

donated since fiscal 1961 in the courses for machinery, maintenance of motor vehicles, electricity, and electronics. For the cooperation toward the expansion program, a budget of 30 million yen worth of machinery and equipment has been decided for fiscal 1970. The initial shipment reached a total of 17 million yen with ¥6,162,000 worth for the course on machinery, ¥5,-

112,010 worth for that on maintenance of motor vehicles, ¥3,569,900 worth for that of electricity, and ¥333,950 worth for equipment and appliances, and transportation fees, etc. Another 13 million yen worth of machinery and equipment are to be sent during the following fiscal year.

CHAPTER 5

DEVELOPMENT SURVEYS

Section 1. Outline of Development Survey

Japan's development survey program on a government basis was initiated in 1957 with a budget of 15 million yen appropriated by the Ministry of Foreign Affairs. The actual implementation of field surveys in the developing countries on a bilateral basis was then entrusted to the International Engineering Consultants Association.

The areas covered by those development survey projects conducted in 1957 were primarily in the fields of construction, transportation, agriculture, etc.

In 1958, the following year, Survey on the Development Projects of the Mekong River was started as part of the multilateral cooperations extended by the Economic Commission for Asia and the Far East (ECAFE). This survey program was entrusted to the Mekong River Development Survey Association, and field investigation and preliminary surveys on the development of the main tributaries of the Mekong River were conducted as part of the Comprehensive Development Programs of the Mekong River Basin.

In 1962, with the establishment of the Overseas Technical Cooperation Agency (OTCA), the above-mentioned two survey programs were entrusted to OTCA for implementation on an integrated basis.

In order to conduct surveys for overseas development projects, the Ministry of Foreign Affairs commissioned this work to OTCA with a budget of about 130 million yen in 1962. The Ministry of International Trade and Industry (MITI) also commissioned similar programs to OTCA with a budget of about 45 million yen in the same year.

Since the foundation of OTCA in 1962, the scope and scale of development survey activities have been expanded year after year along with a steady increase in the budget for the development surveys.

In 1966, survey projects for the Asian Highway Construction Plan, to which Japan had extended cooperation since 1962, was conducted with a budget of the Ministry of Foreign Affairs.

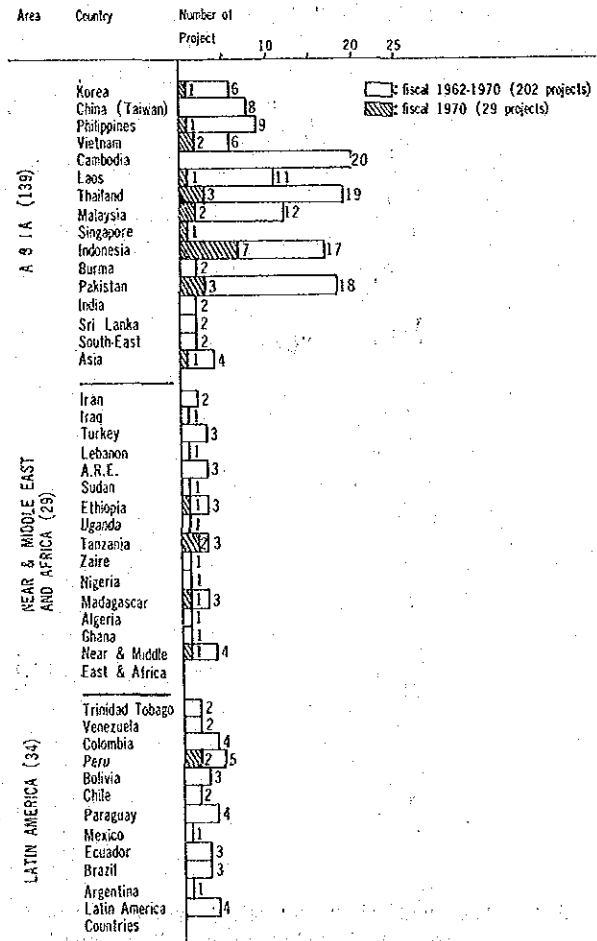
In the same year, surveys on the Trans-Sumatra

Highway Construction Project was conducted with a budget of the Ministry of Construction.

Since 1968, a budget for a 'detailed design for economic development projects' had been newly appropriated in the budget of the Ministry of Foreign Affairs. Thus, Japan started to cooperate in the field of detailed design for the construction of project facilities and preparation of technical data which is needed for the international tender for the project facilities.

In addition to such budgetary arrangements for vari-

Fig. 5. Number of Development Survey Projects by Country



ous types of development surveys, a budget for conducting surveys on the Malacca Strait Project as well as on the Geological Surveys for Mineral Exploration were appropriated in 1970.

Thus, in the past nine years since the foundation of OTCA in 1962, Japan's cooperation in the field of development survey has made remarkable strides in terms of budgetary scale.

The budget for development survey in fiscal 1962 was 175 million yen. Along with the increase in the budget, the scale and quality of survey projects have been expanded and intensified. At the same time, the technical areas covered have become more and more diversified.

The yearly trend of the budget for development surveys is shown in Figure 8.

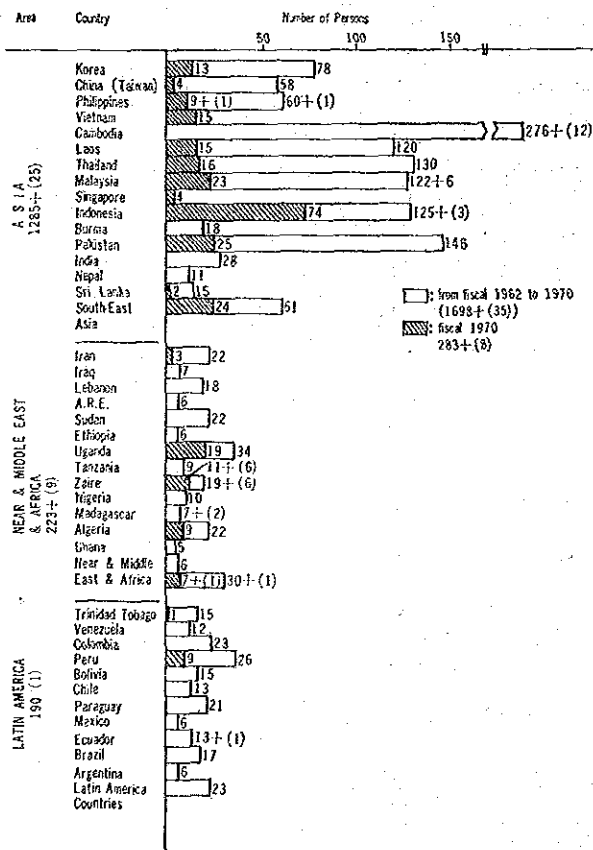
The development surveys conducted so far can roughly be classified into three categories, namely surveys on regional development projects, surveys on increasing productivity, and surveys on the preparation of infra-structures. Technical fields covered by these development surveys are very wide-ranging, including agriculture, forestry, fishery, mining, industry, road and railways, ports harbors, airport, communications, land development, planning, urban transportation,

water-supply, riparian works, hydro- and thermal-power generation, and others.

The stage or substance of development surveys differ according to the nature or substance of the projects requested by aid-receiving countries. However, they can generally be categorized in the following three stages:

- 1) 'reconnaissance', 'preliminary' or 'basic' survey which aims at preparing basic plans for the project concerned or at indicating the future direction of the project to the government concerned, or at providing technical materials and data in the form of a report to be used to determine whether a subsequent feasibility survey is necessary.
- 2) "feasibility surveys" which aim at making conclusions or recommendations on technical and eco-

Fig. 6. Number of Persons Participated in Development Surveys by Country



Note: The number in parenthesis shows the number of persons who joined the team in host countries.

Fig. 7. Development Surveys Classified by Fields (from fiscal 1962 to fiscal 1970)

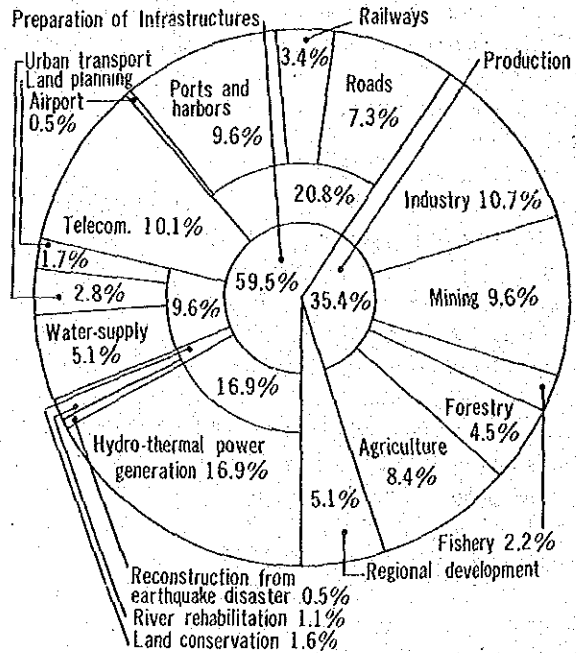
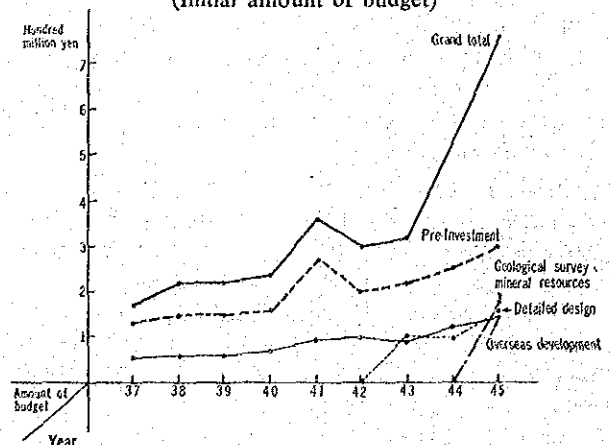


Fig. 8. Yearly Trend of Budget Allocated to Development Surveys (Initial amount of budget)



conomic feasibility or the appropriateness of the project by making surveys on the facilities as well as the management plans for the project concerned.

3) detailed designing conducted since 1968.

The achievements of development surveys, as of the end of March, 1971, carried out by OTCA since its foundation is shown in Figure 5.

The number of survey teams dispatched totals 202, and the main countries to which these teams were dispatched are Cambodia (20), Thailand (19), Pakistan (18), Indonesia (17), and Malaysia (12).

Members who participated in the above-mentioned survey teams number 1,698 (as of March 31, 1971), and the main countries to which these members were dispatched covered Cambodia (276), Pakistan (146), Thailand (130), Indonesia (125), and Malaysia (122) (See Figure 6).

In terms of geographic distribution of the number of development teams dispatched, the majority is directed to Asia, numbering 139 teams (68.8%) and 1,285 members (75.8%). The same trend applies in 1970.

In terms of types of industry, the following are the major fields: transportation (37), power generation (30), industry (19), telecommunications (18), mining (17), urban development (17), and agriculture (15) (See Figure 7).

N.B.: (The numbers in parenthesis denote the number of survey teams dispatched.)

Section 2. Achievements in Fiscal 1970

In fiscal 1970, OTCA carried out development survey projects amounting to about 667 million yen. There were 29 new projects and 14 projects which were carried over from the previous year. (See Figure 5 and Figure 8).

The expenditures disbursed for the development surveys carried out in fiscal 1970 are as follows:

- 1) The expenditures for conducting pre-investment surveys were about 315 million yen, and within this category, survey on 15 new projects and 10 projects carried over from the previous year were conducted.
- 2) The expenditures for surveys for overseas development projects were about 108 million yen, and within this category, surveys on 10 new projects and 3 projects carried over from the previous year were conducted.
- 3) The expenditures for the Geological Survey of Mineral Exploration, newly entrusted to OTCA in 1970, were about 153 million yen, and within this category, surveys on 11 new projects and 3 projects carried over from the previous year were undertaken.
- 4) The expenditures for the detailed implementation plan for economic development projects were about 90 million yen, and within this category, surveys on three new projects and one project carried over

from the previous year were conducted.

With regard to the development survey works carried out in fiscal 1970, it is noteworthy that budgetary arrangements were made for conducting preliminary surveys as well as the 'after-care' surveys for projects previously surveyed and that two preliminary survey projects and three after-care survey projects were conducted with a budget newly appropriated.

Although the previously conducted preliminary surveys are similar in nature to the new preliminary ones, the appropriation of a new budget made it possible to conduct more detailed and precise surveys so as to meet more appropriately the requests by the aid-requesting countries.

Furthermore, from the view point of follow-up for the previously surveyed projects, the budgetary arrangement to conduct after-care surveys attracts particular attention since this made it possible to follow-up works such as partial modification of the development plan and technical discussions with aid-requesting government for materializing the project concerned even after submission of a report on each project to the authorities of the requesting governments.

Such budgetary arrangements are considered very important and useful in conducting future development surveys.

It should also be mentioned that as part of the overseas development projects under the budget of the Ministry of International Trade and Industry, a new survey project called "Geological Survey of Mineral Exploration" was started in 1970 with the purpose of preparing topographical maps and soil maps which are indispensable for the development of underground mineral resources.

With a budget of 163 million yen, a geological survey of mineral resources in Indonesia was conducted in 1970.

Followings are the development survey projects conducted in fiscal 1970.

<PRE-INVESTMENT BASIC SURVEYS>

1. Projects Carried Over from Fiscal 1969

- 1) Taichung Harbor Project in the Republic of China
- 2) Project for Establishment of an Aluminum Refinery Industry in Cambodia
- 3) Project for an Area around the Great Lake, Lower Mekong Basin
- 4) Kuantan Fishing Port Construction Project in Malaysia
- 5) Barito River Basin in Indonesia (first survey)
- 6) Dacca—Faidpur Road Construction Project, East Pakistan
- 7) Water Supply to Islamabad, West Pakistan
- 8) Land Reclamation in Colombo Area, Sri Lanka
- 9) Teheran Transportation System

10) Railway Construction Project in Tanzania

2. New Projects

- 1) Seoul Metropolitan Transportation Project, the Republic of Korea
- 2) Water Supply Project in South Vietnam (to be carried over to next fiscal year)
- 3) Extension Project of Water Supply in Local Areas, Thailand (to be carried over to next fiscal year)
- 4) Kuantan Port Project in Malaysia
- 5) Paddy-Drying and Storage Complexes in Malaysia
- 6) Ular River Dredging Project in Indonesia
- 7) Barito River Basin in Indonesia (second survey)
- 8) Fishing Development Project in Indonesia
- 9) Water Supply Leakage Control in Islamabad, West Pakistan (to be carried over to next fiscal year)
- 10) Harbor Construction at Phitti Creek, Pakistan (to be carried over to next fiscal year)
- 11) Malacca and Singapore Straits
- 12) Microwave Network Construction Project in Central Ethiopia (to be carried over to the next fiscal year)
- 13) Dar-Es Salaam—Mtwara Road Construction Project in Tanzania (to be carried over to the next fiscal year)
- 14) Development of Kilimanjaro Area, Tanzania
- 15) Reconstruction for Earthquake Disaster in Peru

<PRELIMINARY SURVEY>

- 1) Manila Expressway Construction Project
- 2) Port Construction in Malaysia and Pakistan

<AFTER-CARE SURVEYS>

- 1) Development of Mekong River Basin, Laos (attendance at Mekong Committee)
- 2) Seminar on Amplified Basin Plan of Mekong River, Thailand
- 3) Nariva Swamp Reclamation Project in Trinidad Tobago

<SURVEYS FOR OVERSEAS DEVELOPMENT PROJECTS>

1. Projects Carried over from Previous Fiscal Year

- 1) Li-Wu-Chi Hydro-Electric Power Development Project, the Republic of China
- 2) Philippine Off-shore Mineral Resources Project
- 3) Mineral Resources Development Project in Brazil

2. New Projects

- 1) Mass Industrial Water Consuming Industry in the Philippines
- 2) Can-Tho Thermal Power Project and Subtransmission System
- 3) Khlong Tha Dan and Nam Pai Hydro-Power

Projects

- 4) Development Plan for Pulp and Paper Industry in Indonesia
- 5) Textile Industry Development Project in Indonesia
- 6) Mining and Manufacturing Industry Development in Indonesia
- 7) Geological Survey of Mineral Exploration in Indonesia (to be carried over to next fiscal year)
- 8) Development of Mineral Resources, Pakistan (to be carried over to the next fiscal year)
- 9) Namorona River Hydro-Power Project, Madagascar
- 10) Industrial Development in Africa
- 11) Lima-Chimbota Transmission Line Project, Peru

<DETAILED DESIGN FOR ECONOMIC DEVELOPMENT PROJECTS>

1. Projects Carried over from Previous Fiscal Year

- 1) Kuching Port Construction Project, Malaysia

2. New Projects

- 1) Detailed Design for Vientianne Airport Expansion (to be carried over to the next fiscal year)
- 2) Detailed Design for the Songla Port Project in Thailand
- 3) Detailed Design for Supervision and Construction of a Japanese Garden in Singapore

Principal development survey projects newly undertaken in fiscal 1970 are as follows:

<PRE-INVESTMENT BASIC SURVEYS>

1. Seoul Metropolitan Transportation Project in the Republic of Korea

(1) Outline of Survey

a) Purpose of Survey

The purposes of survey were to investigate present traffic situation of the Seoul Metropolitan Area; to point out problems for the formulation of a transport plan for the Metropolitan Area, particularly a mass rapid transit construction project and the electrification project for the existing lines; to make studies on the transport demands, selection of routes, operational plans, construction and improvement methods; to provide calculations of required costs; to review the feasibility of the above-mentioned project from an economic point of view; and to recommend measures for improvement of traffic situation in Seoul Metropolitan Area.

b) Scope of Survey

The survey was limited to an area within a radius of 45 km of the Seoul Metropolitan Area and aimed at forecasting traffic demand over the next ten years. Emphasis was placed on construction of a rapid mass transit system and electrification of the Korean National Railroad. Only a preliminary survey was con-

ducted on the road transport.

(2) Conclusions and Recommendations

a) The traffic congestion in the Seoul Metropolitan Area has already reached to its maximum level and required immediate measures to alleviate the worsening traffic situation.

The City of Seoul, with a present population of five million, is expected to have a population of 7.5 million in 1981, and the population of the Metropolitan Area within a radius 45 km is expected to reach a level of 13 million in the same year. In order to cope with the above-mentioned situation, the following measures are recommended:

- 1) To construct sub-way systems in the city area.
- 2) To construct a rapid transit railway system, elevated or on the ground in the vicinity of Seoul City.

b) To alleviate an increasing traffic congestion and to develop the function of metropolitan city, and to further the regional development of its outlying area, it is necessary to build five rapid transit railroad lines in the Metropolitan Area by 1981.

Of the five proposed lines, No. 1 subway line was chosen as its first line to be constructed. This line will extend from Seoul Station to Chungyangri Station via Chongo Station with a total length of 9 km.

For this purpose, it is necessary to electrify the Seoul-Inchun, Yungdeungpo—Suwon and Chungyangri—Sungbuk sections of the Korean National Railroad in conjunction with the completion of the subways. As for the electric power system, it was recommended that a 25 KV, 60 Hz alternating current system be used.

2. Expansion of Water Supply in Local Areas of Thailand

(1) Outline of Survey

In March, 1971, surveys on the following points were conducted in connection with the water supply system in two local cities in Thailand, namely, Nakhon Rajasima (Korat) and Chiang Mai:

- a) Existing water-supply systems
- b) Examination of master plan
- c) Surveys on conditions for implementation
- d) Economic feasibility

(2) Conclusions and Recommendations

Following conclusions and recommendations were made as a result of survey.

a) Nakhon Rajasima (Korat)

There has been a sudden increase of population in the city since the establishment of U.S. Military Bases in 1964. The population growth differs from normal population increases caused by urbanization or advancement of industrial complexes. Therefore, it is difficult to forecast the future population.

Consequently, the survey mission made a projection of city's population in 1980 to be 186,000 and drew up an expansion plan for the water supply system for

this projected population.

The existing water intake is located at the Lam Tha Kong Reservoir. However, considering its capacity and water pollution caused by organic contamination, it was recommended that the water intake be replaced and be relocated at Ban Duan along the Lam Tha Kong River, about 15 km from the city.

b) Chiang Mai

With regard to this city, the survey mission prepared an expansion plan of the facilities which are considered to be necessary for population increase.

The projection of the population of the city was set at 155,000 in 1980 (the first stage) and at 196,000 in 1990 (2nd stage), and at 243,000 in the year 2,000 (3rd stage).

3. Kuantan Port Project in Malaysia

(1) Outline of Survey

In order to prepare a master plan of the project, survey was conducted with emphasis placed on the following points:

- a) Social, economic, and transport conditions in the hinterland.
- b) Physical conditions of Kuantan Port
- c) Present situation of Kuantan Port and related related ports (Port Swettenham)
- d) Port planning (types of vessels, cargoes to be handled, scale of port, target year for completion of port construction, preparation and review of alternative plan)
- e) Port management (economic benefits, operation and maintenance of port facilities)
- f) Review of subjects to be studied further in the future.

(2) Conclusions and Recommendations

Based upon the results of the survey, the target year for completing a new port construction was recommended to be set at 1985, and the cargo volume to be handled by the port was estimated at about 2.1 million tons.

Facilities plan of the new port was made, based upon the assumption that it will be difficult to accommodate liners in the port before the target year and later only non-regular ocean-going and coastal vessels will be accommodated.

With regard to the scale of port, the construction cost required was estimated at 15,000 million yen, and the facilities plan was made so as to accommodate 15,000 D/T of ocean-going vessels and 3,000 D/T of coastal vessels.

With regard to the layout of piers, two districts, namely, commercial piers and fishing piers, were recommended to be constructed.

Also, a consideration was given to set aside some space area required for the expansion of piers to meet the necessity of handling containerized cargoes.

4. Ular River Dredging Project in Indonesia

(1) Outline of Survey

The survey was conducted to study the dredging work plans of the Government of Indonesia by examining the economic feasibility of the project, estimating the cost required for the detailed design in executing the project, and also estimating the cost needed for the supervision of the work.

The survey was composed of field work in Indonesia and works carried out in Japan.

(2) Conclusions and Recommendations

It was considered, at first, that the flood of the Ular River is caused by the rise in river water level due to silt deposits at the estuary. However, it was concluded, as a result of the survey, that the flooding of the Ular River is attributable mainly to the abnormally high river-bed in the upper reaches above the Ular bridge. Therefore, the fundamentals of flood control for Ular river should be to dredge this abnormally high river-bed to secure the needed sectional area of the river and the flow capacity.

5. Microwave Network Project in Central Ethiopia

(1) Outline of Survey

The survey was conducted in relation to the three sections, namely, Addis-Ababa—Dire Dawa—Harrar section (No. 2 route); Addis Ababa—Shashemare section (No. 3 route); and Addis Ababa—Jimma section (No. 4 route); and completed the system design for the microwave link planned for these sections.

The present survey was carried out in two stages. The first stage survey was carried out, during a period of 70 days from August 18, 1970, primarily on site selection.

(2) Conclusions and Recommendations

On the basis of results of the survey, the route and sites of the above-mentioned three sections were selected.

Upon completion of the project, it is expected that along with a microwave system between Addis Ababa and Asrama, construction of which is being carried out, the automatic dialing system between the major cities in Ethiopia will be possible, thus bringing about a remarkable improvement in the telephone service for the area outside the city.

6. Survey for Kilimanjaro Regional Integrated Development in Tanzania

(1) Outline of Survey

An integrated development project such as the Kilimanjaro project requires, in the first stage, a basic policy for development through discussions on technical and economic aspects on the basis of adequate data. However, since there had been sufficient data provided prior to carrying out the survey, the team of Japanese expert dispatched to Tanzania was directed to make a pre-feasibility survey for making a survey program for a regional integrated development. The

team conducted a field survey, collected data and informations, received information on development conceived by the Government of Tanzania and finally made a report including advices on the survey program to be conducted hereafter.

Agriculture was considered to be a nucleus for development in this region and the field in which Japan could effectively and easily cooperate. Therefore, the team placed priority on agricultural development. It selected suitable land for agricultural development, chose the kinds of crop to cultivate, and discussed the possibility of introducing small- and medium-scale enterprises such as agro-industries and economic problems existing in the region, as well as the possibility of Japan's cooperation.

(2) Conclusions and Recommendations

The Government of Tanzania placed high expectation on Japan's cooperation toward this project and requested the dispatch of a substantial survey team. It was interested not only in agriculture but the introduction of small-medium-scale enterprises.

It is recommended that Japan make a decision to cooperate by sending a survey team at once in response to the urgent request from Tanzania. The team should be composed of no less than 12 experts including experts in the related fields centering on agriculture and should continue its activity for a period of two months at least. However, in case the team is not able to conclude properly a feasibility study of the project, Japan should consider dispatching another team of experts and Japan Overseas Cooperation Volunteers to conduct a continuous survey.

7. Survey for Reconstruction of Earthquake Disaster in Peru

(1) Outline of Survey

With a view to clarifying ground movement in Chimbote City and the effects on buildings in case of earthquakes, a team made ground charts on earthquake in Chimbote City by coordinating all the results of the following surveys: 1) Topographic survey; 2) boring and interpenetration testing; 3) survey on the extent of damages; 4) observation on aftershocks; 5) continuous observation of tremors; 6) electricity testing; 7) data analysis of ground tremors utilizing a computer.

(2) Conclusions and Recommendations

The ground in Chimbote City is composed of thick sandy layers on solid walls consisting of volcanic rock, sandstone and granite. The ground of this type is generally said to be rather solid against earthquake, but the property of the layers varies from place to place. Moreover, the difference in underground water level are considered to be one of the important factors orientating ground conditions. Therefore, the property of damages caused by an earthquake differs from place to place.

The classification work in the region through the

said studies shows that the Chimbote area is divided into 4 regions. As a result of analysis of respective characteristics of the ground, the team pointed out the necessity of ground improvement, recommended the proper kind of structure for buildings in accordance with ground properties in every region.

<SURVEY FOR OVERSEAS DEVELOPMENT PROJECTS>

1. Basic Survey on Mass Industrial Water-Consuming Industries in the Philippines

(1) Outline of Survey

The survey, covering such areas as Luzon, Negros, Leyte and Mindanao Islands in the Philippines, was conducted on the possibility of the development of the pulp and paper industry using bagasse as the raw material and of developing the chemical industry correlated to pulp and paper production. Emphasis in the survey was laid on the following points:

- a) Collection and review of data on the available industrial water resources
- b) Pollution caused by drainage of industrial water and liquids
- c) Analysis of water quality
- d) Future possibility of developing bagasse pulp industry and its correlated chemical industry
- e) Selection of plant site for bagasse pulp plant and determination of the scale of the plant.

(2) Conclusions and Recommendations

The rationalization of the sugar industry is one of the most important problems in the future, especially with regard to the utilization of sugar-cane bagasse as raw material for the production of pulp and paper.

Therefore, the survey team emphasized the significance of bagasse pulp production as one measure for the rationalization of the sugar industry.

2. Survey for Khlong Than Dan and Nam Pai Hydroelectric Project in Thailand

(1) Outline of Survey

a) Khlong Tha Dan Hydroelectric Project

The survey team consisting of five experts, on the basis of the "Report of Reconnaissance of the Khlong Tha Dan Basin" submitted to the Government of Thailand in June, 1965, carried out on-site field investigations on topography, geology, construction materials, and hydrology. It also investigated the electric demand and supply conditions, while collecting other information necessary for planning. Upon returning to Japan, the survey team conducted analyses of hydrologic data, made load forecasts, drew up rough design, estimated approximate construction costs, compared alternative plans, and examined the economic feasibility of the project, based on the results of field survey and information collected.

b) Nam Pai Hydroelectric Project

The said team conducted aero-investigations in the

Nam Pai hydroelectric development area and collected data. On returning to Japan, it discussed such problems as analyses of hydrologic data as well as the Khlong Tha Dan hydroelectric project.

(2) Conclusions and Recommendations

a) Khlong Tha Dan Hydroelectric Project

The electric power demand in Bangkok has increased by about 20% in recent years. As a result, the Government of Thailand is faced with the necessity to implement hydroelectric projects to meet this rapid increase in power demand. Furthermore, it is planned to set up a large-scale nuclear power station in 1980s. Therefore, the utilization of surplus power during the late night hours will become a problem.

Taking the above circumstances into account, the survey team concluded that the Khlong Tha Dan hydroelectric project, consisting of high head and located at a close distance from three big cities should be developed to supply power at a peak load in the evening. Moreover, this project has the merit that water used after generating power can be utilized as irrigation water in the downstream area.

b) Nam Pai Hydroelectric Project

Before conducting a sub-reconnaissance survey to ensure feasibility of conventional-type power station development, the following items should be implemented in advance.

1) Compilation of sufficient hydrological data to discuss the project by setting up an observatory on flux and meteorology in the neighborhood No. 1 dam-site.

2) Discussion of possibility of water leakage from reservoir by making a study on distribution of cavernous limestone in the whole basin area and reservoir since the Nam Pai River Basin contains considerable cavernous limestone.

3) In deciding the scale of power generation and the time of development, regional development plans should be taken into consideration.

3. Survey for Mining Industry Development Project in Indonesia

(1) Outline of Survey

a) 1) The survey team conducted analyses works, collection of data, sampling tests in Chiruchap mineral sand deposits where P.N.ANEKA TAMBANG, under the Ministry of Mining, is in operation and in other seashore mineral deposit areas where prospecting works are being undertaken.

2) Mining, concentration of ores, transportation plans, estimation of B/C balance and economic evaluation were discussed.

3) Transportation and shipping facilities (including collection of data concerning meteorology, topography and geography) were discussed.

b) 1) Data concerning demand for chlorine and sodium was discussed and collected.

2) Discussion and collection of data concerning feasibility of expansion planning were discussed and collected.

3) Productivity and rationalization of factories in operation were investigated and discussed.

c) The following items were also taken up:

1) Planning of industrial development in the future.

2) Study on actual conditions and planning of infrastructure.

3) Discussion on area to be given priority for promotion of industrialization.

4) Selection of areas to be developed as industrial estates.

(2) Conclusions and Recommendations

a) Iron-sand area extends over 300 ha. to a length of 35 km. and the quantity of ore concentrate is estimated at about 255 million ton with a Fe. content of 55%. But it is necessary to make a further study to upgrade quality.

b) The automatic concentration machines that are generally used in factories are not appropriate to raise quality, since there are rough grains with high bladed magnetite content. As for selection of the type of automatic concentration machine to be used for industrialization, it is necessary to conduct further study.

c) With regard to transportation routes, two methods can be considered: facilities centering on railways and facilities centering on ports. The former, as compared with the latter, requires a wider range of maintenance work and falls within the jurisdiction of NRD, making it difficult to maintain a systematic balance between mining and transportation. On the other hand, the development of the latter is considered feasible to meet the trend toward larger vessels. It also has another merit in that cost is more economical. Taking the above into consideration, it is necessary to conduct further investigations and discussions.

4. Survey for Namorona River Hydroelectric Development in Madagascar

(1) Outline of Survey

The survey team conducted on-site field investigations on topography, geography, and so on in Ambodikimba and Andriamamovoka located in the upper reaches of the Namorona river. It also collected various data necessary for planning and for estimating demand and supply in La Societé d'Energie de Madagascar, La Societé Electricité et Eaux de Madagascar, and related organizations. The team, on returning to Japan, worked out plans on power demand and supply and power generation and made a feasibility report.

(2) Conclusions and Recommendations

a) It is considered appropriate to give priority to Ambodikimba as the site for development and to set up a maximum capacity of 5,000 KW: 2,500 KW in the first stage and an increase of 2,500 KW in the second. Subsequently, Andriamamovoka should be

taken up for development in the third stage.

b) A power station should be designed to utilize water of 8 m³/s and to get an effectual head of 80 m.

c) Ambodikimba power station and Fianarantsoa should be interconnected by a 66 KW transmission line, and a 22 KW transmission line should be provided between Ambodikimba station and existing power systems.

d) The total construction costs are estimated at 1,197,540/10³ Madagascar Frans: 871,140/10³ M.F. in the first phase, 169,500/10³ M.F. in the second and 156,900/10³ M.F. in the third. The total costs should be financed by loans redeemable in 25 years, including a grace period of 5 years, respectively, for each development stage.

5. Economic Cooperation Survey on Overseas Medium and Small-Scale Industries (Africa Team)

(1) Outline of Survey

The survey was conducted in the Republic of Zambia and Zaire from Feb. to Mar. in 1971, during which the survey team reviewed country programs for development, actual conditions of management in enterprises and infrastructure by visiting organizations concerned, such as the Chamber of Commerce and Industry. En route back to Japan, the team visited the Economic Commission for Africa in Ethiopia and conducted a complementary investigation.

(2) Conclusions and Recommendations

A report is under preparation at present.

6. Lima-Chimbote Interconnecting Transmission Line Project in Peru

(1) Outline of Survey

The team carried out field investigations and collected data concerned in the Central Power System area centered around Lima, the Santa System area centered around Chimbote and the Paramonga Power System area centered around Paramonga for a period from the middle of Jan. to the end of Feb. in 1971. On its return to Japan, the team conducted discussions and studies on load projection and on transmission line and substation plans and also conducted analyses of preliminary design, estimation of construction costs, economic evaluation, and financing plans, based upon the information collected in the field.

(2) Conclusions and Recommendations

a) Conclusions

1) This interconnecting transmission line project, which involves power interchange, is effectual to a great extent as an emergency power source necessary for restoration in case of defects or other unforeseen accidents.

2) In the light of the last disaster, it is necessary to interconnect with the Central Power System which is capable of supplying power in a stable manner.

3) Considering that, this interconnecting transmission

line will serve as important main line, a double-circuit design with one circuit is judged better because of its high reliability.

4) The construction period is calculated to require two years, and the construction cost is estimated at US\$14,598,000 including interest during construction.

b) Recommendations

This interconnecting transmission line should be com-

pleted by the end of 1974 by commencing work as soon as possible. The New Paramonga Substation should be provided for interconnection with the Paramonga Power System. It is necessary to establish an agency for construction, to provide construction funds, and to carry out various preparatory works (concrete selection of transmission line route, surveying, and determination of locations of steel towers).

7. Development Survey Teams Dispatched by Country and by Field
(July 1, 1962-March 31, 1971)

Country	Name of Survey Team	Number of Members	Year
Burma	Mineral Resources Development	5	1962
	Natural Gas Development	13	1962
Cambodia	Maize Development	8	1963
	Irrigation and Forestry Development	12	1963
	Phnom-Penh Port Construction Project	7	1964
	Smit Port Construction Project	8	1966
	Coastal Fisheries Development		
	(First-Rainy Season)	6	1967
	(Second-Dry Season)	6	1968
	Chuoy-Smach Port Construction Project		
	(Operational Planning Survey)	7	1968
	Expansion of Telecommunications and Broadcasting Network	6	1969
(Mekong)	Sambor Project	159	1962-69
	Development around Great Lake	61	1967-69
	Aluminum Smelting Industry	8	1969
	Upper Slepok	21	1962-65
Sri Lanka	Goat Fishing Port and Shore Facilities Construction Project	6	1963
India	Land Improvement of Colombo City	9	1969
	Comprehensive Development of Orissa State	19	1962
Indonesia	Iron Ore Loading Facilities	9	1967
	Improvement of Waterworks Djakarta City	6	1962
	Development of Larona River Hydroelectric Resources (Preliminary)	3	1963
	Pontianak Bridge Construction Project	5	1964
	Maize Development	5	1966
	Improvement of Bitung Harbor and Repair of Sulawesi Road	9	1967
	Paper and Pulp Industry Development	3	1968
	Basic Plan for Expansion and Development of Electrical Companies (Basic Survey)	10	1968-69
	Development of Barito River Basin		
	(First)	6	1969
	(Second)	20	1970
	Fishery Promotion Project	11	1970
	Urahr River Dredging Project	8	1970
	Paper and Pulp Industry Development	8	1970
	Textile Industry	3	1970
Mining Industry	8	1970	
Natural Resources Development	18	1970	
Laos	Nam Ngum Project (Operational Planning)	41	1965-66
	Mineral Resources Development		
	(First)	6	1966
	(Second)	6	1967
	Vientiane Airport Construction		
	(Basic Survey)	5	1966
	(Operational Planning)	26	1968-70
	Nong Khai-Vientiane Railway Construction Project	29	1967-68
Malaysia	Economic Research	17	1962
	Microwave Network Construction	5	1965
	Raub Hydroelectric Power Development	7	1965
	Kuching Port Construction (Basic Survey)	8	1966
	(Operational Planning)	32	1968-70

Country	Name of Survey Team	Number of Members	Year
	Waterworks Construction	7	1967
	Tropospheric Scatter Communication Link Between Johore Bahru and Kuching	13	1967
	Fishing Port Construction on East Coast of Western Malaysia	8	1968
	Kuantan Fishing Port Construction	14	1969
	Unhulled Rice Drying	8	1970
	Kuantan Commercial Port	10	1970
Nepal	Kuricani River Development	5	1962
	Iron Industry	6	1965
Pakistan	Dacca-Burigan River Bridge Construction	10	1963
	Chittagong-Karnaphuli River Bridge Construction	10	1964
	Microwave Network Construction	6	1964
	Development of Medium and Small-Scale Industries (First)	6	1964
	(Second)	6	1967
	Undersea Cable Link between East and West Pakistan	8	1964
	Dacca City Planning	11	1965
	Gorai River Bridge Construction	22	1965-66
	Karnaphuli Hydroelectric Power Project (First)	4	1967
	(Second)	3	1968
	Television Network Construction	8	1967
	Islamabad Waterworks (First)	8	1969
	(Second)	10	1970
	Phiti Creek Port Construction	8	1970
	Mineral Resources Development	3	1970
(Asian Highway)	Jessore-Faridpur Highway Construction	12	1968
	Dacca-Faridpur Highway Construction	10	1969-70
Philippines	Manila Fishing Port Construction	5	1962
	Southeast Asia Cable Project	4	1963
	Industrial Site Development	5	1963
	Industrialization Project	6	1964
	Bacolod and Davao Waterworks Construction	5	1965
	Agricultural Development (First)	4	1966
	(Second)	10	1967
	Offshore Mineral Resources Development	11	1969
	Mass Industrial Water Consuming Industry	7	1970
Thailand	Agricultural Development	5	1962
	Mineral Resources Development	9	1962
	Fisheries Resources Development	7	1962
	Nam Sai Yai Hydroelectric Power Project (First)	6	1964
	(Second)	9	1967
	Songkhla Port Construction Project (First Basic Survey)	11	1965-66
	(Second Basic Survey)	6	1967
	(Operational Planning)	4	1970
	Upper Nam Pong River Basin Hydroelectric Power Project (First)	2	1966
	(Second)	6	1966
	Television Network Construction	7	1966
	Chao Phya River Bridge Construction (First Bridge)	8	1967
	(Operational Planning)	8	1968
	(Second Bridge)	18	1968-69
	Development of Industrial Estate	9	1969
	Local Town Water Works Project	7	1970
	Khlong Tha Dan and Nam Pai Hydroelectric Project	5	1970
Korea	Iron and Steel Industry	10	1965
	Railway Workshop Construction	7	1966
	Agricultural Water Resources Development (Preliminary Survey)	6	1968

Country	Name of Survey Team	Number of Members	Year
	(First)	10	1969
	(Second)	10	1969
	Development of Dairy Farming	22	1969
China	Seoul City Transportation System Project	13	1970
	Takao Harbor Expansion Project	5	1962
	City Planning for Tainan	5	1965
	Li-Wi-Chi Hydroelectric Power Project		
	(First)	6	1967
	(Second)	5	1969
	New Port Project		
	(Basic Survey)	18	1968
	(Main Survey)	9	1969
	Offshore Mineral Resources Development	9	1968
(Asian Highway)	Nong Khai-Vientiane Bridge Construction (Thailand, Laos and Vientiane)	29	1967-68
Burma, India, Pakistan, Thailand, and China	Survey of Southeast Asian Delta Areas	3	1962
Thailand and Pakistan	Development of Wood-Using Industries	5	1963
Malaysia, Philippines, and Thailand	Survey for Implementation of Southeast Asian Regional Development Project	7	1966
Indonesia, Laos, Malaysia, Philippines, Vietnam, and China	Improvement of Southeast Asian Intra-Regional Telecommunications Network	6	1967
Cambodia and ECAFE	Economic Cooperation with Overseas Medium and Small-Scale Industries (Southeast Asian Team)	6	1967
Indonesia, Malaysia, Philippines, Singapore, Thailand, and China	Development and Expansion of Iron and Steel Industries of Six Southeast Asian Countries	16	1968
Algeria	Establishment of Paper and Pulp Industry	5	1966
	Improvement of Railways and Inland Water-Transport	10	1967
Ethiopia	Construction of Microwave Network		
	(First)	5	1968
	(Second)	10	1969
	Construction of Microwave Network in the Central Districts	19	1970
Ghana	Development of Medium and Small-Scale Industries	6	1963
Iran	Torregan Irrigation Project	8	1962
	Teheran City Transport Systems	12	1969
Iraq	Water-works Construction	7	1964
Lebanon	Tunnel Construction between Beirut and Damascus	6	1963
Madagascar	Development of Mineral Resources	7	1963
	Development of Electric Power	6	1965
	Namorona River Hydroelectric Power Development	9	1970
Nigeria	Lagos Fishing Port Construction	9	1965
Sudan	Development of Railways	6	1964
Turkey	Dalaman River Hydroelectric Power Development	6	1964
	Kelkit-Karatas Hydroelectric Power Project	6	1968
	Kultan and Belke Hydroelectric Power Project	6	1968
Tanzania	Transportation Project	8	1969
	Coastal Highways in the South Districts	9	1970
	Kilimanjaro Development Project	6	1970
Uganda	Expansion of Television Network	9	1968
Arab Republic of Egypt	Development of Desert Areas	7	1963
	Desert Area Microwave Network Development	7	1964
	Cairo City Transport Systems	8	1966
Sudan and Tanzania	Development of Medium and Small-Scale Industries	10	1963
Iran, Kenya, and Tanzania	Economic Cooperation with Overseas Medium and Small-Scale Industries (Near and Middle East and African Team)	5	1967
Central Africa, Cameroun, Ethiopia, and Nigeria	Economic Cooperation with Overseas Medium and Small-Scale Industries (African Team)	8	1969
Argentina	Development of Hydroelectric Power Resources	6	1962
Bolivia	Telecommunication Facilities	5	1962
	Build-up of Sweet Potato Cultivation Areas	4	1962
	Hydroelectric Power Development	6	1963
Brazil	Development of Wood-Using Industries	5	1965

Country	Name of Survey Team	Number of Members	Year
Chile	Hydroelectric Power Development (Brazil)	6	1966
	Mineral Resources Development in Northeastern Brazil	6	1969
	Development of Microwave Network	5	1964
	Urban Transport	8	1966
Colombia	Bridge Construction	5	1962
	Mineral Resources Development	6	1965
	Patia River Hydroelectric Power Development	6	1966
Ecuador	Timba Hydroelectric Power Development	6	1969
	Development of Mineral Resources	3	1962
	Hydroelectric Power Development	5	1965
Mexico	La Mica River Hydroelectric Power Development	6	1968
	Iron and Steel Resources	6	1963
Paraguay	Encarnacion City Water-Works Construction	4	1963
	Railway Construction	6	1963
Peru	Forestration Project	5	1965
	Rural Electrification Project	6	1967
	Development of Telecommunication Network	6	1963
	Water Resources Survey	7	1964
	Electrification Project in Puno Prefecture	4	1966
Trinidad Tobago	Lima-Chimbote Interconnecting Transmission Line Project	4	1970
	Reclamation Project in Nariva Swamp		
	(First)	3	1966
Venezuela	(Second)	11	1968
	Improvement of Caracas City Transport Systems	6	1964
	Development of Mineral Resources	6	1967
Chile and Peru	Development of Wood-Using Industries	5	1963
Argentina and Colombia	Development of Mineral Resources	7	1964
Bolivia and Paraguay	Development of Wood-Using Industries	5	1964
Chile and Colombia	Economic Cooperation With Medium and Small-Scale Industries (South America Team)	6	1968

CHAPTER 6

MEDICAL COOPERATION

Section 1. Outline of Medical Cooperation

Since her participation in the Colombo Plan in 1954, Japan's governmental medical cooperation was extended, mainly in the forms of dispatching experts and of accepting medical trainees from abroad. In addition to these activities, travelling clinics consisting of doctors and nurses were dispatched to Laos to examine and treat patients in remote and inaccessible areas as from 1959, and by 1965, similar clinics came to be dispatched to Thailand, Burma, Indonesia, and Nepal together with the shipment of medical equipment and supplies to these areas. Effective as it was, this travelling-clinic type of assistance had the shortcoming that the actual operation terminated upon return of the party to Japan; therefore, the resultant effects on the communities concerned were only sporadic and not long-lasting in nature. It was with this realization that, in 1966, the Medical Cooperation Office was inaugurated in the OTCA with a view to streamlining and expanding medical cooperation activities, and priority considerations came to be paid to cooperation through

specific projects, or what is known as Project Cooperation.

Project Cooperation is a type of assistance under the following formula; first, an implementation survey team is dispatched to the recipient country to carry out a survey on the medical and other relevant conditions of the area in question and to discuss and agree with the authorities concerned of the recipient country on the methods and modalities of assistance. Then the actual program is implemented as a combination of the three basic types of medical cooperation, i.e., dispatching of medical experts from Japan, furnishing of medical equipment and supplies, and acceptance in Japan of medical trainees from the country concerned. Specifically, Japanese medical experts are dispatched, individually or in teams, to the hospitals, medical colleges or institutes of the recipient country, and necessary equipment and supplies are furnished so that the experts can teach or instruct doctors at these institutions the relevant medical know-how. At the same time, doctors related to the project may be invited to Japan to undergo training or re-education programs. In addi-

tion, cooperation may also be extended in the form of travelling clinics to remote and inaccessible areas, research programs on specific diseases or eradication of epidemics. It is also the case that sometimes renowned Japanese medical experts (college professors, etc.) are sent to these areas to conduct demonstration operations or to give lectures for the purpose of propagating the advanced level of medical science in Japan, at the same time, updating the techniques of the Japanese doctors already working in those areas, or that teams of X-ray, electronic, electric and mechanical engineers and technicians are dispatched in travelling circuits to assist in the maintenance, management, and repair of the equipment already furnished from Japan. With the adoption of this systematically integrated approach since 1966, Japan's medical cooperation has continued to expand in terms of expenditures and improve in quality every year.

The medical cooperation thus far extended has been directed mainly to urban areas, and a number of projects have been designed for the purpose of demonstrating advanced medical techniques.

There have been also cases, though small in number, where clinical activities were conducted in remote and inaccessible areas or in rural areas. There are an increasing demand for cooperation projects in diverse fields such as hospital construction, neuro-surgery, establishment of cancer diagnosis and treatment units, streamlining and expansion of departments and laboratories in general hospitals, and improvement of facilities in medical colleges.

Section 2. Achievements in Fiscal 1970

1. The dispatching of implementation survey teams in fiscal 1970 is as follows:

(1) Total Expenditure	
Implementation Surveys	¥17,993,000
Implementation Programs	¥201,000

(2) List of Implementation Survey Teams

Area	Number of Experts	Period
Kenya	4	Nov. 25–Dec. 14, 1970
Sri Lanka	3	Dec. 22, 1970–Jan. 7, 1971
Iran	3	Dec. 22, 1970–Jan. 7, 1971
Indonesia	4	Dec. 8–12, 1970
Ghana	2	Jan. 11–31, 1971
Kenya	1	Jan. 10–25, 1971
Tanzania	4	Jan. 31–Feb. 18, 1971
Ethiopia	3	Feb. 3–23, 1971
Thailand	3	Feb. 3–13, 1971
Total	26	

2. The dispatching of experts for medical projects and the furnishing of medical equipment and supplies in fiscal 1970 amounted to the following:

Expenditure	
Dispatching of Experts	¥313,574,000
Equipment and Supplies	
(New)	¥222,418,000
(Carry-over)	¥155,112,000

3. The outline of medical co-operation projects in fiscal 1970 is as follows:

(1) Afghanistan

Wazir Akbel Khan Hospital

Since the inception of the cooperation program with the hospital in 1967, a total of six doctors, three therapists and six nurses have been dispatched to the orthopedics department of the hospital, and surgical equipment worth about ¥3 million have been furnished. Steady progress has been made in the instruction of general surgical techniques with emphasis on orthopedics, the rehabilitation of patients, and the training of technicians in the rehabilitation field.

(2) Burma

Burma Medical Research Institute

An implementation survey team was dispatched in July, 1967 to work out the details of the implementation program. A total of seven experts have been dispatched and equipment worth about ¥40,000,000 including electronic microscopes have been provided since March, 1968, thus helping to make great strides in the research of viral diseases in Burma.

(3) Sri Lanka

Ceylon Drug Quality Control Laboratory

In August, 1968, an implementation survey team was dispatched to identify the area of cooperation, and the decision was made to extend the cooperation to the establishment of the Drug Quality Control Laboratory. In December, 1969, a team of three pharmacological experts were dispatched to work out the specifics of this project. On the basis of its findings, two experts have been dispatched and equipment and supplies worth about ¥44,000,000 including sample-collecting equipment have been sent since fiscal 1969.

(4) Cambodia

Clinical Centre

The centre was established (the facilities were completed in March, 1964) in pursuance of the Agreement on Economic and Technical Cooperation between Japan and Cambodia in Mongkolborey, Province of Battambang, and was incorporated into the medical cooperation programs of the Japanese Government in fiscal 1966. A total of twenty experts were dispatched and contributed to the activities of the Centre as the focal point of medical activities in the Province of Battambang. However, because of the intensification of unrest in the country, the seven experts at work repatriated to Japan in June, 1970, and the cooperation was suspended.

(5) Republic of Korea

(A) Adult Diseases Control (Anti-Cancer Measures)

An implementation survey team was dispatched in June, 1968 to discuss the guidelines of cooperation and the equipment supply program, etc. As of the end of fiscal 1970, steady progress has been made with two experts dispatched and equipment and supplies (X-ray equipment, etc.) worth about ¥60 million provided.

(B) Parasite Eradication

The cooperation is based on the Agreed Minutes signed between the two governments on June, 1969. A total of nine experts have been dispatched and about ¥860 million worth of equipment and supplies (including examination vehicles) has been furnished to the Korean Association for Parasite Eradication. The contribution made to the activities of the Society and to the reduction of parasite diseases in Korea is highly appreciated.

(6) Laos

(A) Hospital de Luang-Prabang

The cooperation was begun in October, 1968 with the dispatch of a dentist and a dental technician (in charge of equipment installation).

The dispatching of two experts and furnishing of about ¥17.74 million worth of dental appliances have contributed greatly to the improvement and propagation of dental techniques in Laos.

(B) Tha-Ngon Dispensary

The cooperation started in March, 1969 with dispatching of a physician. Four doctors and four nurses have been sent and about ¥31.32 million worth of equipment and supplies has been provided to help the activities of the dispensary. In addition, a travelling clinic was organized two or three days a week to treat patients in near-by refugee camps, etc., and has won wide acclaim for the valuable service it rendered to the community.

(7) Nepal

Starting with the supply of X-ray and other equipment in fiscal 1969, an expert to install the equipment and an X-ray technician have been sent. Further, two experts (including a doctor) have been dispatched to help promote anti-tuberculosis measures. Two botanic experts have been dispatched to assist in the research and classification of medicinal plants.

(8) The Philippines

(A) Joint Philippines-Japan-WHO Cholera El Tor Research Project

This is a research project on eradication of El Tor Cholera which started in August, 1964 with the dispatching of experts under the Colombo Plan and, since 1964, has been implemented with joint cooperation of Japan, the Philippines, and the WHO. A total of twenty-three epidemiologists and laboratory technicians have been sent and about ¥47.24 million worth of equipment and supplies (medicine, etc.) has been provided. The emphasis is placed on the preventive measures and the exploration of new treatment techniques

for El Tor Cholera in the Philippines.

(B) Polio Eradication Program

In consequence of the survey and consultation conducted by the implementation survey team dispatched in fiscal 1967, it was decided to combine the supply of live polio vaccine and the dispatching of experts. A total of nine experts have been sent to give instructions in the administration of the vaccine, polio-virological examination, and assessment of the efficacy of the vaccine. Their activities, coupled with the supply of about ¥96.22 million worth of equipment and supplies (live vaccine, etc.), form an important part of polio eradication program in the Philippines.

(9) Indonesia

(A) Djakarta Central General Hospital

On the basis of the preliminary soundings and consultations during fiscal 1969, the cooperation started in full swing in fiscal 1970, and three teams of experts (comprising one, two, and two experts each) have already been dispatched. The technical instruction aspect of the project is proceeding especially smoothly, because most of the Indonesian staffs involved have undergone training in Japan prior to participation in the project. The supply of consumable goods necessary for such instructions is, however, somewhat inadequate and is causing some hindrance to a fully smooth implementation. The equipment and supplies furnished include portable X-ray unit, Aika Respirometer, and sulfated kanamycine.

(B) Department of Oral Surgery, State University of Padjadjaran

Another expert was dispatched in continuation of the program from the previous year and helped raise the technical standard of the department which was lagging somewhat in terms both of techniques and facilities.

(C) Central General Hospital, Bandung, West Java

Since the inception of the project in 1967, cooperation has been extended in a variety of manners, i.e., dispatching of experts, furnishing of equipment and supplies, and acceptance of trainees in Japan for the purpose of expanding and improving physiological examination, blood testing, biochemical testing functions of the hospital. The experts dispatched are one physician and two experts on laboratory examination.

(D) Anti-Tuberculosis Measures in Ambon

Four experts including three anti-tuberculosis experts were dispatched to take preventive measures including BCG vaccination for 200 thousand people in the Province of Maluku, and to conduct a survey. Further to their activities, emergency equipment and supplies including dry vaccine have been sent for the new fiscal year.

(E) Family Planning

The second implementation survey team was sent in December and came to a conclusion that the supply of audio-visual education equipment would be useful

as well as the supply of contraceptives and light vehicles. This is to be implemented from the coming fiscal year. The supply this year consisted of 70 thousand doses of foaming tablets (carry-over from the previous fiscal year) and 35 thousand doses of the same (for fiscal 1970).

(10) Republic of China (Taiwan)

On the basis of the findings of the implementation survey team sent in November, 1969, cooperation amounting to six experts dispatched and about ¥70 million worth of equipment and supplies has been extended to the following:

(A) National Taiwan University Hospital

For improvement of the clinical examination department and Japan-Taiwan joint research program on cancer of nose and throat

(B) Taichung Province Hospital

For improvement of the X-ray facilities

(C) Taipei City Hospital

For anti-tuberculosis measures and improvement of the X-ray diagnosis department.

(11) Thailand

(A) Thai National Cancer Institute

In July, 1967, an implementation survey team was dispatched to study the establishment of the Thai National Cancer Institute (an early cancer detection clinic), and the decision was subsequently reached to extend cooperation to the project under a five-year plan. The second and third survey teams were sent in July, 1968 and November, 1969 respectively to adjust and work out the plans and details of the implementation. The institute was opened in December, 1968. The cooperation so far has amounted to sixty-one experts dispatched, twenty-two trainees accepted in Japan, and ¥196.53 million worth of equipment and supplies furnished, all of which have been extremely effective for the early diagnosis and treatment of cancer.

(B) Thai Virus Research Institute

The Institute was established on the basis of the agreement concluded between the two governments in November, 1961. A total of thirty-two experts have been dispatched and about ¥907.27 million worth of equipment and supplies has been furnished. The project has borne fruit remarkably in throwing light on and establishing measures for such viral diseases in Thailand as polio, rabies, influenza and bleeding fever, and has come to be acclaimed highly not only in Thailand but also in other Southeast Asian countries.

(C) Ramathibodi Hospital, Mahidol University

Eight experts have been sent and ¥42.756 million worth of equipment and supplies has been furnished.

(D) Faculty of Tropical Medicine, University of Medical Sciences

Thirteen experts have been dispatched and ¥13.819 million worth of equipment and supplies has been furnished.

(12) Vietnam

(A) Cho-Ray Hospital

This is Japan's largest medical cooperation project based on the Exchange of Notes on Medical Cooperation between the Governments of Japan and the Republic of Vietnam in June, 1967. It comprises the supply of equipment, materials and medical supplies necessary for the construction of the neuro-surgery ward of the hospital (extended in the form of a grant of fixed property) and for the diagnosis, treatment and research activities of the ward, and also dispatching of neuro-surgeons, X-ray technicians and other experts (a total of ten so far). The project has proved extremely successful.

(B) Saigon Hospital

Since fiscal 1966, one surgeon and one anaesthetician have been dispatched and about ¥47.5 million worth of equipment and supplies has been furnished to this hospital which fulfills its important function as a first-aid surgical hospital in the city of Saigon.

(13) Pakistan

Bronchoscopies and other equipment were provided to the Medical Centre, Jinnah University Post-Graduate School.

(14) Iran

Firouzgar Hospital: Endoscopes and other equipment were provided to help the follow-up work of the Iranian experts who returned to the hospital after training in Japan.

(15) Ethiopia

Imperial Central Laboratory and Research Institute, Ministry of Public Health: A total of nine experts have been dispatched since fiscal 1968 to help establish the parasitology and medical zoology departments. Further, about ¥26.9 million worth of equipment (research equipment, etc.) has been furnished to help expand and strengthen the Institute.

(16) Kenya

(A) Rift Valley Provincial Hospital, Nakuru

The program was started in fiscal 1967 on the basis of the Gist of Discussion exchanged between the implementation survey teams dispatched in 1968 and 1969 and the Kenyan authorities. A total of eighteen medical experts have been dispatched and about ¥52.7 million worth of equipment (Layer Radoigraphy) has been furnished to help the general clinical activities at the hospital and, at the same time, to help train the doctors. Steady progress is being made in these fields.

(B) District Hospital Embu and Kenyatta National Hospital

The program was started in fiscal 1967. Implementation survey teams were dispatched in 1968 and 1970. With the help of six medical experts dispatched and about ¥43 million worth of equipment related to ICU (intensive care unit), etc. furnished, the two hospitals have come to function effectively as the general hos-

pitals in the area.

(17) Nigeria

As in the previous year, one expert (long-term) was dispatched to help the work against Trypanosomiasis.

(18) Ghana

University of Ghana Medical School

On the basis of the findings of the survey planning team dispatched in June, 1968, it was decided to extend cooperation to the virus department. Since December, 1968, a total of eight experts have been dispatched, and about ¥67 million worth of equipment (electronic microscopes, etc.) has been furnished to help carry out research activities on viral diseases widely spread in Ghana and to foster an able group of virologists in the country.

(19) Brazil

Instituto de Medicina Tropical, Universidade Pernambuco: On the basis of the Record of Discussions signed by the implementation survey team dispatched in fiscal 1967, a total of seven experts have been dispatched and about ¥24.3 million worth of research equipment has been provided to help reduce parasitic diseases in the country.

(20) Paraguay

National Leprosarium

One expert has been dispatched to help the research, diagnosis and treatment activities of leprosy in the country.

(21) Peru and Three Other Countries

Gastro-fibrescopes and other equipment have been provided to Peru and two other countries to help the follow-up work of the trainees returned from Japan.

CHAPTER 7

AGRICULTURAL COOPERATION

Section 1. Outline of Activities

1. Present State of Agricultural Cooperation

The agricultural Cooperation in the past was not very much more than "piecemeal" cooperation, such as transferring specific agricultural technology or establishing an agriculture centre, with main emphasis on, dispatching experts, demonstration of agricultural technology, and training in such technology. More recently, however requests are increasingly made for project assistance which is planned to be an integral part of an economic and social development program, purporting to contribute to the development of national economy. Assistance in the field of agricultural education, researches, and technological training, which are most important and essential to the advancement of agricultural technology is also increasing. Thus, efforts are being made to expand the activities in such a way as to extend more "consistent" cooperation than "piecemeal." Details of such activities are given below.

(1) Model Farm Development Project

The aim of this project cooperation is to select an appropriate area, not too large in size, which is to serve as a developmental model for the areas likely to be developed in the future, and to carry out the following activities, with a view to providing consistent and comprehensive technical cooperation.

- a) Improvement of physical infrastructure through providing irrigation and drainage, constructing and improving farm roads, and farm field improvement.
- b) Selection of most suitable plant varieties, use of

fertilizer, introduction of seeding and cultivation standards, and improvement of farm management by means of extensive employment of agricultural machinery.

- c) Community development of farmers, propagation of technology and other institutional development.
- d) Establishment of pilot farms of a size appropriate to the project area, with a view to contributing to the improvement of farm management techniques and providing training to the technical instructors of the recipient country.

In carrying out this project cooperation, the basic aim mentioned above serves as a guiding principle for the research and operational planning of the projects, and according to the principle, expert are dispatched, equipment is furnished and training opportunities in Japan is provided to technical personnel of the recipient country.

(2) Rural Communal Development Project

Model Development Project described in (1) is relatively small scale cooperation with a project area limited to some 200 h.a., and with main emphasis placed on rice growing. More recently, attention is being paid to the development of a rural community in its entirety, and increasing requests are presented for assistance to a rural communal development project.

The project cooperation thus initiated takes up a village as a whole as a project area, and makes a multifarious approach to the problem including the development of a multiple cropping pattern and the promotion of agro-industry, in order to increase and

stabilize the communal agricultural production. It is also intended to work for the overall communal development through providing parallel assistance to farmers' cooperative activities and to the efforts for improvement of rural life and environments. The project cooperation comprises such activities as project surveys, planning and designing, experts services, provision of equipment, and training of local personnel in Japan.

(3) Agricultural Education Cooperation and Research Cooperation

Both education and technological research play an important and essential role in directly promoting agricultural development. All countries, fully aware of this, are doing their best in this field; yet far from sufficient, there remains much to be done. Technological research needs also to be considerably improved just as much as education requires wider dissemination. Much effort has been made in promoting experimental research in every country, with not very satisfactory results obtained. Such a situation prompts increasing requests for assistance in the education and experimental research activities in the field of agriculture. In response to such requests, experts are dispatched and equipment furnished to agricultural educational institutions and experimental stations.

(4) Training Centre Project

Research engineers are not always readily available. Yet in even shorter supply are counterpart technicians to propagate the technology obtained at experimental research stations. Propagation technique also requires much improvement. Especially, it is considered as a matter of greatest urgency to train technicians in cultivation and agricultural machinery. Accordingly, training centres are established in areas where they are most needed. Training centres, staffed by Japanese experts and furnished with necessary equipment, provide practical cooperation in order to train such counterpart technicians at the project site.

2. Problems in Implementation

Various problems need to be solved in order successfully to implement agricultural development cooperation.

(1) To select a good project is the most important factor in implementing agricultural development cooperation successfully.

It goes without saying that a good project should form part of the development program to which the recipient country attaches the highest priority. Especially, in case of an agricultural project, the success is dependent on the degree of understanding and will of the farmers towards the project. It is important, therefore, to ascertain the attitude of the farmers before launching a project, and to match it with as much understanding and will on the part of the donor country, if one wishes to make cooperation really effective.

(2) Agricultural cooperation is meant to benefit ordinary farmers, and it should aim at raising their living standard.

In the preparation of future agricultural cooperation, a renewed study needs to be made on the socio-economic significance of a project. In the past, it seems that things tended to be studied from too technical a point of view. Especially, at the stage of a preliminary or feasibility survey, it is keenly felt that broader studies are more relevant than technical scrutiny.

(3) Support by financial cooperation for agricultural cooperation is very important.

The importance of providing financial cooperation along with technical cooperation has long been recognized, in order to promote the agricultural development of Southeast Asian countries. Agricultural development projects normally take long to mature to the level of raising substantial returns. Therefore, financing for agricultural development needs to be provided at concessional terms of a long repayment period and a low interest rate.

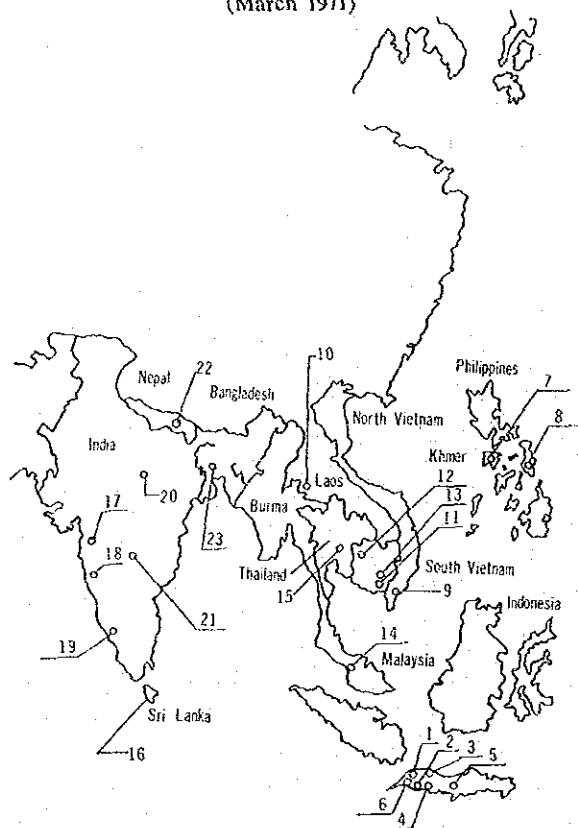
(4) Larger and comprehensive development projects, with extensive areas and subjects, should be increasingly adopted, rather than the method of cooperation so far adopted, which evolves around a comparatively small scale pilot farm.

The past agricultural cooperation was mostly implemented through agricultural centres by way of experimental research, demonstration, and technical instruction, with main emphasis on the increase of production, particularly of rice. Of late, however, increasingly more cooperation is asked for in respect of such projects as will form part of the development plan of the national economy of a developing country.

Country	Project
Indonesia	Increased Food Production in Western Java Agricultural Development of Tadjum District Agricultural Research at Bogor
Philippines	Development of Rice Cultivation at Naujan and San Miguel
Vietnam	Can-tho University
Laos	Agricultural Development at Tha Ngon
Khmer	Development of Maize Cultivation Agricultural Technology Centre Livestock Centre
Malaysia	Agricultural Mechanization
Thailand	Sericultural Development
Sri Lanka	Agricultural Development at Dewahuwa
India	Extension Centres Agricultural Development at Dandakaraya
Nepal	Agricultural Development
Bangladesh	Agricultural Development

Such comprehensive cooperation, which aims to promote the better life and welfare of the farmers through modernization of agriculture and improvement of living standard, must adopt extensive and comprehensive activities including not only rice production but other crops, livestock raising, agro-industry promotion and

Fig. 9. Agricultural Cooperation to Southeast Asia
(March 1971)



further, improvement of infrastructure and environments.

Section 2. Achievements in Fiscal 1970

Following projects have been carried out during 1970, with total expenditures amounting to 673.768 thousand yen.

1. Increased Food Production in Western Java, Indonesia

(1) Outline of Project

In response to Indonesian requests, Japan is extending cooperation in respect of the following three projects since May, 1968, in order to help promote development plan in the field of agriculture.

- a) Project for cultivation, examination, and propagation of improved varieties of rice at experimental farms at Muara, Bogor.
- b) Project for training in agricultural mechanization at the national farm at Sukamandy and at Machinery Section of Technology Department, Directorate-General for Agriculture at Passarminggu near Djakarta.
- c) Cooperation in rice growing techniques, mechanization, small scale land improvement, cooperatives movement, planned production of rice seeds, etc. at the Tjihea Farm (1,086 h.a.), Tjiandjur.

(2) Details of Cooperation

At the request of the Indonesian Government, a preliminary survey team was sent in October, 1966,

to study the overall policy for the establishment of an agriculture centre. On that basis, a 9-man mission was dispatched in August, 1967 for a period of five weeks to make an implementation survey on the possible cooperation for the important agricultural policy of the Indonesian Government. As a result of the survey, an agreement on agricultural cooperation between the two Governments was signed in May, 1968. Cooperation was started in September, 1968, by assigning five experts. Agricultural machinery and experimental instrument were supplied in the three years from 1968 to 1970, for the purposes of cooperating in the propagation of technology to promote the increased food production project. A travelling experts mission was dispatched in February, 1969, with a view to help resident experts by giving them advice on the questions of rice growing, soil, fertilizers, damages by insects, farm management, and agricultural civil engineering, and also to discuss the future cooperation with the people concerned. Assistance under Kennedy Round Air Program was agreed upon in November, 1969, in order to help consolidate the results obtained from technical cooperation among farmers in general. In October, 1970, a mission was dispatched to undertake a detailed survey on the farm field improvement project at the Tjihea Farm.

2. Agricultural Development of Tadjum District, Indonesia

(1) Outline of Project

In connection with the irrigation project covering 3,600 h.a. in the Tadjum District, the Regency of Banjumas in Central Java, cooperation for setting up a pilot farm was asked for. In response, a preliminary survey mission was sent.

(2) Details of Cooperation

a) In October, 1969, a preliminary survey mission was dispatched, and with regard to the pilot farm project, it made a study on the following points.

- 1) Site selection for the project
- 2) Proper scale of the project
- 3) Problems of irrigation, drainage, and farm roads in the project area, and farm management, management techniques, and farmers' organization.

After study the preliminary survey report, a detailed survey was made in February, 1970, and on the basis of the agreed minutes of discussions which were then drafted between the survey team and the Indonesian authority, an agreement on technical cooperation was signed in February, 1971, between the two Governments.

b) Six experts are to be sent in the fiscal 1971, and necessary equipment will be provided.

3. Agricultural Research Cooperation, Indonesia

(1) Outline of Project

Experts and necessary research equipment were

made available to the Central Agricultural Research Institute at Bogor in Western Java in order to do researches, in collaboration with counterpart researchers, on the following three themes.

- a) Ecology of crop-damaging blight insects and their preventive measures
- b) Way of foretelling an outbreak of crop-damaging blight insects and virus-carrying insects
- c) Physiological lesion of plant and influence of crop-damaging insects to botanical physiology.

(2) Details of Cooperation

A preliminary survey team was sent in October, 1969, to study the possibility of agricultural research cooperation. The team reached agreement with the Indonesian authority on the outline of cooperation on the problem of plant-protection, to be implemented at the Central Agricultural Research Institute. To follow up, a detailed survey was made by a mission sent in February, 1970. The mission and the Indonesian Authority formulated and signed the agreed minutes of discussions.

In October, 1970, "Agreement between the Government of Japan and the Government of the Republic of Indonesia Concerning the Implementation of Japan-Indonesia Joint Food Crop Research Program" was concluded, and the cooperation at the Central Agricultural Research Institute for joint studies on the insects carrying virus harmful to botanical physiology and the plant-protection in respect of botanical physiology was inaugurated by sending experts and providing necessary equipment in February, 1971. Another expert in the field of entomology is planned to be dispatched in 1971.

4. Development of Rice Cultivation: the Philippines

(1) Outline of Project

A pilot farm was established in order to demonstrate

farm management techniques which might well be adopted by local farmers. The project has a five-year duration, and experts and necessary equipment are being made available.

The project has two project areas.

a) Naujan

The area is situated on the alluvial plain hemmed in by the Magasawang (North West) and the Pangarang (South East) Rivers, and is mostly cultivated. It is planned to pump up 3.5 tons/sec. water from the Magasawang, and by improved irrigation, to collect a stable 4 ton/h.a. rice crop during dry seasons.

b) San Miguel Alangalang

1,086 h.a. of paddy field are irrigated with 2.73/sec. water taken from the water head regulator constructed 1.7 kilometres from Mainit National Road Bridge. Many creeks which thread the area are reformed and made available as water canals for irrigation. It is hoped to raise a 4 ton/h.a. crop during the dry season.

c) Pilot Farm

Adjacent to the project areas at Naujan and San Miguel Alangalang, a pilot farm of about hamlet-size is established with a view to implementing a comprehensive model program for the improvement of the farm management, through the improved use and control of water all over the areas, and the development and propagation of practical farm management techniques.

(2) Details of Cooperation

a) A preliminary survey team was sent in September, 1966 to investigate the possible project area and to consult with the Philippine Government.

b) To follow up the preliminary survey, a second

Project Area	Irrigated Area	Objective	Main Facilities	Annual Crop	Annual B/C ratio	Construction Costs	
						Civil Works	Rice Centre
h.a. 1,430	h.a. 1,086	To obtain two stable rice crops	Canals for head regulator Rice Centre	tons 8,100	2.63	US\$ 609,700	US\$ 160,400
Project Area	Irrigated Area	Objective	Facilities	Annual Crop	Annual B/C ratio	Construction Costs	
h.a. 1,366	h.a. 1,000	To obtain two stable rice crops	Canals for pump station Rice Centre	tons 7,480	2.29	US\$ 581,820	US\$ 159,205
Area	Pilot Farm	Objective	No. of Households	Main Facilities	Cost of Land Preparation	Provision of Equipment (1st year)	
Naujan	100 h.a.	To obtain two rice crops by pump irrigation	29	Pump 400 m/m Siphone Farm Roads 1,320 m	13,800 thousand yen	53,000 thousand yen	
San Miguel	100 h.a.	To obtain two rice crops by use of water head regulator and pump irrigation	42	Pump 400 m/m Head regulator Farm Roads 2,400 m	13,000 thousand yen	53,000 thousand yen	

survey was carried out by a team sent in April, 1967. The survey team made a detailed study on three selected project areas with a view to promoting irrigation on medium and small scale farms, and as a result, opted for the two areas, Naujan (Mindoro Is.) and San Miguel Alangalang (Leyte Is.), as technically and economically appropriate. In November, 1967, a construction plan of "a Model Farm Land for Increased Rice Production through Improved Irrigation" was formulated in respect of the two areas, and a consultation team was sent to the Philippines.

c) In order to formulate a detailed plan, an on-site investigation was carried out for the areas from March, 1968 by Japanese experts. A detailed plan was established, and the construction costs for the project was agreed to be borne by the Philippine Authority.

d) In September, 1968, a mission was dispatched to study the problem of setting up pilot farms. The mission discussed with the Philippine Government the future policy of the project, and drafted the agreed minutes of discussions which set down the outline of technical cooperation to be implemented in the coming five years.

e) A Governmental agreement was signed in June, 1969, and experts and necessary equipment were made available.

f) In 1970, a travelling advisory team was dispatched.

5. Cooperation with Can-Tho University, Vietnam

(1) Outline of Project

The Vietnamese Government requested the following assistance in order to reinforce the Faculty of Agriculture of Can-Tho University.

a) Dispatch of a professor and a research fellow both in agronomy and in livestock raising, and guidance and assistance by Japanese instructors in research and teaching methodology.

b) Acceptance by Japanese educational institutions of Vietnamese students who are expected to join the teaching staff of the university.

iii) Supply of research and educational equipment and materials necessary for the operation of the faculty.

In response, two professors were sent, and equipment and materials required for the first year cooperation were supplied in 1970.

(2) Details of Cooperation

a) A formal request for Japan's assistance to the Faculty of Agriculture of Can-Tho University was

made by the authority concerned of Vietnam in September, 1967.

b) Dr. Throng, Dean of the Faculty came over to Japan in May, 1969, and, besides inspecting various universities of Japan, approached many quarters for cooperation with his university.

c) In response to the request, a mission visited Vietnam in July, 1969, with the results formulated in the agreed minutes of discussions between the mission and the Vietnamese authority.

d) An agreement for the cooperation was concluded between the two Governments in March, 1970.

e) In accordance with the agreement, two experts (stock-raising and agronomy) were sent, and experimental equipment and materials were provided. A travelling advisory team was sent in March, 1971.

6. Tha-Ngon Agricultural Development Project, Laos

(1) Outline of Project

Gist of the project is tabulated as follows.

(2) Details of Cooperation

a) A survey mission was sent in January, 1968 for the purposes of formulating an agricultural development plan for the project. In November, 1968, a detailed design was worked out.

b) On the basis of the design, the project was explained to the Asian Development Bank, which pledged financing of part of the project cost. An agricultural mission of the bank deputed to Laos eventually gave first priority to the Tha Ngon project, after scrutinizing a whole set of agricultural development schemes projected on the Vientiane Plain. At the request of the ADB mission, further consultations were held between Japan and the bank in Laos.

c) A survey mission sent in June, 1969 studied the question of establishment of a pilot-farm (approximate area of 100 h.a.) for educational purposes of the local farmers in the techniques of irrigation agriculture as well as for training extension workers who would undertake farm-management guidance to the settling farmers. The discussions held between the mission and the Laos Government were recorded in the agreed minutes.

d) In April, 1970, "Agreement between the Government of Japan and the Royal Government of Laos concerning the establishment of a Pilot Farm" was concluded. Under the Agreement, experts and necessary equipment and materials were made available in order to set up and operate the pilot-farm for five years from 1970. The operational headquarters are

Project Area	Irrigated Area	Objectives	Costs	Main Facilities	Total Annual Production	Total Annual Income
h.a. 1,000	h.a. 800	Development of Paddy-Field	US\$ 860,000	Pumps Irrigation Canals Drainage Facilities	US\$ 555,000	US\$ 287,600

located at the existing Agricultural and Livestocks Centre at Tha Ngon.

7. Cooperation for Development of Maize Cultivation, Khmer

(1) Outline of Project

Cooperation for the following items was agreed upon and formulated in an Exchange of Notes in November, 1968.

- a) Research activities in selecting appropriate varieties of maize and in establishing seeding and cultivation standards, and training of Khmer counterpart staff at the experimental farm opened by the Khmer Government.
- b) Improvement of cultivation techniques and their propagation among Khmer maize producers.
- c) Rationalization of marketing system of maize in the country.

Japan is sending experts and providing equipment as deemed necessary in accordance with the arrangement made.

(2) Details of Cooperation

With a view to promoting the project, the following missions have been dispatched to Khmer to date.

Year	Designation of Mission	Organization
1961	Primary Products Purchasing Team	MITI
1963	Maize Development Planning Team	OTCA
1966	Primary Products Survey Team	MITI
1967	Maize Development Survey Team	MAF
1967/68	Maize Development Cooperation Planning Team	OTCA
1968	Maize Development Experimental Farm Designing Team	OTCA
	*MITI Ministry of International Trade and Industry	
	OTCA Overseas Technical Cooperation Agency	
	MAF Ministry of Agriculture and Forestry	

The Japanese Government sent three experts from 1968 armed with necessary equipment, to initiate the cooperation. Ever since, the cooperation was continued satisfactorily, until the security situation in the Khmer Republic deteriorated in September, 1970 due to the war, when the experts were evacuated temporarily. With the improvement of the conditions in the country, two experts were sent anew in December, 1970.

8. Agricultural Technology Centre and Livestock Centre, Khmer

(1) Outline of Project

These two centres were established under the "Agreement on Economic and Technical Cooperation between Japan and Cambodia," concluded in March, 1959. A Medical Centre was also created under the same Agreement.

The agreed duration of the cooperation was seven years from July, 1959 to July, 1966. The main items of cooperation were, a) construction of the centres,

b) deputation of Japanese experts, and c) provision of required equipment and materials. The construction of the centres was completed in March, 1964, and experts were dispatched from around July of the same year, together with the provision of equipment and materials. The inauguration of the centres was celebrated on 8 July, 1965.

In view of the considerable delay in commencing the cooperation, additional three-year assistance to the centres was agreed upon, covering a period until September, 1969, and "Exchange of Notes between the Government of Japan and the Royal Government of Cambodia concerning the operation of Agricultural Technology Centre and Livestock Centre" formalized the agreement reached. The cooperation is being implemented.

a) Agricultural Technology Centre

The centre is located at Tuol Samrong, Province of Battambang, approximately 350 km northwest of Phnom-Penh. On some 300 h.a. of the farm, there are twenty-four establishments with the total floor-space of 7,130 m², details of which are as tabulated below.

Buildings and Facilities	Floor-space (m ²)
Office-cum-Experiment Laboratory	1,496
Staff Living Quarters	2,331
Lecture Rooms	369
Trainees Dormitory	1,046.40
Club-house	240
Farm Workers Common Room	120
Farm Machinery Show Room	240
Repair Station	240
Workshop	200
Screened Rooms	97.20
Weather Observatory	12
Warehouse	369
Fuel Storehouse	30
Cattle-shed	120
Barnyard Manure Storage	120
Power House (two 100 KW Generators)	120

On a paddy-field of about 5 h.a., researches and studies with both Japanese and local varieties of paddy are being made in respect of fertilizer application, machinery application, soil problem, and pest and diseases. A seed-farm for multiplication of the improved high-yielding varieties of rice with improved irrigation facilities has been created.

b) Livestock Centre

The centre is located on the State-owned land in the Province of Kg. Cham, approximately 130 km east of Phnom-Penh. The centre has a farm area of about 900 h.a., though two-thirds of it is submerged under the flood-water during the rainy season. Thirty-six establishments, including office building, staff and trainees living quarters, cattle-sheds and poultry-pens, hatchery (poultry incuba-

tion), machinery storerooms, and feed stuff stores have a total floor-space of 700 m².

The farm has been developed, and approximately 150 h.a. are already available for cultivation. Yet 50 h.a. of the land tend to be water-logged during the rainy season, while another 50 h.a. is too sandy for cultivation of fodder crops.

(2) Summary of Cooperation

The content of the cooperation for both centres is summarized as follows.

- a) Research and experimental studies on technical improvement aimed at increased agricultural and livestock production.
 - b) Training of technical personnel in agronomy and livestock raising, and propagation of techniques.
 - c) Demonstrative experiments.
- (3) Operational details of the cooperation for each centre are given below.

a) Agricultural Technology Centre

- 1) Research and studies on fertilizer application, machinery application, soil problem, and pest-diseases control, with both Japanese and local varieties of rice.
- 2) Demonstrative cultivation of high-yielding paddy, with two crops for rainy and dry seasons, on a experimental field through proper water control.
- 3) Test-cultivation of sugar-cane, maize, and vegetables on upland field.

By way of above activities, special attention was paid to preparing a seed-farm in order to produce improved high-yielding seeds for distribution among farmers.

Due to untoward conditions, however, the activities so far carried out were limited to the following items, and, therefore, completion of the project within the period prescribed in the Exchange of Notes is all but impossible.

- 1) Collection of existing local varieties of paddy, test-selection of appropriate varieties for the farm, and establishment of seeding and cultivation standards.
- 2) Classification and chemical analysis of soil, and establishment of fertilizing techniques.
- 3) Classification of the farm machinery and instruction on repairing techniques (general mechanization is considered pre-mature as at present).
- 4) Preparation of 300 h.a. farm field (dikes, intake canals for irrigation water, farm roads).

b) Livestock Centre

Operational activities at the centre were envisaged to be:

- 1) Production and distribution of breeding-stocks.
- 2) Research and studies aimed at improvement of raising method of breeding-stocks,
- 3) Research and studies on feed-stuff improvement.

Completion of a FAO's Milk Processing Plant in Khmer has helped enhance the significance of the centre, at once as a reliable raw-milk supplier and again as a station for promoting technical improvement of milchcow multiplication. So far, measures for strengthening cattle-management, particularly by way of better controlled pasturage, with increased number of shelter-sheds and fencing of the pasture-land, have been adopted, together with other multiplication measures of the stock milchcows.

Swine branch of the centre is likewise being enlarged in accordance with the Government policy to concentrate on the centre, while other swine breeding yards over the country are being closed.

9. Cooperation for Agricultural Mechanization, Malaysia

(1) Outline of Project

Together with the Prai Basin Drainage Reclamation Project initiated in September, 1967, a preliminary survey on mechanization was undertaken. In accordance with the result of the survey undertaken in June, 1968, the Government of Japan decided to extend assistance for the mechanization training project required for introducing two rice-crop pattern. Experts were dispatched and necessary instruments were provided to the training facilities at Bumbong Lima (adjacent to the project area) which was regarded as best for extending assistance.

(2) Details of Cooperation

A preliminary survey on agricultural mechanization was conducted in September, 1967. A detailed plan survey team, which was dispatched in June, 1968, drew up a concrete plan of cooperation for training facilities of agricultural mechanization aimed at training of Malaysian staffs engaged in agricultural extension work at Bumbong Lima. An agreement concerning the project for training of rice-crop mechanization was concluded in December, 1970. Accordingly, two experts were dispatched in March, 1971, and necessary agricultural machineries were provided.

10. Cooperation in Sericultural Development, Thailand

(1) Outline of Project

- a) A center for sericultural research and training will be established in Corat in order to develop new techniques and to undertake educational training for technicians.
- b) The production of new species of mulberry and silkworm developed at this centre will be increased and tests will be undertaken in order to apply new techniques to new soil. Also, three existing sericultural test centres will be reformed into sub-centres and the facilities will be improved in order to undertake extensive training of farmers of the areas concerned as well as staffs engaged in teaching new techniques.

c) Three pilot villages will be selected, and a new set of techniques including joint breeding of silk-worms will be instructed to the farmers of these villages. Thus, it is expected that these villages will function as key centres for future extension work.

In order to cooperate with the above-outlined project, the Government of Japan will dispatch experts and necessary instruments.

(2) Details of Cooperation

a) A basic survey team was dispatched in July, 1968. The team extensively surveyed the basic problems concerning projected sericultural cooperation as well as rice cropping and irrigation.

b) A team for detailed survey was dispatched in February, 1969. The team surveyed various areas of northeast sector of Thailand and examined the details of the project. The team also formulated a concrete proposal of Japanese assistance to this project, consulted with the officials concerned of the Thai Government and summarized this consultation in the form of a record of discussions.

c) Four experts were dispatched in September, 1969 in accordance with the above-mentioned record of discussions. Two experts were additionally dispatched. Also, necessary instruments were provided for implementation of the project.

d) The first roving survey team was dispatched in February, 1969. The second roving survey team of three members (silk yarn administration, silk-reeling techniques and organization and coordination) was dispatched in November, 1969, and surveyed such problems as improvement of subcentres, method of extension work, improvement and management of silk-reeling techniques, and training of counterpart staffs. The team also studied the overall problems of the project.

e) An expert was dispatched in March, 1969 for the purpose of adjusting a freezer in trouble. Furthermore, another expert was dispatched in July, 1969.

11. Model Agricultural Development Cooperation, Sri Lanka

(1) Outline of Project

a) Instruction of farming techniques and introduction of mechanized work system.

b) Establishment of irrigation facilities, lot improvement, and instruction on maintainance of irrigation facilities.

c) Installation of field irrigation facilities.

d) Establishment of a lot for joint examination of rice cropping and field cropping.

e) Reorganization and promotion of agricultural cooperatives.

f) Advice for improving livelihood and installation of simplified water-works.

(2) Details of Technical Cooperation

a) A preliminary survey team was dispatched in

July, 1970. The team reported that it was most appropriate to extend assistance for the project on regional agricultural development of villages of a certain scale including adjustment of land, improvement and extension of farming techniques, and organization of farmers.

b) The second survey team was dispatched in February, 1969. The team undertook on-the-spot survey for village development, consulted with the Government of Sri Lanka on the proposed cooperation scheme, and agreed on the following matters.

1) To select Dewahuwa district as an objective village for cooperation.

2) To undertake on-the-spot survey of specific problems (farming, adjustment of infrastructure, and agricultural cooperatives).

c) On-the-spot survey was undertaken in July 1969, and detailed plan was formulated. A record of discussion was also prepared.

d) In order to implement this project, two experts were dispatched in November, 1969. Another expert was additionally dispatched in January, 1970. Also, a part of necessary instruments was provided.

e) Agreement concerning the rural development project in Dewahuwa was concluded in October, 1970 between the two Governments.

f) Two experts were dispatched in December, 1970 and necessary instruments were provided.

g) It is scheduled to dispatch two experts (agricultural machinery and farmers' organization) and a short-term expert for construction machinery in 1971. Furthermore, a team for improvement of village life is expected to be dispatched.

12. Agricultural Extension Centre, India

(1) Outline of Project

The first and second agreements were concluded between the Government of Japan and the Government of India in 1962 and 1964 respectively, concerning the establishment of model farms. Accordingly, eight model farms (Centre of Agricultural Techniques) were established in India with a view to demonstrating the Japanese rice-cropping techniques. These farms made substantial achievement in the demonstration of improved agricultural techniques. After two years of cooperation (1967 and 1968), the administration of these farms was handed over to the Indian side. Thereafter, in response to the Indian request, four model farms (Surat, Gujarat State; Shahabad, Bihar State; Khopoli, Maharashtra State; Mandya, Mysore State) were reformed into agricultural extension centres. Necessary agricultural machineries for extension work were provided and experts were dispatched. The following training and practical examination were undertaken.

a) On-the-spot training of improving rice-cropping techniques extended to agricultural technicians and

leading farmers.

b) Practical tests necessary for improving rice-cropping techniques.

c) Practical tests and demonstration using improved agricultural tools.

(2) Details of Cooperation

a) The First Extension Centre (Shahabad Agricultural Extension Centre, Surat Agricultural Extension Centre).

The first agreement concerning the establishment of agricultural extension centre was concluded in March, 1968. Seven experts were dispatched in July, 1968, and agricultural machineries including motorized cultivator, cropping machine etc. were provided. In 1970, necessary agricultural instruments were provided, and on-the-spot training of rice-cropping techniques was undertaken for the Indian technicians and farmers in the surrounding area.

b) The Second Extension Centre (Khopoli Agricultural Extension Centre, Mandya Agricultural Extension Centre).

An agreement concerning the establishment of agricultural extension centre was concluded in December, 1968. Four experts were dispatched, and necessary agricultural instruments and materials were provided after 1968. A roving team was dispatched for survey of damage on rice-cropping caused by insects.

The first and second agreements were to terminate in 1971. In response to the request for continued cooperation by the Government of India, however, two preliminary surveys were undertaken concerning the projected cooperation after the end of the agreed cooperation period.

(3) Cooperation for Promotion of Extension Work in the Areas Adjacent to the Centre

The Government of Maharashtra State formulated a regional agricultural development plan covering the area of 10,000 h.a. (comprising three districts) around Khopoli Agricultural Promotion Centre aimed for improved rice-cropping and introduction of agricultural machinery, and requested for Japanese assistance. Accordingly, a memorandum on Japanese assistance to the improvement of rice-cropping techniques was signed between the two Governments in March, 1970. Thus, three experts of extension work and agricultural machinery and two experts of land adjustment were dispatched. Necessary instruments were also provided.

13. Dandakaranya Agricultural Development Cooperation, India

(1) Outline of Project

The central government initiated in 1958 a project for the rehabilitation of the refugees from Pakistan and other areas as well as for the settlement of the

indigenous inhabitants. The project covers a special development area of 80,000 h.a. in the mountainous strip extending to the three provinces of Orissa, Madhya Pradesh and Andhra Pradesh.

(2) Details of Cooperation

a) In response to the Indian request, the seventh roving instruction-survey team surveyed Malakanagiri District of Dandakaranya Area in December, 1967.

b) The eighth roving survey team visited India in February, 1969, and undertook a survey of Paralkote District of Dandakaranya Area. A preliminary survey team was dispatched in July, 1969. The team selected appropriate areas for cooperation and discussed with the Indian side on the details of cooperation. In November, 1969, a team for detailed planning was dispatched, and the following cooperation scheme was formulated in consultation with the Indian side.

1) For the purpose of community development, irrigation and drainage facilities will be improved in 500 acres of land which is being irrigated by the Pakhanjore main canal.

2) Pakhanjore main canal will be improved in order to facilitate the irrigation of 500 acre area.

3) Plateau irrigation facilities will be installed in the 120-acre area adjacent to the Pakhanjore main canal.

4) Paddy formation, irrigation and drainage facilities and other basic land improvement measures will be carried out in 130 acres of low land and 50 acres of plateau land in the general farm area. Training will be conducted for the farmers in the area and extension workers engaged in local community development projects.

c) The detailed plan survey team compiled a report after its return to Japan, and this report was submitted to both the Japanese and Indian Governments. The two Governments have since continued to consult with each other, and concluded in August, 1970, an agreement for agricultural development cooperation in the project area. The cooperation period provided for in the agreement is 5 years. After October, 1970, six experts were dispatched and necessary instruments and materials were provided. Adjustment of land covering about 40 acres was completed in 1970.

14. Agricultural Development Cooperation, Nepal

Details of Cooperation

(1) A basic development survey team was dispatched in March, 1970 to East Kankai, the Rapti Farm, and the Janakpur areas of Nepal.

(2) A second survey team was dispatched in November, 1970.

(3) Another survey team will be dispatched in June, 1971. Furthermore, a detailed plan survey team will be dispatched in October, 1971.

15. Basic Survey for Development

Agricultural Development Cooperation, East Pakistan

Agricultural cooperation to East Pakistan was initiated in 1956 with the demonstration of Japanese rice-cropping techniques. Subsequently, an agreement was concluded concerning the establishment of Agricultural Training Centre in Dacca. The centre undertook assistance for training the agricultural machinery tech-

nicians and cooperation for rice-cropping and vegetable cultivation. The Government of East Pakistan requested in March, 1970 for Japanese assistance for introduction of new species of rice plant aimed at increasing rice production. Responding to this request, a survey team was dispatched in August, 1970. A detailed plan survey team is scheduled to be dispatched.

CHAPTER 8

PRIMARY PRODUCTS DEVELOPMENT COOPERATION

Section 1. Outline of Activities

There are three main areas in which developed countries have provided assistance to the self-help efforts of developing countries: "capital assistance" including loans to meet the shortage of capital and foreign exchange, "technical assistance" to help elevate the level of technical and human resources and to meet the gap in technology, and "economic cooperation through trade" designed to ease the foreign exchange shortage and bring about industrial development through increased exports.

There are, however, quantitative limits to such forms of assistance. Further, as regards "capital assistance" which forms the bulk of the three, the problem has become evident that, unless such assistance is provided in the form of grant, increased assistance would in fact result in increased debt obligations and offset in net terms part of newly provided assistance. Such a feature can be regarded as detrimental to the economic activities of developing countries.

In contrast to the above, foreign exchange earnings through exports have the advantage that they can be used freely without any concomitant restraint of debt repayment, etc. Developing countries have therefore come to insist strongly that, for the purpose of placing their economy firmly on the path of development, the filling of the trade gap by increased foreign exchange earnings through export promotion is the most effective means.

In view of the fact that about 80 per cent of the total exports of the developing countries are in primary products, the increase in exports of primary products is the easiest as well as the most effective means for the developing countries to increase their export earnings. It is with this in view that they are strongly demanding the increased purchases of primary products by the developed countries.

Japan's trade with the developing countries shows

a large surplus of exports over imports. In view of her heavy dependence on exports to the developing countries, it is of immediate importance for Japan to increase her imports of primary products from the developing countries and to rectify her trade imbalance with these countries.

There are, however, problems on the primary products of the developing countries. In general, they lack international competitiveness in terms of quality and price. On the supply end, there often is not enough supply to be channeled into exports and the steady supply for exports is not necessarily ensured. Partly for these reasons, only a little more than 40 per cent of Japan's imports of primary products are from the developing countries, and about 60 per cent are still imported from the United States, Canada and other developed countries. It is therefore to be desired for the benefit of both Japan and the developing countries that, for the purpose of increasing imports of primary products from the developing countries, Japan promote further efforts to increase her imports of particular products in conjunction with financial and technical assistance to increase the production of such products; and thereby help ensure a steady supply for exports and reduce the costs of production.

The objective of the program of Primary Products Development Cooperation, which was inaugurated in 1967, is to increase Japan's imports of primary products from the developing countries and to offer technical cooperation in improving productivity, quality, and the distribution structure to better meet Japan's needs for such products.

In the first year, fiscal 1967, an allocation of ¥77,324,000 was made in the budget covering the surveys on development cooperation for maize in Tanzania, Indonesia, and Cambodia and the survey on primary products development cooperation in Thailand.

In fiscal 1968, experts were dispatched and equipment were provided to Indonesia and Cambodia for

maize development. As for Thailand, construction equipment for excavation of kenaf retting ponds were furnished and soy-bean experts were dispatched on a short-term basis.

In fiscal 1969, experts were dispatched and equipment were provided to Indonesia and Cambodia for maize development in continuation of the programs from the previous year. Analysis equipment for the oil seed laboratory and inspection equipment for commodity standards for exports were provided to Thailand as part of the primary products development cooperation. The new project taken up in that year was the forestry development in Cambodia, for which a survey was conducted.

Section 2. Achievements in Fiscal 1970

Introduction

The expenditure in fiscal 1970 was \$164,537,000, which was a 17 per cent increase over the expenditure in fiscal 1969 of ¥139,914,000. The main activities were as follows:

(1) Survey teams on maize development cooperation were dispatched to Indonesia and Thailand to study new projects.

(2) The project of development cooperation for maize in East Java, Indonesia, was in its third last year. A travelling team of experts was dispatched to give guidance, and, as a result of their consultation with the Indonesian authorities, it was decided to extend the cooperation period for another three years.

(3) The project of development cooperation for maize in Cambodia had to be suspended with the repatriation of the experts caused by the political situation in Cambodia.

(4) Three experts were dispatched for the project of cooperation in soy bean development in Thailand to help start the work in field studies, breeding, and selection tests, etc.

(5) Pilot plant equipment worth ¥49,102,000 were also furnished for the oil-seed laboratory project.

1. Implementation Survey for Development Cooperation for Maize in Thailand

(1) Background and Purpose

The Thai Government (Bureau of Credit Sales Cooperatives, Ministry of National Development) requested the Japanese Government for cooperation to its program of maize production and development of agricultural cooperatives. The Japanese Government responded by sending a survey team to carry out on-the-spot surveys and to discuss with the Thai authorities the modalities of actual cooperation to be extended.

(2) Content of Survey

The survey was focused on the situation of maize

development in Lamnarai, Nong Phai, and Prom Phiram, and on the management of the agricultural cooperatives in the three areas.

The program worked out on the basis of the survey is as follows:

a) Establishment of a Mechanization Centre

A mechanization centre is to be established in Lamnarai, Lopburi Province, under the supervision of the Bureau of Credit Sales.

b) Cooperation is to be extended to the following cooperatives;

Production Cooperative in Lamnarai, Lopburi Province

Credit Cooperative in Non Phai, Petchaboon Province

Production Cooperative in Prom Phiram, Phisnuloke Province

The idea is to use the mechanization centre for the purpose of testing the economic feasibility of the various production methods to be introduced and thus working out a systematic, mechanized method of production. Such a method of production is to be propagated through each cooperative to the areas concerned. At the same time, some of the equipment furnished from Japan are to be leased to the cooperatives. The cooperatives in turn will lend or lease such equipment to the farmers. The profit accruing therefrom is to be accumulated within the cooperatives and to be utilized for the sound development of the cooperatives.

2. Development Cooperation for Maize in East Java, Indonesia

(1) Background

The Indonesian Government drew up a program for increased production of maize in East Java and requested Japan for cooperation to the program.

In considering the actual forms of cooperation, attention was drawn to the fact that a large-scale export of maize from Indonesia is not possible because of its relatively poor quality, i.e., the failure to attain a uniform quality of grains (grains of different colors and of immature growth are often juxtaposed) or to combat the effects of excessive heat and insects, etc.

It was decided to extend technical cooperation from fiscal 1968 in increasing production of maize, improving quality and the distributive structure to remedy the problems hindering the growth of maize exports from Indonesia.

(2) Status of Operation and Outlook for the Coming Three Years

a) When the project was inaugurated in April, 1968, its duration was planned to be three years. It was decided in the Record of Discussions signed in April, 1971 to extend the project for another three years, i.e., until July, 1974.

b) The number of experts dispatched on cultivation

was increased in fiscal 1970. One was posted in August, 1970 to Kediri, one in December, 1970 to Malang, and two in March, 1970 to Bondowoso and Banjuwangi.

c) Travelling guidance in fiscal 1970 was focused on collection and processing. A guidance group of seven was dispatched in December, 1970 and in March, 1971.

d) The production of maize in Wongsoredjo, Banjuwangi was found to be plagued by the problem of insufficient rainfall. There were too great risks involved in the crop at the end of the rainy season. Studies were made to find an alternative crop for exports. It was decided to take up sorghum, and tests have been conducted since fiscal 1970 to determine the variety best suited to the area.

e) It was decided to establish a maize production centre in Bedali, Malang to conduct basic tests on maize, distribute good seeds, and to carry out training programs of the staffs of the governmental agencies and agricultural cooperatives concerned and also of competent farmers. The Indonesian authorities are to provide the facilities, while the Japanese side offers the equipment, machinery, and technical guidance needed. Allocation is to be made for this purpose in the fiscal 1971 Japanese budget.

f) As stated earlier, the project period of development cooperation for maize in East Java has been extended to July 31, 1974. For the purpose of securing a smooth progress of the project, efforts should be made to develop the structure of agricultural cooperatives. The leaders and the managerial

staff of the cooperatives should be trained and fostered. At the same time, effective use should be made of the equipment and facilities furnished from Japan to develop and strengthen the organizational structure of the cooperatives.

3. Development Cooperation for Maize in Cambodia

The Cambodian Government requested Japan to extend cooperation to the establishment of a Japanese-Cambodian joint venture corporation for tropical crops (SOC TROPICO).

An implementation survey team was dispatched in fiscal 1967, and, on the basis of its findings, three experts (on distribution, soil and fertilizer, and agricultural machinery) were dispatched in March, 1969, and fertilizers, agricultural medicines, and machineries were provided to start the project.

4. Primary Products Development Cooperation in Thailand

Survey teams dispatched in fiscal 1967 and 1968 arrived at the conclusion that the commodities to be taken up under the project should be kenaf, oilseeds, cassava, maize, milo and tobacco, and presented to the Thai authorities the problems envisaged on each of the commodities and the outline for implementing the technical cooperation.

The objective of the project is to increase the productivity, reduce the production cost, and improve the quality of oilseeds (soy beans, castor beans, sesames, peanuts, etc.) feed crops (maize, milo and cassava) and kenaf.

CHAPTER 9

JAPAN OVERSEAS COOPERATION VOLUNTEERS

Section 1. Outline of Activities

In 1970 the budget for this cooperation program was expended by 131.2 per cent as against the previous year to ¥1,166,090,300.

One coordinator was dispatched to El Salvador and Nepal anew, and to the Philippines, Laos, India, and Morocco in order to improve the overseas coordination of the activities which now involve increased number of volunteers and countries to which they are assigned.

The films produced showing the activities of volunteers in foreign countries were originally meant mainly for their families at home.

This year, however, a film titled "Seven Hundred and Fifty Days of Youth" was made as a publicity aid

to promote the understanding of the cooperation volunteers.

Section 2. Achievements in Fiscal 1970

1. Dispatch of Volunteers

The countries to which volunteers were dispatched and their numbers were: India, 20; Laos, 15; Malaysia, 3; the Philippines, 49; Kenya, 27; Tanzania, 19; Morocco, 13; Zambia, 6; El Salvador, 13; and, for the first time this year, Nepal, 12.

The total number of volunteers dispatched for the year was 217. Besides, thirty-one out of 179 dispatched in 1968 volunteered to extend their tour of duty this

year. The total number dispatched since the volunteer service was first implemented in 1942. The number of volunteers who extended their tour of duty during that time amounted to seventy-two.

The number of active volunteers as at the end of this fiscal year was 481. Their breakdown: India, 63; Laos, 58; Malaysia, 92; the Philippines, 88; Nepal, 12; Kenya, 40; Tanzania, 76; Morocco, 24; Zambia, 12; El Salvador, 14; and Syria, 2.

2. Volunteers in Active Service Overseas

(1) India

Nine volunteers were dispatched for the first time in September, 1966. Their number yearly increased and reached 98 in all as on March 31, 1970. Sixty-three are now under dispatch. The fields of their activities cover the wide range of paddy production, agricultural machinery, nursing, Japanese language, livestock raising, chick-sexing, rodent control, etc. The Government of India places special importance on agricultural policy in order to cope with food shortages. Consequently, volunteers working in agricultural fields are most numerous, with as many as twenty concentrated in the single field of paddy production.

(2) Laos

The number of volunteers assigned to Laos since 1965 reached 167 in all. They have been in active service in fields like agriculture, animal husbandry, civil engineering, education, communications, etc.

a) Telephone

Since 1966, 12 volunteers in all have been assigned to the Vientiane Telephone Exchange Station. Four of them are at present working on the maintenance and repair of indoor switchboard, telephone wireless, and the construction, check and control of suspension and underground of cables.

b) Ore Analysis

Four volunteers have been consecutively assigned to work in this field since 1967. They engaged in the training of local staffs in the basic prospecting and mining techniques and classification and analysis of collected data.

In February, 1967, mineral ore survey of Vientiane Plain was started and is still being carried out along the area on the Mekong.

(3) Malaysia

The assignment of volunteers to Malaysia started in 1965. This year, volunteers have been dispatched in the following fields at the request of the Malaysian Government: a) vocational training for securing trained manpower; b) sport for upgrading the physical standard of Malaysian people for promoting the intermingling of youths of differentiations and for promoting sporting activities; c) agriculture for attaining self-sufficiency in food and modernization in agriculture.

In vocational training, twenty volunteers are working as in March, 1971, in fields of welding, machine-

tools, electric wiring, securing of vehicles, radio, TV, wood-working, etc., and are training youths and re-training and quick-training the unemployed or trainees of private companies, at the Second Vocational School affiliated to the Ministry of Education, the Institute Kemahiran MARA affiliated to the Council of Trust for the Indigenous People, and the Industrial Training Institute affiliated to the Ministry of Labour.

In short, twenty-five volunteers are actively engaged in coaching of judo, physical culture, gymnastics, volleyball, boxing, and swimming. They are also active in the survey of the physical power of the nation's youth and sport players, their adaptability to sport, and the analysis and research of the survey results.

In agriculture, volunteers are actively engaged, especially in East Malaysia (the State of Sabah and Sarawak), in fields of cultivation, agriculture machinery, irrigation, and drainage, mainly related to paddy production.

In other fields of cooperation, ninety-two volunteers are working as in March, 1971, covering the fields of electronic calculating machine, switchboard control and X-ray.

(4) The Philippines

Since the first group of 12 volunteers was assigned to the Philippines in February, 1966, the number of volunteers dispatched to this country reached 181 by the end of this fiscal year.

In 1970, forty-nine volunteers were sent (the first group of 16 and third group of 17) and thirty-two volunteers returned home after the completion of their tour. At present eighty-eight volunteers are engaged in cooperation work in almost all parts of the country.

They engage in: a) agricultural development (19%), b) community development (56%), and c) education and vocational training (25%).

This fields are: a) agriculture (76%), b) civil engineering (9%), c) tele-communications (6%), d) sport (6%), and light industries (3%).

(5) Nepal

After the conclusion of the agreement for the dispatch of volunteers to Nepal, three technicians in vegetable-growing, who had previously taken part in opening an experimental farm station for the community development of Rapti, Chitowan district, were appointed locally recruited volunteers in September this year. In December, a volunteer in agricultural machinery was dispatched in December and a volunteer in soil was sent in March this fiscal year for the assignment at Rapti.

Moreover, two in civil engineering, two in construction, and one each in Judo, badminton, and handicraft designing were dispatched to Katmandu in December.

(6) Kenya

The number of volunteers assigned to Kenya has yearly increased since March, 1966 when they were first sent to that country. At present, they are actively

engaged in a variety of fields mainly at NYS (Kenya's National Youth Service) and also at the Ministry of Works, the Ministry of the Interior, the Ministry of Natural Resources, Forestry Agency, the Division of Fisheries, etc.

In addition to the technical training in their fields, cooperation in the guidance of Kenyan youth in judo and karate is recently on increase.

(7) Tanzania

Volunteers are assigned to thirty places throughout the country covering the area of the east coast, north-western area on the Lake Victoria, the area on the foot of Mt. Kilimanjaro on the Kenyan border, and the area stretching from Lake Tanganyika in the west, and Malawi to the south to the area near the border with Portuguese Mozambique. One hundred and forty-four volunteers have been dispatched in all since March, 1967 when the first assignment to the country was implemented. Seventy volunteers are actively engaged in cooperation activities mainly in agricultural fields, assigned to the Ministry of Agriculture and Agricultural Organizations, the Ministry of Regional Administration and Development, and the Ministry of Natural Resources and Tourism.

(8) Morocco

Volunteers have carried out their cooperation activities, mainly in the fields of forestry, land survey, irrigation survey, and agricultural machinery.

In 1970, fields of cooperation were expanded to include the following:

- a) veterinary (2 volunteers): meat and food inspection, classification and research of bacteria, and training in food inspection;
- b) land survey (3 volunteers): irrigation survey of farm land and declination of public and private land;
- c) construction (3 volunteers): drawing, execution and supervision of public building construction;
- d) landscape gardening (2 volunteers): planning and supervision of the construction of golf links, parks, etc. in pursuance of touristic policy;
- e) servicing of vehicles, agricultural machinery (2 volunteers): organization, layout and management of vehicles servicing plant, and maintenance of machinery;
- f) swimming (1 volunteer): training local swimming coaches.

In addition to these volunteers, there are five volunteers (3 in land survey and 2 in vehicle servicing) who have extended their assignments by one year.

(9) Zambia

In keeping with the agreement to dispatch volunteers, the third group of 6 judo volunteers was sent in the fiscal 1969, and in the following year, the first group of 6 volunteers in telecommunications was dispatched. Four of the six judo volunteers are at Lusaka and the other two at Kitwe, instructing trainer officers in judo and methods of arrest at the Policy Agency. While volunteers in telecommunications are Lusaka, Ndola, and Kitwe, working for policy wireless workshops, and are cooperating with English engineers and local engineers who have returned from their training in the United Kingdom in the maintenance and repair of fixed and mobile VHF stations and on transmitters and receivers of the fixed VHF stations.

(10) Syria

It was in January, 1970 that two Japanese youth volunteers were sent for the first time to Syria. Since then these volunteers (one in judo and the other in karate instructions) continued to engage in the judo and karate training at police and army schools in Damascus.

(11) El Salvador

Volunteers were assigned for the first time in 1968. As the first group, eight volunteers were dispatched: two men and one woman in track and field (sport), two men in swimming, one woman in softball, one man in gymnast, and one man in weight-lifting. They are engaged in giving lectures on sports at the training school for physical education instructors, as well as training in the field.

Thereafter, to strengthen the training school, three volunteers, one man in judo, one man in basketball, and one woman in gymnastics were dispatched in March, 1969; and two more volunteers, one man in soccer and one man in table-tennis were sent.

Assignment made in the fiscal 1970 were: one volunteer in weightlifting, one man in track and field in June, one man and woman in gymnastics, one man in judo, one man in track and field in August, one man and woman in basketball in December, and one man in judo in March.

Moreover, two volunteers were newly dispatched to give guidance in arts. They are now actively working in the fields of oil painting and sculpture.

In the meantime, twelve volunteers, eleven of them sent in 1968 and other one in the following year, returned home. Fourteen volunteers are engaged in cooperation activities at present.

CHAPTER 10

PLANNING, PUBLIC RELATIONS, STATISTICS AND DATA, LANGUAGE TRAINING AND OTHER ACTIVITIES RELATED TO TECHNICAL COOPERATION

Section 1. Activities Concerning Planning and Research

1. Survey on Actual Activities of Technical Cooperation

In fiscal year 1970, four teams were dispatched to make a survey on actual activities of technical cooperation.

Country	Period of Survey	Number of Members
(1) Thailand, Indonesia, Singapore	28th of September~14th of October 1970	2
(2) Philippines	31st of January~2nd of February 1971	3
(3) Thailand	15th of February~1st of March 1971	1
(4) Mexico, El Salvador, Brazil, Peru	23rd of February~12th of March 1971	1

The main themes of the surveys in 1970 were the actual performance and problems of the project type technical cooperation scheme; namely, Overseas Technical Training Centre, agricultural cooperation, medical cooperation, and primary products development cooperation. The result of those surveys were compiled into the "Report of Survey on Actual Conditions of Technical Cooperation" (March, 1971, General Affairs Department, OTCA). The result of the report shows that developing countries in Southeast Asia and other regions are expecting more and more economic and technical cooperation from Japan for their economic development and that, as the technical cooperation in general, by its nature, takes a long time to show its effect, results should not be expected so hurriedly and it is necessary for both donors and recipients to make constant effort to give the projects a firm basis.

2. Survey on Trends of Technical Cooperation

In fiscal year 1970, in order to make a survey on trend of technical cooperation in Africa, the experts in or returned from Kenya, Tanzania, Ghana, and Uganda were requested to assist the survey, on economic and technical trends in these countries and these experts made some contributory report on this subject. The results of this survey were compiled into the "Report of the Trends of Technical Cooperation in Africa"

(March in 1971, General Affairs Division, OTCA).

3. Surveys in Different Professional Fields (Transport Problem Study Committee)

It is hardly necessary to point out the importance of the role played by the transportation field as the nerve system in promoting the economic and social development and the regional cooperation of developing countries in Asia. In the economic development programs of various countries, the development of an infrastructure in the transportation field is viewed with great importance, together with that in the fields of agriculture and industry.

Against such a background, a "Transport Problem Study Committee" was set up in the Overseas Technical Cooperation Agency in November, 1969 in order to research and study the future development trends and the ways and means of Japan's technical cooperation in this field. This research was continued into 1970 and its results were compiled to the "Comprehensive Report of Transport Problem Study Committee."

Section 2. Activities of Public Relations

According to the expansion of the activities of OTCA, it becomes more and more important to promote people's support and understanding for technical cooperation. Recognizing this, OTCA made a re-organization in June, 1970, by which Research and Statistics Division was divided into Public Relations Division and Information Processing Division, in order to strengthen the activities in the field of public relations, such as follows:

1. Publication of "Overseas Technical Cooperation"

OTCA's monthly magazine in Japanese, "Overseas Technical Cooperation" was published as before. The content of the magazine published in 1970 (fiscal year), was arranged on country or regional basis.

2. Publication of "Annual Report on Technical Cooperation"

This annual report (1970) described the activities carried out by OTCA in fiscal year 1969 and explained the trends and views of our technical cooperation. It was distributed to all organizations concerned.

It was also translated into English under the title "Technical Cooperation of the Japanese Government" and was sent to our embassies and legations abroad as well as international organizations.

3. Cooperation to Exhibition Overseas

"Indonesian Fair" was held in Djakarta and OTCA took part in it jointly with the Overseas Economic Cooperation Fund and JETRO by sending photo panels and map models related to technical cooperation.

4. Public Relations by Broadcasting

The fifteen minutes' radio program "Echoes of Happiness" was produced in order to inform details of the activities of OTCA. It was broadcasted eleven times by Bunka Hoso in Tokyo district and Radio Kansai in Kansai district.

5. Production of Film "Bridge Over South and North"—Japanese Technical Cooperation

To provide information about various activities of OTCA to the public, a film named "Bridge over South and North—Japanese technical cooperation (color three reels) was produced by sending a team to eight countries in Southeast Asia.

6. Lecture Meetings and Film Showings

In order to get more support and understanding for the activities of OTCA, lecture meetings and film showings were held on some occasions at organizations or bodies concerned.

a) Tokyo area

Date 19th of February
Place The Tokyo International Centre Hall
Subject Asia in Seventies
Mr. Shizuo Maruyama, editor of the Asahi Shimbun
Film Development of the Mekong

b) Osaka area

Date 25th of March
Place Room 401 of Osaka Chamber of Commerce and Industry
Subject Japanese Industry and Social and Labor Environment in Asia
Mr. Seifu Aburatani
Film Bridge over South and North—Japanese technical cooperation

Section 3. Activities of Information Processing

With technical cooperation extending its activities rapidly year by year, information processing, which means collection, arrangements, analysis, and application of information, plays a very important role in order to carry out various activities on technical cooperation in developing countries in the most effective way. In June, 1970 OTCA created Information

Processing Division as the first step in this information processing field.

1. Consolidation of Reference Room

OTCA established its own classification system for books and materials stocked in the reference room. It made rearrangement for easier use and also made efforts to collect reference materials.

2. Publication of Statistic Report on Technical Cooperation

Figures showing the performance and results of Japanese technical cooperation were quarterly collected and recorded. These statistical reports on technical cooperation were also published quarterly. Reports on Japanese technical cooperation performance were submitted to international organizations, such as D.A.C., C.P. secretariat, etc.

3. Publication of "Fishery in Developing Countries" Series

As interest in fisheries in developing countries has recently been increasing both at home and abroad, publication of "Fishery in Developing Countries" series was planned with the assistance of the Fisheries Agency and the experts abroad. As a part of this, in 1970, books about fishery in Iran, Thailand and Sri Lanka, were published and were welcomed by all the parties concerned.

4. Researches Entrusted to Other Bodies

OTCA entrusted a research on bacterial leaf blight in Southeast Asia, one of the researches on highly technical problems such as standard of technique or conditions of location for technique in developing countries, to a research institute which worked with Agricultural Cooperation Department of OTCA. Its result was published.

Section 4. Management of Overseas Offices

(1) The Third Meeting of Overseas Resident Representatives was held in Singapore for 3 days from March 11, 1971, to maintain close liaison of the OTCA with the overseas offices and to strengthen guidance towards overseas office operations. Main subjects for discussion were as follows.

- a) Relations between overseas offices and experts abroad.
- b) Action for emergency times.

As for item a), some resident representatives expressed the view that although the rule about the jurisdiction of overseas offices was enacted for the purpose of clarifying the objectives and roles of the overseas offices, there are some experts who misunderstand the roles of the offices. To improve this situation, it was agreed that more detailed orientation about

the role of the overseas offices should be given to the experts in Tokyo before their departure as well as at the overseas offices after their arrival.

As for this, discussion was held on the steps to be taken in an emergency case, and the Cambodian case was introduced as an example. (Experts in Cambodia were forced to take temporary refuge in Thailand in the summer of 1970 because of the worsening situation.)

(2) Establishment of Overseas Offices

In 1970, two overseas offices were newly opened, one in Kenya and another in Vietnam. These two, added to the existing seven offices (Thailand, India, the Philippines, Cambodia, Singapore, Indonesia, and East Pakistan) brought the total to nine.

Resident Representatives in Phnom-Penh and Dacca were ordered home because of the Cambodian and East Pakistani situation. The matters for Phnom-Penh office were to be covered by the Bangkok office and Resident Representative in Bangkok is to make regular visits to Phnom-Penh. As for Dacca, a member of OTCA headquarter should visit there when necessary.

(3) Cars for Overseas Offices

For efficient activities of overseas offices, official cars were sent to all the overseas offices except Cambodia and East Pakistan.

Section 5. Language Training Activities

For the experts and the personnel of technical training centres, medical cooperation and agricultural co-

operation assigned to developing countries, their ability in foreign language is a most important factor, if they are to be able to work to the best of their abilities and to realize their objectives. To improve such linguistic skills is therefore an indispensable condition for raising the effectiveness of technical cooperation activities. The Overseas Technical Cooperation Agency has therefore installed language training equipment in the Tokyo International Centre, the Osaka Training International Centre, and the Nagoya International Training Centre and is carrying out intensive training everyday employing both foreign and Japanese language instructors. The trainees are not only technical experts and centre personnel to be assigned overseas, but also include members of accompanying families, personnel engaged in technical cooperation activities in the Ministries and Agencies concerned, and instructors of training courses. Languages taught are not only international languages, such as English, French, and Spanish, but also those necessary and used in the experts' assigned countries. Languages taught this year were, besides international languages as mentioned above, Indonesian, Thai, Persian, Turkish, and Swahili. The actual number of participants to this language training this year was 81 experts and personnel and 26 members of accompanying families, personnel of Ministries and Agencies assigned overseas, and instructors of training courses, totaling 106.

In order to facilitate the language training of any kind at need, the language training office of OTCA is reinforcing instructors, improving training equipment, and collecting reference materials.

PART III

STATISTICS AND DATA

STATISTICS

Records of Trainees Accepted and of Japanese Experts Assigned Overseas

- (1) This section contains the records from April 1, 1954, to March 31, 1971.
- (2) The yearly figures used in the records refer to fiscal years (April 1 to March 31 of the following year).
- (3) The number of persons in the records represents only the number of trainees arriving in Japan and of Japanese experts leaving Japan in a fiscal year under the budget for that fiscal year. Accordingly, the number of trainees staying in Japan and of Japanese experts serving abroad beyond the fiscal year into the following year or the year after are calculated once only for the year of their arrival in Japan or departure overseas and not for the subsequent year or years.
- (4) The classification of industries is based mainly on the administrative system in Japan and is tabulated on the basis of the functions of the administrative agencies concerned. For instance, the manufacture of agricultural machines is included in the category of light industry and their utilization and operation in agriculture.
- (5) If a subject covers two or more items, it is included in the industry covered by the principal subject of training or guidance.
- (6) "Other European and American Countries" refers to the nationals of developed countries in Europe and America who visited Japan for study and inspection or who rendered cooperation to the countries other than developing ones on subjects such as, for instance, seismology.

1. Number of Trainees Accepted by Country and by Field

(1) Colombo Plan Area (April 1, 1954 - March 31, 1971)

(Unit: Person)

Country	Field																
	Total	Agriculture	Fisheries	Construction	Heavy Industry	Mining	Light Industry	Chemical Industry	Public Works	Transportation	Postal Services & Telecommunications	Health & Welfare	Atomic Energy	Business Management	Education	Administration	Others
Afghanistan	(17)	(4)				(1)				(1)	(4)	(2)		(1)			(4)
	91	23	2	6	1	4	6		2	5	10	17		4	1	3	7
Bhutan	(4)	(1)								(1)						(2)	
	18	5								1	1					7	4
Brunei																	
	1	1															
Burma	(25)	(4)	(1)			(3)	(1)			(5)	(4)	(5)				(1)	(1)
	271	(71)	12	6	13	8	25	3		48	15	20	7	4	5	26	8
Cambodia	(1)													(1)			
	274	111	4	17	4		6		7	7	45	5	1	4	29	10	24
Sri Lanka	(56)	(14)	(5)	(1)			(4)			(4)	(4)	(5)		(2)	(1)	(12)	(4)
	497	140	46	19	7	3	46	5	4	27	22	18	3	18	3	99	37
India	(76)	(17)	(2)	(5)	(1)	(1)	(3)			(6)	(3)	(7)	(2)	(5)	(4)	(15)	(5)
	990	319	73	61	56	7	132	13	13	59	38	32	6	28	34	92	27
Indonesia	(163)	(22)	(9)	(12)		(8)	(7)		(2)	(14)	(8)	(37)	(4)	(5)	(2)	(26)	(7)
	1,601	242	122	69	91	36	146	16	25	180	90	147	21	96	30	196	104
Iran	(67)	(6)	(2)	(9)		(2)	(3)		(2)	(1)	(15)	(7)		(1)	(1)	(11)	(7)
	346	97	13	49	6	7	21	2	8	16	45	18	4	6	3	37	14
Korea	(145)	(21)	(2)	(3)	(5)	(3)	(6)	(5)		(7)	(16)	(17)	(6)	(2)		(44)	(8)
	1,163	241	102	32	50	21	73	17	3	67	66	94	38	28	26	248	57
Laos	(39)	(11)		(4)		(1)	(2)			(2)	(1)	(2)				(11)	(4)
	159	32	4	26	6	4	8		3	10	11	5		1	5	36	8
Malaysia	(71)	(10)	(4)	(2)		(2)	(2)		(1)	(12)	(3)	(4)		(2)	(6)	(17)	(6)
	561	138	26	27	5	6	18	1	13	60	60	26	2	18	29	97	35
Maldives																	
	2		2														
Nepal	(32)	(6)	(1)	(2)			(2)		(1)	(2)	(2)	(2)		(1)	(1)	(9)	(3)
	151	34	4	10		1	13		5	5	4	6		10	19	35	5
Pakistan	(80)	(8)	(2)	(5)		(1)	(7)		(2)	(9)	(10)	(8)	(3)	(5)	(1)	(13)	(6)
	581	71	23	27	8	5	76	88	8	36	79	28	21	19	8	60	24
Philippines	(101)	(13)	(2)	(4)	(1)	(4)	(8)		(2)	(7)	(3)	(14)	(2)	(6)	(1)	(24)	(10)
	1,010	257	69	87	27	14	80	7	17	56	55	72	15	20	40	148	46
Singapore	(49)	(4)	(5)	(4)			(1)			(4)	(5)	(7)	(1)	(1)	(2)	(13)	(2)
	224	9	19	20	6		16	1		15	32	13	1	3	5	54	30
Thailand	(170)	(22)	(10)	(7)	(1)	(2)	(10)		(8)	(11)	(16)	(33)	(2)	(5)	(2)	(30)	(11)
	1,852	380	136	103	13	12	100	4	49	106	174	235	27	24	168	228	93
Vietnam	(51)	(8)	(1)	(5)		(1)	(1)			(2)	(8)	(7)		(3)	(1)	(12)	(2)
	380	87	24	10	2	3	12	(2)		9	22	82	4	4	23	72	24
Total	(1,147)	(171)	(46)	(63)	(8)	(29)	(56)	(6)	(18)	(88)	(102)	(157)	(20)	(41)	(22)	(240)	(80)
	10,172	2,238	681	569	295	131	778	159	157	707	769	818	150	287	428	1,438	547

(2) Other Asian Areas (April 1, 1954 - March 31, 1971)

(Unit: Person)

China (Taiwan)	(185)	(33)	(7)	(10)		(6)	(4)	(1)	(5)	(15)	(18)	(15)	(3)	(5)	(5)	(46)	(12)
	1,824	613	102	85	40	63	99	16	47	99	94	100	55	43	132	155	81
Hong Kong	(3)													(2)			(1)
	11	4										1		3		1	2
Mongolia																	
	3									3							
Okinawa																	
	21	1	6				2		3	1	7	1					
Total	(188)	(33)	(7)	(10)		(6)	(4)	(1)	(5)	(15)	(18)	(15)	(3)	(7)	(5)	(46)	(13)
	1,859	618	108	85	40	63	101	16	50	103	101	102	55	46	132	156	83

* Figures in brackets are numbers of trainees accepted in fiscal 1970.

(3) Near & Middle East and Africa Area (April 1, 1954 - March 31, 1971)

(Unit: Person)

Field																	
Country	Total	Agriculture	Fisheries	Construction	Heavy Industry	Mining	Light Industry	Chemical Industry	Public Works	Transportation	Postal Services & Telecommunications	Health & Welfare	Atomic Energy	Business Management	Education	Administration	Others
Algeria	(4)	(2)						(2)								1	
Cameroun	5	2															
Zaire	1	1															
Ethiopia	4	(3)		(1)	1	4	(1)				(8)	(1)				(2)	
Gambia	(17)	8		2		3	(1)		2		35	3		2		13	3
Gabon	(1)										(1)						
Ghana	(1)		(1)								1						
Iraq	(8)	(1)	1	6	12		(2)				(4)	3		2	3	(1)	5
Israel	96	(1)	(1)	(1)	1				2	(4)	(3)	(1)	2	2		(3)	2
Ivory Coast	73	4	4	8			3			13	15	2	2	2		15	
Jordan	10	6	1	1						1						1	
Kenya	(1)	(1)									(1)						
Kuwait	7	1	2							2	1					1	
Lebanon	(7)	5	(1)	1			7			(2)	(1)	(1)		4		(2)	3
Libya	51	5	9	1						6	9	3				4	
Madagascar	(8)	1	(1)	1						(1)	(8)					(1)	
Malawi	18	1		1						(1)	(1)					1	
Mali	(3)	5	(1)	2			2			1	(1)						
Malta	16	5	4	2			1				3						1
Morocco	(1)	(1)															
Nigeria	5	3	(1)						4								
Qatar	(2)	(1)	(1)											1			
Saudi Arabia	8	3	1														
Senegal	(1)	(1)															
Sierra Leone	2			2													
Somalia	(2)																
Yemen (South)	8										(2)						
Sudan	1	(1)	(1)	(1)						1	(2)	(1)				(4)	
Syria	(13)	4	7	3			2		2	(2)	12	25	2		4	10	1
Tanzania	72	(2)	1	3			(1)			(1)	(1)	(1)		(1)		(1)	3
Tunisia	(7)	6	1	3			3			9	7			1		3	3
Turkey	36	(3)							(1)	(1)	(2)				1	(1)	(1)
Uganda	(9)	7	4	1			2		1	1	5					3	1
Arab Republic of Egypt	27	7								(1)						3	1
Zambia	(1)													1			
Total	(33)	(1)	(3)	(5)	6	(3)	(4)	(1)	(3)	(2)	(3)	(1)	(1)	1		(2)	(3)
	186	18	9	33	6	6	14	5	17	9	24	7	1	4	13	14	6
	(14)	4	1			1		2		(4)	8	1			(7)	9	
	26	(6)	(4)			(1)	(3)	1	2	(4)	(6)	(2)	(4)	(2)	(4)	(4)	(1)
	(37)	37	3	19	9	1	18	1	2	55	42	4	2	11	3	33	5
	245	(2)								(1)	1				4	1	(1)
	6																
	(207)	(26)	(11)	(12)	(1)	(5)	(15)	(5)	(4)	(19)	(55)	(9)	(1)	(6)	(2)	(29)	(7)
	1,166	155	66	92	32	18	95	12	31	125	257	32	5	31	28	148	39

(4) Central and South America Area (April 1, 1954 - March 31, 1971)

(Unit: Person)

Field																	
Country	Total	Agriculture	Fisheries	Construction	Heavy Industry	Mining	Light Industry	Chemical Industry	Public Works	Transportation	Postal Services & Telecommunications	Health & Welfare	Atomic Energy	Business Management	Education	Administration	Others
Argentina	(12)					(1)		(1)	(1)	(6)	(2)			(1)			
Bolivia	89	5		4	3	1	2	2	12	35	15	1	1	1		7	
Brazil	(9)			(1)		(2)					(3)	(2)		(1)			
Chile	53	1		9		5			3	10	17	4		1	3	(1)	(1)
Colombia	(59)	(21)	(4)	(1)	(1)		(1)		(5)	(4)	(8)	(7)		(4)	(1)	(1)	(1)
Costa Rica	282	67	11	9	20	2	15	1	39	27	24	12	1	12	4	12	6
Cuba	(19)	(1)	(5)	(2)		(2)	(2)			(1)		(2)		(2)		(2)	
Dominica	80	4	15	15		2	3	2	1	13	8	5		2	6	4	
Ecuador	(15)	(2)	(1)	(2)		(1)			(1)	(1)	(4)	(1)		(2)		3	2
El Salvador	71	6	5	13		1			9	7	20	1		4			
Guatemala	(3)									2	6			2			
Haiti	17	3	2	2										2			
Honduras	(1)		2											(1)			
Mexico	3	3												1			
Nicaragua	(5)	(1)		1			(1)			(1)				(2)			
Panama	10	2					2		1	2				2			
Paraguay	(10)		(2)	(1)		(2)	(1)		(1)					(3)			
Peru	44	5	10	9		2	1		8	1	1			3		4	
Trinidad-Tobago	(8)				3	(1)	(1)				(1)			(2)	4	2	(3)
Uruguay	28			2		1	6				5			2			3
Venezuela	(7)	(1)				(1)			2		4			(3)			
Others	18	6		2		1								3			
Total	(1)		(1)											(2)			
Grand Total	1	3												3			
	3	3									7			(3)	(1)		
	9	2				(1)	(1)			(2)	(8)			3	5	3	5
	(20)	(1)	(2)	(1)		(1)	(1)				(1)			(3)			
	122	18	11	10	2	1	5			12	45	1	1	3			
	(5)					(1)					(1)			(3)			
	8	1				1					2			3		1	
	(3)		(1)								(1)			(1)			
	16	7	3	1							3			1		1	
	(6)	(1)									(1)			(4)			
	37	7		1					4	3	5	3		7		7	
	(25)	(3)	(5)	(2)		(3)	(1)		(2)	(1)	(3)			(5)			
	110	3	10	16	1	7	2	2	15	9	12	4		12	1	16	
	(1)		(1)														
	3		1							1				1			
	(2)										(1)	(1)					
	6									3	2	1					
	(7)			(1)						(1)	(2)			(3)			
	27	1		4					2	10	6			3			
	(218)	(31)	(22)	(11)	(1)	(15)	(8)	(1)	(10)	(17)	(38)	(13)		(42)	(2)	(3)	(4)
	1,017	141	71	98	29	24	36	7	96	135	182	32	3	63	23	61	16
	(3)			(2)													
	79	12	5	18	2		5	1		1		2	15	4	2	4	8
Grand Total	(1,763)	(261)	(86)	(98)	(10)	(55)	(83)	(13)	(37)	(139)	(213)	(194)	(24)	(96)	(31)	(318)	(105)
	14,293	3,184	931	862	398	236	1,015	195	334	1,071	1,309	986	228	431	613	1,807	693

2. Number of Experts Dispatched by Country and by Field

(1) Colombo Plan Area (April 1, 1955 - March 31, 1971)

(Unit: Person)

Field	Total	Agriculture	Fisheries	Construction	Heavy Industry	Mining	Light Industry	Chemical Industry	Public Works	Transportation	Postal Services & Telecommunications	Health & Welfare	Atomic Energy	Business Management	Education	Administration	Others
Afghanistan	(1) 24	4		(1) 2		3	7		5			2		1			
Bhutan	1	1															
Burma	(7) 50	11	1	(4) 8		5	(1) 5				2	11			(2) 7		
Cambodia	(2) 127	56		10		2	3	1	2	1	36	4			(2) 10	1	1
Sri Lanka	(6) 110	27	22	10	2	7	25		1	2	8	3			(1) 2		1
India	(1) 78	38	17	1	1	1	5	2		4	1	3		1	3		1
Indonesia	(41) 146	(2) 10	(1) 9	(2) 15	(1) 1	17	10		(7) 20	(16) 16	(8) 12	16		(1) 2	(1) 11	5	(2) 2
Iran	(7) 76	(1) 9	2	19	3	3	22			1	4				(3) 7	(2) 5	1
Korea	(8) 45	(3) 14	(2) 3	4	7	4				(3) 13							
Laos	(2) 28	(2) 17							1		2	7			1		
Malaysia	(1) 61	25	4	4	1	7	4			5	3				(1) 5	1	2
Nepal	30	3	2	5			3		5			11					1
Pakistan	(13) 158	(1) 61	(7) 16	11		9	14	1		(1) 5	(4) 28			3	3	6	1
Philippines	(13) 61	5	(5) 12	(2) 15		3	3			4	4	6			(1) 8		(1) 1
Singapore	(8) 64	(2) 2	(2) 20	(4) 11						3	12	5			8	1	2
Thailand	(28) 281	(1) 36	(2) 43	(8) 24	(2) 18	(2) 12	12	3	20	(2) 12	(5) 38	30			(3) 10	(1) 12	(2) 11
Vietnam	(4) 44	14	2			(1) 1	5	1		(1) 1	(1) 6	1			(1) 13		
Maldives	1	1															
Total	(142) 1,385	(12) 334	(21) 153	(21) 139	(3) 32	(3) 74	(2) 118	8	(7) 54	(23) 67	(25) 157	99		(1) 7	(16) 88	(3) 31	(5) 24

(2) Other Asian Areas (April 1, 1955 - March 31, 1971)

(Unit: Person)

China (Taiwan)	(31) 141	(3) 26	10	5		38	(9) 14	(4) 4		(10) 16	(5) 16			6	2	4	
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(3) Near & Middle East and Africa Area (April 1, 1955 - March 31, 1971)

(Unit: Person)

Algeria	(3) 8	(3) 5		1			2										
Zaire	3									3							
Ethiopia	(12) 21	3				(11) 15					(1) 1	1	1				
Ghana	11	2			1		4	1	2			1					
Iraq	(1) 5	2	1								1				(1) 1		
Kenya	(3) 24	(2) 2	5	2	1	(1) 1	2			4		4	1		2		
Jordan	4			4													
Kuwait	2			2													
Lebanon	(2) 13	(2) 6	5				2										
Madagascar	(2) 12	10		(1) 1													(1) 1
Morocco	1	1															

* Figures in brackets are numbers of experts dispatched in fiscal 1970.

Field Country	Total	Agriculture	Fisheries	Construction	Heavy Industry	Mining	Light Industry	Chemical Industry	Public Works	Transportation	Postal Services & Telecommunications	Health & Welfare	Atomic Energy	Business Management	Education	Administration	Others
Niger	3										2			1			
Nigeria	(6) 22	(1) 4		(2) 6			1		1		(3) 8	2					
Qatar	3															3	
Rwanda	(2) 2									(2) 2							
Saudi Arabia	(1) 7					(1) 1					2						
Senegal	(1) 2														1		(1) 1
Sudan	5	2	1							2							
Syria	12 (9)	8 (2)	1	1 (1)					(1)	2 (2)				(2)		(1)	
Tanzania	36	7		11			3		8	2				3		2	
Tunisia	1								(3)	1							
Turkey	(4) 28			(1) 7		3			5								
Uganda	(15) 41	1 2	11	(1) 4	(4) 8		(1) 8			(1) 1	(2) 7			2	1	(4) 4	(1) 4
Arab Republic of Egypt	(1) 29	(1) 8	1			1				12		5			1		1
Total	(62) 295	(11) 63	25	(7) 43	(4) 10	(13) 21	(1) 22		(4) 15	(5) 31	(6) 21	13		(2) 8	(1) 6	(5) 10	(3) 7
(4) Central and South America Area (April 1, 1955 - March 31, 1971)																	
(Unit: Person)																	
Argentina	10	1		1		3				5							
Bolivia	(1) 5										(1) 2						
Brazil	(10) 52	(4) 21	1 4			1	(5) 8		1	11	2	1			(1) 4		
Dominica	1	1															
Chile	11		1	5						5							
Colombia	13			3					7	1	2						
Costa Rica	11	1		5		5											
Ecuador	(3) 19	2		1		12			(2) 3								(1) 1
El Salvador	(3) 17				(1) 6				1	1	(1) 6				(1) 1	2	
México	(4) 25	(1) 1	(3) 7								11					6	
Nicaragua	(4) 4		(4) 4														
Paraguay	(1) 18	(1) 16									2						
Panama	1	1															
Peru	(3) 20		(3) 8	4					5		2			1			
Trinidad-Tobago	3	2														1	
Venezuela	3			1							2						
Uruguay	2						2										
Total	(29) 215	(6) 47	(10) 25	20	(1) 6	21	(5) 10		(2) 17	23	(2) 29	1		1	(2) 5	9	(1) 1
Other European and American Countries, etc.	5			3										1	1		
Grand Total	(264) 2,041	(32) 470	(31) 213	(28) 210	(8) 49	(16) 154	(17) 164	(4) 12	(13) 86	(38) 137	(38) 222	113		(3) 23	(19) 102	(8) 54	(9) 32

3. Number of Experts and Personnel Dispatched to Overseas Technical Cooperation Centres by Country and by Field

(Unit: Person)

Country	Field																			
	Total	Agriculture	Fisheries	Construction	Heavy Industry	Mining	Light Industry	Chemical Industry	Public Works	Transportation	Postal Services & Telecommunications	Health & Welfare	Atomic Energy	Business Management	Education	Administration	Banking	Statistics	Public Relations	Others
Sri Lanka	10		10																	
Cambodia	24	15										7								2
India	58	50	8																	
Indonesia	4		4																	
Pakistan	28	13	4								11									
Philippines	17								17											
Singapore	14								14											
Thailand	32			10							11	11								
Korea	4								4											
China (Taiwan)	10								10											
Afghanistan	11								11											
Ghana	18								18											
Iran	12								9		3									
Kenya	25								25											
Uganda	11								11											
Brazil	7								7											
Mexico	12										12									
Total	297	78	26	10			126				37	18								2

4. Number of Survey Teams Dispatched on Overseas Technical Cooperation Centres by Country and by Field

(Unit: Person)

Country	Field																			
	Total	Agriculture	Fisheries	Construction	Heavy Industry	Mining	Light Industry	Chemical Industry	Public Works	Transportation	Postal Services & Telecommunications	Health and Welfare	Atomic Energy	Business Management	Education	Administration	Banking	Statistics	Public Relations	Others
Burma	5	5																		
India	14	14																		
Indonesia	7		7																	
Iran	6										6									
Cambodia	10	10																		
Singapore	5								5											
Korea	5								5											
Pakistan	3										3									
Philippines	4								4											
Thailand	13			13																
China (Taiwan)	7														7					
Ghana	4								4											
Kenya	5								5											
Nigeria	4										4									
Uganda	5								5											
Brazil	4								4											
Mexico	4										4									
Total	105	29	7	13			32				17				7					

5. Development Survey Teams Dispatched by Country and by Field

(Unit: Person)

Field Country	Total	Agriculture	Fisheries	Construction	Heavy Industry	Mining	Light Industry	Chemical Industry	Public Works	Transportation	Postal Services & Telecommunications	Health & Welfare	Atomic Energy	Business Management	Education	Administration	Banking	Statistics	Public Relations	Others
Burma	18	-	-	1	-	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cambodia	325	60	22	88	3	34	6	8	36	19	11	-	-	9	-	14	-	-	-	15
Sri Lanka	22	-	5	9	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	1
India	36	3	1	3	2	15	-	1	1	8	-	-	-	-	-	-	-	-	-	2
Indonesia	131	8	9	43	8	19	10	-	18	8	-	-	-	-	-	1	-	-	-	7
Kovea	77	53	-	-	9	-	-	-	-	10	-	-	-	-	-	-	-	-	-	5
Laos	73	18	-	34	-	14	-	-	-	5	-	-	-	-	-	-	-	-	-	2
Malaysia	124	8	-	7	2	2	-	3	7	78	17	-	-	-	-	-	-	-	-	-
Nepal	16	-	-	4	-	8	-	-	4	-	-	-	-	-	-	-	-	-	-	-
Pakistan	162	2	-	73	-	13	6	-	26	8	18	-	-	2	-	12	-	-	-	2
Philippines	60	14	2	3	3	16	2	-	5	6	4	-	-	-	-	5	-	-	-	-
Singapore	31	-	-	23	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-
Thailand	237	24	7	97	-	11	-	-	47	16	14	-	-	-	-	10	-	-	-	11
Vietnam	23	3	-	5	-	-	-	-	15	-	-	-	-	-	-	-	-	-	-	-
China (Taiwan)	82	-	-	12	8	9	-	-	11	36	6	-	-	-	-	-	-	-	-	-
Total	1,417	193	46	402	35	158	24	12	170	209	70	-	-	11	-	42	-	-	-	45
Algeria	5	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arab Republic of Egypt	26	2	-	13	1	4	-	-	-	6	-	-	-	-	-	-	-	-	-	-
Zaire	19	-	-	-	-	-	-	-	-	11	-	-	-	-	-	8	-	-	-	-
Ethiopia	32	-	-	-	-	-	-	-	-	-	32	-	-	-	-	-	-	-	-	-
Ghana	6	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-
Iran	43	28	-	6	-	-	-	-	-	-	-	-	-	-	-	9	-	-	-	-
Iraq	7	-	-	4	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1
Lebanon	6	-	-	3	-	1	-	-	-	-	-	-	-	-	-	2	-	-	-	-
Madagascar	22	-	-	-	-	7	-	-	15	-	-	-	-	-	-	-	-	-	-	-
Nigeria	15	-	7	-	-	-	-	-	-	-	-	-	-	-	-	8	-	-	-	-
Suban	18	1	-	-	-	-	4	1	-	12	-	-	-	-	-	-	-	-	-	-
Syria	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Tanzania	23	3	-	9	1	-	1	1	-	8	-	-	-	-	-	-	-	-	-	-
Turkey	18	-	-	-	-	6	-	-	12	-	-	-	-	-	-	-	-	-	-	-
Uganda	9	-	-	-	-	-	-	-	-	9	-	-	-	-	-	-	-	-	-	-
Total	250	39	7	35	3	18	11	2	27	32	47	-	-	-	-	28	-	-	-	1
Argentina	12	-	-	1	1	5	-	-	5	-	-	-	-	-	-	-	-	-	-	-
Bolivia	20	3	-	5	1	-	2	-	2	-	5	-	-	1	-	1	-	-	-	-
Brazil	17	-	-	-	-	6	5	-	6	-	-	-	-	-	-	-	-	-	-	-
Chile	13	-	-	8	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-
Colombia	29	-	-	5	-	7	-	-	11	-	-	-	-	-	-	6	-	-	-	-
Ecuador	20	-	-	7	-	2	-	-	11	-	-	-	-	-	-	-	-	-	-	-
Mexico	6	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Paraguay	21	8	-	-	-	-	-	-	9	4	-	-	-	-	-	-	-	-	-	-
Peru	36	2	-	5	-	-	2	-	15	5	6	-	-	1	-	-	-	-	-	-
Trinidad Tobago	15	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Venezuela	12	2	-	-	-	6	-	-	-	4	-	-	-	-	-	-	-	-	-	-
Total	201	30	-	31	2	32	9	-	59	13	16	-	-	2	-	7	-	-	-	-
Grand Total	1,868	262	53	468	40	208	44	14	256	254	133	-	-	13	-	77	-	-	-	46

6. Medical Cooperation Experts and Teams Dispatched by Country and by Year
(April 1, 1966–March 31, 1971)

(Unit: Person)

Year	1966		1967		1968		1969		1970		Total	
	Teams	Experts	Teams	Experts	Teams	Experts	Teams	Experts	Teams	Experts	Teams	Experts
Burma	—	1	3	2	—	4	—	4	—	1	3	12
Cambodia	2	1	1	18	—	1	—	12	—	—	3	32
Sri Lanka	—	—	—	—	6	—	—	9	3	—	9	9
India	—	—	—	1	—	—	—	—	—	—	—	1
Indonesia	—	—	4	—	4	18	—	18	4	14	12	50
Laos	—	—	—	—	—	3	—	3	—	3	—	8
Malaysia	4	—	—	9	—	—	5	—	—	—	9	9
Nepal	—	—	—	—	5	1	2	2	—	1	7	4
Philippines	—	—	7	5	—	11	—	14	—	6	7	36
Thailand	—	20	3	29	2	48	—	34	3	22	8	153
Vietnam	—	4	2	8	4	5	6	15	—	9	12	41
Korea	—	—	—	—	6	—	—	8	—	10	6	18
China	—	—	—	—	—	—	6	—	—	2	6	2
Afghanistan	—	—	—	3	—	9	—	4	—	4	—	20
Ethiopia	—	—	—	1	2	4	—	4	—	4	2	13
Iran	—	—	4	1	—	8	—	3	3	—	7	12
Ghana	—	—	—	—	4	3	—	5	—	—	4	8
Kenya	—	—	—	5	5	3	—	8	5	6	10	22
Nigeria	—	—	—	1	—	2	—	—	—	1	—	4
Tanzania	—	—	—	—	—	—	—	—	4	—	4	—
Brazil	—	—	5	—	—	3	—	3	—	3	5	9
Paraguay	—	—	—	—	—	—	—	—	—	1	—	1
Total	6	26	29	83	38	123	19	146	22	86	114	464

7. Agricultural Cooperation Experts and Teams Dispatched by Country and by Year

(Unit: Person)

Year	1967		1968		1969		1970		Total	
	Teams	Experts	Teams	Experts	Teams	Experts	Teams	Experts	Teams	Experts
Cambodia	9	—	3	—	—	—	—	2	12	2
Sri Lanka	—	—	21	—	10	—	4	2	35	2
India	7	—	—	—	34	—	11	7	52	7
Indonesia	9	—	5	5	18	—	10	—	42	5
Laos	10	—	10	—	7	—	2	6	29	6
Malaysia	11	—	16	—	—	—	—	—	27	—
Nepal	—	—	—	—	6	—	8	—	14	—
Pakistan	—	—	—	—	—	—	6	—	6	—
Philippines	21	—	7	—	—	—	6	—	34	—
Thailand	—	—	10	—	10	—	3	2	23	2
Vietnam	—	—	—	—	5	—	4	2	9	2
Total	67	—	72	5	90	—	54	21	283	26

8. Primary Products Development Cooperation Teams and Experts Dispatched
by Country and by Year

(Unit: Person)

Year	1967		1968		1969		1970		Total	
	Teams	Experts	Teams	Experts	Teams	Experts	Teams	Experts	Teams	Experts
Cambodia	2	—	—	3	6	—	—	—	8	3
Indonesia	7	—	4	6	6	—	14	4	31	10
Thailand	11	—	4	7	—	—	5	4	20	11
Tanzania	6	—	—	—	—	—	—	—	6	—
Total	26	—	8	16	12	—	19	8	65	24

9. Japan Overseas Cooperation Volunteers Dispatched by Country and by Field

(Unit: Person)

Field																				
Country	Total	Agriculture	Fisheries	Construction	Heavy Industry	Mining	Light Industry	Chemical Industry	Public Works	Transportation	Postal Services & Telecommunications	Health & Welfare	Atomic Energy	Business Management	Education	Administration	Banking	Statistics	Public Relations	Others
Cambodia	16	7	-	-	-	-	-	-	-	-	-	-	-	-	9	-	-	-	-	-
India	98	64	1	-	-	-	5	-	2	2	2	11	-	-	11	-	-	-	-	-
Laos	167	64	1	34	-	4	9	-	8	-	25	3	-	-	19	-	-	-	-	-
Malaysia	153	43	6	2	-	-	24	-	3	4	9	6	-	-	56	-	-	-	-	-
Nepal	12	4	-	5	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-
Philippines	181	116	14	8	-	-	18	-	12	2	4	-	-	-	7	-	-	-	-	-
Kenya	79	7	14	22	-	-	2	-	2	24	-	-	-	-	8	-	-	-	-	-
Morocco	59	37	-	19	-	-	-	-	-	1	-	-	-	-	2	-	-	-	-	-
Syria	2	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-
Tanzania	137	69	8	5	-	-	3	-	-	3	-	4	-	-	45	-	-	-	-	-
Zambia	12	-	-	-	-	-	-	-	-	-	6	-	-	-	6	-	-	-	-	-
El Salvador	26	-	-	-	-	-	-	-	-	-	-	-	-	-	26	-	-	-	-	-
Total	942	411	44	95	-	4	61	-	27	36	46	24	-	-	194	-	-	-	-	-

10. Expenditures Required in Technical Cooperation by Country and by Field (1954 - 1970)

Unit: US\$
(1 US\$ = ¥360)

Field Country	Acceptance of Trainees	Dispatch of Experts	Overseas Technical Cooperation Centres	Supply of Equipment	Basic Pre- investment Surveys	Mekong River Development Surveys	Asian Highway and Trans- Sumatra Highway	Detailed Design for Economic Development Projects
1. Asian Area								
Afghanistan	165,419	382,808	438,206	9,286	0	0	0	0
Brunei	2,542	0	0	0	0	0	0	0
Bhutan	31,703	64,047	0	38,531	0	0	0	0
Burma	297,253	338,686	5,522	143,075	14,178	0	0	0
Cambodia	123,817	1,759,378	213,256	121,594	176,797	0	0	59,239
Sri Lanka	631,086	785,878	315,983	47,244	62,317	0	0	0
India	911,439	372,033	1,739,300	0	21,856	0	0	0
Indonesia	1,331,450	918,078	440,394	17,772	295,803	0	10,019	0
Korea	830,189	98,931	797,247	54,494	112,961	0	0	0
Laos	278,525	335,978	0	57,714	13,106	0	51,289	115,553
Malaysia	681,005	458,333	0	62,775	364,964	0	0	173,628
Maldives	5,817	889	0	12,269	0	0	0	0
Nepal	144,783	294,125	0	28,144	30,861	0	0	0
Pakistan	631,639	1,720,400	931,636	99,780	356,961	0	178,186	0
Philippines	913,761	313,280	667,186	100,878	46,400	0	0	0
Singapore	243,358	666,506	933,650	45,217	65,750	0	0	93,558
Thailand	1,878,864	2,675,494	1,872,261	44,353	278,350	0	0	113,203
Vietnam	217,917	348,272	0	138,672	17,233	0	0	0
China (Taiwan)	775,142	359,714	151,144	15,019	106,306	0	0	0
Hong Kong	1,136	0	0	0	0	0	0	0
Philippines & Cambodia	0	0	0	0	0	0	0	0
Thailand & Pakistan	0	0	0	0	0	0	0	0
Thailand, Cambodia & India	0	0	1,417	0	0	0	0	0
Indonesia & Vietnam	0	0	0	0	0	0	0	0
Philippines, Thailand & Malaysia	0	0	0	0	8,103	0	0	0
Thailand, Indonesia, India & Afghanistan	0	0	0	0	0	0	0	0

Surveys for Overseas Development Projects	Japan Overseas Cooperation Volunteers	Medical Cooperation	Overseas Cooperation in Scientific Education	Agricultural Cooperation	Primary Products Development Cooperation	Compensation Expenses for Experts	TOTAL
0	0	264,150	0	0	0	0	1,259,869
0	0	0	0	0	0	0	2,542
0	0	0	0	0	0	0	134,281
27,325	0	233,214	14,019	0	0	0	1,073,272
0	124,019	336,700	0	669,861	259,303	0	3,843,964
0	0	348,192	18,889	293,294	0	0	2,502,883
43,547	617,169	92,597	12,042	1,189,386	0	0	4,999,369
558,911	0	673,303	7,467	684,767	538,147	0	5,476,111
11,197	0	403,064	0	0	0	0	2,308,083
42,633	1,126,330	273,080	0	477,992	0	0	2,772,200
42,628	795,839	65,547	30,767	356,642	0	0	3,032,128
0	0	0	0	0	0	0	18,975
17,703	33,114	107,545	0	34,561	0	0	690,836
99,044	0	4,842	29,314	13,156	0	0	4,064,958
101,103	1,002,439	576,203	24,453	710,105	0	0	4,455,808
5,595	0	250	20,722	0	0	0	2,074,606
175,889	0	2,050,353	29,903	461,700	546,033	0	10,126,403
56,130	0	1,804,028	0	168,931	0	0	2,751,183
112,286	0	246,378	10,258	0	0	0	1,776,247
0	0	0	0	0	0	0	1,136
0	0	2,664	0	0	0	0	2,664
16,072	0	0	0	0	0	0	16,072
0	0	0	0	0	0	0	1,417
0	0	3,697	0	0	0	0	3,697
9,969	0	0	0	0	0	0	18,072
0	0	15,097	0	0	0	0	15,097

Field Country	Acceptance Of Trainees	Dispatch of Experts	Overseas Technical Cooperation Centres	Supply of Equipment	Basic Pre- investment Surveys	Mekong River Development Surveys	Asian Highway and Trans- Sumatra Highway	Detailed Design for Economic Development Projects
Cambodia & Vietnam	0	0	0	0	0	0	0	0
China, Indonesia, Philippines, Thailand, Vietnam & Malaysia	0	0	0	0	0	0	0	0
Thailand & Laos	0	0	0	0	0	0	107,563	0
Sri Lanka, Thailand, Iran, Pakistan & Afghanistan	0	0	0	0	0	0	0	0
Sri Lanka & Thailand	0	9,933	0	0	0	0	0	0
TOTAL	10,096,844	11,902,764	8,508,961	1,036,820	1,993,839	1,957,420	347,061	555,181
2. Near & Middle East and Africa Area								
Arab Republic of Egypt	424,514	129,103	0	1,461	76,667	0	0	0
Cameroun	3,433	0	0	0	0	0	0	0
Ethiopia	187,314	63,353	0	71,697	195,631	0	0	0
Ghana	210,889	120,219	695,825	0	0	0	0	0
Iran	595,972	543,858	817,417	30,250	106,145	0	0	0
Iraq	140,372	45,403	0	7,150	17,739	0	0	0
Jordan	19,239	3,228	0	0	0	0	0	0
Zaire	7,778	46,394	0	10,036	50,575	0	0	0
Kenya	126,147	346,397	868,839	37,683	0	0	0	0
Lebanon	30,914	97,314	0	10,969	19,847	0	0	0
Libya	8,203	0	0	0	0	0	0	0
Madagascar	8,164	28,495	0	0	0	0	0	0
Mali	47	0	0	0	0	0	0	0
Morocco	9,331	4,508	0	5,925	0	0	0	0
Niger	0	54,050	0	0	0	0	0	0
Nigeria	384,058	254,339	7,983	48,181	38,636	0	0	0
Kuwait	88,022	15,161	0	0	0	0	0	0
Saudi Arabia	49,333	18,753	0	16,295	0	0	0	0
Gabon	2,989	0	0	0	0	0	0	0
Gambia	2,283	0	0	0	0	0	0	0
Ivory Coast	2,608	0	0	0	0	0	0	0
Rwanda	0	18,464	0	0	0	0	0	0
Malawi	4,122	3,992	0	0	0	0	0	0
Sudan	163,681	14,925	0	5,614	31,183	0	0	0
Syria	68,650	152,736	0	13,608	2,328	0	0	0
Senegal	13,397	17,650	0	0	0	0	0	0

Surveys for Overseas Development Projects	Japan Overseas Cooperation Volunteers	Medical Cooperation	Overseas Cooperation in Scientific Education	Agricultural Cooperation	Primary Products Development Cooperation	Compensation Expenses for Experts	TOTAL
0	0	6,153	0	0	0	0	6,153
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	107,563
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
1,320,033	3,698,911	7,507,056	197,833	5,060,394	1,343,483	0	55,526,600
31,164	0	0	0	0	0	0	662,909
0	0	0	0	0	0	0	3,433
0	0	284,936	0	0	0	0	802,931
19,720	0	253,397	0	0	0	0	1,300,050
0	0	216,478	59,161	0	0	0	2,369,281
0	0	0	0	0	0	0	210,664
0	0	0	0	0	0	0	22,467
12,545	0	0	0	0	0	0	127,328
0	520,422	589,639	25,439	0	0	0	2,514,566
0	0	0	0	0	0	0	159,044
0	0	0	0	0	0	0	8,203
109,883	0	0	0	0	0	0	146,542
0	0	0	0	0	0	0	47
0	410,811	0	0	0	0	0	430,575
0	0	0	0	0	0	0	54,050
0	0	43,247	0	0	0	0	776,444
0	0	0	0	0	0	0	103,183
0	0	0	0	0	0	0	84,381
0	0	0	0	0	0	0	2,989
0	0	0	0	0	0	0	2,283
0	0	0	0	0	0	0	2,608
0	0	0	0	0	0	0	18,464
0	0	0	0	0	0	0	8,114
0	0	0	0	0	0	0	215,403
0	12,870	0	0	0	0	0	250,192
0	0	0	0	0	0	0	31,047

Field Country	Acceptance of Trainees	Dispatch of Experts	Overseas Technical Cooperation Centres	Supply of Equipment	Basic Pre- investment Surveys	Mekong River Development Surveys	Asian Highway and Trans- Sumatra Highway	Detailed Design for Economic Development Projects
Somalia	13,217	0	0	0	0	0	0	0
Tanzania	63,830	378,542	0	18,178	105,614	0	0	0
Turkey	342,217	351,997	0	2,194	35,022	0	0	0
Tunisia	2,478	3,103	0	0	0	0	0	0
Zambia	3,686	81	0	2,586	0	0	0	0
Uganda	55,150	273,564	502,367	12,136	48,983	0	0	0
Sudan & Tanzania	0	0	0	0	0	0	0	0
Ghana, Kenya & Ethiopia	0	0	0	0	0	0	0	0
Ghana & Kenya	0	0	2,044	0	0	0	0	0
Kenya, Tanzania & Iran	0	0	0	0	0	0	0	0
Algeria	7,533	40,767	0	0	0	0	0	0
Kenya & Tanzania	0	0	0	0	0	0	0	0
Qatar	3,686	5,128	0	0	0	0	0	0
TOTAL	3,043,258	3,031,522	2,894,475	293,964	728,370	0	0	0
3. European Area								
Czechoslovakia	20,097	0	0	0	0	0	0	0
Yugoslavia	4,039	7,244	0	0	0	0	0	0
Bulgaria	2,825	0	0	0	0	0	0	0
Greece	2,119	0	0	0	0	0	0	0
Hungary	4,197	0	0	0	0	0	0	0
France	0	3,361	0	0	0	0	0	0
Switzerland	0	9,475	0	0	0	0	0	0
TOTAL	33,278	20,080	0	0	0	0	0	0
4. Central and South America Area								
Argentina	180,520	73,397	0	0	0	0	0	0
Guyana	2,011	0	0	0	0	0	0	0
Bolivia	126,978	161,636	0	31,578	28,686	0	0	0
Brazil	561,386	498,884	712,342	18,533	0	0	0	0

Surveys for Overseas Development Projects	Japan Overseas Cooperation Volunteers	Medical Cooperation	Overseas Cooperation in Scientific Education	Agricultural Cooperation	Primary Products Development Cooperation	Compensation Expenses for Experts	TOTAL
0	0	0	0	0	0	0	13,217
0	889,172	0	0	0	19,197	0	1,474,533
77,020	0	0	0	0	0	0	808,450
0	0	0	0	0	0	0	5,581
12,544	51,550	0	0	0	0	0	70,447
0	0	0	8,356	0	0	0	900,556
28,522	0	0	0	0	0	0	28,522
0	0	6,161	0	0	0	0	6,161
0	0	0	0	0	0	0	2,044
15,544	0	0	0	0	0	0	15,544
17,081	0	0	0	0	0	0	65,381
0	0	15,925	0	0	0	0	15,925
0	0	0	0	0	0	0	8,814
324,022	1,884,805	1,409,783	92,956	0	19,197	0	13,722,372
0	0	0	0	0	0	0	20,097
0	0	0	0	0	0	0	11,283
0	0	0	0	0	0	0	2,825
0	0	0	0	0	0	0	2,119
0	0	0	0	0	0	0	4,197
0	0	0	0	0	0	0	3,361
0	0	0	0	0	0	0	9,475
0	0	0	0	0	0	0	53,358
26,608	0	0	0	0	0	0	280,525
0	0	0	0	0	0	0	2,011
21,375	0	0	0	0	0	0	370,253
70,636	0	175,697	0	0	0	0	2,037,478

Field Country	Acceptance of Trainees	Dispatch of Experts	Overseas Technical Cooperation Centres	Supply of Equipment	Basic Pre- investment Surveys	Mekong River Development Surveys	Asian Highway and Trans- Sumatra Highway	Detailed Design for Economic Development Projects
Colombia	136,847	137,514	0	0	14,764	0	0	0
Costa Rica	25,672	56,142	0	7,025	0	0	0	0
Chile	160,133	50,908	0	0	26,281	0	0	0
Dominica	17,356	12,005	0	0	0	0	0	0
Ecuador	104,647	172,242	0	0	14,867	0	0	0
El Salvador	47,211	268,350	42,133	12,017	0	0	0	0
Haiti	1,592	0	0	0	0	0	0	0
Honduras	12,483	0	0	0	0	0	0	0
Mexico	225,297	260,681	611,744	8,806	0	0	0	0
Nicaragua	13,367	0	0	0	0	0	0	0
Panama	28,931	9,408	0	0	0	0	0	0
Paraguay	81,680	167,864	0	7,975	47,800	0	0	0
Peru	259,380	202,725	0	0	66,433	0	0	0
Trinidad Tobago	5,533	61,853	0	0	67,153	0	0	0
Uruguay	12,803	8,942	0	0	0	0	0	0
Guatemala	33,219	0	0	0	0	0	0	0
Venezuela	48,658	13,225	0	0	18,742	0	0	0
Cuba	8,544	0	0	0	0	0	0	0
Argentina & Colombia	0	0	0	0	0	0	0	0
Bolivia & Paraguay	0	0	0	0	0	0	0	0
Peru & Chile	0	13,389	0	0	0	0	0	0
Peru & Mexico	0	2,550	0	0	0	0	0	0
TOTAL	2,094,250	2,171,714	1,366,220	85,933	284,725	0	0	0
Sum Total	15,267,631	17,126,080	12,769,656	1,416,717	3,006,933	1,957,419	347,061	555,181
Incidental Expenses	3,218,369	156,753	22,761	0	0	0	0	0
GRAND TOTAL	18,486,000	17,282,833	12,792,417	1,416,717	3,006,933	1,957,419	347,061	555,181

Surveys for Overseas Development Projects	Japan Overseas Cooperation Volunteers	Medical Cooperation	Overseas Cooperation in Scientific Education	Agricultural Cooperation	Primary Products Development Cooperation	Compensation Expenses for Experts	TOTAL
105,461	0	0	0	0	0	0	394,586
0	0	0	0	0	0	0	88,839
29,956	0	3,575	0	0	0	0	270,853
0	0	0	0	0	0	0	29,361
83,625	0	0	0	0	0	0	375,381
0	158,345	0	0	0	0	0	528,056
0	0	0	0	0	0	0	1,592
0	0	0	0	0	0	0	12,483
17,211	0	0	0	0	0	0	1,123,739
0	0	0	0	0	0	0	13,367
0	0	0	0	0	0	0	38,339
34,700	0	19,903	0	0	0	0	359,922
71,081	0	13,317	0	0	0	0	612,936
0	0	0	0	0	0	0	134,539
0	0	0	0	0	0	0	21,745
0	0	0	0	0	0	0	33,219
24,692	0	0	0	0	0	0	105,317
0	0	0	0	0	0	0	8,544
38,600	0	0	0	0	0	0	38,600
17,775	0	0	0	0	0	0	17,775
18,642	0	0	0	0	0	0	32,031
0	0	0	0	0	0	0	2,550
560,361	158,344	212,492	0	0	0	0	6,934,039
2,204,417	5,742,080	9,129,230	290,789	5,060,395	1,362,681	0	76,236,270
0	2,904,192	231	9,561	20,022	569	0	6,332,458
2,264,417	8,646,272	9,129,561	300,350	5,080,417	1,363,250	51,200	82,620,028

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