigon Hospital (general surgery), in Viet-Nam, Cho-Ray Hospital (cerebral surgery) in Viet-Nam, Medical Center of Friendship Between Japan and Cambodia (surgery and internal medicine), Embu District Hospital, Nakuru General Hospital (surgery, internal medicine, gynecology) in Kenya, the Virology Laboratory in Burma, Virus Research Institute in Thailand, Imperial Central Laboratory and Research Institute, Ministry of Health in Ethiopia, and others.

In recent years, an increasing number of requests are being placed with Japan for effectuation of integrated package projects encompassing the whole work of prevention, treatment, and rehabilitation with respect to special diseases such

as polio, Er-Tor cholera, parasitic diseases, cancer, public nuisance, etc. In this connection, dispatching of a team of experts instead of individual experts is more welcomed. With medical assistance assuming higher standards, there is increasing use not only of para-medical staff but also the participation of engineering operators.

These countries are gaining the support of medical societies and committees in Japan which are made up of the most learned medical personages of Japan and which work in cooperation with international organizations such as WHO, offering medical cooperation such as in connection with the Philippine programs to eliminate polio and control Er-Tor cholera; the Imperial Central Laboratory and Research Institute's parasitic disease control program in Ethiopia, the establishment of the Thai National Cancer Institute and polio control measures as well as the Department of Occupational Health at the Institute of Public Health Research and the School of Public Health, Teheran University in Iran.

### *Section 3. Problems of Medical Cooperation*

#### 1. Evaluation of Medical Cooperation

It is true that Japanese medical science and treatment has achieved remarkable progress and Japan's cooperation in medical fields are increasingly appreciated by developing countries. But, on the other hand, there is the problem of deficiency of doctors even within Japan at public hospitals, health centers, particularly at remote places.

The medical situations in developing countries are so grave that medical cooperation is urgently requested by these countries. It is necessary, therefore, for Japan to participate in projects which would allow her to offer cooperation actively in medical research and education as well as in providing medical treatment.

To extend positive helping hands to the developing nation's medical problems, creation of environment suitable for the dispatched medical experts to fully utilize their capabilities is necessary, and proper medical facilities must be offered, in addition to sending superior medical equipment and supplies.

At the same time, medical trainees received from the developing countries can be usefully employed after their return at the institutes to which medical equipments and supplies were provided by Japan. By combining various formula of medical cooperation for an integrated project, one may hope to attain the maximum efficacy.

Japanese experts offer technical guidance to doctors, X-ray technicians, research fellows and inspectors in addition to offering medical services, and certain improvement is made in medical standards

of a number of these countries. Many of these doctors desire further study in Japan.

To successfully attain the initial objectives, it is necessary that medical cooperation be continued for a long period. At the same time, it is vital that such operations envisage the fostering up of local staff for medical research and practice so as to enable the developing countries to become self-sustaining in the field of medicine as quickly as possible.

## 2. Consolidation of Domestic Organizational Set-up for Overseas Medical Cooperation

### 1) Research on tropical medicine

There is a great need for developing the study and treatment of tropical diseases in Asian countries. Increasing number of Asian countries are seeking Japan's assistance in research on tropical diseases despite the fact that Japan is not a tropical country. Lately, certain circles in Japan are contemplating the establishment of a tropical medical science center to advance studies on tropical medicine and to cultivate outstanding researchers in various countries of Asia.

A tropical medical science center in Japan will serve as the central organ for research and training in tropical medicine and will also serve as a pool of information and data where valuable information and data can be obtained. Japan can thus contribute to the prevention and eradication of tropical diseases in developing countries.

### 2) Recruitment of medical experts

Due to shortage of doctors within Japan, it is necessary to do everything possible to recruit com-

petent experts for overseas services. Increase in salary-scale, systematic support for brushing-up of techniques, home leave for medical conferences and consultations, filling of temporary vacant posts of dispatched experts are some of the improvement required.

### 3) Levelling up and specialization of training

Since the securing of adequate number of experts for dispatch overseas is quite difficult, the program for receiving trainees from developing nations poses an alternative solution in offering effective medical cooperation to developing nations. The doctors of developing nations are increasingly requesting advanced countries to offer specialized, postgraduate training, particularly in such complicated subjects as cancer, cardiac surgery and virus research.

## 3. Need for Establishing Closer Ties with International Organizations

In recent years, developing nations tend to place requests for projects which must be conducted in coordination with international organizations such as WHO and UNESCO, as well as for common projects based on mutual cooperation among regional developing countries and projects which must be effectuated with the coordination of other advanced countries.

Under the situation, there is an urgent need for Japan to further strengthen her ties with other advanced countries and international organizations, so that medical cooperation to developing nations may be pursued through the close coordination of bilateral and multilateral assistance.

# CHAPTER 7

## AGRICULTURAL DEVELOPMENT COOPERATION

### Section 1. Outline of Agricultural Development Cooperation

Spurred by bulging populations, increasing food shortage, need for promotion of foreign trade particularly with respect to primary goods, and encouraged by Japan's positive attitudes towards economic development of Southeast Asian countries, requests for Japan's cooperation in agriculture have come to be voiced actively in recent years by Asian countries, in particular by the developing nations of Southeast Asia.

These developing countries are faced with the need to acquire modern techniques to establish intensive agriculture and to discard their traditional extensive agriculture.

The countries of Southeast Asia are generally situated in the tropical zone and naturally favored

with advantageous conditions for agriculture, such as abundant sunlight, warm climate and ample rainfall. However, proper measures are not often taken to fully utilize these favorable conditions.

As we all know, agricultural development proceeds from the initial stage of simple utilization of land, sunlight and water and, stimulated with the need to increase yields, enters the second stage in which positive effort is made toward effective utilization of arable land such as land consolidation as well as to control the forces of water. In the further stage of development, advanced agricultural methods come into the picture such as the appropriate distribution and use of irrigation water, improvement of plant seeds, use of fertilizer, prevention of plant diseases and extermination of harmful insects. At the same time, improvements

must be secured in related institutional arrangements involving education, administration, marketing, finance, taxation and land systems.

As described earlier, the agricultural situation in the developing nations of Southeast Asia calls for solution of three basic problems—land consolidation (improved infrastructure), adoption of modern agricultural techniques and improvement of social systems.

However, none of these is easy to solve and solution of these problems appears quite distant. To develop and modernize the agriculture of these countries, Japan has started to offer integrated project cooperation which encompasses a wide range of fields covering studies and experiments, land consolidation through such measures as irrigation and drainage, teaching and extension of modern agricultural techniques, and advice of farm management techniques to local small farmers.

More concretely, the following measures are taken:

- (1) Conducting of surveys and drawing up of detail designs for land consolidation through irrigation, drainage and construction of farm roads, with regard to selected projects of appropriated size for developing model farms in suitable regions.
- (2) Establishment of pilot area to be designated as the center suitable for experimenting such integrated project, implementation of necessary land consolidation in pilot area and to carry out the selection of appropriate seeds, the use of fertilizer, use of new equipments and extension of other methods to improve production and farm management.

Under this type of cooperation, limited funds and other resources are concentrated in a model area which serves as the base for development, and this type of cooperation is now being adopted by the Japanese authorities as the basic approach to the agricultural development of developing countries.

## *Section 2. Achievements during Fiscal Year 1967*

### **1. Project of Increasing Rice Production in West Java, Indonesia**

#### **1) Outline and description of project**

The Indonesian government, as a means of reconstructing the nation's economy and to attain self-sustenance in the production of foodstuff, inaugurated in 1965 its BIMAS Project. It was a national movement to increase the production of foodstuff. Fertilizers, insecticides, seeds and other materials were distributed to farmers through agricultural cooperative unions. Extension of agricultural techniques was promoted by mobilizing staff members and students from agricultural experimental stations, universities and other organizations.

In carrying out the above project, the Government of Indonesia in June 1966 requested the cooperation of the Japanese government in its project of increasing rice production in West Java, Indonesia as a part of the BIMAS Project. Complying with this request, the Japanese government in October 1966, dispatched a preliminary survey team to Indonesia for a term of three weeks to survey the actual situations of the country and to confer with the Government of Indonesia. As a result, the Japanese government decided that the project well merited its serious cooperation.

#### **2) Dispatching of survey teams**

In September 1967, a survey team of ten experts was sent to the country for 35 days to conduct a detailed survey of local conditions for the purpose of drawing up concrete plans for offering agricultural cooperation to Indonesia. Based on field surveys and discussions with the Government of Indonesia, the following agreements were reached on Japan's agricultural cooperation.

##### **(1) Projects**

- a) Offering of guidance in the extension, inspection and production of improved species at the Muara Agricultural Experimental Station of Bogor.
- b) Offering of guidance in the utilization of farm machinery and modernization of farm management at the Skamandy Agricultural Mechanization Training Center and the Passarminggu Agricultural Mechanization Training Center.
- c) Offering of coordinated cooperation (guidance and advice) over a wide scope of activities ranging from extension of rice cultivation techniques such as land improvement, agricultural mechanization, use of fertilizers, and prevention and elimination of plant diseases and harmful insects, to offering of guidance in cooperative union activities at a model farm of 1,000 hectares at the Tjihea State Farm of Tjiandjur.

(2) To cooperate in these projects, the Japanese government would dispatch experts, provide equipment and supplies, and offer agricultural training to Indonesian trainees in Japan.

(3) The Indonesian government agreed to offer at its own expense the necessary land, buildings, staff members and operating costs for the respective projects.

(4) The term of agreement for technical cooperation was mutually agreed at three years.

#### **3) Direction of future cooperation**

By the agreement concluded in May 1968, five experts are to be dispatched beginning fiscal year 1968 to offer technical cooperation, and provision of equipment and supplies will be carried out in parallel.

## 2. Drainage and Reclamation of Sungai Prai Basin in Malaysia

### 1) Outline and description of project

The Malaysian government is recently exerting its effort to attain agricultural development, particularly to increase rice production, by expanding the farmlands offering two crops per year. As a part of this program, the government has asked Japan to offer cooperation in the Scheme for the Drainage and the Sungai Prai Basin.

This project envisages the construction of dams and tide gates at the Sungai Prai Basin in order to reclaim 700 hectares of farmland (paddy fields) and to improve the drainage of neighboring farmlands, as well as to secure adequate industrial water for the Butterworth industrial belt nearby, and further to improve the transportation situation of the whole area.

The Malaysian government, by self-effort, conducted the preliminary survey of the project from 1954, and subsequently requested Japan to offer cooperation in the feasibility survey and detail designing.

### 2) Dispatching of feasibility survey team

Complying with this request, the Japanese government, in September 1967, dispatched a survey team for a period of about three months to look into the feasibility of the project.

The findings of the survey team showed that the project was very promising. That is, with total expenditure of 8,000,000 Malaysian dollars, some 700 hectares of paddy fields could be obtained, improvement of drainage could be attained for some 2,500 hectares of fields already under cultivation, and securing of adequate industrial water would become possible.

### 3) Dispatching of plans team

In March 1968, the feasibility report was submitted to the Malaysian government. In April, a plans team (two experts) was dispatched to confer on the details of the plan as well as on speeding up the detail design.

### 4) Direction of cooperation effort

At the latter part of April, an implementation survey team consisting of seven experts including civilian experts was dispatched to Malaysia. This team of experts joined with the plans team and set about drawing up the detail design. As the construction costs of the project is expected to be based on yen loan, a speedy realization of the project is anticipated.

As for the agricultural mechanization project, it is a prerequisite to attaining complete conversion of the paddy-rice producing area in and around Kedah State into a two-crop area. As Japanese cooperation in this project had been requested earlier by the Malaysian government, the preliminary sur-

vey for this project was conducted in parallel with the aforementioned land reclamation project survey. Based on this survey, concrete cooperation is to be extended from fiscal year 1968.

## 3. Philippines: Rice Production Centers (Naujan district, Mindoro Is.; San Miguel-Alangalang district, Leyte Is.)

### 1) Outline and description of projects

As one of its main policies, the Philippines government drew up its four-year plan for self-sustenance in foodstuffs in June 1966, and in the same year, Vice President Lopez while visiting Japan requested Japanese technical cooperation as a means of attaining the above-mentioned objectives.

In compliance with this request, the Japanese government dispatched to the Philippines in September 1966 a preliminary survey team to find out the situation of agriculture in the Philippines, to judge the feasibility of the proposed agricultural development project, and to find out the best way to offer agricultural cooperation to the Philippines. The survey team mainly conducted field surveys in central Luzon, northern Luzon and Mindanao Island.

Based on the report of the preliminary survey team, the second survey team was dispatched in April 1967 for a feasibility survey. The idea was to carry out some irrigation projects by selecting small and medium scale farmlands already under cultivation in the Naujan district on Mindoro Island, San Miguel-Alangalang district on Leyte Island, and Titay district on Mindanao Island.

### 2) Dispatching of plans team

Findings of the feasibility team showed that the Naujan district and the San Miguel Alangalang district were the most suitable both technically and economically for carrying out the irrigation project.

The Japanese government drew up its plan for "Irrigation of Model Paddy Fields for Increasing Rice Production," and dispatched a plans team to the Philippines in November 1967. The plans team discussed the details of the plan with the Philippine government and also on the method of carrying out the project.

As a result of the discussions, the Philippine government requested that the field operations be expedited to allow speedy realization of the project, and to construct coordinated model farms not only equipped with water utilization facilities but also with facilities for drying and storing rice.

### 3) Dispatching of detail design team

A team of 21 experts for detail design, mainly consisting of civilian consultants, was dispatched for a period of 60 days starting from March 1968.

The plans for the two districts were decided as follows:

#### (1) Naujan district

This district, situated on the northeastern part of Mindoro Island, lies between Calapan city and Naujan city. It is about 1,000 hectares in area and affords effective display all along the national highway.

Furthermore, this district lies between the Magasawang Tubic River (northwest part) and the Pangalaan River (southeast end) and constitutes a level plain whose greater proportion is already cultivated.

The project in this area aimed at pumping up 3.5 tons/sec of water from the Magasawang Tubic River to obtain stable rice production of 4 tons/ha in the dry season and 3.5 tons/ha in the rainy season.

Total project area	Area irrigated	Objective	Principal facilities	Annual rice production
1,336 ha	1,000 ha	Stabilized 2-crop rice production	Pumping facilities, drainage system, rice center	7,480 tons

#### (2) San Miguel Alangalang district

This district is situated about 40 kilometers along the road toward the southwest of Tacloban city in the northeastern part of Leyte Island and extends to the left bank of the Mainit river.

Topographically, this district is divided into two farms between which the national highway runs. Situated close to the water source and being free of flood hazard, this district is being used for vegetable farming.

The project for this district aims at constructing a water intake at a spot 1.7 kilometers away from the Mainit national highway bridge to obtain 2.73 tons of water for irrigating 1,086 hectares of paddy fields. The many creeks found in this district are to be given proper attention and used as drainage outlets.

Upon completion of this great project, stable two-crop rice production of 4 tons/ha in the dry season and 3.5 tons/ha in the wet season is anticipated.

Total project area	Area to be irrigated	Objective	Principal facilities	Annual rice production
1,430 ha	1,086 ha	Stabilized 2-crop rice production	Water intake and drainage system rice center	8,100 tons

Prior to construction of the irrigation facilities of both districts, the survey team suggested to the Philippine government that more effective agricultural development would be achieved if pilot model farms were established near the project areas through which improved agricultural methods could be propagated widely. The Philippine government

approved the proposal.

#### 4) Direction of future cooperation

Despite the difficulty of obtaining construction funds, the Philippine government is advancing this project with positive efforts. To follow through with this project, the Japanese government sent in September 1968 a survey team to give further study to this pilot farm project, which will be started as soon as agreements are reached by both governments.

#### 4. Laos: Tha Ngon Agricultural Development Project

##### 1) Outline and description of project

Solving its food shortage problem and achieving social and economic development have long been the main policies of the Government of Laos. In particular, the Government has been deeply interested in achieving agricultural development of the Vientiane Plains centering around its capital Vientiane, and in 1967 requested Japan's cooperation in the Tha Ngon Agricultural Development Project which constitutes the pilot project for the area.

The Tha Ngon district, situated about 25 kilometers north of Vientiane, is about 1,000 hectares in area and consists mostly of level land covered with grass or woods. The Nam Ngum River (branch of Mekong River) runs to the north and topographically the whole area is blessed with highly advantageous conditions. Moreover, there is the Japan-Laos Agricultural and Stock-Farming Center nearby that could be used effectively as a technical cooperation base.

##### 2) Dispatching of feasibility survey team

This area had earlier been surveyed by a Japanese civilian consultant as a part of the Nam Ngum Integrated Development Plan. Japan therefore felt that a feasibility survey would be possible immediately and dispatched a survey team to the area for a period of thirty days starting from January 1968.

Findings of the survey showed that by constructing pumping facilities, water gates and waterways for drainage and irrigation, it is possible to develop 800 hectares of paddy fields.

##### 3) Direction of future cooperation

Negotiations for construction funds are currently proceeding with the Asian Development Bank. Therefore, a project team is expected to be sent to the area in November 1968, and establishment of a pilot farm is also being planned.

#### 5. Le Developpement De La Culture Du Mais Au Cambodge

##### 1) Outline and description of project

From some time past, the Cambodian government had been enthusiastic about establishing through Japanese-Cambodian joint venture a public corporation for tropical crops cultivation

(SOCTROPIC) as a means of developing its domestic products for export, and had approached Japan for economic and technical cooperation. In order to rectify trade unbalance the Japanese government decided to extend cooperation to Cambodia in the following manner:

(1) To select the most suitable species of corn and to establish proper standards for their cultivation, Japan would offer cooperation in experiment and research work as well as cooperation in the training of Cambodian experts.

(2) Cooperation would be offered to raise the standards of corn cultivation techniques of Cambodian farmers, and to extend corn cultivation.

(3) Cooperation for organizational set-up in marketing and distribution system for promotion of exports to Japan.

The agricultural development cooperation will mainly offer cooperation in item (1) above.

2) Dispatching of implementation survey team

A survey team was dispatched to Cambodia for the period from December 1967 to March 1968 to study ten proposed sites centering around the basin of the Mekong River. As a result of the investigation, which took into consideration such factors as geographical conditions, soil conditions, water availability and construction costs, the Dei-Eth district

and Koki Thom district were decided as the most suitable sites for establishing model farms, from both technical and economic standpoints.

3) Direction of future cooperation

Currently, the technical cooperation agreement relative to this project is being studied by both countries. Dispatching of experts for experiment and research, as well as provision of necessary equipment and supplies, are scheduled upon completion of the agreement. Dispatching of a team of experts to construct experimental farms is also under study.

6. The Agricultural Technical Center of Friendship between Japan and Cambodia & The Livestock Breeding Center of Friendship between Japan and Cambodia

(Please refer to Chapter 4. Japan's Overseas Technical Cooperation Centers)

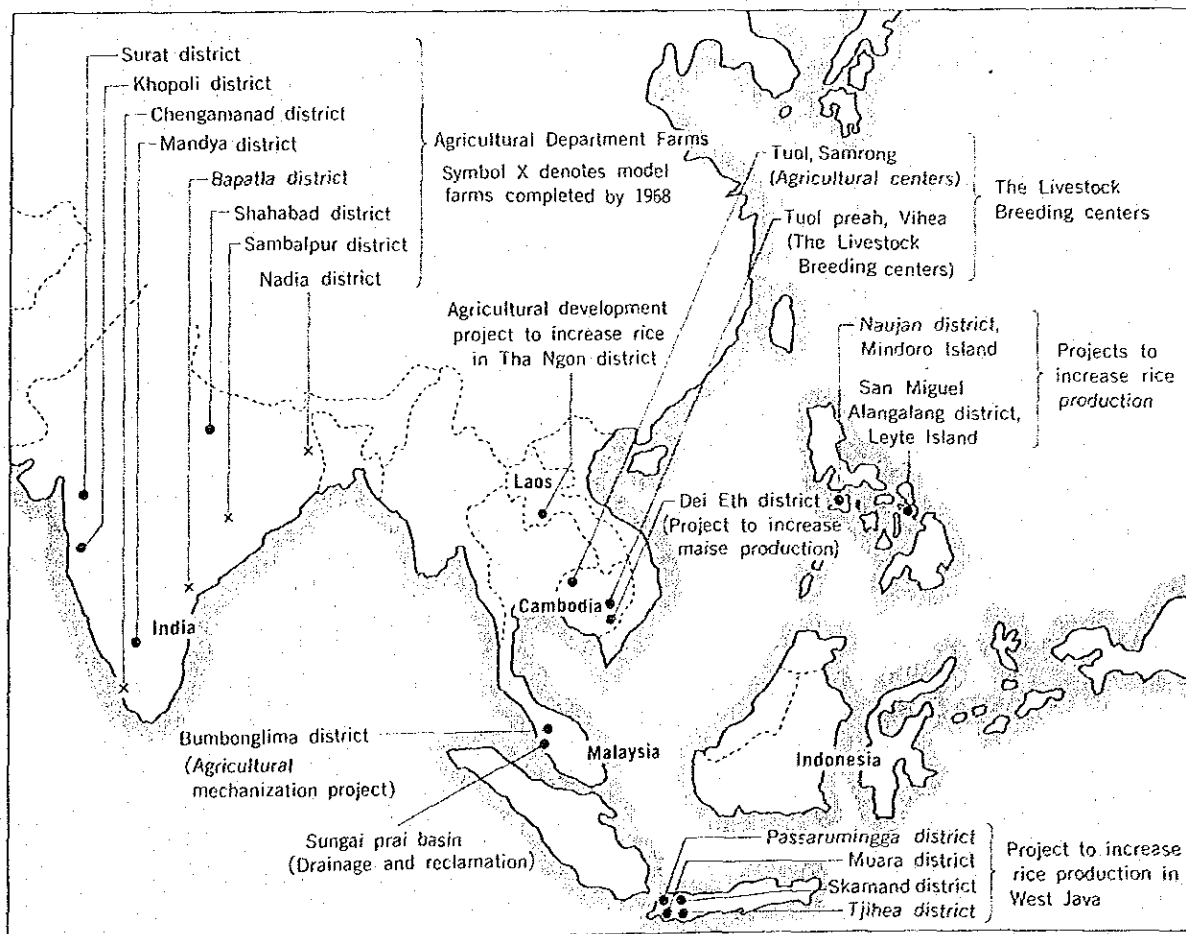
7. Expansion of India-Japan Agricultural Demonstration Farm

(Please refer to Chapter 4. Japan's Overseas Technical Cooperation Centers)

Section 3. Problems of Agricultural Development Cooperation

In the agricultural development cooperation pro-

Japan's Agricultural Development Cooperation in Southeast Asia



jects undertaken by Japan so far, the normal procedure has been to establish local agricultural centers with the purpose of offering technical guidance in experiment and research work, conducting agricultural demonstration, offering of training to counterparts and others, and also to provide necessary equipment and supplies, in compliance with the requests of developing countries.

These programs were based on the agricultural center system. While this system has actually been quite effective for raising the level of agricultural techniques for selected group of people, it falls short of extending these advanced techniques widely to farmers in general for their level up.

It is felt that while the agricultural center system may be the most suitable for a country in the initial stage of agricultural development, it becomes necessary, as these countries gradually attain higher standards of agricultural techniques, to place greater emphasis on the extension of techniques and offering of technical guidance in line with developing integrated project.

However, a number of problems remain to be solved, the principal of which are the following.

#### 1. Selection of Project

As mentioned in Section 1, the first big problem to be confronted when carrying out an agricultural development cooperation project is that of selecting a project of suitable scale at a suitable location in the area in which the project is to be carried out. Moreover, these projects normally require much time for their completion and involve enormous funds as well.

There is an urgent need to establish some set-up for a systematic and continuous collection of detailed relative information. In addition, it is necessary to fully conduct basic surveys relative to agricultural development of each recipient country, and to accurately grasp the existing situations of recipient country.

#### 2. Establishment of Tropical Agriculture Research

Japanese agricultural techniques are quite advanced owing to the rich experience gained during the past several centuries. However, these techniques belong to the domain of temperate agriculture and not of tropical agriculture which is characteristically quite different.

Satisfactory agricultural cooperation to developing nations can be achieved only by fully mastering all studies relative to tropical agricultural techniques including proper selection of species and cultivation techniques. In fact, there is a current trend in the Southeast Asian countries to place the greatest emphasis on establishing various institutions for the experiment and research of agricultural problems.

In order to offer technical cooperation in the fields of agricultural experiment and research upon request of these developing countries, Japan should help expand their facilities and dispatch our experts abroad. It will be necessary for Japan to actively engage herself in the study of tropical agriculture, and therefore she must cultivate and train experts for overseas dispatching, and to establish a system for the pooling of capable experts.

#### 3. Cultivation and Securing of Experts for Dispatch Overseas

To carry out any agricultural development cooperation project successfully, at least four to five experts become necessary.

Moreover, to ensure smooth and effective operation of these activities henceforth, exerted efforts must be made not only to increase the number of experts but to improve their quality as well.

For this, proper measures will have to be taken, for example, to expand the system of dispatching government employees overseas, to maintain a system for pooling capable local governmental employees, civilian employees and others into the Overseas Technical Cooperation Agency.

Also, in order to raise the standards of dispatched experts, more efficient measures must be devised to better acquaint potential overseas experts with the agricultural situation, natural conditions, agricultural techniques, language of the recipient countries and other related subjects.

Follow-up work, after dispatch of experts, must also be carried out regularly if the field work of dispatched experts is to be effectively adapted to local conditions.

That is, proper advice must be given to dispatched experts by itinerant officials on new or difficult problems which may arise in the recipient countries; and a leave system must be established to allow dispatched experts to return to Japan periodically to attend agricultural conferences or symposiums.

#### 4. Procurement of Funds

Procurement of funds is always one of the biggest problems to be coped with when carrying out infrastructural development such as irrigation and drainage, as well as in projects to develop and extend agricultural techniques.

Actually, these projects involve enormous investments which the developing countries usually find difficult to finance by themselves. Naturally, these countries will have to depend on financial cooperation of advanced countries or rely on international financial institutions.

Under the circumstances, it will be necessary for Japan to maintain very close ties with the Asian Development Bank and other international financial institutions and to fully understand the cri-



teria by which these institutions make loans and the trend and policy of loan financing.

Again, in connection with the food aid that is being offered under the International Grain Agreement, it can be said that greater emphasis must be placed on aids offering agricultural equipment and supplies linked to development projects rather than on direct offering of foodstuff, particularly from the standpoint that the food problems of developing nations must basically be solved by the developing nations themselves through increased food production.

#### 5. Relationship with Private Enterprises

While the greater proportion of Japan's agricultural development cooperation is being achieved on

the governmental basis, current trends indicate that cooperation on private basis is increasing steadily.

That is, a variety of operations is being promoted actively by these private enterprises, such as the receiving of trainees, offering of consultant business, technical cooperation by firms for farm management guidance, and the establishment of joint venture firms for importing primary products.

In view of the lack of agricultural experts and farm management experts over the whole field of agricultural development cooperation, there is a need for Japan to give further thought toward establishing closer coordination with private enterprises.

## CHAPTER 8

# PRIMARY PRODUCTS DEVELOPMENT COOPERATION

### *Section 1. Outline of Primary Products Development Cooperation*

#### 1. Significance of Primary Products Development Cooperation

Japan's external trade, exports in particular depend largely on the developing countries when compared with that of West European countries, and her trade structure shows a general trend for export surplus.

Under these circumstances, the newly emerging nations have, over recent years, strongly urged Japan to remedy such trade imbalance, and some of them have tightened restrictions on imports from Japan on the grounds of this imbalance. Accordingly, exports to such countries from Japan are either stagnant or declining.

Therefore, promotion of imports from the developing countries is not only necessary for Japan to bolster her exports, but also a task imposed upon Japan as one of the industrially advanced countries to seek solution to the problems of developing economies. However, increase in imports on a commercial basis of primary products from these countries has been very difficult because their prices when considering the quality have been higher than international prices.

As a means of easing the import restrictions imposed by developing countries, Japan has been making efforts to promote the purchases of primary products from Iran, Iraq and Nigeria through adoption of the compensation scheme. Such measures are effective in promoting imports of relatively expensive primary products from developing countries. However, they involve such problems as

the increasing burden of Japanese exporters, decline in their export competitive power, as well as not effectively helping the efforts of these countries to exploit and develop their primary products under competitive condition. The compensation scheme therefore should be regarded as a mere emergency step.

Accordingly, it is considered more essential to extend basic cooperation that will enable new countries to carry out the export of primary products at international price level through such measures as the improvement of productivity and quality, rationalization of their distribution systems, etc. Japan's cooperation in this new field would contribute to the improvement of their balance of payments and increase of their national income, and at the same time, it would meet their request for "trade rather than aid."

It was from the above viewpoint that need for primary products development cooperation was recognized and the budget for fiscal 1967 provided about \$280,000 for this purpose. As a result, OTCA set up a new "Primary Products Development Cooperation Office" in July 1967 so as to launch its activities in this new direction.

#### 2. Basic Policy for Primary Products Development Cooperation

The primary products development cooperation is aimed at the strengthening of trade relations with developing countries through increased imports of primary products, mainly agricultural products, as part of Japan's economic cooperation with these countries. Such assistance, therefore, calls for Japan's cooperation in the development of

primary products which are expended to draw a substantially increased demand in Japan and the basic policy is to attain this purpose not through financial assistance or import subsidy but through technical assistance and guidance combining the provision of experts and equipments to increase productivity, to improve quality, and to reform the distribution systems in the developing countries so that these primary products could be exported at reduced competitive price.

This type of cooperation requires necessary measures to be mapped out not only from the angle of the enhancement of productivity, improvement of quality, etc. of the primary products from the developing countries, but also in close relationship with propensity of demand for primary products in Japan. Accordingly, the work should not be limited to cooperation in the field of technical guidance, because they call for coordinated activities, such as surveys on demand and supply, marketing and liaison services between the various Japanese and local organizations.

It, thus, requires establishment of bases for technical and marketing cooperation so that the bases there and the headquarters here may push on with their cooperation together in a coordinated manner. The bases in the developing countries should carry out the following activities in close contact with the headquarters:

(1) Technical guidance, extension and teaching of supplied equipment and materials.

1) Experiment and research, supply of fertilizer, insecticides, agricultural machines and equipment for pilot areas and demonstration and experiment farms, technical guidance for improved method of production.

2) Technical guidance, demonstration and advice on improvement in quality (fumigation, inspection, etc.)

3) Advice on improvement of the distribution system (transport, storage, etc.)

(2) Liaison with the government authorities and organizations concerned of the recipient country.

(3) Contact with the local offices of Japanese importing firms.

(4) Marketing and intermediary services regarding transactions between the recipient country and Japan.

### 3. Outline of Primary Products Development Cooperation

In fiscal 1967, OTCA sent a fact-finding mission respectively to Tanzania, Indonesia, Cambodia and Thailand for establishment in each country of a base on development imports, chiefly for agricultural crops for feeding stuff including maize, cornstarch, oilseeds, etc.

## Section 2. Performance of Primary Products Development Cooperation for Fiscal Year 1967

### 1. Tanzania

The government of Tanzania requested Japan to increase the purchase of primary products on the ground of trade imbalance in favor of Japan. OTCA therefore conducted surveys on the production, quality of products, distribution system, etc. in Tanzania in order to provide technical cooperation for improvement in productivity and increase in exports of maize with a view to ensuring stable supply of raw material for cornstarch required in Japan.

Maize constitutes a staple food along with cassava in Tanzania. Maize is cultivated in almost all areas in that country, except for the dry zone in the central part. Its annual output is estimated at 700,000 to 1,000,000 tons. However, on account of the inadequately organized distribution system, shipment to the market constitutes a mere ten per cent or so of the total output. At the present stage, therefore, the maize industry is at the level of self-sufficiency, but not more.

But the Tanzanian government, which has realized the growth potential of maize as an interesting export item due to the increasing demand on the international market, introduced the price guarantee system through the Agricultural Products Corporation and started making efforts for the gathering and distribution of crops through the agricultural cooperatives. At the same time, it asked for Japan's cooperation with respect to boosting the output for development of extra capacity for export, and marketing.

The survey team presented a suggestion to the Tanzanian government to the following effect:

There would not be much room for Japan's cooperation in the field of experiments and research, because basic experiments and research are already conducted chiefly by British researchers. However, since the results of such experiments and research had not been fully applied in actual cultivation by farmers, it would be necessary to conduct experiments with a view to establishing systems of cultivation and fertilization conforming with the area-by-area topographical conditions, and to provide guidance in, and to spread technique, for actual cultivation by farmers.

Accordingly, it was necessary to assign technical experts to Tanzania for dissemination of technique, grant equipment and give technical guidance to farmers. Furthermore, dispatch of experts on the breeding of the seeds of rice plants as desired by Tanzania would be indirectly effective. (Through a boost in output of rice, consumption of maize as a staple food would gradually shift to rice, thereby

creating additional capacity for the export of maize).

Tanzania would make available 15,000 acres of land for boosting the output of maize, and sought Japan's participation in development in a tie-up with the Tanzanian government or a private enterprise in that country.

## 2. Indonesia

Indonesia is the largest maize producing country in Southeast Asia, producing about 3 million tons a year. But its entire output is consumed within that country.

Maize of Indonesian origin began to be exported to Japan and Hong Kong in very small quantities in 1965. However, exports in large quantities cannot be expected on account of various difficulties in regard to quality.

Therefore, it is of pressing need to improve the quality if the export of Indonesian maize is to be increased. However, even if the quality is improved, a substantial increase in exports would not be achieved because of the demand at home, unless a superfluous capacity for export is developed.

There are two ways to build up a superfluous capacity for export—increasing the maize output, and increasing the production of rice so that the saving in the domestic consumption of maize may be allocated to exports. However, when mapping out measures for the boosting of food production in that country, consideration should be given area by area because of the present picture of the transport facilities there. For example, production of rice is an urgent need in West Java in order to feed the population concentrated in Djakarta. In East Java Province, self-sufficiency in foods is possible even now. As dry field farming is the principal form of farming due to topographical features, it is presumed that a boost in the output of maize will be feasible more easily and in a shorter period than that of rice in East Java.

From the above angle, with a view to giving priority to West Java Province centered around Djakarta in increasing the output of rice, and stepping up the production of maize for export in East Java Province, the Indonesian Government requested Japan's cooperation.

Japan is scheduled to provide cooperation for the program for increasing the output of rice in West Java Province as mentioned in Chapter 7. As for the plan for a boost in production of maize in East Java Province, OTCA decided to meet the request of the Indonesian Government with primary products development cooperation as part of the development-import scheme. Therefore, OTCA sent an implementation survey team to that country to conduct investigation on the below mentioned items, and held consultations with the Indonesian Gov-

ernment on the concrete measures for the cooperation:

In East Java Province, the team conducted surveys with respect to natural conditions, distribution system, the gathering of crops, transport facilities, etc. at the site proposed for the concentrated production increase program, and selected a suitable area for the cooperation project. (The above site was selected by the East Java government. Its total area is 470,000 ha, of which 40,000 ha is earmarked for the production boost program for the first year).

In the field of improvement in quality, surveys were conducted on the present state of quality control, storage facilities, etc. with emphasis on the concentrated production increase area, and principal ports of exports (Banjuangi and Surabaya), and fumigation demonstrations were carried out.

In addition, in preparation for the activities of Japanese personnel to be stationed at the base for development-import scheme (in East Java Province), the survey team investigated the living environment and transportation facilities in the area.

Based on the result of such surveys, it was informally decided to provide intensive guidance in maize cultivation in 300 ha of land each at Lumajang, Kediri, Malang and Banjuangi in East Java Province, totaling 1,200 ha.

The team held consultations and reached an agreement with the Indonesian Government with respect to the equipment to be granted, status of personnel stationed in the base and their various privileges. The minutes of the relative agreement were signed on December 16, 1967.

Japanese technical experts were scheduled to be sent, based on the above minutes, during fiscal 1968 to start activities at the base.

The group of technical experts sent to the base will, in close contact with their headquarters in Japan, engage in guidance in primary products development technique, extension and instruction on equipment required for development, liaison with the Indonesian Government and the agencies concerned, and the local offices of Japanese firms, as well as intermediary service for transactions.

For the time being, cooperation will be provided in the following manner:

- 1) Grant of fertilizer, agricultural chemicals and farming equipment for demonstrations and experiments, and technical guidance in cultivation.
- 2) Spread of superior seeds and techniques for fertilization and cultivation, guidance and advice in the use and extension of agricultural equipment, including demonstrations.
- 3) Guidance in improvement of distribution system (transport, storage, credit sales, distribution of fertilizers, etc.)

### 3. Cambodia

As stated in Chapter 7, Section 2-5 the Cambodian Government has requested the Japanese Government to provide it with capital and technical cooperation for establishment of a tropical crops cultivation corporation (SOCTROPIC) in a joint venture between Japan and Cambodia.

The primary products development cooperation will, in this case, furnish cooperation for the extension of improved techniques for corn cultivation and for improvement of the marketing and distribution system which are mentioned under items (2) and (3) of Chapter 7, Section 2-5. In the extension of cultivation technique, it was planned to select pilot area and to assign experts to the pilot area for technical guidance, as well as to furnish them with necessary equipments.

In the improvement of distribution system, assistance will be given to improve the system for gathering and distribution of crops, supplying necessary equipments for such efforts, so as to promote the export of maize to Japan. Accordingly, in conducting the survey on this project, investigation was made on the conditions for pilot area and the system of distribution centering on the Mekong basin.

The survey placed emphasis on Kandal Province, the maize producing center of Cambodia. As a result, five sites for pilot area were selected and reported to the Cambodian Government.

Negotiations are currently in progress between the governments of Japan and Cambodia on conclusion of a technical cooperation agreement with respect to the development of maize production based on the result of the survey.

When the above agreement is signed, three technical experts will be sent to Cambodia for primary products development cooperation. Two of them will engage in guidance on the spread of maize cultivation technique chiefly to the pilot areas, and a third expert in improvement of the local distribution system.

### 4. Thailand

Trade between Japan and Thailand is marked by a heavy chronic imbalance in favor of Japan. Accordingly, the Thai Government has requested Japan to improve the one-sided trade through the increased purchase of primary products, maize, milo, cassava, oilseeds (cottonseed, castor bean, etc.), tobacco, banana and kenaf were selected to be included in the cooperation project.

In order to meet this request as well as to ensure a stabilized supply of raw materials for feeding-stuff, oils and fats, and fibers required by Japan, it was felt necessary for Japan to provide technical cooperation for a boost in output and improvement in quality of maize, milo, cassava, oilseeds, kenaf,

etc.

Negotiations were conducted on the details of the technical cooperation project, which was limited to reduction in the cost of production, and improvement of quality and distribution so as to bring about an expansion of Thailand's exports to Japan.

The second survey team conducted a survey, according to the agreement on cooperation between the first team and the Thai Government, on kenaf and oilseeds in the northeastern area of Thailand; oilseeds and tobacco in the north; maize, milo, oilseeds and cassava in the central area; and oilseeds and substitute crop for rubber in the south.

In connection with kenaf, from the angle of improving the quality as requested by Japan's hemp spinning industry, the survey team conducted studies on the construction of the retting pool (for bleaching required in peeling), mechanical peeling, mechanical cropping, etc. with a view to reforming the quality of kenaf.

In the field of oilseeds, since it is nearly impossible, in the present state, to buy oilseeds, except for castor seeds, on account of the small production of the quality which Japan's oils and fats industries wish to have, the team carried out studies on the possibility of increasing production of a suitable quality through development and spread of good seeds and improvement in the technique for cultivation, as well as on the possibility of providing technical cooperation for quality control with respect to the oil content, acidity, etc. of seeds.

As to maize and milo, their export structure is organized to a certain extent because they are already being exported to Japan in large quantities. However, there is a problem whether there will be increasing purchases by Japan in the future.

In recent years, on account of the significant deterioration in the fertility of soil through continuation of exploitative rotation of crops, that is, repeated cultivation without using fertilizers, a sharp decline in maize and milo crops per acre has resulted. Moreover, with the progress in expansion of the planted area through development of state-owned land, the production area is gradually shifting to the hinterland. It would therefore be difficult to put much expectation in a boost in production through expansion of acreage.

Against the foregoing background, and from the standpoint that it is necessary to increase the output through maintenance of the fertility of soil in the existing arable land through use of fertilizers, and introducing the cultivation of pulses as the second crop, as well as to economize on manpower through adoption of mechanized farming, the survey team conducted studies on the possibility of demonstrations to farmers in model areas for promotion of fertilization and introduction of agricul-

ture machines, and also the possibility of technical cooperation for trial crops by the farmers themselves.

As regards cassava, which had been imported by Japan in small quantities for making starch, it cannot yet be known clearly whether purchases can immediately be increased, although some quantities have been imported on trial as feedingstuffs in the early part of the current fiscal year.

Therefore, the survey team carried out an investigation on the possibility of technical cooperation with respect to the quality control system, intending to give consideration to the question of developing cooperation for this item according to the trend of demand in Japan.

As for tobacco, although Japan has imported it in small quantities, the team looked into the problem of quality and price which are presenting a problem for import.

On the completion of the survey, the second survey team reported its findings to the Thai Government, and consulted on concrete ways for performance of technical cooperation.

In the above consultation, the survey team presented the following projects for technical cooperation based on the policy of providing technical cooperation for production increase, reduction in production cost and improvement in the quality of oil-seeds (soybean, castor bean and sesame) and crops for feedingstuff (maize, milo and cassava) as well as kenaf:

- 1) Experiments and research on cultivation and control of suitable varieties of seeds.
- 2) Spread of cultivation technique and demonstrations in pilot areas.
- 3) Improvement in quality of kenaf (mechanization of cropping and finishing, and construction of retting pools).

- 4) Establishment of research facilities for extraction of oil and its chemical analysis.
- 5) Strengthening of quality control of primary products to be exported.

### *Section 3. Problems of Primary Products Development Cooperation*

At present, selection is in progress of the technical experts to be sent to bases to be set up in Indonesia, Thailand and Cambodia. It is found out that selection of personnel out of the limited number of suitable experts is very difficult. This is especially so because Japan has few experts who are experienced in the cultivation and extension of technique for such tropical crops as maize, milo and cassava. It is considered most important for Japan to recruit, and train experts in these lines.

In promoting this type of cooperation, it would be difficult to achieve the goal unless the project is closely tied-up with Japan's private enterprises, because this type of cooperation involves the import of primary products into Japan under commercial transaction.

Moreover, when the project makes headway, with development and production increase fairly under way, it becomes necessary, sooner or later, to request financial aid for spread of extension work, improvement of storage facilities (silos, warehouses, etc.), transport facilities for the gathering of crops (trucks, barges, etc.), improvement of distribution system, extension of loans for running expenses for local farmers, etc.

The local bases to be established to carry out the primary products development cooperation will have the character of business offices for marketing and importing into Japan, in addition to the ordinary character and function of technical cooperation centers for technical guidance in experimental, research or training institutes.

## CHAPTER 9

# TECHNICAL COOPERATION BASED ON REPARATIONS AND OTHER AGREEMENTS

### *Section 1. Acceptance of Trainees under Reparations Agreements*

#### 1. Acceptance of Trainees from Indonesia

As the first group of trainees, a total of 256 persons returned home after receiving training for an average of two and half years in such fields as shipbuilding, marine transportation, navigation instruments, hotel, tourism, banking, rayon, electric power, ceramics, construction machinery, etc.

In fiscal 1963, the second group of 34 trainees under the Reparations Agreement arrived in Japan. Two persons were added to the group respectively in 1964 and 1965. In 1966, all of the trainees, except for one, completed their course at the end of fiscal 1966. The training of the remaining one person was transferred to the Indonesian Embassy, at its request, at the end of fiscal 1966.

The total number of Indonesian students ar-

living in Japan under the Reparations Agreement reached more than 360. In March in 1966, about 80 students, belonging to the first group on the reparations scholarship, graduated from universities in various parts of Japan. With the exception of those who attended the postgraduate course, these university graduates were to be assigned to six-month practice at various organizations (research institutes, companies, etc.) in various parts of the country. Accordingly, the Indonesian Embassy in Japan entrusted to OTCA the task of giving practical training to those graduates.

OTCA was entrusted with the same task in 1967 by the Indonesian Embassy.

Following is the list of the fields of the graduates:

Technique of management	14 persons
Agriculture and fishery	12 "
Heavy industry	6 "
Chemical industry	2 "
Administration	1 "
Postal administration	13 "
Light industry	12 "
Mining	2 "
Utilities	2 "
Others	3 "
<b>Total</b>	<b>67 persons</b>

In December 1967, OTCA completed the assignment of training the trainees and students on scholarship based on Japan's Reparations Agreement with Indonesia.

## 2. Acceptance of Trainees from the Philippines

Acceptance of trainees from the Philippines was carried out according to the Reparations Agreement (May 1965) signed between Japan and the Philippines. With the recommendation of the Japanese Ministry of Foreign Affairs, OTCA was entrusted by the Philippines Reparations Mission in Tokyo with the task of providing training. During the period from 1963 to 1966, OTCA

received ten trainees, and provided training for 12 persons in fiscal 1967. Here is the table of the trainees by fields:

Heavy industry	7 persons
Utilities	2 "
Light industry	2 "
Others	1 "
<b>Total</b>	<b>12 persons</b>

## 3. Acceptance of Trainees from the Republic of Korea

The government of the Republic of Korea set up a plan for sending 30 trainees in fisheries (aggregate total 166 persons) to Japan to receive training based on the Agreement on the Settlement of Problem Concerning Property and Claims and Economic Cooperation between the Republic of Korea and Japan, and requested OTCA, to undertake the training. Having received a recommendation from the Fisheries Agency and the approval of the Ministry of Foreign Affairs, OTCA concluded, as a result of negotiations, a contract for assignment of training with the Republic of Korea Mission in Japan on February 22, 1967.

The subjects for the training in fisheries are listed below:

Coastal fisheries	6 persons
Sea resources	4 "
Fisheries administration	3 "
Fishing vessels	2 "
Frozen foodstuffs	1 "
Seasoning and processing	1 "
Deep-sea fisheries	4 "
Breeding in salt-water	4 "
Fishing ports	2 "
Breeding in fresh-water	1 "
Refrigerator	1 "
Canning	1 "
<b>Total</b>	<b>30 persons</b>

# CHAPTER 10

## COOPERATION WITH TECHNICAL ASSISTANCE PROGRAMS OF THE UNITED NATIONS AGENCIES

The United Nations Development Plan, which was set up in November 1965 based on a resolution adopted at the United Nations General Assembly, called for extension of assistance to developing countries in such a manner as to enable them to achieve effective investment programs

by their own efforts and to facilitate their development as early as possible.

The above Plan is financed with the voluntary contributions of the member governments and assistance is being extended in a wide range for comprehensive domestic development activities

according to requests from the governments of the countries concerned.

The development a schemes are being carried out by the United Nations, and its Agencies such as ILO, FAO, etc. OTCA is cooperating with the schemes in the form of acceptance of participants and the recommendation of experts to the Experts Vacancy Notices, as well as assisting the procurement of equipment.

### Section 1. Acceptance of Trainees Under the United Nations Development Plan

From the standpoint of cooperating with the United Nations and its Agencies, Japan has been undertaking technical and other training since 1954. So far, a total of 677 participants have been received in Japan.

The training program is carried out with the United Nations and its Agencies defraying the expenses of travel and stay of the participants, which the Japanese Government is defraying the expenses directly required for the training (incidental expenses for training) in Japan.

Below is a table of the number of participants accepted during fiscal 1967 at the request of the United Nations and its Agencies, classified by field and country:

TAO (Technical Assistance Organization)	Social Welfare	Burma	2
	Iron and steel	Republic of China	1
	Inspection of ports and harbor	"	5
	Countermeasures for sea disasters	"	1
	Industrial technical assistance	Colombia	1
	Hydrography	India	1
	Preparation of marine charts	Republic of Korea	1
	National finance	"	1
	Social welfare	Pakistan	1
	Social development	"	2
	Reclamation	Singapore	1
	Human right	Thailand	1
	Narcotics control	"	1
Social welfare	"	1	
Sub-total			20
ILO (International Labor Organization)	Measuring equipment	Republic of China	1
	Labor supervision	"	1
	Labor control	Iraq	1
	Market research	Republic of Korea	1
	Training of rail-road officers	Pakistan	1
	Vocational training	Thailand	3
Training of rail-road officers	United Arab Republic	3	
Sub-total			11
FAO (Food and agriculture organization)	Irrigation plan	Ceylon	1
	Improvement of farms	Republic of China	4
	Forestry inspection	"	2

	Utilization of artificial forests	Colombia	1
	Quarantine of animals	India	1
	Soil survey	Republic of Korea	3
	Processing of agricultural products under radial rays	"	1
	Fish market	Malaysia	1
	Forestry administration	Nepal	1
	Breeding of shrimps	Philippines	1
Sub-total			16
WFO (World Health Organization)	Tuberculosis countermeasure	Republic of China	2
	"	Hongkong	1
	"	Republic of Korea	2
	"	Malaysia	1
Sub-Total			6
WMO (World Meteorological Organization)	Tropical observation	India	1
	Meteorological dynamics	United Arab Republic	1
Sub-total			2
ITU (International Telecommunication Union)	Telex communication	Ethiopia	2
	HF communication system	"	1
	VHF and FM system	India	1
	Television broadcasts plan	"	1
Sub-total			5
UPU (Universal Post Union)	UPU seminar	Republic of China	2
	Post office life insurance	India	1
	Postal service	"	1
	UPU seminar	"	1
	"	Iran	2
	"	Republic of Korea	4
	"	Malaysia	2
	"	Nepal	1
	"	Pakistan	1
"	Philippines	1	
"	Thailand	2	
Sub-total			18
IAEA (International Atomic Energy Agency)	Radial ray measurement	Republic of China	1
	Public Health physics	"	1
	Experimental reactor	"	1
	Nuclear chemistry	Republic of Korea	1
	Utilization of radioisotope for agriculture	"	1
	Analysis by radiation chemistry	Philippines	1
	Inspection of electronic equipment by radial ray	Thailand	1
Sub-total			7
Total			85 Persons

*Section 2. Recommendation of Experts to United Nations Agencies*

United Nations Agencies invite applications of experts for service from all over the world, with the Expert Vacancy Notices sent from the agencies performing the United Nations Technical Assistance to the relevant organizations of member countries.

The countries which receive the Expert Vacancy Notices formally recommend qualified persons to the United Nations. Following are the lists of the Expert Vacancy Notices distributed by UNDP, FAO and ILO for the last year:

By industry (%)	Fiscal 1967 (582 cases)		
	Total number of cases	Total	(%)
<b>Economy, Development</b>			
Economic theories	3	—	—
Economic development	30	—	—
External trade (policy for promotion, etc.)	13	—	—
Development of regional community	22	—	—
Industrial economy and development	40	118	(20.2)
Energy development	2	—	—
Water resources development plan	5	—	—
Development of Touristic resources	3	—	—
<b>Administration</b>			
General administration (theory, etc.)	2	—	—
Personnel control	13	—	—
Administrative system	3	—	—
Administrative reform	4	32	(5.5)
Finance	5	—	—
Taxation	4	—	—
Tariffs	1	—	—
Treaty system	—	—	—
<b>Welfare</b>			
Social welfare, rehabilitation	7	—	—
Annuity (pension)	2	9	(1.6)
Rehabilitation	—	—	—
<b>Statistics</b>			
Population statistics	10	—	—
Economic statistics (National income)	9	—	—
Data processing	3	—	—
Theory of statistics	2	24	(4.1)
<b>Consultant</b>			
Industrial economy (designated enterprises)	28	—	—
Market research, analysis	11	—	—
Production control	10	65	(11.0)
Cost calculation	6	—	—
Certified public accountant	—	—	—
Management	10	—	—
<b>Geology</b>			
Geology	6	—	—
Geophysics (physical prospecting)	9	—	—
Geo-chemical probe	10	—	—
Applied geology	13	—	—
Hydrographic geology (underground water)	11	50	(8.6)
Submarine geology	1	—	—

Mine geology	—	—	—
<b>Mining</b>			
Mining law	4	—	—
Analysis of mineral products	1	—	—
Prospecting	12	—	—
Prospecting	10	—	—
Ore dressing	6	33	(5.6)
Ore washing	—	—	—
Transport	—	—	—
Iron and steel Production	9	—	—
<b>Heavy industry</b>			
Non-ferrous metals	3	—	—
Metallurgy	3	21	(5.3)
Shipbuilding	2	—	—
Rolling stock	—	—	—
Machinery	14	—	—
<b>Light industry</b>			
Food processing	17	—	—
Fiber industry (natural fibers)	5	—	—
Wooden manufactures	2	27	(4.6)
Furniture manufacture	2	—	—
Development of light industry	1	—	—
<b>Chemical industry</b>			
Ceramic industry	6	—	—
Paper industry	13	—	—
Petroleum, natural gas	7	—	—
Fiber industry (artificial fibers)	7	—	—
Rubber	1	63	(10.8)
Hide	4	—	—
Plastics	6	—	—
Chemical fertilizers	17	—	—
Chemistry in general (research and analysis)	10	—	—
<b>Construction</b>			
City planning	6	—	—
Urban housing plan	6	—	—
Development of river basin	7	—	—
Construction of dam	6	—	—
Construction of roads (including highways)	16	79	(13.5)
Construction of water works	6	—	—
Structure	13	—	—
Landscope gardening	—	—	—
Survey (map)	15	—	—
Cartographer	—	—	—
<b>Transportation</b>			
Transportation economy	13	—	—
Port and harbor facilities	4	—	—
Marine transport	9	32	(5.5)
Communication	1	—	—
Railway track	2	—	—
Tourism	3	—	—
<b>Others</b>			
Librarian	1	—	—
Interpreter, secretary	3	—	—
Linguistic education	2	—	—
Fire fighter	1	—	—
Manufacture of false teeth	2	—	—
System for filing official documents	1	19	(3.4)
Liaison officer	2	—	—
Industrial standards	4	—	—
Photographic technique	—	—	—



Information control	---	---	---
Utilization of labor (vocational training)	1	---	---
Geophysical exploration	2	---	---

OTCA received a total of 787 cases of the Expert Vacancy Notices in the current fiscal year, and recommended 26 candidates to the United Nations as qualified persons. The above figure included 22 recommended to UNDP, one to FAO and three to ILO. So far, UNDP has taken two persons into service.

Recommendation of Experts to United Nations

Agencies	Vacancies	Number of experts recommended	Experts taken into service (including nominees)
UNDP	Fiscal 1967 (Apr '67 - Feb '68)	532	22
			1 Marketing of agricultural equipment Ichiro Toyama (Taiwan)
			1 Industrial economy Kenzo Kitajima (Taiwan)
FAO	Fiscal 1967 57	1	0
ILO	Fiscal 1967 148	3	0

## CHAPTER 11

# JAPAN OVERSEAS COOPERATION VOLUNTEERS

### *Section 1. Outline of the Japan Overseas Cooperation Volunteers*

Three years have passed since the creation of the Japan Overseas Cooperation Volunteers (JOCV) in 1965 as one of the Government programs of Japan's overseas technical cooperation. This fiscal year (1967) we welcomed home those volunteers who had been sent abroad during the first year of the program.

In fiscal year 1967, the program has been carried out with a budget amounting to ¥387,776,000 (approx. \$1,078,000), which is 221.1% over that of the preceding year.

The number of volunteers dispatched was 48 in the fiscal year 1965, 103 in the fiscal year 1966, and increased to 171 in the fiscal year 1967. By the end of the fiscal year 1967 (March 31, 1968), a total of 322 volunteers had been dispatched. Volunteers who returned to Japan after completing their assignments numbered 44 during the fiscal year 1967; 278 volunteers are offering their services in eight developing countries at the time of writing.

With the increase in the number of volunteers assigned overseas, the number of JOCV resident representatives has also increased. Up to 1966, only one resident representative had been stationed, in the Federation of Malaysia but now there are representatives in three additional countries—Laos, the Philippines and Tanzania—for closer supervision and care of volunteers working in the countries to which they have been assigned as well as in neighboring countries where no resident representatives have been sent.

The Japan Overseas Cooperation Volunteers Program was created with the view to assisting developing countries through the idealism and dynamism of the younger generation. It also is a sort

of youth movement to train and cultivate young people and to engender in them a wider vision through participation in the nation's overseas technical cooperation activities. This project, therefore, is one that should be carried out on a national basis, and therefore should strive toward consolidation with such related organizations as the Japan Overseas Volunteers Council, supporting associations, relatives' associations and the Afro-Asian Institute.

As one OTCA branch office has been opened at each prefectural office this year, still closer relationships with local public institutions can be anticipated for the overseas technical cooperation programs. This is particularly significant for the JOCV program, which basically aims at linking its operations throughout the nation.

### *Section 2. Achievements of Overseas Cooperation Volunteers*

#### *Assignment of Volunteers Overseas*

Altogether, 171 volunteers were dispatched overseas during the fiscal year 1967: 5 to Cambodia, 13 to India, 27 to the Laos, 43 to the Federation of Malaysia, 56 to the Philippines, 17 to Kenya, and 10 to Morocco, which has become a new recipient country from this fiscal year.

From fiscal 1966 to the end of fiscal 1967, an aggregate of 322 volunteers were dispatched abroad. As 44 volunteers have returned to Japan after completing their two-year terms of service (9 from Cambodia, 11 from Laos, 8 from the Federation of Malaysia, 13 from the Philippines and 3 from Kenya), those presently working in eight recipient countries total 278, as of March 31, 1968, with 210 in five Asian countries and 68 in three African countries. (See the list, page 256.)

### Some Examples of JOCV's Activities

The important role the Japanese volunteers play in developing the economy and improving the living conditions of local people is highly evaluated not only by the countries to which these volunteers are assigned, but also by other countries throughout the world. Living and working together with the local people, the volunteers serve as envoys of friendship. Constantly assuming various functions and always working with an ardent spirit of service, the volunteers are highly respected and esteemed in the recipient countries.

#### 1. Laos

In the fiscal year 1956, the first team of five young Japanese volunteers was sent to Laos to offer their cooperation under the JOCV program.

Technical cooperation appears to be the most appropriate way to improve friendly relations between Laos and Japan, especially when rendered by young volunteers who live and work together with the local people.

Among the various areas of technical cooperation, those efforts directed to the improvement of road construction, clean water supply, education, fisheries, and especially agriculture seem to play the most important part in aiding Laos.

The Laos-Japan Agricultural Practical Center has been established in the vicinity of Vientiane, where 14 volunteers are now working in the farm there. Several other volunteers are stationed in local cities as well where they are striving toward the propagation and improvement of agriculture.

JOCV's cooperation is also directed to various cultural activities such as sports, flower arrangement, teaching of Japanese, and other educational programs. These efforts are steadily bearing fruit.

Japan now assigns more volunteers to Laos (70) than to any other recipient country.

##### (1) Surveying work

By far the largest number of volunteers assigned to Laos are engaged in surveying work. The majority of these volunteers live in rural districts, conducting surveys necessary for the construction of roads which extend from Vientiane, while working and living together with local people in a friendly atmosphere as do those volunteers who live in the southern and northern regions of Laos, far away from Vientiane.

Because of the shortage of qualified surveyors, roads in Laos used to be constructed without any surveying; Therefore, the field work of the Japanese young surveyors is highly appreciated.

At the Public Works Bureau of Laos, the volunteers also teach the local people the fundamentals of surveying and draftsmanship with the view of training local constructors so that they can, in the future undertake construction of roads unaided.

##### (2) Water supply works

The water supply system in Vientiane had largely been completed with Japan's cooperation. But the initial construction project for the greater part involved only main water lines. Water pipes leading into private homes had to be left for a future date.

In the fiscal year 1965, a team of three volunteers who were dispatched to Laos brought the water pipes into a total of 2,500 homes in the city of Vientiane, doing plumbing work in cooperation with the employees of the Laos Water Service Corporation. They also repaired water pipes and laid new main pipes while teaching hydraulic and water supply techniques to the local personnel.

In the fiscal year 1967, two additional volunteers were sent to Laos to test the water quality at the filtration plant as well as to maintain and repair the water facilities there. They are now engaged in testing the quality of the water of the Mekong River.

#### 2. Malaysia

Currently, 50 young Japanese volunteers are stationed in the Federation of Malaysia. These volunteers are working assiduously in response to the expectations of the Malaysian people. For example, they request the Japanese volunteers not only to teach techniques and skills but also to show them how to gain the indomitable prescience of the young Japanese.

##### (1) Basketball

In response to the strong request of the Malaysian Basketball Association, one coach was assigned to Malaysia August 2, 1967, to help improve the level of Malaysian basketball. Although at first his assignment was scheduled to begin in September, the date was specially advanced by shortening the pre-service training period by one month.

Malaysia aims at raising the skill of its basketball teams to the international level and at training a group of good coaches for this purpose. Ever since his assignment, the Japanese coach has been leading a very busy life attending all the interstate matches in an effort to pick out promising players.

Although basketball in Malaysia has not yet reached the international level owing to lack of systematic training systems and programs in the past. Now that training and guidance are being given by the volunteers who have been joined in early 1968 by another volunteer specialized in this particular field of sports.

##### (2) Nurses

In compliance with the request made by Malaysia for a team of volunteers to help train nurses as part of the Nurse Training Project in the State of Sabah, two volunteers were assigned in January

1968 to the Queen Elizabeth Hospital in Kota Kinabalu, capital city of Sabah.

This hospital has an English organization and is reminiscent of Borneo under British rule. As a consequence, nursing methods and other aspects differ much from those at Japanese hospitals. Despite this the two volunteers are doing their best at the women's ward and children's department to which they have been assigned respectively. Every day they are busily occupied with taking care of patients and at the same time training local student nurses.

The very nature of the nursing profession requires the Japanese nurses to come into direct contact with the people of Malaysia, which in turn shows them the imminent need to learn the local language. At any rate, they express their firm determination to exert their utmost efforts toward personal perfection, so that they can render the most satisfactory service.

### 3. The Philippines

JOCV's program in the Philippines was initiated in 1965 when thirteen volunteers were sent. Since then it has steadily been expanded. During the course of fiscal 1967 ten out of those originally sent have returned, while fifty-three new volunteers have been assigned there. They include three physical training coaches dispatched to work at the University of the Philippines, a new recipient agency, along with many others sent to the already-established Presidential Arm on Community Development. As of March 1967 a total of seventy-two Japanese volunteers are assigned in the country.

Whereas the majority of those volunteers earlier assigned in the Philippines have worked on Luzon Island, many of those sent in the year under review are assigned to islands all over the Philippines, individually or in small groups.

The above-mentioned developments, when considering the rather cautious attitude of the Philippines toward Japan after World War II, are in themselves a reflection of the success of the Japan's volunteers assigned there thus far.

We must pay tribute to the understanding shown by the Philippine people toward Japan's technical cooperation spirit, the improvement of Philippine sentiment toward Japan that followed, and the desire of President Marcos and his government to develop the country.

As far as we are concerned, we sincerely hope to base future programs on the reports given us by volunteers who return home from time to time and to help deepen spirit of cooperation between the Philippines and Japan.

#### (1) Sericulture

In March 1967, two young experts on sericulture were dispatched to Benguet Province in the north-

ern part of Luzon Island. They were the first post-war Japanese to attempt sericulture in the Philippines. While being favored with the friendly atmosphere of the local people welcoming a new industry, they had to start their work from scratch—searching for mulberry trees.

The few mulberry trees they found were used for cutting, and 600 transplants were tried. Fortunately, all of them germinated and about 60% of them took root in August.

"Cutting" of mulberry trees is not generally practiced even in Japan, so that this attempt rested entirely on the ingenuity of these volunteers who took into consideration the specific local climatic conditions of the Philippines.

In September, the volunteers were granted some 50 acres of uncultivated land in the compounds of the Bua Primary School, where they started the cultivation of mulberry trees together with ten local laborers. Every day, work started from 7 a.m. and continued till 7 p.m.

At about the time of the completion of cultivation, a new volunteer was assigned there. The new volunteer also has set up a silkworm nursery in the campus of the Mountain Agricultural College, and is seriously engaged in the cultivation of mulberry trees.

These volunteers, who had imagined at the time of departure from Japan that they could start raising silkworms upon reaching the Philippines, must have been quite surprised at having to start from scratch. Fortunately, with the help of local people, they have succeeded in establishing the foundation for developing sericulture in the Philippines.

The Mountain State, with its comparatively moderate climate, is most suitable for sericulture. Therefore, the local people regard sericulture as a most promising industry, together with mushroom cultivation.

The volunteers dispatched there until a short while ago used to be troubled with a lack of water in the dry seasons and with cows which were kept loose. In spite of these obstacles, they pursued their work seriously and without faltering, and sericulture is now becoming one of the most promising fields of work in the Philippines.

#### (2) Civil engineering and construction works

In February 1966, three civil construction volunteers were sent to the Philippines and obtained satisfactory results in the construction of small-scale farmland irrigation dams, the surveying of local roads and the construction of bridges for pedestrians. Two of them returned to Japan in February 1968 but the other, who was reassigned upon completion of his period of service in compliance with the request of the Philippines, is still working there.

At first he continued his former work, but in

January 1968, but when four new volunteers specializing in related works (water supply and small-scale electric power facilities) were assigned there, he was re-assigned to the southern part of Cebu Island. There he is now mainly engaged in the surveying and designing of water supply facilities.

The four new volunteers were later sent separately to Benguet Province, Catanduanes Province, Quezon Province, and Cebu Island, some continuing the work started by returned volunteers and some venturing into new areas to engage themselves in the surveying, designing, construction and maintenance works related to water supply and road construction.

In the Philippines, the securing of water in the dry seasons and the control of flood in the rainy seasons constitute one of its gravest problems. In addition to the above-mentioned, an increasing number of requests for Japanese volunteers are expected from the Philippines involving agricultural construction and irrigation works.

#### 4. Kenya

Three volunteers were dispatched from Japan to Kenya in March 1966 for the first time. The Kenyan Government has evaluated these volunteers highly and requested Japan to dispatch more. So far 30 volunteers have been assigned to serve in a wide variety of the development work of Kenya. Two of them have already returned to Japan after satisfactorily completing their terms of service.

##### (1) Construction machines and power facilities

Eight volunteers are now engaged in the maintenance of automobiles and construction machines as well as in the construction and repairing of electric power facilities at the Central Training Center maintained by the National Youth Service (N.Y.S.), a kind of youth corps for national development that is under the supervision of the Labor Ministry. The Ministry also has local training centers at several parts of Kenya which conduct developmental work by gathering young men from all parts of the country, and offer these young men proper technical training.

##### (2) Surveying

Two volunteers are engaged in the survey work for road construction at the Road Branch of the Ministry of Works. Besides carrying out their work, in their leisure these volunteers teach children the art of ORIGAMI (or paper folding), and at certain festivals they join in the wrestling matches with local people. They also teach the people Judo techniques and are very popular in the town.

##### (3) Automobile maintenance

One volunteer works at the Nyeri Forest Station and engages himself in the maintenance and repairing of automobiles and machines.

He visits other forest stations once or twice a week to give training lessons in the repairing and checking of automobiles. Since most of the cars in the Nyeri district are old models, often more than ten years old, he has no fear of running out of his job. Despite lack of necessary materials, he is devoting himself daily to carrying out his work to the best of his abilities.

##### (4) Fisheries

Young experts in fisheries are assigned to the Mombasa Fisheries Department. They conduct surveys and offer training in fisheries in connection with fishing for tuna with nets, trawling, lobster basketing and others. As the coasts of Kenya are rich in lobsters, the volunteers search these coasts to exploit new fishing grounds for lobsters. They conduct surveys on fishing grounds, on the volume of catch, and on the composition of catch by sexes, etc. They aim at maintaining sound lobster fishing as well as at establishing a scientific system for determining lobster-fishing seasons along the Kenyan coasts. At present the lobster fishery industry of Kenya is thriving, but it is feared that if these experts leave the country, the thriving lobster industry might be dealt a serious setback.

A young librarian who was assigned there in March 1967 offers indirect aid to the fishery experts by preparing the afore-mentioned survey reports in English and also maintains liaison service with related organizations.

The volunteers assigned to the Fishery Experimental Station on the coast of Lake Rudolf teach the local people new methods of catching *Terrapia*, which are abundant in this lake. They are also taught processing techniques such as the salting and smoking of fish.

##### (5) Athletics

One volunteer is assigned to the Gilgil Field Unit that is maintained by the National Youth Service. He is charged with improving the physical condition of trainees and offering guidance in various sports.

At this Unit, there are six companies of trainees, each composed of about 100 trainees. Each of these companies is further divided into three squads.

The volunteer trains them by squads, giving the trainees instructions in callisthenics, field sports, soccer, volleyball and other sports. In view of the scarcity of athletic facilities in that country, he helps build new grounds and teaches the people how to take care of these grounds and facilities. He has become an indispensable advisor to the trainees of Kenya.

##### (6) Housing

Two young architectural experts dispatched there in March 1968 work together with two local architects. By dividing the whole of Kenya into four

parts, each of these experts on construction of houses assumes full responsibility for his own territory where he does all work such as the designing, cost estimation and supervision of house construction.

### 5. Tanzania

Twenty-four female volunteers specialized in dress-making and six male volunteers in agriculture are assigned to Tanzania. The 24 female volunteers are assigned in small groups to the local community centers including those at: Arusha, a cool resort area at the foot of Mt. Kilimanjaro, the highest mountain in Africa; Bukoba, a peaceful European-style town on Lake Victoria; Mwanza, the second largest city in Tanzania; Shinyanga to the south of Mwanza, the smallest city in Tanzania; Dodoma in the central region of the country; Tabora, about 11 hours by train to the west of Dodoma; Iringa, so cool that a blanket is needed at night; Mbeya, 2,000 meters above the sea and further inland than Iringa; at Morogoro, a flax producing center; Mtwara, the southern end of Tanzania, where a joint-venture company to produce cashew nuts is to be established; and Dar-Es-Salaam, capital of Tanzania. The six male volunteers are assigned to promote the agricultural projects being undertaken by the Ministry of Agriculture and Gardening Projects by various City Councils. The Community development project of Tanzania, which is to serve as the foundation of the nation's future economic development, is being steadily advanced with the active participation of all people.

They welcome Japanese volunteers with the sincere desire "to learn whatever we can from the Japanese in order to improve our livelihood," and their expectation in the Japanese people is very great indeed.

### Section 3. Supporting Services of JOCV

#### Recruitment of Volunteers

Volunteers are to be recruited on the basis of public subscription, with cooperation from related ministries, prefectural offices, universities and various young men's organizations.

At the end of March 1968, the number of registered candidates has reached 4,135, excluding those whose two-year term of registration expired on March 31, 1967, and those who have already been assigned, as well as the pre-service trainees.

Their technical fields cover the following:

(1) Agriculture and fisheries	738	members
(2) Mining	426	"
(3) Transportation and communications	303	"
(4) Public works	370	"

(5) Health and sanitation	582	"
(6) Education and training	1,716	"
Total	4,135	members

#### Selection of Volunteers

In order to select the most capable volunteers, the Committee for the Selection of Cooperation Volunteers has been established, consisting of a Standing Committee composed of representatives from the educational field, the press, business circles, young men's organizations and governmental organizations, as well as a Specialized Committee composed of authorities in their respective fields of activities who are selected from related governmental and public institutions.

The selection tests consist of personal interviews, group interviews, psychological tests (conducted by the Standing Committee), tests on technical qualifications (conducted by the Specialized Committee), tests in English conversation and composition, and a physical examination.

During the fiscal year 1967, the applicants whose personal histories were accepted underwent these selective tests three times—in May, August and December.

#### Pre-Service Training

The pre-service training of volunteers thus selected was conducted at the JOCV Training Center temporarily opened at the Yokohama Emigration Center of the Overseas Emigration Project Association.

The first training period lasted for 90 days, from June 12 to September 1967, the second training period lasted for 83 days, from September 18 to December 9 of the same year, and the third training period lasted for 69 days, from January 8 to March 16, 1968.

These training programs aim at building the vitality, physical and spiritual strength, linguistic abilities and technical skills of the volunteers so that they would be better able to fulfill their duties when assigned abroad. The above-mentioned qualities are all pre-requisites for the volunteers if they are to render good service and cooperation.

To attain this aim, the first training program was conducted throughout the sweltering heat of summer, while the third training program was carried out throughout the cold Japanese winter season, practically without rest, even on Saturdays and Sundays. Only those who were able to withstand such severe training were awarded certificates and recognized as qualified volunteers.

In consideration of the advantage of group work in achieving better results, the trainees were lodged together so that they could encourage each other and work toward their common objective—to become fully-qualified volunteers.

The training curriculum includes the following main subjects:

- 1) Orientation of volunteers
- 2) Language training
- 3) Studies on recipient countries
- 4) Studies on Japan
- 5) Practical technical training
- 6) Tropical hygiene
- 7) Physical training
- 8) Department of volunteers
- 9) Preparations for departure

Of these, the greatest part of the scheduled time is devoted to the study of the languages of the recipient countries

Also included in the program are outdoor activities designed to enhance both the mental and physical toughness.

The daily program is extremely tight and intensive, beginning at 6 a.m. and ending at 10 p.m.

#### Publicity Work

The advancement of the JOCV program must be based on the understanding and support of the Japanese people in general about the activities of the cooperation volunteers. For this reason, the JOCV office is carrying on various publicity activities. These activities include:

- (1) Publication of the organ entitled "Young Energy" (monthly publication, 44 pages, 20,000 copies);
- (2) Distribution of publicity posters and pamphlets;
- (3) Production of a series of films entitled "Young Energy" and describing the activities of Japanese Volunteers overseas (35-mm. color film of 30 minutes, selected by the Ministry of Education, recommended by the Ministry of Foreign Affairs, and awarded the Japan Industrial Films Promotion Prize);
- (4) Exhibition and lectures concerning the JOCV activities, including first-hand reports by returned volunteers;
- (5) Meetings of the Volunteers' families at different localities throughout Japan.

#### Japan Overseas Cooperation Volunteers Council

So far the domestic activities of the JOCV have been conducted through a national network with the participation of some 80 related private institutions and educational institutions. From the fiscal year 1967, the National Council as well as the specialized industries committees have met several times with the view of pushing forward such activities as the recruitment of volunteers, the selection of applicants and the pre-service training.

#### Liaison with Prefectural Offices

Necessary liaison with related prefectural offices

has been maintained ever since the establishment of the JOCV. However, in the light that this program constitutes a nation-wide enterprise in which the youths of these prefectures are directly involved, and further when considering that these young men are playing an active part in the development of rising nations, the prefectural offices gradually have come to show greater interest in the program. And with the ever-increasing numbers of both volunteers and of recipient countries, it has become more and more necessary to maintain closer liaison with the prefectural offices concerned regarding publicity, dissemination of information, recruitment of volunteers, treatment of applicants coming from these prefectures, and so forth.

Talks with prefectural offices have been going on with the view of organizing a systematic cooperative structure, as a result of which a decision has been reached on the establishment of a department in charge of technical cooperation work at each of the 44 prefectural governments, including that of Okinawa, to start from the latter part of the fiscal year 1968.

#### Afro-Asian Research Institute of JOCV

In August 1967, the Afro-Asian Research Institute was established. This institute aims to help young people who are interested in the nation's overseas technical cooperation work as well as in the welfare of the Afro-Asian countries. It engenders a better understanding of Japan's responsibilities toward these countries and thereby cultivates in the young Japanese a sincere, cooperative attitude in the national development of these countries.

As of March 31 of the same fiscal year, 92 organizations including the Tropical Agriculture Research Institute of Utsunomiya University have become members of the institute.

#### Itinerant Guidance

During the fiscal year under review, three officials of the JOCV—one each to the Philippines, India and Tanzania—were dispatched in order to inspect the activities and life of the volunteers assigned to these countries, and to pinpoint, if any, problems hampering the successful achievement of their assignments, as well as to have a first-hand information on the local conditions under which they were to work; in short, to obtain all necessary information pertaining to the over-all situation, in an effort to set up more appropriate plans for future assignments.

Later on, four JOCV officials were dispatched—one each to the Philippines, Laos, Cambodia and the Federation of Malaysia—to offer itinerant guidance to previous-assigned volunteers and to make various arrangements with the organization concerned in these countries so as to assure the

smooth assignment of volunteers and satisfactory execution of their services.

One doctor and one JOCV official were sent to the Philippines, Laos, the Federation of Malaysia and Cambodia to make itinerant medical examination of the volunteers assigned in these countries. In addition, a medical expert made an itinerant physical check-up of the volunteers stationed in Tanzania.

#### **Construction of Japan Overseas Cooperation Volunteers Building**

Ever since the inauguration of the JOCV, the pre-service training, which is one of its most important functions, had been carried out under inconvenient circumstances at the Overseas Emigration Center in Yokohama. Moreover, the very special nature of the organization demanded a closer relationship between the volunteers (including those skill under training) and the JOCV's Central Office.

In March 1968, the Japan Overseas Technical Cooperation Volunteers Building has been completed at Hiroo, Shibuya-ku, Tokyo. Thus the JOCV Central Office has moved into the new building on March 30, 1968, and is to resume its work from April.

In addition to the office rooms, the newly-constructed Center consists of three language training laboratories (each accommodating up to ten trainees at a time), five classrooms (each accommodating 20 to 30 trainees), 15 dormitory rooms (each accommodating 8 to 10 trainees) and the auditorium (which can accommodate up to 150 trainees).

With the completion of these facilities, it has now become possible to offer ever-more efficient training in answer to the ever increasing requests from developing nations for Japan's volunteers.

#### *Section 4. Future of JOCV*

Since its beginning in the fiscal year 1965, the JOCV has sent out 322 young volunteers (as of March 30, 1967) to developing nations. These volunteers have greatly contributed to the promotion of friendly relations between Japan and the recipient countries through their technical cooperation activities while living and working together with

the peoples of these countries. Their activities have been highly appreciated abroad as well as at home.

Much is expected of the organization itself from various circles for the cultivation and realization of the hopes of Japan's youths and for offering the proper guidance to these young people.

The JOCV realizes the urgent necessity of expanding its work and of making necessary arrangements in order to comply with the above-mentioned expectation. In the light of the gravity of the responsibility, the people engaged in this great project, are determined to exert their utmost efforts to consolidate a sound foundation for future advancement by fully examining the results of its past activities.

Fortunately, this year a structure for close coordination has been achieved between the program management and the training of pre-service volunteers, with the completion of the new Central Office.

The primary objective of the JOCV program is to offer technical cooperation to developing nations, but at the same time it is growing into a national enterprise for cultivating the idealism and hopes of young Japanese people. And (as the program has been expanding) recruitment of volunteers has come to be executed on a public subscription basis. Therefore, the organization's work must be highly efficient and mobile to maintain close ties with the Japanese people, in various circles.

To assure its steady progress in line with the above-mentioned objectives, a more autonomous operation of the organization is becoming more necessary within the framework of the effectuation of overseas technical cooperation.

In anticipation of increasing requests from abroad for more volunteers and the great expectation placed in the organization by related circles at home and abroad, the organization is charged with the mission of further expanding its operations.

With the cooperation of the prefectural offices (including that of Okinawa, or Ryukyu), local institutions, and organizations with national networks, the organization now aims at conducting more intense and complete publication work by widely introducing to the Japanese people the various data and information pertaining to the organization's work.

**Activities of Japan Overseas Technical Cooperation Volunteers**

Field of Service	No. Dispatched	Place of Assignment	Nature of Work
<b>1. CAMBODIA (5 persons)</b>			
Judo	1	Defense Ministry, Board of Athletics, Phnom Penh Judo Club	Judo instruction for general public and policemen
Swimming	1	Battambang Swimming Pool	Swimming lessons for young people
Table tennis	2	Cambodia Sports Board	Coaching of National Team
Volleyball	1	Cambodia Sports Board	Coaching of National Team
<b>2. INDIA (22 persons)</b>			
Automobile maintenance	2	Health & Transportation Board of Ministry of Health & Welfare (A.P. State)	Maintenance and administration of hospital cars
Nutrition experts	2	Lady Irwin College of Rural Health Training Center, Directorate General of Health Services, Government of INDIA	Improvement of dietary life and related activities
Nursing	5	Medical Treatment & Health Bureau of Rajasthan State and U.P. State	Guidance in family planning
Farm machinery	2	Ministry of agriculture of Rajasthan State	Farm machinery, their improvement and method of usage
Rice cultivation	2	Vaishali Association (Bihar State)	Teaching of Japanese rice cultivation techniques by model farm system
Agriculture	1	Hind-Nippon Consultants	Teaching small-scale agriculture as part of Rural Vocational Aid Program
Poultry	1	Vaishali Sanga (Bihar State)	Teaching modern poultry to conscientious farmers of the district
Chick-sexing	1	Ministry of Agriculture, Rajasthan State	Chick sexing
Fresh water fish	1		Guidance in fresh water fish breeding methods to conscientious local farmers
Radio and T.V. repairing	1	Lodhipur Institute (U.P. State)	Lessons and practical repairing of radio; establishment of new T.V. department
Nursery governess	1	The Indo-Japanese Association (Mysore State)	Operation of nursery as part of Rural Vocational Aid Project
Japanese language	3	Japan-India Consultant (Mysore State and Maharashtra State)	Teaching Japanese language and culture
<b>3. LAOS (71 persons)</b>			
Water works	3	Laos Water Service Corporation	Leading of water pipes into homes; teaching water service techniques to local people; maintenance and repairing of mechanical facilities of cleaning beds; survey on water supply and facilities
Judo	1	Youth Sports Bureau	Teaching Judo techniques at Vientiane Judo Club and others
Telephone	4	Vientiane Telephone Bureau	Maintenance and repairing of underground cables; laying of overhead lines; installation of new telephones
Stock-raising	5	Livestock Bureau	Vaccination of cattle, raising of hogs
Feedstuff	3	Dongdok Livestock Experiment Station	Teaching livestock farming techniques
		Lao-Japan Agricultural Practical Center	Raising fat cows at Japan-Laos Cooperation Farm
		Dongdok Livestock Experiment Station	Cultivation of feed



Field of Service	No. Dispatched	Place of Assignment	Nature of Work
Feedstuff	3	Savannakhet Livestock Experiment Station	Cultivation of corn, cultivation of feed for poultry; experimental cultivation of Kentucky-31
Vegetables	7	Lao-Japan Agricultural Practical Center	Cultivation of tomatoes, cucumber, watermelons, etc., and teaching of related techniques
		Pakse Agricultural Bureau	Demonstration and extension of vegetables cultivation
		Savannakhet Agricultural Bureau Luang Prabang Agricultural Bureau	
Horticulture	1	Lao-Japan Agricultural Practical Center	Cultivation of tropical fruits, mainly pineapple, papaya and banana
Sericulture	1	(Same as above)	Cultivation of mulberry trees
Farm machinery	2	(Same as above)	Teaching on maintenance, control and repairing of various farm machinery supplied by Japan
Rice cultivation	3	Sala Kham National Rice Center	Experimental rice cultivation (fertilizer experiment), improvement of rice species
		Lao-Japan Agricultural Practical Center	Experiment on better rice yield
Surveying	10	Public Works Bureau	Surveying of newly built roads, repairing of roads
		Local public works bureaus	Teaching of basic surveying techniques to bureau personnel
Veterinarian	1	Livestock Bureau	Treatment of diseases of water buffaloes, hogs, etc., and vaccination service
Ceramics	1	Vientiane Fine Arts School	Teaching ceramics techniques; survey of local clay suitable for ceramics
Construction	4	Construction Bureau	Designing and supervision of construction of buildings
Gymnastics	1	Youth Sports Bureau	Teaching heavy gymnastics; serving as referee in various games at National Stadium
Volleyball	1	Youth Sports Bureau	Coaching at primary schools, coaching of Laos National Team
Poultry	1	Savannakhet Livestock Bureau	Teaching of economical poultry of chicken feeding; raising new breeds
Fish culture	1	Lao-Japan Agricultural Practical Center	Culture of carps; teaching of techniques for culture
Soil examination	1	(Same as above)	Investigation of soil all over Laos, making of reagents for agricultural development project
Irrigation	2	(Same as above)	Construction of drainage systems for farms
Analyses of minerals	2	Mining Bureau	Analyses of mineral samples collected from all over Laos
Bamboo handicraft	2	Vientiane Technical School	Teaching of bamboo handicraft to students
Teletype	1	Information Ministry	Maintenance and repairing of teletype equipment
Radio transmission	3	Vientiane Broadcasting Station	Repairing of radio equipment, guidance on relaying techniques
Housekeeping	1	Home-Making School	Teaching flower arrangement and all about housekeeping
Meat Inspection	2	National Butchery	Guidance in meat inspection
City planning	2	City Planning Bureau	Map-making on Vientiane, drafting of city plans, Surveying

Field of Service	No. Dispatched	Place of Assignment	Nature of Work
Soil inspection	2	Soil Inspection Station	Inspection of soil for construction of buildings, test-boring at various districts
Japanese language	3	Education Ministry	Teaching the Japanese language at various schools (teachers' schools and technical schools)
<b>4. MALAYSIA (50 persons)</b>			
Agriculture	1	National Development Corps Training Center Ministry of Culture, Youth & Sports	Guidance on use of farm machinery, fertilization, pest control, modern agricultural methods
Propagation of agricultural know-how	5	Agricultural Office attached to Sabah State Agricultural Bureau	Teaching of rice cultivation, draining and irrigation techniques, farming know-how, etc., at Kota Belud, Tuaran and Kundasang districts of Sabah State
Farm machinery	1	Serdan Agricultural Mechanization Training Center, Ministry of Agricultural Cooperative Association	Operation and maintenance of farm machinery
Fishing tools and fishing methods	4	Sea and Fishery School attached to Fisheries Bureau of Ministry of Agricultural Cooperative Associations	Guidance on the use of fishing tools, investigation of fishing resources, teaching of modern fishing methods
Designing of fishing boats	1	Fishery Experiment Station attached to Ministry of Agricultural Cooperative Associations (Penang)	Designing and improvement of fishing boats, visiting of fishing villages at Penang Island and other places
Woodcraft	2	Industrial Training Center attached to Central Vocational Training Bureau of Labor Ministry	Teaching of woodcraft
Machine tools	1	(Same as above)	Operation and maintenance of machine tools
Welding	1	(Same as above)	Guidance in welding (arc and acetylene)
Air conditioning	1	(Same as above)	Air-conditioning techniques
Machine tools	2	Technical School attached to Education Ministry	Teaching of techniques related to machine tools at Penang and Kuantan Technical Schools
Bamboo handicraft	1	National Development Training Center, Ministry of Culture, Youth & Sports	Processing and manufacturing of bamboo, wisteria and other woods
Automobile maintenance	3	Technical School of Education Ministry, National Development Training Center, Ministry of Culture, Youth & Sports	Guidance in the repairing of trucks, tractors and outboard engines
Radio and T.V. repairing	4	(Same as above)	Guidance in the repairing of radio and television sets including various electric appliances and transistorized equipment
Construction machinery	2	Government Draining and Irrigation Bureau of Sarawak State	Operation, maintenance and repairing of digging machines at development project sites (Sarawak State)
Nursing	2	Queen Elizabeth Hospital (State of Sabah)	Advice and practical training of nurses in accordance with Nurse and Midwife Training Project
Japanese language	3	Malaya University, Ministry of Education	Teaching of Japanese language to students and general public
Gymnastics	1	Multi-Purpose Training Center of Ministry of Culture, Youth & Sports	Guidance at sports classes, training of leaders of gymnastics, training of National Team
Athletics	3	National Youth Training Center of Ministry of Culture, Youth & Sports	Guidance in sports in general such as gymnastics, Judo, various games and matches

Field of Service	No. Dispatched	Place of Assignment	Nature of Work
Swimming	1	Multi-Purpose Training Center of Ministry of Culture, Youth & Sports	Guidance of young people in diving and other swimming techniques
Basketball	2	Ministry of Culture, Youth & Sports (Malaysia Basketball Association)	Guidance in basketball techniques, training of leaders (including itinerant guidance to Sabah and Sarawak states)
Photography	1	National Youth Training Center of Ministry of Culture, Youth & Sports	Teaching of photographic techniques in general (use of camera, photography, etc.)
Judo	8	Malaysia Police Headquarters of Internal Ministry	Training on the techniques of arresting culprits by using Judo to policemen at Kuala Lumpur, Ipoh, Penang and Johore police headquarters

#### 5. THE PHILIPPINES (62 persons)

Rice cultivation	11	Presidential Arm on Community Development	Teaching of rice cultivation techniques and introduction of Japanese rice cultivation methods to increase rice production at Cagayan, Caringa-Apayao, Ilocos Norte, Ifgao, Pangasinan, Western Samar, Southern Leyte, Iloilo and Camiguin Provinces
Vegetable Farming	4	(Same as above)	Propagation and experimental cultivation of vegetables at Benguet, Bataan, Surigao de Norte Provinces
Fruit cultivation	2	(Same as above)	Cultivation of fruits (tropical and Japanese) at Bontoc and Bayombong in the northern part of Luzon Island
Mushroom cultivation	3	(Same as above)	Experimental cultivation of various species of mushrooms
Cultivation of tea	2	(Same as above)	Offering of lectures, cultivation of tea plants, survey of situation of tea cultivation at Visayan Agricultural College at Baybay, Leyte Island
Sericulture	3	(Same as above)	Cultivation of mulberry trees and development of sericulture at coconeries of Bua Primary School of Benguet Province and at Mountain Agricultural College.
Forestry	3	(Same as above)	Improvement of traditional agricultural tools and machines, the assembling, repairing, maintenance and operation of modern farm machinery, at Pangasinan, Laguna, Catanduanes, Leyte, Iloilo, Misamis Occidental and Davao Province
Public works	5	(Same as above)	Practical training in surveying, designing and effectuation of irrigation for small farms, as well as for laying of main and local water pipes at Benguet, Quezon, Catanduanes, Cebu and Leyte Province
Fishing	5	(Same as above)	Survey of situation of fishing villages, improvement of fishing tools and techniques, study of fish farming in fish ponds at Pangasinan, Palawan, Iloilo, Cebu, Zamboanga del Norte Province
Bamboo handicraft	5	(Same as above)	Teaching of bamboo handicraft to students, Christians and general public at schools and churches Pangasinan, Ilocos Sur, Tarlac, Romblon and Negros Occidental Province

Field of Service	No. Dispatched	Place of Assignment	Nature of Work
Pottery	7	(Same as above)	Study and improvement of traditional baking techniques as well as soil investigation at Pangastnan, Pampanga, Albay, Sorsogon, Davao and Isabela Province
Radio communications	2	(Same as above)	Guidance in the installation, adjustment and maintenance of radio communications lines between PACD Head Office and its Regional Offices (10 in all)
Athletics	3	The University of the Philippines	Coaching swimming, athletics and field-and-track events at Physical Training Faculty of the University of the Philippines
<b>6. KENYA (28 persons)</b>			
Surveying	2	Kisumu Road Department of Industrial Ministry	Practical training in surveying in accordance with National Development Project
Farm machinery	1	Narosula Agricultural Mechanization Experimental Station	Experiment and guidance in operation of farm machinery
Fishery	5	Tourist and Biophysics Ministry, Fisheries Bureau	Guidance in shrimp trawling, extended line fishing and experimental catching of necessary bait, as well as training of crew on board fishing boat of 8 tons constructed in accordance with Kenya Coastal Fishing Development Project
Fisheries statistics	1	(Same as above)	Conducting of research and offering of training in the cultivation of fresh water fish at Lake Victoria
Overboard engine	1	(Same as above)	Guidance in the repairing, disassembling and maintenance of fishing boat engines
Processing of fresh water products	1	(Same as above)	Guidance in the processing of fresh water products at Aquatic Products Center on Lake Rudolf
Librarian	1	(Same as above)	Arrangement of books and data relating to marine products at library of Mombasa Fishing Dept., and secretarial work at the same Dept.
Irrigation	2	National Irrigation Committee	Engaging in irrigation works
Housing	2	Housing Corporation	Guidance in the designing, estimating, supervision and effectuation of house building
Civil construction	1	Road Planning Department of Works	Guidance in making road maps
Construction machinery	2	National Youth Service Central Work-shop of Labor Ministry	Guidance in the maintenance, repairing and related techniques of various construction machines
Machine tools	1	(Same as above)	Guidance in the assembling and use of lathes
Automobile maintenance	4	(Same as above)	Guidance in the adjustment, maintenance, repairing and related techniques of various automobiles
(Same as above)	1	Nyeri Forest Station, Forest Dept.	(Same as above)
(Same as above)	1	Central Work-shop of Police Dept.	(Same as above)
(Same as above)	1	National Youth Service Gilgil Field Unit of Labor Ministry	(Same as above)
Athletics	1	(Same as above)	Improvement of basic physical condition, guidance in various sports

Field of Service	No. Dis- patched	Place of Assignment	Nature of Work
<b>7. TANZANIA (30 persons)</b>			
Horticulture and vegetable gardening	6	Morogoro Farm of Agricultural Ministry and Local City Councils	Guidance in horticulture and horticulture and vegetable gardening
Dressmaking	24	Social Development & Culture Ministry	Guidance in dressmaking to women at Social Development Centers of Tanzania
<b>8. MOROCCO (10 peoples)</b>			
Surveying	2	Benimellal District Forestry Office of Agriculture & Agricultural Reform Ministry	Surveying and demarkation of national forests, preparation of maps
(Same as above)	1	Marrakesh Dam Construction Office	Geological survey, training of staff for construction of Marrakesh Dam
Irrigation	2	Agricultural Reclamation Department of Tetuan State	Guidance in the surveying, designing and cartography in accordance with Irrigation and Waterway Project
Horticulture and vegetable gardening	1	(Same as above)	Guidance in horticulture and vegetable gardening
Sericulture	1	Fez Central Sericulture Experiment Laboratory of Ministry of Agriculture & Agricultural Reform	Survey and experiments for introduction of modern sericulture, training of local people
Veterinarian	3	Casa Blanca Veterinarians and Livestock Laboratory of Ministry of Agriculture and Agricultural Reform	Laboratorial experiment in microbiology and biochemistry, guidance in related subjects

## CHAPTER 12

# EVALUATION AND RESEARCH OF TECHNICAL COOPERATION

### *Section 1. Follow-Up Survey of "Evaluation on Results of Technical Cooperation"*

#### **1. Outline of Follow-up Survey**

In order to ensure more effective technical cooperation in the future, a follow-up survey on the results of technical cooperation was conducted on a number of major projects selected from among the many overseas technical cooperation projects undertaken by Japan since she joined the Colombo Plan.

This survey was conducted from April to December 1967, with the cooperation of the Economic Cooperation Bureau of the Ministry of Foreign Affairs.

So far, there are no established methods or criteria for measuring the effectiveness of technical cooperation even among international organizations. Various suggestions were made as to the approach for accurately assessing the effects of Japan's technical cooperation to developing coun-

tries. As this was the first time that such a survey was attempted by the OTCA, the survey was based on a questionnaire consisting of the following three main viewpoints:

- 1) Degree of contribution to the economic and social development of recipient countries.
- 2) Diplomatic, economic and other benefits to Japan.
- 3) Effectiveness of future technical cooperation.

"Evaluation Table" was prepared containing detailed questions covering such fields as trainees, experts, overseas centers and development survey. These questionnaires were sent to the Japanese embassies overseas, returned trainees, assigned and returned experts, members of overseas centers, heads of survey teams, etc.

The results of this survey were compiled into the "Report on Evaluation of Japan's Technical Cooperation Abroad", published in December 1, 1967 by the Technical Cooperation Section of the Ministry of Foreign Affairs and the OTCA.

## 2. Results of Survey

The findings of this follow-up survey could be roughly summarized as below:

(1) Japan's technical cooperation was generally regarded very highly by recipient countries, and the programs brought great benefits to these developing countries, as evidenced, for example, by the following comments:

"Japan's technical cooperation has served immensely toward exploiting the natural resources and raising various industrial technology. It has been highly effective." (The Republic of China)

"Japan has offered technical cooperation in agricultural and other fields of East Pakistan for ten years. The sincere and diligent cooperation rendered by the Japanese experts, in the face of such barriers as language, manner and customs, is greatly appreciated by the people of Pakistan. Their efforts have brought forward excellent results in many fields of their activities." (East Pakistan)

(2) While Japan's overseas technical cooperation is being appraised highly by all of the recipient countries, on the other hand, we feel it most necessary to give full consideration to the following requests in order to expand the scale and to improve the quality of Japan's technical cooperation:

- 1) Although Japan's technical cooperation is being highly evaluated, yet the quantity of aid remains at a very low level compared with the technical assistance afforded by other developing countries. Japan is increasingly being urged to expand the scale of its assistance.
- 2) To enhance the effectiveness of its technical cooperation, there is a growing demand made to Japan to improve the quantity and enrich the content of Japan's assistance. Especially, Japan is requested to place greater emphasis on cooperation on project or package basis, through systematic combination of various types of cooperation.
- 3) In carrying out technical cooperation, speedy and timely response to the requests submitted by recipient countries is of vital importance. In this connection, Japan must exert greater efforts toward strengthening and consolidating the organizational set-up for overseas technical cooperation.

## 3. Case Studies

In February and March of 1968, the Planning Section of the OTCA carried out the evaluation surveys in four Asian countries, namely Formosa, Thailand, Malaysia and Singapore. These surveys were made to assess the performance and results of Japan's technical cooperation projects and also to study the performance of technical cooperation projects of other developed countries.

The OTCA aims at improving the method and

study on evaluation of Japan's technical cooperation. There is a gradual increase in the appropriation of budget for evaluation of results and it is hoped that a more continuous and systematic arrangements would be made in the future to carry out this task.

## Section 2. Major Research Conducted during Fiscal Year 1967

### 1. Sector-wise Survey

A study carried over from the previous year was made on medium and small-scale industries of developing countries in Southeast Asia. This study was conducted with a view to determine the most suitable method of providing Japanese technical cooperation to the medium and small-scale industries of Southeast Asia and to analyze the direction of industrial development of these countries.

In June 1968, final report entitled "The Present Situations and Problems of Medium and Small-scale Industries in Asian Countries" was published in two volumes and they were distributed to various individuals and organizations concerned.

### 2. Country-wise Survey

Two major surveys were conducted during fiscal year 1967; first, relative to the Japanese technical cooperation activities in developing countries and, secondly, the main features of technical cooperation extended by other advanced countries.

(1) To reflect on Japanese technical cooperation activities in recipient countries, the Planning Section of OTCA continued to gather and study analytical reports on various problems encountered by Japanese returned experts while in their countries of assignment. The first comprehensive reports were prepared in 1965 by experts dispatched to Pakistan, Malaysia and Singapore and second reports were prepared in 1966 by experts sent to India and Thailand. For 1967, ten experts whose assignment were in Cambodia and Viet-Nam were asked to submit such comprehensive and analytical reports.

The fields of activities treated in their reports were stock-raising, agriculture, telecommunications, water supply, medical care, lacquer work, Japanese language, etc.

(2) To study the actual implementation of technical cooperation extended by fifteen major advanced countries, a survey based on questionnaire was conducted. The items of survey were organizational structure, budgetary system, training and treatment of trainees, recruitment, treatment and guarantee of status of experts, etc. A questionnaire form was prepared in fiscal year 1967 and these forms were sent to the fifteen countries through Japanese embassies. The findings are expected to be compiled during fiscal year 1968.

### 3. Study and Lecture on Technical Cooperation

"Special Course on Technical Cooperation" was opened in fiscal year 1967 recruiting learned scholars and experienced persons who are deeply interested in economic and technical cooperation and well versed in trends of international aid.

Professor Motooka of the Southeast Asia Research Center of Kyoto University lectured on the

"Adaptability of Japan's Technology in Developing Countries and Effectiveness of Technical Cooperation" in November 1967. A lecture on "Useful Role Played by Technical Assistance in the Regional Development of Developing Countries" was given by Professor Jiro Kawakita of Tokyo Industrial University in March 1968. These lectures were printed and distributed.

## CHAPTER 13 PUBLIC RELATIONS

It must be admitted that the scale of Japan's technical cooperation is still insufficient and that the publicity aimed at arousing the interest of general public on this matter is far from adequate.

Therefore, it is most important to carry out energetically all sorts of public relations activities, such as the fostering of closer relations with mass communications media, and the holding of lectures, movies and exhibitions as occasion demands, in order to obtain the understanding and cooperation of the Japanese people in general.

During fiscal year 1967, "Japan's Overseas Technical Cooperation," "Annual Report on Japan's Technical Cooperation," "English Bulletin," "Expert," "Kenshu-In" and other informative publications were printed and widely distributed. The OTCA was one of the sponsors organizing the "Fourth Overseas Economic Cooperation Campaign".

Also, the OTCA published regularly the "Statistics of Overseas Technical Cooperation" and various other statistical data, and the "Outline of Overseas Technical Cooperation Agency".

