

PART II
DETAILED DISCUSSION

CHAPTER 1

ACCEPTANCE OF TRAINEES

Section 1. General Situation of Acceptance of Trainees

With a view to assisting and cooperating in the economic and social development of developing countries, Japan started her program of accepting trainees on a government basis in 1954, when she became a member of the Colombo Plan.

The objective of the trainee program is to receive technicians, research staff, administrative officials, etc. of middle or higher level, who are

playing an active part in developing countries, and to provide them with training in their specialized fields, in accordance with the request of the governments of developing countries, or of the United Nations and its agencies. Senior technicians and administrators of vice-minister or director ranks are also accepted to promote and deepen their understanding of the present level of Japan's economic and social progress so that economic and technical cooperation between Japan and their countries may be advanced further.

Number of Trainees by Area, Year

(As of March 31, 1968)

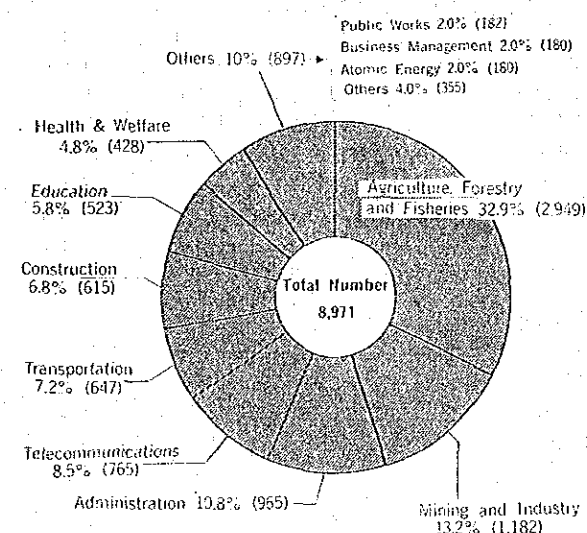
Area ↓	Year →	'54	'55	'56	'57	'58	'59	'60	'61	'62	'63	'64	'65	'66	'67	Total
Asia		136	182	304	374	488	617	669	657	572	676	585	635	872	748	7,515
Near and Middle East and Africa		1	—	1	17	31	24	61	47	94	85	90	97	182	125	855
Central and South America		—	—	—	—	4	7	33	41	54	54	69	78	104	95	539
Europe		1	2	7	1	4	9	6	9	2	6	6	3	4	2	62
Total		138	184	312	392	527	657	769	754	722	821	750	813	1,162	970	8,971

As shown in the above table, Japan has expanded the program year by year, and as of March 31, 1968, the number of trainees accepted from abroad during the past 14 years (excluding those accepted on the reparations basis) totaled about 9,000.

The area from which training participants are accepted covers Asia, the Near and Middle East and Africa, Central and South America, and in the case of atomic energy, it extends to Europe.

Subjects for study cover almost every field, ranging over the primary industries including agriculture and fishery, the secondary industries including mining and manufacturing, and the tertiary industries including transportation and telecommunications. Among them agriculture, fishery and stock-raising draw a large number of trainees who are to contribute to the solution of the food shortage problem which is the most acute problem in developing countries.

Training is performed in two different forms, i.e. group training and individual training. Group training is given according to training programs which are pre-arranged for respective subjects before the selection of participant to the training course. When a group training course is organized, various demands of developing countries are taken into account. Each group training course is composed of 10 to 12 trainees of different



nationalities. On the other hand, individual training is provided according to training needs and qualifications of each trainee. Sometimes, several of the trainees coming from the same country with similar backgrounds are assembled together to receive individual training.

Training is given at experimental and research institutes of Government agencies and of local public bodies, research institutes of universities, public corporations such as Japan Broadcasting Corporation (NHK), training centers of private enterprises and training centers of OTCA.

Training centers of OTCA include: the Tokyo International Center, the Osaka International Training Center, the Nagoya International Training Center, the Ibaragi International Agricultural Training Center in Ibaragi Prefecture and the Misaki International Fishery Training Center in Kanagawa Prefecture. These training centers while providing trainees with facilities for training and lodging are also designed to effectively carry out orientation to give trainees a general knowledge of Japan prior to starting specialized study, as well as to give lessons on the Japanese language to help their daily life in Japan. The Ibaragi International Agricultural Training Center has an experimental paddy field, various facilities for experiment and practice, tractors and agricultural implements including thrashing machines, designed to spread rice growing techniques and to give training in utilization of agricultural implements and also in land improvement for cultivation. The Misaki International Fishery Training Center, equipped with a demonstration workshop and a display room, and two small fishing vessels, various fishing implements and fishing nets, provides overall training in coastal fishery work.

The form of training is classified into short-term inspection tours of economic and industrial facilities, seminar type training of one to two months, training for acquiring techniques and skill, ranging from four months to one year courses and high level study course of two to three years which is equivalent to Master and Doctor courses at universities. On the average, the period of training is about five months.

The foregoing is a summarized description of Japan's program for trainees. This undertaking also includes aftercare services for trainees who return to their homelands after completion of their training in Japan. Publications, equipment and materials are provided so that ex-participants can brush up or effectively utilize the knowledges and techniques which they have acquired in Japan.

Section 2. Results of Accepting Trainees in Fiscal Year 1967

1. Results of Acceptance

In fiscal 1967, expenditures for accepting trainees amounted to ¥705 million, marking an increase of ¥70 million over the previous year. In addition, ¥17.5 million was spent on accepting trainees needed for carrying out medical project cooperation (See Chapter 6. Medical Cooperation).

The number of trainees accepted was 970, a

decrease of 192 compared with the previous year, which resulted in allocation of part of the budget of fiscal 1967 to continued training for 236 persons accepted in the previous fiscal year. A total of 566 persons joined the group training courses, and 404 persons were given individual training.

As for the breakdown by country, the Republic of China sent out the largest number of trainees (122 persons) to Japan, followed by Thailand (111 persons), Korea (94 persons), Indonesia (70 persons), Malaysia (68 persons), India (67 persons) and the Philippines (62 persons). In regard to the Near and Middle East and Africa, 20 persons were accepted from the United Arab Republic and from Iran respectively, 17 persons from Nigeria and 16 persons from Turkey. As for Latin America, 31 persons were accepted from Brazil, 18 persons from Mexico and 10 persons from Bolivia. And from Europe, Japan accepted Czechoslovakian trainees in order to collaborate in the program of the International Atomic Energy Agency (IAEA).

As regards the number of trainees classified by field, 225 persons (26.3%) received training in agriculture, forestry and fishery, 142 persons (14.6%) in administration, 124 persons (12.8%) in transportation, 119 persons (12.3%) in postal service and telecommunications, 104 persons (10.8%) in mining and manufacturing, 70 persons (7.2%) in public welfare, 67 persons (6.9%) in construction, and so on.

At the same time, as activity of Japan's overseas technical cooperation centers—one of Japan's technical cooperation projects—counterpart personnel in the recipient countries were accepted and trained in Japan. The above-mentioned figures include 6 such counterpart personnel, two of them accepted by the Livestock Breeding Center (Cambodia), three persons by the Virus Research Institute (Thailand), four persons by the Nondhaburi Institute of Telecommunication (Thailand), two persons by Escuela de Capacitacion en Comunicaciones Electricas (Mexico) and five persons by the Indo-Japanese Prototype Production and Training Center (India).

2. Group Training Course

In fiscal 1967, 566 trainees joined 57 group training courses. Compared with the previous fiscal year, 13 courses were newly set up and 12 courses were discontinued, and the number of trainees decreased by 63. Description of subjects and objects of group training courses together with the number of participants by country are shown in the following tables.

* Courses with an asterisk mark are those newly set up in fiscal 1967

Agriculture and Fishery

Name of Course	Object of Course and Contents of Training	Duration	Main Institution and Facility	Number of Participants by Country
Rice Cultivation and its Extension Work	This course is designed to provide trainees with knowledges and skills with which they can improve, guide or promote techniques of rice cultivation and method of its extension in their countries. For the purpose, this course offers lectures, experiment and practice to trainees, on the cultivation of Japanese rice plants, to make them fully understand techniques of rice cultivation according to the stages of growth and a basic method of diagnosing rice growth.	April 5, 1967 through February 28, 1968	Ibaragi International Agricultural Training Center	Ceylon 3 Philippines 2 Thailand 1 India 1 Iran 1 Malaysia 2 Nigeria 1 Total 13
Agricultural Machinery Utilization for Rice Cultivation	To those technicians who will be engaged in improving and popularizing agricultural implements this course provides lectures, experiment and practice as regards mechanism, theory, function, operation, assembly, disassembly, repair, testing and evaluation, of motors, machines and power transmitting mechanism of agricultural machinery for rice cultivation, so that the trainees can give technical guidance in the utilization and management of agricultural implements after return to their homelands.	April 5, 1967 through February 28, 1968	"	Ceylon 1 India 1 Indonesia 1 Malaysia 2 Philippines 2 Thailand 1 Nigeria 1 Total 9
Rice Cultivation Research	This course gives systematic training in Japanese rice cultivation techniques including studies in physiology, cultivation, damage by blight and noxious insects, soil, fertilizers, etc., so as to give trainees knowledge of rice cultivation theory and practice, and eventually to cooperate with developing countries in improvement of technique and in promotion of research and development of rice cultivation. Lectures, practice, discussions and survey tours are properly arranged according to the stage of growth of rice.	May 8, 1967 through November 18, 1967	Central Agricultural Experiment Station, Ministry of Agriculture and Forestry	India 2 Indonesia 1 Thailand 2 Brazil 1 Guatemala 1 Mexico 3 Total 10
*Agricultural Machinery Repair and Maintenance	In order to promote effective utilization of agricultural implements in developing countries, this course provides trainees with factory training, lectures, survey tours, etc. to give them knowledge of practical techniques for discovering and repairing malfunctions of various types of agricultural implements. Thus, this course is aimed at contributing to the augmentation of skills to agricultural implements mechanics who are few in number in developing countries.	June 1, 1967 through November 30, 1967	Osaka Prefectural Agricultural and Forestry Technical Center, etc.	Ceylon 1 Laos 1 Malaysia 5 Nepal 1 Philippines 1 Thailand 1 Viet-Nam 1 Total 11
Agricultural Cooperatives	To contribute to cultivating leaders in development of agricultural cooperative unions, this course provides extensive training regarding agricultural cooperative unions in Japan. Specific individual training is also given according to wishes of trainees.	August 25, 1967 through December 27, 1967	Institute for the Development of Agricultural Cooperation in Asia	Ceylon 1 India 2 Thailand 2 Indonesia 1 Malaysia 3 Turkey 1 Nepal 1 Ghana 1 Pakistan 1 Paraguay 1 Total 16
Agricultural Extension	This course is aimed at improving technical guidance in agriculture and managerial ability in developing countries. Trainees learn the practical method of technical guidance in agriculture through studying Japan's history of agricultural extension and also its present agricultural status. The major subjects of study are the condition and outline of Japanese agriculture, and the system and management and method of extending agriculture in Japan.	September 25, 1967 through November 22, 1967	Extension Education Section, Agricultural Administration Bureau, Ministry of Agriculture and Forestry	India 1 Philippines 1 Turkey 1 Ethiopia 1 Iran 1 Mexico 1 Total 6

Name of Course	Object of Course and Contents of Training	Duration	Main Institution and Facility	Number of Participants by Country
*Agricultural Statistics	Trainees learn the system of compiling agricultural statistics in Japan and theory and practice of statistical survey so as to contribute to improving the agricultural statistics systems of their countries.	June 25, 1967 through September 30, 1967	Statistics and Survey Division, Ministry of Agriculture and Forestry	India 1 Indonesia 1 Korea 1 Malaysia 2 Singapore 1 Total 10
Poultry Farming	Trainees learn modern Japanese techniques of poultry farming through lectures on hatching, feeding, poultry farming etc., and through practice in poultry raising and hatching.	May 10, 1967 through October 9, 1967	Okazaki National Livestock Breeding Station, Ministry of Agriculture and Forestry	Afghanistan 1 Laos 1 Malaysia 1 Philippines 1 Ceylon 1 Indonesia 2 Singapore 1 Total 9
Animal Health Research	This course is aimed at producing experts in new techniques of diagnosis by introducing to them the present status of veterinary experiment and research in Japan. Training is carried out through lectures and survey tours covering general stock-raising administration and through lectures and experiment on prophylactic, diagnosis and treatment in livestock pathology.	May 10, 1967 through November 9, 1967	National Institute of Animal Health, Ministry of Agriculture and Forestry	Cambodia 1 Laos 1 Chile 1 Philippines 1 Mexico 1 Thailand 1 Paraguay 1 Total 8
Coastal Fisheries	This course is aimed at assisting in improvement of the food situation in developing countries by extending Japanese techniques of coastal fisheries. Training is carried out by means of lectures, practice and survey tours showing fishing gear and methods, marine engines of small fishing vessels, operation of small fishing vessels, multiplication of fish, preservation and processing of fish and fishery management.	May 1, 1967 through March 31, 1968	Misaki International Fishery Training Center	Ceylon 2 Indonesia 3 Lebanon 1 Turkey 1 Sudan 1 Malaysia 2 Philippines 2 Kenya 1 Thailand 2 Nigeria 2 Singapore 1 Ecuador 2 Iran 1 Mexico 1 Total 23
Fresh-Water Fish Culture & Propagation Research	This course is designed to improve fishery technique and promote experiment and research in developing countries as well as to enhance trainees' researching ability. Trainees are taught theory and practice of production management of rivers and lakes and multiplication of fish in ponds.	May 15, 1967 through January 31, 1968	Fresh-Water Fisheries Research Laboratory, Fisheries Agency	Ceylon 1 Philippines 1 Thailand 2 Jordan 1 Turkey 1 Kenya 1 Tanzania 1 Peru 1 Total 9
Marine Fisheries Research (Fishing Gear and Methods)	This course provides training on a specific theme in a specialized fishery field to contribute to improvement of fishery technique and promotion of experiment and research in developing countries. At laboratories for their respective specialties, trainees study fishery resources, mathematical statistics, fishing gear and methods, multiplication of ocean fish, storage and preservation of fish, etc.	May 15, 1967 through November 14, 1967	Tokai Regional Fisheries Laboratory, Fisheries Agency	Indonesia 2 Chile 1 Colombia 1 Mexico 1 Total 5
Forest Research	This course provides training in forest survey, forest mensuration (including aerial photogrammetry) and its practical techniques, and forest soil survey to contribute to the development of forestry in developing countries.	May 15, 1967 through November 14, 1967	Government Forest Experiment Station, Forestry Agency	Afghanistan 1 Indonesia 1 Thailand 1 Brazil 2 Chile 1 Paraguay 1 Total 7
Forest Products Research	This course is aimed at contributing to the development of use and utilization of lumber which is abundant in developing countries. Trainees study sawing, lumber processing, lumber seasoning and fiberboards in this course.	May 15, 1967 through November 14, 1967	Government Forest Experiment Station, Forestry Agency	Indonesia 1 Philippines 1 Thailand 2 Republic of China 1 Total 5

Construction

Name of Course	Object of Course and Contents of Training	Duration	Main Institution and Facility	Number of Participants by Country
Highway Construction	Training through observation tours, lectures, etc. on highway networks, land surveying and safety facilities in relation to highway planning, on management of asphalt sidewalks and sidewalk construction at a moderate cost in regard to sidewalks and on materials, design, construction, etc. pertaining to bridges.	June 1, 1967 through July 31, 1967	Road Bureau, Ministry of construction	Burma 2 Ceylon 1 India 2 Indonesia 1 Laos 1 Malaysia 3 Nigeria 1 Total 17
Bridge Engineering	Training conducted through lectures and observation tours on the structural dynamics of bridges, on bridges of various types such as girder bridges of Gerber type, reinforced concrete bridges, PS concrete bridges and iron bridges and on such sub-structures of bridges as piles, the nature of soil, etc.	August 1, 1967 through November 30, 1967	Public Works Institute, Ministry of Construction	Burma 1 Ceylon 1 India 2 Thailand 1 Total 8
Surveying and Mapping	Training in map making technology centered around geodesy divided into three courses: Land Surveying, Surveying by Photography and Mapping, Triangulation; gravity surveying, photography reading, drafting, map compilation, map printing, etc. presented in training through lectures, observation tours and practice.	May 10, 1967 through November 9, 1967	Geographical Survey Institute, Ministry of Construction	Cambodia 1 Ceylon 2 Indonesia 2 Laos 1 Malaysia 2 Nepal 1 Total 19
Seismology and Earthquake Engineering	Contributing to prevention of disaster from earthquakes in countries suffering frequent earthquakes and also serving for further development of those countries. Started under the First Five Year Training Plan of International Engineering respectively, giving training on general and earthquake-proof buildings and bridges through a series of lectures and observation tours as seismic research institutes, observatory stations, construction sites of earthquake-proof structures, etc.	September 1, 1967 through August 31, 1968	Architectural Research Institute, Ministry of Construction	Iran 2 Korea 1 Pakistan 1 Philippines 1 Thailand 1 Turkey 1 U. A. R. 1 Total 14

Mining

Name of Course	Object of Course and Contents of Training	Duration	Main Institution and Facility	Number of Participants by Country
* Boiler Engineering	Designed to train trainees on boiler engineering in general with emphasis on boilers of small size, including design and operation, maintenance and management and safety and inspection of boiler.	October 1, 1967 through March 31, 1968	Boiler and Crane Safety Association	Malaysia 1 Philippines 1 Thailand 1 Total 5
* Groundwater Resources Development	Divided into two, Geological course and Drilling course, conducting training on groundwater resources development planning with emphasis on theoretical explanation in the Geological course, and training for development of groundwater resources centering around operation of drilling machines in the Drilling course.	June 1, 1967 through November 30, 1967	Geological Survey of Japan, Ministry of International Trade and Industry	Afghanistan 1 Burma 1 Ceylon 1 India 1 Indonesia 1 Korea 1 Total 11
* Offshore Prospecting	Intended to train technical experts assigned for prospecting and developing of the abundant mineral resources remaining unexploited on the coastal areas and continental shelves in Asia. Training conducted through lectures, indoor and outdoor practice, expirnent and observation tours.	May 10, 1967 through December 20, 1967	Geological Survey of Japan, Ministry of International Trade and Industry	Indonesia 1 Korea 2 Malaysia 1 Philippines 1 Thailand 1 Viet-Nam 1 China 3 Total 10

Name of Course	Object of Course and Contents of Training	Duration	Main Institution and Facility	Number of Participants by Country
Electronics	Designed to contribute to the development of electronic engineering and its industries in the developing countries concerned through theoretical and practical training in the field of electronics.	May 10, 1967 through November 9, 1967	Industrial Research Institute, Osaka Prefecture Osaka Electro-Communication University	India 1 Brazil 1 Malaysia 1 Mexico 1 Philippines 1 Total 5
Foundry	To contribute to the technical advancement of foundries in developing countries and also to promote mutual cooperation between the trainees' countries and Japan in this field. In training, the latest techniques introduced through lectures, practice, observation tours, etc.	September 25, 1967 through April 24, 1968	Government Industrial Research Institute, Nagoya	India 1 Thailand 1 Indonesia 1 China 1 Pakistan 1 Brazil 1 Total 6
Textile Engineering	Training in knowledge and skills related to textile engineering for those who are engaged to be technical leaders in this field in developing countries.	December 1, 1967 through June 30	Industrial Research Institute, Nagoya	Indonesia 1 Turkey 1 Malaysia 1 Kenya 1 Philippines 1 Dominica 1 Total 6
Ceramic Engineering	To foster better understanding and to cultivate practical, useful know-how in technical matters of ceramics in developing countries among trainees through training centering around the introduction of the present situation of Japanese ceramic industry, lectures and practice of general and specific subjects related to ceramic technology.	May 25, 1967 through February 24, 1968	National Industrial Research Institute, Nagoya, MITI	Afghanistan 1 Philippines 1 Ceylon 1 Thailand 2 Indonesia 1 Nigeria 2 Pakistan 2 Total 10

Public Works

Name of Course	Object of Course and Contents of Training	Duration	Main Institution and Facility	Number of Participants by Country
Thermal-Electric Power Engineering	To introduce the present state of thermal-electric power generation in Japan and thus to contribute to the development of electric power industries in the trainees' countries. Training is given on such generating equipment as turbines and generators of high heat and large output as well as ordinary types and new methods recently added to the program, such as application of low grade phosphoric acid for the purpose of steam control, use of hydrogen for the induction of the generation of exchange resin, etc.	June 1, 1967 through September 30, 1967	The Tokyo Electric Power Co., Inc. The Kansai Electric Power Co., Inc.	Argentina 1 Brazil 4 Colombia 1 Peru 1 Total 7
Hydro-Electric Power Engineering	Introducing the present situation of hydro-electric power generation in Japan and thus contributing to the further development of electric power industries in the trainees' countries, with the main part designed to conduct training on the entire process from planning of the development plan to completion of the construction of several projects under development in a manner of case-study, and, in addition, extending training on transmission, transformation and distribution of electric power.	June 1, 1967 through September 30, 1967	Electric Power Development Co., Ltd. The Chubu Electric Power Co., Ltd.	India 2 Indonesia 1 Philippines 3 Thailand 2 Turkey 1 Iran 1 Total 10

Automobile Service Engineering	To train automobile maintenance workers who are lacking in developing countries and also to contribute to the technical advancement of automobile maintenance in those countries.	June 14, 1967 through December 23, 1967	Nissan Technical Training Center Nissan Motor Co., Ltd. Chubu-Nippon Automobile Service Engineering School	<p>Laos 1 Malaysia 4 Thailand 2 Saudi Arabia 1 Sudan 1 Kenya 1 Nigeria 2 Peru 1 Total 13</p>
Diesel Railway Rolling Stock Engineering	For the purpose of rationalizing the management of railway services, the developing countries have lately purchased a number of Diesel rolling stocks from advanced countries, but the technical level of maintenance and operation in railways is comparatively low. With due regard to improving said situation, the course is organized to train trainees sent from those countries in the excellent techniques of Japan through lectures, practice and observation tours.	June 1, 1967 through September 30, 1967	Japanese National Railways	<p>Malaysia 2 Thailand 1 China 1 Sudan 1 Brazil 2 Total 7</p>
Railway Signal and Communication Engineering	In the railway signal systems of developing countries, there have been observed such bottlenecks in the way of modernization of railways as low efficient mechanical signaling devices and tablet blocking devices for section blocking being still used by all the lines except some of the trunk lines. With a view to promoting the automation of railway signals, they are switching mechanical signals over to automatic electric signals and from tablet blocking devices to tokenless blocking devices. Considering said situation, the course is intended to conduct training on railway signal engineering with emphasis on maintenance, inspection and repair of signaling devices in an effort to elevate the technical level of railway signal engineering in those countries.	August 1, 1967 through November 30, 1967	Japanese National Railways	<p>Malaysia 1 Philippines 1 Thailand 2 Argentina 1 Brazil 1 Total 6</p>
*Maintenance and Improvement Engineering of Permanent Ways	To introduce to developing countries the techniques required in construction and maintenance of railways. Training on the outlook of Japanese railways, maintenance and construction of railways through lectures and on survey for the construction of permanent ways for railways through practice and observation tours.	May 10, 1967 through September 9, 1967	Japanese National Railways	<p>India 1 Malaysia 1 Thailand 1 Mexico 1 Korea 1 Philippines 1 China 1 Total 7</p>
Bus and Truck Management	To secure greater safety in the bus and truck transportation is secured in Japan through lectures, practice and observation tours.	August 28, 1967 through November 27, 1967	Japanese National Railways	<p>Burma 1 India 1 Indonesia 1 Malaysia 1 Thailand 1 China 1 Total 6</p>
Ports and Harbors (Seminar)	To contribute to the improvement of administration of ports and harbors in developing countries through introducing the present situation of management and administration of ports and harbors in Japan and also to strengthen the ties of friendship between those countries and Japan. Training through lectures and discussions on the administration, management and construction of port and harbor, development of littoral industrial areas, etc. and through observation tours of Japanese major ports.	October 1, 1967 through November 30, 1967	Ports and Harbors Bureau, Ministry of Transportation	<p>Ceylon 1 Iran 1 Korea 1 Malaysia 1 Philippines 1 Thailand 1 Singapore 1 China 1 Turkey 1 Argentina 1 U.S.A. 1 Total 11</p>

Name of Course	Object of Course and Contents of Training	Duration	Main Institution and Facility	Number of Trainees by Country
*Shipbuilding and Repair	To contribute to the development of building and maintenance of ships in developing countries and also to promote the technical cooperation in the field of shipbuilding between those countries and Japan, offering training on designing ships, laws and regulations related to ships and vessels, etc. through lectures, practice and observation tours at shipbuilding yards in this course.	October 1, 1967 through March 31, 1968	Shipbuilding Industrial Association	Burma 1 Philippines 1 China 1 Total 6
Tourism	In keeping with UN Sighthseeing Year adopted by the resolution at the 21st United Nations General Assembly, to make a contribution to the development of tourism resources in developing countries and also to promote cooperation in the field of tourism between the developing countries and Japan. Training through lectures, practice and observation tours.	June 17, 1967 through July 16, 1967	International Tourism Promotion Association	Afghanistan 1 Burma 1 Ceylon 1 Indonesia 1 Korea 2 Laos 1 Malaysia 1 Pakistan 1 Philippines 2 Thailand 1 Viet-Nam 1 Singapore 1 China 2 Total 16
Postal Service and Telecommunication				
Name of Course	Object of Course and Contents of Training	Duration	Main Institution and Facility	Number of Participants by Country
Telex Communication Engineering	By introducing the telex communication techniques of Japan, to contribute toward the advancement of telecommunication technology in developing countries. Training conducted on telecommunication system, parametron, transistor, ARQ facilities, etc. through lectures and on operational works such as circuit inspection, frequency exchange, repair of troubled parts, etc. and maintenance of ARQ facilities, etc. through practice.	August 4, 1967 through November 30, 1967	Kokusai Denshin Denwa Co., Ltd. (KDD)	Malaysia 1 Pakistan 1 Philippines 1 Thailand 1 U.A.R. 1 Total 10
Short-Wave Radio Engineering	By introducing the short-wave radio engineering of Japan, to contribute to the advancement of short-wave radio engineering in developing countries. Training given on engineering of transmission and reception of international short-wave radio and operation and maintenance of transceiver and antenna apparatus through lectures, practice and observation tours.	June 15, 1967 through October 14, 1967	Kokusai Denshin Denwa Co., Ltd. (KDD)	Indonesia 1 Malaysia 2 Philippines 1 Thailand 1 U.A.R. 2 Total 12
Carrier Telephone Engineering	Training on carrier telephony including such theoretical subjects of high degree as the solution of mathematical equation, etc. and practice centering around maintenance and management of machinery.	September 20, 1967 through December 20, 1967	Nippon Telegraph and Telephone Public Corporation	India 1 Pakistan 1 Thailand 1 Total 6
Micro-Wave Communication	Through lectures, practice and observation tours on design, construction, maintenance, etc. of the latest micro-wave communication equipment of Japan, to contribute toward the advancement of micro-wave communication technology in developing countries.	June 1, 1967 through September 10, 1967	Nippon Telegraph and Telephone Public Corporation	India 2 Malaysia 2 Pakistan 1 Thailand 1 Iran 1 Total 13
International Telegraph and Telephone Traffic	To introduce knowledge and techniques pertaining to management and administration of international communication networks provided with international telegraph and telephone, telex and circuits for special purposes through lectures, practice and observation tours.	January 10, 1968 through March 27, 1968	Kokusai Denshin Denwa Co., Ltd.	Malaysia 1 Thailand 1 Singapore 1 Iran 1 Total 4

Telecommunication Management (Seminar)	To contribute to the development of telecommunications in developing countries through introducing the present situation of Japanese telecommunications to senior administrators engaged in the telecommunication services. Lectures delivered on the status, present and future, of Japanese telecommunications and postal services, labor problems in enterprises related to the services, space communications, international communication networks, private communications, mass communication, etc.	September 24, 1967 through October 13, 1967.	Administrative Director's Office of Telecommunications, Ministry of Postal Services	Iran 1 Ethiopia 1 Turkey 1 Kenya 1 U. A. R. 1 Nigeria 1 Tanzania 1 Sudan 1 Total 8
Television Engineering	To introduce essential knowledge and techniques of television engineering with emphasis on training of trainees in knowledge and techniques in relation to the operation and maintenance of the latest television equipment and apparatus of Japan through lectures, practice and observation tours.	July 17, 1967 through November 23, 1967	Central Training Institute, Japan Broadcasting Corporation	Indonesia 1 Thailand 2 Korea 1 China 6 Malaysia 1 Sudan 1 Pakistan 2 Ghana 1 Philippines 1 Nigeria 1 Bolivia 1 Total 18
Educational Television Programs	By introducing Japanese educational television broadcasting, to contribute to the improvement of educational television programs in the trainees' countries. Training in production of educational television programs, uses of camera, lighting fixtures and other equipment, studio installation, way of utilization of educational television programs, etc. through lectures, practice and observation tours.	July 24, 1967 through October 4, 1967	Central Training Institute, Japan Broadcasting Corporation	Indonesia 1 Ghana 1 Korea 1 Nigeria 1 Philippines 1 Bolivia 1 Thailand 2 Brazil 1 China 7 Mexico 1 Sudan 1 Total 18
Health and Welfare				
Name of Course	Object of Course and Contents of Training	Duration	Main Institution and Facility	Number of Participants by Country
Tuberculosis Control	A falling tendency of the death rate from tuberculosis is seen lately in Japan, while tuberculosis is raging in all its fury in the Southeast Asia. Under said situation, to introduce the technology employed in countermeasures against tuberculosis which enabled Japan to control it, and thus to contribute to the advancement of the techniques required for anti-tuberculosis policy in those countries. Training given through lectures, practice and observation tours on (1) Anatomy of the lungs, (2) Pathology of tuberculosis, (3) X-ray diagnosis and (4) Tuberculosis control programs.	May 10, 1967 through October 31, 1967	Japan Anti-Tuberculosis Association	India 1 Indonesia 3 Philippines 1 Thailand 1 Total 6
Surgical Treatment of Pulmonary Tuberculosis	By introducing the theory of tuberculosis in general and theory of surgical treatments of pulmonary tuberculosis patient, and conducting practical training on surgical operation being practiced in Japan, to contribute to the advancement of surgical treatment of pulmonary tuberculosis in developing countries.	November 1, 1967 through March 31, 1968	Japan Anti-Tuberculosis Association	Afghanistan 1 Malaysia 1 Pakistan 1 Thailand 1 Uganda 1 Total 5
Cancer Control	To contribute to the improvement of cancer control in developing countries by introducing methods of diagnosis and treatment including radiotherapy and pharmacotherapy and research activities on cancers of various kinds.	January 10, 1968 through July 10, 1968	The National Cancer Center	Indonesia 1 Thailand 1 Malaysia 1 Vietnam 1 Pakistan 1 Total 5
* Family Planning (Seminar)	To contribute to solution of Southeast Asian problems of rapidly increasing population. Lectures delivered on the social environment, population dynamics, etc. of Japan, and lectures and discussions.	November 20, 1967 through December 19, 1967	Family Planning Federation of Japan	Ceylon 1 Indonesia 1 Pakistan 1 Philippines 1

Name of Course	Object of Course and Contents of Training	Duration	Main Institution and Facility	Number of Participants by Country
	sions held on the roles to be played by medical personnel in face of population problems, contraception and religion, various problems caused by excessive population in food, economy and society.			Korea 1 Thailand 1 Total 2
Atomic Energy				
Name of Course	Object of Course and Contents of Training	Duration	Main Institution and Facility	Number of Participants by Country
Radioisotope	Working together with the training program being conducted by the International Atomic Energy Agency for the purpose of peaceful use of radioisotope, to give basic training on the handling of isotopes in the form of group training in Radioisotope School, Japan Atomic Energy Research Institute, and then, to give specific subject matter training on radio-chemistry, isotope utilization for industrial and agricultural purposes, radiation analysis, power furnace, testing furnace, sanitary physics, vegetable pharmacology, etc. in a form of individual training.	May 16, 1967 through January 9, 1968	Radioisotope School, Japan Atomic Energy Research Institute	Korea 2 Philippines 2 Thailand 1 China 3 Czechoslovakia 2 Total 10
Management				
Name of Course	Object of Course and Contents of Training	Duration	Main Institution and Facility	Number of Participants by Country
Smaller Enterprise Development (Seminar)	In an effort to cope with the problems of smaller enterprise that are now being faced in developing countries, to contribute toward the solution of present problems of smaller enterprise management in those countries by giving training on methods and techniques employed in the management of Japanese smaller enterprises through lectures, discussions and observation tours.	May 17, 1967 through July 12, 1967	The Nagoya Chamber of Commerce and Industry	Ceylon 1 Indonesia 1 Malaysia 2 Brazil 2 Pakistan 1 Thailand 1 China 1 Total 12
Administration				
Name of Course	Object of Course and Contents of Training	Duration	Main Institution and Facility	Number of Participants by Country
Vocational Training Instructor	For the purpose of improving vocational training in the trainees' countries, to introduce vocational technology to those who are being engaged in vocational training as instructors in those countries, and also to retrain them in skills of various trades and in techniques required in vocational training. The course divided into three groups of Machinery, Electricity and Wood Working, and, in each group, training given on the skills of each speciality, and instruction methods designed for the trained skills.	April 10, 1967 through April 9, 1968	Institute of Vocational Training	Ceylon 4 India 1 Indonesia 3 Korea 1 Laos 2 Malaysia 2 Pakistan 1 Philippines 3 Thailand 3 Viet-Nam 1 Iran 1 Turkey 2 U. A. R. 1 Sudan 1 Nigeria 2 Total 28

*High Skilled Worker (Machinist)	To those who are expected to be vocational training instructors in the field of metal industry in developing countries, to conduct training on skills and knowledge centering around mechanical works with which they can adapt themselves to any technical innovations. Training given through the fundamental training in the use of meters, hand finishing works, etc., through the practical training of cutting works with emphasis on lathing and operation of common machine tools and through the lectures on the theories essential to the skills in this training.	April 10, 1967 through April 9, 1968	Kita-Osaka Vocational Training Center, Osaka	Korea 1 Laos 1 Malaysia 1 Philippines 1 Thailand 1 Iran 1 Ethiopia 1 Total 7
Vocational Training (Seminar)	To introduce the present situation of Japanese vocational training through lectures and observation tours and to bring up problems of vocational training in the countries concerned for discussion.	September 1, 1967 through October 20, 1967	Institute of Vocational Training	Ceylon 1 Indonesia 1 Pakistan 1 Philippines 1 U.A.R. 1 Singapore 1 China 1 Iran 1 Saudi Arabia 1 U.A.R. 1 Sudan 1 Total 10
*National Government Administration	To improve the quality of administrators in special fields of administration to those who hold highly responsible posts at present or those who are eligible to be senior public officers in the field of government administration in developing countries in the South-east Asia. Training given through lectures, reporting, comparative studies on the administration of the trainees' countries, case-study on administration, discussions, researches, observation tours, etc.	January 15, 1968 through April 20, 1968	Institute of Public Administration, National Personnel Authority	Bhutan 1 Indonesia 1 Laos 1 Malaysia 1 Nepal 1 Pakistan 1 Philippines 1 Viet-Nam 1 China 1 Total 9
Local Government Administration	Explaining the local government administration and local autonomy of Japan, to contribute to regional development in developing countries. Training on general theory on comparative administration, local government administration of Japan, public service personnel systems, socio-economic development and local government administration, etc.	January 10, 1968 through April 9, 1968	Autonomy College, Ministry of Home Affairs	Ceylon 1 India 1 Indonesia 1 Korea 1 Laos 1 Malaysia 1 Pakistan 1 Philippines 1 Thailand 1 Total 9
Prevention and Treatment of Crime and Delinquency	Training through discussions on Japanese systems and methods of prevention and treatment of crime and delinquency with the rehabilitation officers participating from the Southeast Asian countries. Lectures and observation tours programmed on law and community, comparative laws, penology, juvenile delinquency, etc.	September 10, 1967 through December 9, 1967	United Nations Asia and Far East Institute for the Prevention of Crime and Treatment of Offenders	India 1 Indonesia 1 Korea 1 Malaysia 1 Pakistan 1 Philippines 1 Thailand 1 Singapore 1 Total 8
*Prevention and Treatment of Crime and Delinquency (Senior)	Inviting senior officers from countries in Asia, to contribute to the betterment of prevention and treatment of crime and delinquency in those countries and also promoting the further exchange of information in this field among the countries concerned through discussions on the present important problems in all the fields of prevention of crime and treatment of offenders.	February 25, 1968 through April 4, 1968	United Nations Asia and Far East Institute for the Prevention of Crime and Treatment of Offenders	Korea 1 Malaysia 1 Philippines 1 Thailand 1 China 1 Total 5
Prevention of Narcotic Offences and Smuggling (Seminar)	To contribute to eradicate narcotic offences in Asian region and thus to do much toward the stabilization and betterment of public welfare through discussions on the measures of narcotic control and through improvement of mutual understanding and exchange of information among the countries concerned. Training contents: (1) Exchange of information pertaining to narcotic control, (2) Discussion on the methods of narcotic control and (3) Observation at institutions and facilities related to the subject.	August 25, 1967 through September 24, 1967	National Police Agency	Burma 2 India 1 Indonesia 1 Korea 2 Laos 1 Malaysia 1 Pakistan 1 Philippines 2 Thailand 2 Viet-Nam 1 Singapore 1 Total 15

3. Individual Training

Excepting those trainees under the reparation programs, a total of 404 trainees participated in the individual training course for 1967.

The above figure includes not only those trainees under the Colombo Plan and other technical cooperation schemes of the Japanese Government, in which case the whole expenses necessary for their training in Japan are borne by the Japanese Government, but also those who were received in Japan under the fellowship of the United Nations and its specialized agencies or under the sponsorship of trainees' own government, where the Japanese Government bears only the expenses necessary for implementing the training programs.

The training programs arranged for those trainees under the latter category, including eight senior fellows, were mostly observational studies in Japan visiting agricultural, fishery, manufacturing and other industrial establishments in a short period of time.

The number of trainees received under the Technical Cooperation Schemes of the Japanese Government, such as the Colombo Plan, was 258, while the number of trainees received under the fellowships of the United Nations and other sponsoring agencies or governments was 146.

The detailed information on the training fellowships awarded by the United Nations is given in Chapter 10: The Cooperation for Technical Assistance Programs of the U.N. Specialized Agencies.

The table shows the statistics of trainees received in 1967 in terms of country as well as field of training.

4. Aftercare Services for Returned Trainees

Needless to say, training for foreign participants is performed with the aim of making actual contributions to the development of developing countries and, therefore, it is essential that training in Japan should achieve successful results when each participant returns to his own country. In this connection, aftercare services for returned trainees, such as supply of equipment, materials and publications to help them keep up and develop their knowledge and techniques acquired in Japan, are vitally important.

As aftercare services in fiscal 1967, the quarterly "KENSU-IN" Nos. 10 to 13 inclusive and booklets such as "Crop Science in Rice", "Farming Japan", "Japanese Fisheries", "Telecommunications in Japan" and so on were dispatched to returned trainees, and quantities of equipment and materials including those necessary for T.V. engineering training such as kits for T.V. sets and oscilloscopes were provided.

Further details of supply of equipment and materials are described in Chapter 3.

Section 3. Problems of Training

During the period from 1954 to the end of March 1968, Japan accepted a total of 8,971 trainees in her training schemes. During this period, in proportion to Japan's economic development, efforts were made to increase the number of trainees accepted, as well as to expand the fields of training and regions sending trainees. At the same time, endeavors are being made to improve and expand the personnel, facilities and equipments for training trainees. However, the results of such efforts cannot be said to be satisfactory because of various restrictive factors, such as the limited amount of budget.

However, as is clear from the "Survey on the Effect of Japan's Technical Cooperation with Southeast Asian Countries," which was carried out in July 1967, countries in that region are strongly requesting Japan to accept much more trainees. Furthermore, Japan has the responsibility to extend more intensive cooperation to Southeast Asia. Therefore it becomes vital to increase the number of trainees and to positively improve the quality of training.

From the above viewpoint, problems pertaining to the acceptance of trainees in fiscal 1967 are reviewed here both from the quantitative and qualitative aspects.

1. Quantitative Problem

The budget for acceptance of trainees for fiscal 1967 was increased by about ¥70 million from the previous year. However, the number of accepted trainees came to only 970, considerably below 1,600 which is the number of requests made by various developing countries to Japan. The above figure is extremely small as compared with figures of trainees received by other advanced countries.

Japan places emphasis on her technical cooperation toward the Asian region and the number of accepted trainees from countries in the Middle East, Africa and Latin America has been extremely small. To improve the above picture, it is essential for Japan to increase the budget and to improve and expand the organizational set-up for increasing the number of trainees. It is also necessary to increase the number of accepting so-called "counterpart personnel", who take part in Japan's technical cooperation projects carried out in recipient countries. It is important to promote visits to Japan of high-level trainees, who hold key posts in the governments concerned, so as to enhance their countries' understanding of Japan's high-level of economic and technological progress and thereby to promote economic and technical cooperation between Japan and those developing countries.

2. Qualitative Problems

(1) Training and trainees

1) It is necessary to expand the individual training system because it is most effective when the trainees are able to study in a manner conforming with the stage of development of their countries, as well as their respective technical and educational levels, and also that the system provides training which meets the specific requests of the trainees concerned. The fact is, however, that on account of the insufficiency of facilities for training in Japan, and the care and expenditure each acceptance entails, it is impossible to adopt the individual training system for all trainees. It is nevertheless most important to expand the individual training system as much as possible.

2) For smooth and effective operation of group training, the objectives, substance and standard of each pre-arranged group course should be clearly and fully known to the developing countries when they select trainees for these courses. Moreover, the level of knowledge and techniques of trainees should be similar and be appropriate to the subject and standard of each group training course. In addition, trainees should have full knowledge of English which is the language used in training. Japan has been requesting the governments of the interested countries to fully understand the importance of sending trainees who can satisfy the above conditions. However, those who have come to Japan cannot be said to have fully met such conditions and, as a matter of fact, some of them asked, after their arrival in Japan, to receive the kind of training which did not conform with the subject and standard of the courses they were supposed to attend. Such cases are apt to cause confusion and fail to bring about satisfactory achievements. In order to meet these problems, it is necessary for Japan, when establishing group training courses, to fully grasp the conditions of economic and social development and technical levels of the developing countries concerned, as well as the particular need of training for each field. It is also necessary to give closer attention to the differences in the stages of development among developing countries and, for this purpose, it might become necessary in the future to divide group courses between courses for more developed and less developed developing countries.

3) In accepting trainees, it is necessary as well as most effective to provide training in Japan for trainees who are closely related to various types of economic and technical assistance given by Japan. It has proved effective to accept local counterpart who work with the dispatched Japanese experts at overseas technical cooperation centers, development survey teams, agricultural and medical

cooperation projects.

4) On the other hand, countries which will send trainees to Japan are called upon to adopt systematic method for selecting able persons based on appropriate criteria. It is suggested that the Japanese Government, in deciding on acceptance of trainees in the future, should more carefully examine the personal histories of candidates and the recommendations of their governments as well as study ways and means to carry out proper pre-screening at Japanese embassies and OTCA's overseas offices.

5) In regard to the length of training, trainees seeking to acquire techniques and skills consider the term as being too short, while those who take part in the training centered around lectures and inspection tours, such as seminars and introductory courses of industries, feel that it is too long. Therefore, further adjustments might be necessary regarding the length of training.

(2) Training institutions

All of the training except certain agricultural and fisheries training courses at OTCA centers was undertaken by institutions affiliated with central and local government authorities, university research institutes, semi-public bodies and private enterprises. However, the number of such training institutions which accept trainees from developing countries is far too small when considering the needs of developing countries who wish to acquire technique, skill and experience of Japan.

Moreover, none of these institutions are originally organized to solely undertake technical cooperation to developing countries except World Trade Centre. The training institutes who receive overseas trainees are usually giving training to more number of Japanese trainees. Accordingly, their staff members and trainers engaged in training of participants have, in principle, other training courses offered to the Japanese people. Furthermore, a member of these institutions are not sufficiently staffed with the people who are fully aware of the conditions of developing countries and background and ability of participants.

In order to solve these problems, it is necessary to establish special training facilities for foreign participants and maintenance of full-time instructors who have full grasp of situations in participants' countries. However, as it would involve enormous expenditure to solve these problems at a stroke, it is considered necessary to solve them by stages. For example, establishment of training facilities by OTCA for small-scale industries is recommended. On the other hand, there is a growing interest shown by various organizations for opening a new training course for developing countries.

(3) Expenditure for training

The budgetary allocation of expenses for training is sometimes not adequate to cover the training expenses for certain courses, thus making it necessary to depend on the goodwill and support of training institutions themselves. There must be more ample supply of training materials and equipment by the Japanese Government. However, there is a gradual improvement in providing trainees with more allowance. For example, as from fiscal 1968, participants will be provided with book allowance.

(4) Training of the Japanese language

The principle of using English for training should continue. However, it would be convenient if Japanese could be used as a supplementary medium of communication, since instructions could be more speedily and effectively given if the process of cumbersome interpretation is spared.

In the past, lessons in Japanese were limited to daily conversation but OTCA should give more serious thought to give longer and more specialized course in Japanese. It would be worthwhile in some cases to consider giving priority in accepting participants who already have knowledge of Japanese.

(5) After-care for returned trainees

It is important not to limit the training in Japan but to keep track of the activity of returned trainees and provide them with new knowledge and technique necessary for effective use and development of their achievements in training. For this purpose, OTCA keeps in close touch with returnees and is gradually expanding the service of supplying additional publications and equipment. However, up to now, the scope of after-care service to returnees is inadequate and covers only limited participants.

CHAPTER 2

ASSIGNMENT OF EXPERTS ABROAD

Section 1. Outline of Assignment of Experts Abroad

Since 1954 until the end of fiscal 1967, 1,478 Japanese experts have been dispatched abroad to cooperate in the economic development of developing countries of Southeast Asia, the Near and Middle East and Africa, and Latin America, and also to cooperate with ECAFE, ECA and other international agencies of the United Nations in the development of their specific regions pursuant to the Colombo Plan, etc. Japanese experts have performed technical cooperation in many fields, such as experiment and research, training, diffusion of techniques, surveys and planning. Their achievements are very remarkable and the experts have acquired a high reputation in recipient countries, contributing to the development of human resources and improved exploitation of natural resources, enhancement of various types of techniques, and the promotion of scientific studies in developing countries.

Developing countries have been making efforts to attain self-supporting economies after winning their independence, but they still have many difficulties in attaining this goal. A frail economic foundation, shortage of foreign currency, shortage of technicians and qualified manpower, etc., are adverse factors hindering economic independence. Among others, development of human resources is considered to be the most urgent problem, and cooperation by Japanese experts in this regard is highly appreciated and there is

growing request for Japan's technical assistance.

While the demands of developing countries are increasing in quantity, a gradual change in quality is also noticeable in their demands with the progress of their development plans. Their demands tend to shift from such primary industries as agriculture and fishery in which cooperation from overseas had been most strongly requested, to light industries, such as manufacturing and processing industries including weaving and ceramic industries, and telecommunications, mainly radio and television manufacturing. In particular, the developing countries have recently increased demands for highly qualified experts from donor countries who will participate in their economic development planning, etc. It will be required of Japan to cooperate more positively in providing such qualified experts.

Needless to say, Japan should set up a system in which she can adequately respond to the increasing and changing demands of developing countries. Based on such recognition, it was decided in 1967 that qualified experts with excellent personality, knowledge and techniques, who are suitable for overseas assignment, should be secured from a wide range of sources, regardless of whether they be public or private. For this purpose, the registry system for recruiting experts was strengthened, and 27 experts were dispatched abroad, after being carefully selected out of more than 600 experts registered with the OTCA.

Results of Assignment of Experts Abroad by Plan (Fiscal year 1967)

Name of Plan	Category→	Continued Assignment			New Assignment		
		Short Term (No. of Persons)	Long Term (No. of Persons)	Family (No. of Families)	Short Term (No. of Persons)	Long Term (No. of Persons)	Family (No. of Families)
1. Colombo Plan		9	107	69	50	57	39
2. Near-Middle East & Africa Plan		4	17	6	21	8	4
3. Latin America Plan		10	21	12	25	13	12
4. Other Asia Plan, etc.		2	2	2	21	2	1
Sub-total		25	147	89	117	80	56
5. On Government Invitation Basis			7			2	
Total		25	154	89	117	82	56
		179		199		378	

Results of Assignment of Experts Abroad by Field
(Fiscal year 1967)

Field	New Assignment (No. of Persons)	Continued Assignment (No. of Persons)
Agriculture & Fishery	40	69
Civil Engineering & Construction	34	10
Heavy Industry, Iron & Steel & Machines	1	1
Mining & Manufacturing	17	13
Light Industry	22	22
Chemical Industry	2	1
Electric Power, Gas & Water Supply	13	11
Ports & Harbors & Transportation (including land transportation)	19	7
Telecommunications, Radio & T. V.	24	26
Business Management		1
Education	10	10
Economic Planning	2	
Others	13	1
Total	197	172

1. Results of Assignment of Experts Abroad

The budget allocated for dispatching experts abroad was ¥749,619,000 in fiscal 1967, an increase of 31% over ¥571,577,000 for fiscal 1966.

A total of 197 experts were newly dispatched in addition to 172 experts whose periods of assignment were extended. Thus, the total number of dispatched experts was 369 in fiscal 1967. Other than these experts sent by the Japanese Government, nine experts were invited by the governments of developing countries.

The breakdown by plan is shown in the table above. The Colombo Plan has by far the largest share of 60.4% (223 of the total 369 experts) as was the case in the previous year, followed by the Central and South America Plan (69 persons), the Near-Middle East and Africa Plan (50 persons)

and the rest of the Asia Plan, etc. (27 persons).

As for the fields of experts, agriculture and fishery ranks first (109 persons), followed by telecommunications, radio and T.V. (50 persons), light industry (44 persons), civil engineering and construction (44 persons), mining and manufacturing (30 persons), ports and harbors and transportation (26 persons), electric power, gas and water supply (24 persons), education (20 persons), chemical industry (3 persons), heavy industry, iron and steel and machines (2 persons), economic planning (2 persons), business management (1 person) and others (14 persons).

2. Number of Experts Requested

Following tables show the number of Japanese experts requested by developing countries.

1. By Field

Agriculture & Fishery	74 persons
Civil Engineering & Construction	26 "
Heavy Industry, Iron & Steel	8 "
Mining & Manufacturing	43 "
Light Industry	57 "
Chemical Industry	1 "
Electric Power, Gas & Water Supply	6 "
Ports & Harbors & Transportation	15 "
Electric Power, Gas & Water Supply	6 "
Business Management	2 "
Education	18 "
Economic Planning	9 "
Total	326 persons

2. By Plan

Colombo Plan	179 persons
Near-Middle East & Africa Plan	94 "
Latin America Plan	27 "
Other Asia Plan, etc.	26 "
Total	326 persons

To respond to so many demands, Japan dispatched 197 experts anew in fiscal 1967, but could not meet the requirements in 33 cases for 141 experts for several reasons. These reasons were the difficulty in selecting proper experts, problems

Assignment of Experts Abroad by Country (Fiscal Year 1967)

(1) The Colombo Plan

Country	New Assignment		Sub-total	Continued Assignment		Sub-total	Total
Afghanistan	Agricultural Machinery	1	1	Training Center for Small Scale Industries	4	6	7
				Ceramics	1		
				Water Supply	1		
Burma	Japanese Language	2	6	Development of Petroleum	2	4	10
	Weaving	2		Japanese Language	2		
	Electronic Equipment	2					
Bhutan				Horticulture	1	1	1
Cambodia	Telecommunications	3	8	Telecommunications	8	26	34
	Landscape-gardening	1		Cattle-plague Eradication	1		
	Japanese Language	1		Agricultural Economy	1		
	Livestock Breeding Center	3		Agricultural Civil Engineering	1		
				Agricultural Technical Center	8		
				Livestock Breeding Center	5		
				Waterworks	1		
				Japanese Language	1		
Ceylon	Ceramics	1	2	Fisheries Training Center	3	8	10
	Banking	1		Agriculture	5		
India	Fishery	4	4	Agriculture	5	5	9
Indonesia	Japanese Language	1	3	Utilization of Water	1	5	8
	Utilization of Water	1		Japanese Language	2		
	Livestock Pathology	1		Ceramics	1		
				Sericulture	1		
Iran	Industrial Safety	2	8	Machine Finishing	1	8	16
	Doll Manufacture	2		Casting	1		
	Machine Finishing	1		Welding & Sheet Metal Processing	1		
	Casting	1		Machine Metal Pattern	1		
	Welding & Sheet Metal Processing	1		Internal Combustion Engine	1		
	Woodcraft	1		Ceramics	1		
				Television	1		
				Metallurgic Machine	1		
Korea	Agriculture & Stock-Raising	6	9				9
	River dam	1					
	Soil Mechanics	1					
	Port & Harbor	1					
Laos	Agriculture	2	2	Agriculture	3	4	6
				Water Supply	1		
Malaysia	Television Transmitter	1	5	Rice Breeding	1	5	10
	Vocational Training	3		Radio & T. V.	1		
	Waterworks Civil Engineering	1		Boat Manufacture	1		
				Straw Work	1		
				Waterworks Civil Engineering	1		
Pakistan	Agriculture	5	9	Landscape-Gardening	1	19	28
	Zoological Garden Management	1		Agriculture	6		
	Industrial Design	1		Agricultural Machinery	4		
	Light Machinery	1		Mining	5		
				Petrochemistry	1		

Country	New Assignment	Sub-total	Continued Assignment	Sub-total	Total
Nepal	Landscape Gardening	1	T. V. Studio	1	6
	Bamboo and Rattancraft	1	Hand Weaving	1	
	Fresh-Water Fish	2	Civil Engineering & Dam Designing	2	
Philippines	Road Construction	3	Boring	1	8
	Japanese Language	1	Japanese Language	1	
	Geology	3			
Singapore	T. V. Engineering	1	T. V. Programing	1	6
	Radio & T. V.	1	Japanese Language	1	
	T. V. Film	1			
	Museum Modernization	1			
Thailand	Telecommunications	4	Telecommunications	6	50
	Electric Power Development	3	Electric Power Development	4	
	Railway Roadbed	2	Sericulture	2	
	Fresh-Water Biology	2	T. V. Planning	1	
	Urban Water Supply	5	Agricultural Cooperatives	1	
	Fishing Port Survey	4	Japanese Language	1	
	Road	6	Fishery Statistics	1	
	Bamboo Raising	2			
	Fishery	2			
	Bridge	4			
Vietnam	Planktology	1	Japanese Language	2	5
	Japanese Language	1	Japanese Lacquer	1	

(2) The Near and Middle East and Africa Plan

Country	New Assignment	Sub-total	Continued Assignment	Sub-total	Total
U. A. R. (Arab)			Marine Transportation	1	1
Iraq	Conveyance	1	Fishery	1	4
	Rice Cultivation	1	Chicken Discrimination	1	
Kuwait	Landscape-gardening	2			2
Kenya			Leather	1	3
			Fishery	2	
Lebanon			Raw Silk	1	1
Morocco			Sericulture	1	1
Nigeria			T. V. Studio	1	4
Nigeria			Soil	1	
			Civil Engineering	1	
			Electron Microscope	1	
Syria			Fishery	1	2
			Poultry Health	1	
Turkey	Fishery Education	1	Fishery	3	6
			Hydroelectric Power	1	
			Dam	1	
Tanzania	Bamboo-work	2	Road	2	9
	Water Resources Development	5			

Country	New Assignment	Sub-total	Continued Assignment	Sub-total	Total
Ghana	Chicken Discrimination	1			2
	Sericulture	1			
Ethiopia	Well Drilling	4			4
Saudi Arabia	Border Demarcation	4			4
Uganda	Bamboo-work	1			7
	Irrigation	2			
	Ceramics	1			
	T. V. Network	3			

(3) Latin America Plan

Country	New Assignment	Sub-total	Continued Assignment	Sub-total	Total
Argentina	Port & Harbor	2	Port & Harbor	2	7
			Geology	3	
Bolivia	Telephone Exchange	1	Fruit growing	1	2
Brazil	Railway	5	Rice Cultivation	3	20
	Youth Guidance	1	Hydroelectric Power	1	
	Textiles	3	Fishery & Processing	2	
			Telecommunications	2	
Colombia	Microwave	2	Port & Harbor	1	7
	Multipurpose Dam	4			
Costa Rica	Erosion Control	2			2
El Salvador	Machine	1	Automobile	1	3
			Radio & T. V.	1	
Ecuador	Electric Power Development	1	Geology	1	6
	Soil Survey	4			
Mexico	Telecommunications	2	Telecommunications	4	6
Panama			Rice Blight	1	1
Paraguay	Sericulture	3	Agricultural Economy	1	5
			Livestock Artificial Fertilization	1	
Chile	Urban Traffic	1	Port & Harbor	1	2
Peru	Foreign Trade Development	1	Electric Power Development	1	4
	Telecommunications	2			
Uruguay	Electronics	2			2
Trinidad-Tobago			Small Scale Enterprise	1	2
			Agriculture	1	
Venezuela	Earthquake	1			1

of competition among private enterprises, political considerations and the inadequate conditions for accepting Japanese experts on the part of recipient countries. When viewed by field, agriculture and fishery suffered the largest number of cases of rejection among all such unfilled requests. There were more requests in this field than could be fully satisfied by Japan, and one of the reasons may be attributed to the fact that there are certain fields in which Japan cannot extend cooperation in the interest of her national policy as in the case of pearl culture for which the cooperation of Japan was sought by Cambodia.

But apart from such rare cases, the main reason lies in the difficulty of selecting proper experts. For example, it was impossible to obtain experts who have qualified techniques and linguistic proficiency to satisfy the request of India for cooperation in manufacturing glass tubes for thermometers and red bricks for construction. From now on, qualified experts should also be secured from among private sectors, especially in the case of demand in the field of light industry, etc.

The breakdown by field of turned-down requests is shown in the following table.

Agriculture & Fishery	32 persons
Civil Engineering & Construction	8 "
Heavy Industry, Iron & Steel & Machines	9 "
Mining & Manufacturing	41 "
Light Industry	22 "
Chemical Industry	2 "
Electric Power, Gas & Water Supply	2 "
Ports, Harbors, & Transportation including	
Land Transportation	4 "
Telecommunications, Radios & T.V.	5 "
Business Management	2 "
Education	8 "
Economic Planning	6 "
Total	141 persons

3. Follow-up to Dispatched Experts

Finally, mention should be made about instances of follow-up activities of OTCA. To perform more effective cooperation by maintaining communication and correspondence between OTCA and dispatched experts (including personnel of overseas centers and medical experts) the bulletin "Experts" Nos. 3 and 4 were issued since the previous fiscal year. In order to have on-the-spot experiences of returned experts and their opinions of OTCA's activities reflected in future conduct of cooperation, meetings for discussion were held on February 24, 1967 at the Osaka International Training Center and on March 29 at the Tokyo International Center. Discussion groups were formed according to fields and

regions of returned experts.

Results of assignment of experts abroad is shown in the previous table with respect to each country.

Section 2. Examples of Assignment of Experts Abroad

As illustration of successful cases of assigned experts, following fifteen cases will be described in this Section.

1. Expert on Livestock Pathology dispatched to Indonesia
2. Expert on Fresh-water Fish dispatched to Nepal
3. Experts on Urban Water Supply dispatched to Thailand
4. Experts on Electric Power Development dispatched to Thailand
5. Experts on Agriculture dispatched to East Pakistan
6. Expert on T.V. Engineering dispatched to Singapore
7. Experts on Well Drilling dispatched to Ethiopia
8. Experts on Seismic Prospecting dispatched to Ecuador
9. Expert on Youth Guidance dispatched to Brazil
10. Expert on International Telecommunication dispatched to Mexico
11. Experts on Erosion Control dispatched to Costa Rica
12. Expert on Prospecting for Mineral Resources in Offshore Areas dispatched to ECAFE
13. Experts dispatched to the Asian Industrial Development Council of ECAFE
14. Expert on Small Scale Industries dispatched to ECA (*Economic Commission for Africa*)
15. Experts on Science Education dispatched for Overseas Cooperation in Science Education

1. Expert on Livestock Pathology dispatched to Indonesia

From the end of 1964, cattle on Bali Island, Indonesia, became afflicted by a contagious disease, and there arose a question as to whether this disease was a cattle-plague or not. FAO of the United Nations urgently dispatched a virological expert to Indonesia and at the same time requested Japan to dispatch an expert in livestock pathology and to provide 200,000 dozens of cattle-plague vaccines. Accepting this request, Japan dispatched an expert in livestock pathology to Surabaya in Indonesia for a period of two months from February 29 through April 28, 1968, and provided 200,000 dozens of vaccines. This contagious disease of cattle is called Djembrana disease because it originated from Djembrana Prefecture on Bali Island, Indonesia. The mortality rate from this disease is very

high, and in 1965, 26,162 cattle and buffaloes or about 10 percent of the total number of cattle and buffaloes being raised on Bali Island died from this disease. Djembrana Prefecture suffered the most serious damage, about 60 percent of the total number of cattle, i.e., 19,276 cattle dying from this disease.

In the meantime, epidemiology, pathological and aetiological studies of this disease were made on the part of Indonesia, and this disease was diagnosed as non-typic cattle-plague, because healthy cattle contacted this disease by inoculation of blood and emulsion of lymph nodes. A program of preventing this contagious disease was carried out by means of cattle-plague vaccination (LA vaccine). However, a negative reaction was observed by the National Institute of Animal Health of our country as to the sample blood serum and intestines of cattle dispatched to the Institute, and there arose a doubt as to whether the disease was actually cattle-plague. Under such circumstances, an expert dispatched from Japan was assigned to make a further pathological study of cattle contracting this disease and to cooperate with experts of FAO and the Indonesian staff in reaching a conclusion on this cattle disease.

The damage caused by this disease amounted to 27,438 cattle and buffalo deaths according to the statistics, although it is said that the actual number may have reached 60,000. This cattle disease became a vital problem to Indonesia not only in the aspect of study but also in administrative consideration. For this reason, the Japanese expert held discussions with the Indonesian staff twice at the Surabaya Institute for Animal Virus Disease with a view to submitting a report to the Government of Indonesia after careful examination of the results of his study with Indonesian staff. No conclusion was made as to whether this disease was a so-called cattle-plague. With the halt of the disease and deeply reconsidering the methods of study and preserving sample material, Indonesians concerned with this disease decided to take careful measures adopting the method proposed by the Japanese expert if such a cattle disease should occur again. As to the pathological diagnosis of this cattle disease, a report was submitted by the Japanese expert to the Government of Indonesia.

2. Expert on Fresh-water Fish dispatched to Nepal

At the earnest request of the Government of Nepal, an expert on fresh-water fish who had been stationed in Iraq was assigned to go and stay in Nepal for three weeks. He made a survey on the fishery industry of Nepal responding to the inquiries of the Fisheries Agency, Ministry of Agriculture of Nepal, and at the same time made vari-

ous studies, the results of which will be used for important data in extending our future cooperation to Nepal in fresh-water fishery. Although the period of his stay was only three weeks, he prepared and submitted a valuable report on fresh-water fish in Nepal. In and around Katmandu people eat the meat of goats, but on account of a rise in prices such meat is not easily purchased now. Besides, the meat of animals including goats has little popularity because of religious taboos. But fish meat is welcomed by any religious sect, and the Government of Nepal has come to expect much from fresh-water fish culture. The Fisheries Agency of the Government of Nepal became independent of the Ministry of Agriculture in 1966 and now has seven experimental stations for fresh-water fish culture in and around Katmandu. Most of these stations specialize in raising carp and distributing their spawn.

According to the results of survey made by the Japanese expert, the Fisheries Agency of the Government of Nepal made the following three requests: 1) To dispatch one or two trainees to Japan each year from now on to have them acquire techniques of carp culture and practical techniques used by fishing net manufacturing factories to make them practical technicians in fresh-water fishery, and to have trainees acquire practice in management of fry, injection of hormones to ctenopharyngodon idellus and management of spawn, 2) To have equipment for experimental laboratories and spawn for 500 ctenopharyngodon idellus granted by Japan, 3) To have an expert dispatched from Japan as early as possible who will stay in Nepal for more than one year, visiting various places in the country to teach techniques of carp culture. It was decided that one expert should be dispatched from Japan in fiscal 1968 to respond to the request mentioned above.

3. Experts on Urban Water Supply dispatched to Thailand

The Government of Thailand is now carrying out its second five year plan for economic development. One of its major objectives is to expand and strengthen public facilities and environment sanitation facilities. The water supply of Thailand is undertaken by the Department of Public and Municipal Works of the Ministry of Interior, except in the capital city area, but only 15 percent of the total population (31,350,000) is actually supplied with water.

Under such circumstances, the Government of Thailand decided to expand, improve and newly construct urban water-works and requested Japan to dispatch experts to cooperate in surveying, planning and preparing detail designs with respect to ten cities such as Khorat, etc. Five experts were

dispatched from Japan and are now staying in Thailand to carry out cooperation. They have already submitted to the authorities of Thailand a water-works plan for Khorat, and the Thai people concerned are now requesting a budget to materialize this plan. Construction is scheduled to start in the beginning of the new fiscal year commencing in October 1968, and detail design to prepare for the bidding is entrusted to the Japanese experts.

The Government of Thailand is now requesting the dispatch of Japanese experts in construction and electricity in connection with this project, which request is now under consideration.

4. Experts on Electric Power Development dispatched to Thailand

At the request of the Yanhee Electric Authority, one expert in electric power development and one expert in mensuration were dispatched, each having a staying period of one year commencing November 10 and July 28, 1967 respectively, in addition to two other experts in electric power development and in geology who had been dispatched to YEA. These four experts are cooperating in a comprehensive development programs of the Mae-Khlong River planned by YEA. YEA is an Authority set up in 1957 and has the responsibility and competence for electric power supply to 37 prefectures including Bangkok, survey and construction of electric power generating facilities. The demands for electric power in these areas amount to 80 percent of the total demands of Thailand. The major power stations of Thailand are the Bhomipol Water Power Station (280 MWe) and North Bangkok Thermal Power Station (150 MWe). With increasing demands for electric power, YEA has a plan to increase the power capability of the above-mentioned water power and thermal power plants and a plan to construct a new water power plant (Nam Quai Yai Project) and a new thermal power plant (South Bangkok Thermal Power Station).

The Nam Quai Yai River is a tributary of the Mae-Khlong River jointing it at Kanchanaburi City and flowing into the Gulf of Siam. There are deep gorges suitable for construction of dams and vast valleys suitable for reservoirs along the Quai Yai River, running near Bangkok. Therefore, this river was long ago considered to be suitable for irrigation development and hydroelectric power generation. Though the development of the river was delayed, Japan carried out in 1962 a development survey around Kaeng-rieng, about 100 kilometers above Kanchanaburi City at about the time when other advanced countries also started development surveys of the river. YEA has dispatched its first survey team to explore this area of the river, and now expects a water power plant with 200 MWe output to be constructed at Kaeng-rieng which will start

generating electricity in 1973. The tasks of Japanese experts include preparation of exploration program and report of exploration. Collection of hydrological data guidance in preparing specifications for boring and mensuration works, but the major part of their assignment is to prepare an overall electric power development plan for the Quai Yai River, including a concrete plan for Ban-Chonen and Kaeng-rieng after detail survey. In preparing the plan for the Quai Yai River, several dam sites will be determined and on-the-spot surveys will be made with respect to each of the dam sites to determine the scale of dams and the output of water power stations, so that the plan for the Quai Yai River may include the calculation of the total output of the power stations, the total amount of electricity generated and the total cost for construction in case the Quai Yai River is fully developed. In preparing the concrete plan for Ban-Chonen and Kaeng-rieng, measurement of geographical features and boring for geological surveys will be carried out to determine the dam sites, and initial preliminary plans for this project will be drawn up.

5. Experts on Agriculture dispatched to East Pakistan

Eight Japanese agricultural experts were dispatched to East Pakistan, including three experts newly dispatched in this fiscal year, who are now staying in Comilla, Nator, Gaibandha and Gouripur. In 1956, based on a Cabinet decision, the Government of Pakistan set up the Pakistan Academy for Rural Development and the Boards of Governors for Academy in both East Pakistan and West Pakistan in order to promote agricultural development as the most important policy. The East Pakistan Academy set up the Kotowari Thana Rural Development Center of Kotowari Thana in Kotowari Thana of Comilla District, which may be said to be a model agricultural development center in East Pakistan. The so-called Comilla method was born by the combination of the practical activities of this center and the survey, research and education activities of the Academy, and remarkable achievements have been attained by this method.

Japan has cooperated in this district, dispatching 21 experts since 1960. The East Pakistan Government, moved by the success of the Comilla method, decided to spread this method over 21 counties in Comilla District, and seven of them have now been put into practice. They also decided to apply the Comilla method to three new subdivisions, i.e., Gouripur, Nator and Gaibandha, and requested Japan to dispatch agricultural experts, stressing that they are indispensable for managing and performing this method. Since March 1965, eight experts have been dispatched from Japan, two for each of

the four subdivisions.

The contents of guidance performed by Japanese experts in each subdivision are mentioned below.

(1) Comilla Subdivision

1. Demonstration of Rice Cultivation (Aus, Amon, Boro) performed on a demonstration field of about seven acres.
2. Technical guidance for vegetables cultivation and introduction of vegetables of Japanese varieties.
3. Demonstration and testing of rotation of crops (wheat and rapeseed).
4. Demonstration of and technical guidance in agricultural implements of Japanese manufacture.

(2) Gaibandha Subdivision

1. Guidance at the National Development Training Institute. The N.D.T.I. consists of first and second-year classes each with 40 students. Every day, for one hour, a lecture on rice cultivation, vegetables cultivation or agricultural implements is given, or demonstration or technical guidance in rice (Aus, Amon, Boro) or vegetable cultivation is performed on the experimental field (90 acres in total, paddy field of 80 acres and farm of 10 acres).
2. Guidance in villages (11 villages, 600 acres).
3. Demonstration of and technical guidance in agricultural implements of Japanese manufacture.

(3) Nator Subdivision

1. Demonstration of and technical guidance in rice (Aus, Amon, Boro) and vegetable cultivation performed on the demonstration field (9 acres in total, paddy field of 6 acres and farm of 3 acres).
2. Guidance in villages (5 villages, 300 acres).
3. Demonstration of and technical guidance in vegetable cultivation on the demonstration farm (7 acres).

(4) Gouripur Subdivision

1. Testing of fertilizer applied to rice plants performed on the demonstration field (paddy field of 3.5 acres).
2. Guidance in villages (8 villages).

6. Expert on T.V. Engineering dispatched to Singapore

One T.V. engineering expert is assigned to Singapore Polytechnic for a period of one year. Besides him, one T.V. programing expert and one T.V. film expert are assigned to the Singapore Broadcasting Station, and one radio and T.V. expert to the Singapore Vocational Institute. Japan's cooperation with Singapore in the field of radio and T.V. started in 1960 when Japan dispatched experts to Singapore to cooperate in planning and construction for commencement of T.V. broadcasting by the

Singapore Broadcasting Station. Since that time, Japan dispatched one expert to Singapore Polytechnic, one expert to the Singapore Vocational Institute and two experts to the Singapore Broadcasting Station. The experts first mentioned above are successors to those experts dispatched from Japan.

The T.V. engineering expert assigned to Singapore Polytechnic is held in such high esteem that he was appointed a member of the Council and also a member of the preparatory committee for establishment of the gum and plastic engineering department. Singapore Polytechnic is now preparing a new curriculum for electronic engineering including radio and television as a first trial in Singapore, and the term of service of the Japanese expert has been extended another one year.

7. Experts on Well Drilling dispatched to Ethiopia

With a view to surveying, guiding and improving well drilling techniques in Ethiopia, four well-drilling experts were dispatched to the Water Resources Department, Ministry of Public Works of Ethiopia, for two months from November 24, 1967 through January 25, 1968. These four experts carried out geographical surveys while performing technical guidance on the spot. They amassed various data through water mensuration and observation of bassets on the surface of the earth, and completed a diagram showing the relation between geographical features and underground water covering the quadrilateral area, the four sides being the lines drawn between points 20 kilometers north, 50 kilometers east, 30 kilometers west and 100 kilometers south, of Addis Ababa. The follow-up activities, such as assignment of experts and supply of equipment and materials are earnestly expected by Ethiopia.

The four experts, in spare moments from their work, held discussions at the Water Resources Agency and at the Japanese Embassy to exchange views on how to extend technical cooperation and how to solve problems in extending cooperation.

8. Experts on Seismic Prospecting dispatched to Ecuador

At the request of the government of Ecuador made in July 1967, the OTCA, in consultation with the Geological Survey Institute of the Agency of Industrial Science and Technology of the Ministry of International Trade and Industry, decided to carry out a preliminary survey of seismic prospecting on the area where a water-conducting tunnel was to be excavated for a hydroelectric power station scheduled to be constructed on the Toachi river in Ecuador. A survey team consisting of four seismic prospecting experts was dispatched for a period of about one month from March 20 through April 24, 1968 in order to carry out a preliminary

geological survey to judge whether the area was suitable for seismic prospecting or not. They also discussed the allocation of works to be undertaken by Japan and Ecuador and the costs and expenses to be borne by each of the two parties. The survey team submitted to the Electricity Agency of Ecuador a report on overall results of its preliminary survey, and had discussions concerning the basic policy for seismic prospecting to be performed subsequently. Instituto Ecuatoriano De Electrificación wholly approved the proposal of the team and promised to make a formal request to the Government of Japan to perform seismic prospecting, and expressed its earnest desire for assistance from Japan.

The enforcement plan of seismic prospecting is as follows:

- (1) Duration: 90 days in the dry season is required. Fields surveys will take 60 days, and preparation for surveys and arrangement and evaluation of results will take 30 days.
- (2) Number of people required: Japan is to dispatch seven experts comprising of five physicists, one geologist and one geographical surveyor.
- (3) Other than Japanese experts, labor of 1,400 man-days is required. Some 2,500 kilograms of blasting powder is also required for 80 blasting pits.

The scope of the work of the Japanese side includes seismic prospecting performed by dispatched experts, supply of equipment and materials needed for seismic prospecting, and preparation of report on the results of seismic prospecting to be submitted to the Government of Ecuador.

9. Expert on Youth Guidance dispatched to Brazil

As many as 600,000 Japanese immigrants live in São Paulo and other districts of Brazil, mainly engaged in agriculture, cultivating coffee, potatoes, cotton, tomatoes, bananas, peaches, etc. They enjoy a high reputation for having contributed to the agriculture of Brazil by introducing silkworms, tea plants, strawberries, ramies, persimmons, etc. Nowadays, many Brazilians of Japanese descent hold important positions in many fields, such as commerce, manufacturing industry, political world, official world, educational world, etc. On the other hand, the education of second-and-third generation Japanese-Brazilians is now recognized as important, and systematic education of these Japanese-Brazilian is urgently required. The expert in youth guidance was dispatched to Brazil to meet such requirements.

The expert is now working as a member of Conselho de Orientação a Juventude Rural. According to his report, second-generation Japanese-Brazilians for farming do not receive sufficient

school education and vocational training, and the gap of living standards between urban and rural districts is widening. He also points out that it is propitious to transfer the farming business to second-generation Japanese-Brazilians, but the parents' sense of unrest, expectation and anxiety of their children's future present serious problems. As a solution to such problems, he recommends that (1) the system for guiding the youth of farming villages should be integrated, (2) leaders in youth guidance should be sought and trained and youth leadership should be cultivated, and (3) educational facilities should be set up and lectures on farming life should be opened.

10. Expert on International Telecommunications dispatched to Mexico

The Government of Mexico in 1967 desired to have Japan's cooperation in the field of radio, television and telecommunications when Mexico was preparing for the 19th Olympics in the autumn of the following year. Responding to this request, Japan sent out one expert in December 1967 with a term of service of two months.

The expert made surveys concerning the translation in Japan of international telecommunications—distribution of international telecommunications on the Olympic Games to the Far East and South-east Asian countries relayed in Japan—and drafted the documents to invite requests world-wide for international telecommunications.

Direction General de Telecommunication, SCT, was responsible for the international telecommunications for the Olympic Games, but its activities were not performed smoothly. The expert recommended the establishment of a communication headquarters for the Olympics. It is noteworthy that the collect call system is now put in practice through his effort. He held discussions with the Telefono de Mexico (T.D.M.) and earnestly advised the Corporation to contact the International Telegraph and Telephone (I.T.T.) in order to materialize this collect call system.

11. Experts on Erosion Control dispatched to Costa Rica

To help Costa Rica take decisive countermeasures against landslide and dislocation disasters in the environs of Cartago City, caused by the eruption of Mt. Irazu which occurred in 1963, two Japanese experts in erosion control were dispatched to Costa Rica in 1967. They recommended to the Government of Costa Rica decisive countermeasures against landslides. The Government of Costa Rica appreciated their recommendations and earnestly requested Japan to send out two experts anew to implement the recommendations. The major tasks of the two experts dispatched anew with a term of service of six months were to review and deter-

mine anti-erosion work programs and river improvement and landslide prevention work programs, to carry out an aerial survey of the basin of the River Reventazon, to review and determine execution programs and to prepare detail designs.

Having completed the ground plan of the dam site selected by them, the two Japanese experts are now reviewing to determine the program for improvement of the lower reaches of the River Reventazon.

12. Experts on Prospecting for Mineral Resources in Offshore Areas dispatched to ECAFE

ECAFE is conducting Joint Prospecting for Mineral Resources in Asian Offshore of the Republic of China, Korea and the Philippines with the cooperation of Japan, the United States, West Germany, France, the United Kingdom and the Netherlands. To cooperate in this project, Japan has offered assistance in various ways, such as the assignment of two experts to the executive office of ECAFE, some experts of the Colombo Plan to the Philippines, the dispatch of a development survey team to the Republic of China, and the acceptance of trainees from the ECAFE region for this project.

13. Experts dispatched to the Asian Industrial Development Council of ECAFE

A resolution to recommend holding of a symposium on world industrialization and a symposium on regional industrialization preparatory to the world industrialization symposium was adopted at the 37th Conference of the United Nations Economic and Social Council held in 1964. Pursuant to this recommendation, the Asian Conference on Industrialization was held in December 1965 under the promotion of ECAFE for the purpose of (1) reviewing problems of industrialization in countries of the ECAFE region and finding solutions to these problems and (2) promoting regional cooperation in the field of industrialization.

The Conference recognized that it would be necessary for each country to promote harmonious industrialization based on a proper international division of labor, and in connection with it a possibility of industrialization on a regional basis should be studied. Based on this recognition, the Conference recommended to the executive office of ECAFE that surveys should be carried out and concrete plans should be prepared with respect to some particular sectors such as steel, fertilizer and aluminum. They adopted a resolution that a Conference on Industrialization in Asia should be held periodically (once every three years), and an Asian Industrial Development Council should be set up as an executive organ of the Conference. The resolution of the Conference was approved at the 22nd general assembly of ECAFE held in New Delhi in

March 1966, and the permanent existence of the aforementioned Conference and Council officially became effective. The Asian Industrial Development Council had its third meeting in Bangkok from February 12 through 19, 1967. With regard to the Asian industrial development program, Japan dispatched one petrochemical expert to the first meeting of the Advisory group and one fertilizer expert to the meeting of the Action group. To the third meeting of the Asian Industrial Development Council mentioned above, one steel expert, one petrochemical expert and one fertilizer expert were dispatched. In accordance with the decision of the Council, Japan is to dispatch a fact-finding mission with respect to forestry and agricultural machinery in the countries of the ECAFE region.

14. Expert on Small Scale Industries dispatched to ECA (Economic Commission for Africa)

The expert was assigned to the West branch of the ECA (located in Niger). To cooperate in the establishment of the Small Scale Industries Advisory Center decided on by the United Nations Sub-Regional Meeting on Economic Cooperation in West Africa, the west branch of the ECA was engaged in work to prepare for the establishment of the Center in contact with the Governments of Haute Volta, Senegal, Dahomey, Ivory Coast, Togo and Ghana. The Center was to specialize in automobile assembly, manufacture of transistor radios, ceramic ware, steel, glass, etc. The Government of Niger also planned separately to set up factories for cotton-spinning, canning, dairy, sugar and radio assembly and to develop mining resources, and requested the Japanese expert to make feasibility studies. The expert suggested the remote feasibility of these plans except for cotton-spinning and sugar, pointing out the problems of material supply, domestic and overseas market conditions, inland transportation, etc. The results of cooperation extended to the ECA will be evaluated in the future. Japan has received a request from the government of Niger to dispatch a successor to the expert.

15. Experts on Science Education dispatched for Overseas Cooperation in Science Education

Education is one type of technical cooperation extended to developing countries. Following the previous fiscal year, the OTCA carried out cooperation in science education which was entrusted by the Ministry of Education, for the purpose of giving guidance, by demonstration, in methods and substance of science physics and chemistry education to secondary school teachers of developing countries. The details of the dispatch of these educational experts in fiscal 1968 are shown in the following table.

Together with dispatch of these educational experts, science teaching materials, audio-visual aids, tools, glass apparatus, chemicals and housing cabinets amounting to ¥15 million (on the average, ¥3 million per country) were provided

free of charge. These experts achieved such remarkable results and acquired such high reputations that the governments of the recipient countries requested Japan to extend their term of service or send other experts.

Recipient Country	Name of Expert	Duration of Dispatch (6 months)	Place of Work in Recipient Country	Post before Dispatch	Academic Career
Philippines	Ryoji Honda	Feb. 22 through Aug. 21, 1968	Science Education Section, Bureau of Public School	Niigata Prefectural Science Education Center	Faculty of Education, Niigata University
Malaysia	Nobuyuki Morihisa	Mar. 31 through Sept. 30, 1968	Malaysian Teacher's College	Textbook Research Section, Elementary & Secondary Education Bureau, Ministry of Education	Department of Physics, Hiroshima University of Science and Literature
Burma	Yoshimi Oshima	Feb. 22 through Aug. 21, 1968	Institute of Education	Shizuoka Prefectural Education Research Institute	Department of Metals, Tokyo University of Engineering
Pakistan	Eiji Sato	Feb. 23 through Aug. 21, 1968	Abbottabad Public School	Mie Prefectural Science Education Center	Faculty of Education, Nagoya University
Iran	Masao Ono	Mar. 29 through Sept. 28, 1968	Teacher's Training College	Saitama Prefectural Education Center	Science and Engineering School, Waseda University

Section 3. Problems of Dispatch of Experts Abroad

Dispatching of Japanese experts abroad has, as a whole, achieved the results initially expected. These activities have resulted in deeper understanding of developing countries, and the number of requests for the dispatch of experts as well as for the extension of their terms of service has been increasing. But there are some problems in Japan's dispatch of experts abroad.

The major problems are the following:

- (1) Difficulty in selecting sufficient number of qualified experts to meet the increasing demand.
- (2) Systematic support for facilitating the work of during and after then overseas service.
- (3) Grasp of actual conditions under which Japanese experts are requested to perform then overseas assignment.

1. Difficulty in Selecting Sufficient Number of Qualified Experts to Meet the Increasing Demand

Experts dispatched abroad are required to have, besides expert knowledge of his field, first, sufficient language proficiency to give effective technical guidance; secondly, fair and precise judgment to adapt his work under different conditions; thirdly, sympathetic personality; and fourthly, broad understanding of developing countries. In order to secure such qualified and capable experts to respond quick enough to the

requests of developing countries, the OTCA has made intensive efforts to obtain cooperation from public and private sectors and local authorities. From this year it succeeded in setting up a pooled system for returned experts and it is expanding its voluntary registry system for experts who seek overseas assignment. However, it is still difficult to recruit sufficient numbers of qualified experts to satisfy the increasing demands of developing countries. There have been not a few cases where a request from a developing country. There have been not a few cases where a request from developing country was rejected on account of difficulty in recruiting proper experts. The main reasons for hindering the smooth recruitment of Japanese experts are the following three:

- (1) In the event that experts are assigned overseas for a long time, they are obliged to retire temporarily or permanently from their present offices, and thus be in a disadvantageous and unstable position after their return to Japan. This difficulty is increased by full employment situations prevailing in Japan since overseas demands compete with domestic demands:
- (2) Difficulty in recruiting experts having language proficiency:
- (3) Inadequate logistic support for serving abroad, including comparatively low salary-scale, this being a cause of difficulty in long term assignment.

As shown hereunder, about one half of the ex-

perts were recruited from among various national Ministries, and if public corporations and other public bodies are counted, they constitute 71 per cent of the total number of experts dispatched abroad. This statistics suggest that the OTCA should make increasing efforts to stabilize and guarantee the status of returned experts as well as to improve the support for the experts while abroad, also, it should emphasize the importance of government technical cooperation to all organizations and explore the possibility of recruiting more experts for private sectors so as to secure cooperation from a wider source.

Breakdown of Dispatched Experts by Organizations, Fiscal 1967

National Ministries	132 persons
Local Public Authorities	17 "
Public Corporations	77 "
Private Enterprises and Bodies	93 "
Independent Enterprises	24 "
Persons without Regular Occupations	35 "
Total	375 persons

2. Systematic Support for Facilitating the Work of dispatched Experts during and after Their Overseas Service

A. During their overseas service

To ensure smooth and effective activities by dispatched experts, it is necessary that the support for the benefit of dispatched experts should be systematically arranged. As regards this problem, there are strong and concrete requests from dispatched experts.

(1) Improvement of sickness and accident compensation

It has so far been strongly requested that sickness and accident compensation for dispatched experts should be improved, including the widening of coverage. The OTCA's standard for sickness and accident compensation so far covered only on-duty sickness, accident and death of experts, and the coverage of compensation were limited to sickness compensation and accident compensation for the treatment required after the experts return to Japan and survivors' compensation. A new arrangement is now being prepared to supplement such a narrow coverage. The features of the new arrangement are, first of all, to supplement the on-duty sickness and accident compensations which should be given by recipient governments in case such compensation is not given. Secondly, it is setting up a mutual aid system between the experts and the OTCA so as to extend the coverage of compensation to off-duty sickness, accident and death and to cover the cases of family members.

(2) Payment of local duty allowance

Expenses for local surveys, purchase costs of data collected locally and social expenses required for performing duty such as intercourse with officials of a recipient country, all of which are necessary for the efficient performance of technical guidance by experts in their dispatched countries, were so far borne by the experts privately. It is being planned that certain parts of these expenses should be borne by public fund in order to help experts carry out more effective activities.

(3) Payment of travelling expenses in dispatched countries

In certain countries, local travelling expenses of experts as well as counterpart personnel who work with the experts are paid by the experts themselves. Such conditions will adversely affect the morale of experts and hinder effective performance of technical cooperation. This problem must be solved through the cooperation and self-help efforts of recipients of aid.

(4) Home-leave system for experts and their families

Home-leaves for liaison with the relevant organizations in Japan, improvement of techniques developed in Japan while serving abroad, and health consultation were only approved of the fare for trip to Japan and back was borne by the experts. An improvement is made in 1969 since experts with more than three-year's service is entitled to receive the fare for a round trip in the middle of his term of service.

B. After their overseas service

One of the main reasons for difficulty in selecting qualified experts, mentioned at the beginning of this Chapter, lies, among others, in the unstable position of experts after their return to Japan. To rectify this situation, two new measures are introduced, i.e. pooled experts system and livelihood assistance system for returned experts. The pooled experts system is to pool at OTCA the experts whose technique and field are in high demand for a period of six months. The qualifications for pooled experts are that he must have excellent technique, fine health and is expected to achieve good results when dispatched abroad again. The merit of this pooled system is that it secures a number of excellent experts who can respond to the requests of developing countries at any time, compared with the time-consuming method of looking for an available expert all over Japan when a request is submitted for an export. The livelihood assistance system is designed to pay allowance to a returned expert for a certain length of time depending on the length of service abroad if this expert cannot return to his former employment after returning to Japan and continues to remain unemployed.

3. Grasp of Actual Conditions under which Japanese Experts are Requested to Perform Their Overseas Assignment

Japan has dispatched 1,478 experts abroad (as of March 31, 1968) since she started to undertake assignment of experts abroad, and the experts thus dispatched have achieved remarkable results in their respective posts. To ensure proper selection of experts as well as effective performance of their duties abroad, it is necessary that full-scale prior survey should be made as to the backgrounds of requests of recipient countries and relations between assigned objectives and the economic development programs of recipient countries. Also, in order to improve logistic support for the assigned experts, increasing attention should be paid to the relationship between the project of Japanese experts and the projects under third country assistance, particular results expected by recipient governments for our experts, details of nature and scope of requests, conditions prevailing and system of acceptance in recipient countries. Such surveys have not often been fully made, and experts have been dispatched before the nature, backgrounds, objectives and other relevant information of requests were fully grasped. Ample analyses are

also required on country basis for effective cooperation suitable to each of the development, on account of different historical backgrounds and levels of economic development, abundance or scarcity of natural resources, different compositions and number of population, different religions and different systems of education and culture.

On the other hand, to ensure more effective and smooth performance of technical cooperation by dispatched experts, it is necessary that the work of each experts should be properly grasped and supported by recipient countries and be geared closely with their domestic development plan.

It is of vital importance that the recipient authorities and the Japanese authorities should have closer consultations for the efficient coordination of various supports to be given for the dispatched experts. On-the-spot surveys of the actual conditions under which the experts are carrying out their local duties and the study of their living conditions must be more thoroughly made. Concerning these points, there are earnest requests to the OTCA from dispatched experts as well as the Japanese embassies to send more staff of the OTCA for regular visits and for opening up the offices of OTCA abroad.

CHAPTER 3 EQUIPMENT SUPPLY PROJECT

Section 1. Outline of Equipment Supply Project

This project is a new scheme of assistance combining the donation of equipment with the services of experts which is designed for the effective performance of technical cooperation and is conducted since 1964. In 1967 OTCA selected certain projects for cooperation out of 57 requests, equivalent in value to ¥1,290 million, since the number of requests was so great.

The objectives of selected projects were aimed to help Japanese experts and cooperation volunteers to effectively carry out their activities, to ensure guidance in the recipient countries after the return of experts, and to enable the returned trainees to put into practice in their own countries skills and knowledge they acquired in Japan. As a result, 11 sets of equipment were supplied to 11 countries, including power tillers to Bhutan (See Table).

As follow-up measures for the experts who have completed their assignments, following items of equipment were donated: agricultural equipment including power tillers to Bhutan; radio and tele-

vision servicing equipment to Singapore; agricultural equipment including power tillers to East Pakistan; language laboratory system to Thailand; marine diesel engines and fishing nets to Kenya; irrigation pumps to Bolivia; equipment for machinery and automobile servicing to El Salvador; fresh-water fish research equipment to Iraq; and equipment for veterinary research to Syria.

Among these equipments language laboratory system to Thailand, agricultural machinery including power tillers to East Pakistan, radio and television servicing equipment to Singapore and fresh-water fish research equipment to Iraq were supplied with an aim of offering following up measures to the returned trainees. Meanwhile, supply of marine diesel engines and of fishing nets to Kenya was aimed at following up cooperation volunteers. In addition, a simultaneous translation system was supplied to the Government of Burma when it sponsored the 18th Meeting of the Colombo Plan Consultative Committee. Supply of agricultural machinery including power tillers was made to Rapti Agricultural Center in Nepal which is receiving the cooperation of the Tokyo University of Agriculture.

Section 2. Example of Equipment Supply

1. Simultaneous Translation System Supplied to Burma

Japan provided this system to Burma to cooperate with the 18th Meeting of the Colombo Plan Consultative Committee. Other countries also cooperated willingly with this Committee. Australia supplied twenty automobiles and Canada and the United Kingdom dispatched teams of translators and typists, for example.

Two experts dispatched from Japan together with this system provided further training to six Burmese electronics engineers who had returned to Burma after trained in Japan, so that they could operate and maintain this system.

2. Agricultural Equipment Supplied to Bhutan

Japan sent out an expert in agriculture and horticulture at the request of the Government of Bhutan in 1964. This expert, who has had his term extended twice, at the strong request of the Bhutanese Government, is scheduled to stay for the total period of five years. He is engaged in planning and directing the overall agricultural development in Bhutan as Deputy Director of Agriculture Development Wing, Royal Government of Bhutan. It is noteworthy that he has introduced Japanese agricultural methods into Bhutan and has completed the Paro Bonde Farm, where he is training five Bhutanese to succeed his role before handing over the Farm to Bhutan.

The main crop of Bhutan is water-field rice, and the agricultural equipment including power tillers supplied by Japan was needed for the improvement of water-field rice cultivation.

3. Agricultural Equipment Supplied to Nepal

Placing special emphasis upon agriculture, the Government of Nepal is making efforts in disseminating and improving agricultural techniques for modernization of the agriculture of the country. The Yagyapuri Agriculture Center in the Rapti Valley District was jointly established by the Tokyo University of Agriculture and the Government of Nepal, the former providing the Center with technical experts with the latter furnishing land, building and local staffs.

The center succeeded in cultivating wheat in 1965 through 1966 where they had had difficulty before, and has also achieved good results through guidance in improvement of agricultural equipment, selection of the breeding of wheat and the second crop and protection of wheat from blight and harmful insects and what not.

With the agricultural equipment supplied by Japan this time, the Department of Agriculture Extension, Nepal Government is planning to use the Agricultural Center for demonstration of agricultural equipment and to make the Rapti District the

base for extension and development of agriculture throughout the whole country.

4. Agricultural Equipment Supplied to East Pakistan

Japan's agricultural technical cooperation with East Pakistan started in 1965 when Japan dispatched four experts on rice growing to the Gouripur District.

The Central Government of Pakistan adopted a plan to establish academies at Peshawar in West Pakistan and Comilla in East Pakistan, and later in 1960, the Government designated the entire Comilla District as a pilot district. At the request of the Government of Pakistan, Japan transferred the four Japanese experts from Gouripur to Comilla, who established a foundation of development and demonstration method, which is now called the "Comilla Method." Since then, a total of twenty-one experts have been dispatched from Japan.

Now, six years after the academies were opened, the achievements made by these Japanese experts are held in high esteem. Farms that have adopted Japanese improved agricultural methods reach some 2,000 in number, 5,000 acres in area under cultivation.

In recognition of this achievement, the Government of Pakistan requested further cooperation from Japan in setting up another seven academies of this kind, three of which were accepted by Japan and two experts were dispatched to each of Nator, Gaibandha and Gouripur. Another six experts were dispatched this year to succeed them.

The agricultural equipment supplied by Japan will make more fruitful the results of Japanese experts in the four districts, namely Comilla, Gouripur, Nator, and Gaibandha.

5. Radio & Television Servicing Equipment Supplied to Singapore

In 1961, the Government of Singapore launched its 1st Five Year Plan with a view to promoting industrialization and materializing social welfare. Industrialization, a policy with top priority, is now being promoted especially by the Economic Development Board which was started in 1961. In enforcing the plan, the supply of engineers as well as the planning of industrialization programing and fund planning has become very important, and efforts are being made to better vocational training.

Technical training in this country is being carried out at three organizations, Singapore University, Singapore Polytechnic, and Singapore Vocational Institute.

Japan's technical cooperation for Singapore in the field of vocational training has been made in the form of sending three experts to Singapore Polytechnic and in receiving four trainees in 1961.

The Singapore Vocational Institute, to which we

supplied equipment at this time, is under the Ministry of Education. The Institute, with 1,400 students in eight departments such as construction, machinery, electronics and radio-T.V. is aimed at augmenting practical technicians. A Japanese expert in the radio and T.V. engineering is now staying at the radio and T.V. servicing department of the Institute.

6. Language Laboratory System Supplied to Thailand

Japan supplied this system to the Language Training Institute of the Department of Technical and Economic Cooperation (DTEC) in Thailand. DTEC is the authority in charge of accepting foreign aid in Thailand, and has been conducting language training at the above Institute for trainees to be dispatched on a government basis to Japan and other countries under the Colombo Plan, etc.

A total of 1,238 trainees have been accepted by Japan in such fields as forestry and agriculture, fishery, postal service, and national health and welfare since Japan started her undertaking of accepting foreign trainees. In 1967, 131 trainees were accepted.

A Japanese language expert is now staying at this Language Training Institute under the Colombo Plan, and the supply of this system also serves as a follow-up measure to his activity.

7. Fishing Net and Marine Diesel Engine Supplied to Kenya

The Fisheries Department, the Government of Kenya plans to explore its coastal marine resources and to promote its ocean fishery in cooperation with a newly established Kenya Inshore Fisheries Limited. Two Japanese fishery experts who are currently staying at the Mombasa Branch of the Fisheries Agency under the Technical Cooperation Program for Near-Middle East and Africa are engaged in advising on fisheries and fishing implements as well as in conducting on-board surveys of fishing grounds. Shrimp trawl nets and marine diesel engines were supplied to the Fisheries Department, Ministry of Tourism and Wildlife, Government of Kenya.

8. Fisheries Research Equipment Supplied to Iraq

Japan extended technical cooperation to Iraq in the field of fisheries by sending out an expert on an eight-month term under the Technical Cooperation Program for Near-Middle East and Africa in December 1966, while accepting the Director of Research Station for the Sea Fish in the South as a high-level trainee in 1967.

Fisheries research equipment proved to be an effective follow-up to the dispatch of the Japanese expert. This supply was also very timely done in that it showed Japan's eagerness to cooperate with

the Government of Iraq which had been consistently demanding that the Japanese Government should rectify unbalanced trade between the two countries.

9. Veterinary Research Equipment Supplied to Syria

The equipment supplied at this time is indispensable to the basic research on poultry, cattle, horses and pigs in Syria whose economy is largely dependent upon the livestock industry. The supply of this equipment is meant for more efficient performance of technical cooperation coupled with the activities of experts and trainees mentioned below.

Technical cooperation with Syria in the field of veterinary has been conducted in sending out experts and receiving trainees. Since 1964, under the Technical Cooperation Program for Near-Middle East and Africa, three experts have been dispatched to Syria who are shortly to be replaced by their successors. Besides, one expert from F.A.O. of the United Nations and six other experts on a private contract basis are now staying in the country.

Japan's technical cooperation with Syria whether on government or private basis, has been extended especially in the field of livestock sanitation at the request of the Government of Syria. The Japanese experts are engaged in extension and research activities in and around Veterinary Laboratory Bob-Shurki Damascus, Syria and eleven local livestock experiment stations in the country.

10. Irrigation Pump Supplied to Bolivia

Irrigation pumps were supplied to facilitate irrigation of a 50-hectare training field and a 170-hectare orchard in the Vivero Nacional de Frutales "San Benito" de Cochabamba, Bolivia. One Japanese expert in fruit growing has been assigned to this station. The success of fruit growing is dependent on the irrigation, and rain, river and well water are currently utilized in this orchard. But the desired results are not attained for want of facilities, and the irrigation in the dry season poses a serious obstacle to the technical guidance by the expert. The use of river water involves such a difficult problem as adjustment of irrigation rights with farmers of neighboring districts, a state which has sometimes developed into disputes.

11. Equipment Supplied to Machinery and Automobile Serving Section of Instituto Técnico Industrial, El Salvador

Since 1962, seven experts have been assigned to electronics, radio and T.V. automobile, machinery and other sections of the Instituto Técnico Industrial. Among the seven experts, three are currently staying in the country.

Since the start of the Central and South Amer-

ican Common Market in 1958, El Salvador has always played a leading role among the member countries on account of her geographical condition, density of population, and industrial development. The industries of El Salvador have developed along with the recent remarkable progress of the Common Market.

Faced with the fast growing demand for medium-class engineers for her industries and with the increasing expectations of other member countries for her cooperation, the Government of El Salvador has realized anew the importance of the School of Industrial Technology which was originally established to meet such requirements. The Government of El Salvador earnestly requested Japanese experts to take active roles in establishing the system of educating engineers and has appointed Japanese experts in automobile machinery as advisors

to the Ministry of Education, or as honorary president of the School of Industrial Technology. A large-scale expansion plan of the school including the extension of the building to accommodate more trainees has been laid out by the Ministry of Education which is the competent authority. A part of the plan is now being executed. As to teachers and teaching materials cooperation by Japan was expected. To respond to this expectation Japan supplied the equipment.

Section 3. Problems of Equipment Supply

Regarding the problems of equipment supply, an increase of the budget should be taken up in the first place. The current budgetary appropriation of ¥50 million is too small in the absolute amount compared with the sum requested by developing countries. An international comparison also indi-

Equipment in Assistance Fiscal Year 1967

No.	Country	Item of Equipment	No. of Units	Supplied to and Outline of Requests
1	Burma	Simultaneous Interpretation System	1	Ministry of National Planning, Burma Requested for 18th Meeting of the Colombo Plan Consultative Meeting
2	Bhutan	Power Tillers & Agricultural Machinery	1	Agriculture Development Wing, Government of Bhutan Follow-up to agriculture and horticulture expert
3	Nepal	Power Tillers & Agricultural Machinery	1	Department of Agriculture Extension, Nepal Government Follow-up to Rapti Agriculture Center which has the cooperation of the Tokyo University of Agriculture
4	East Pakistan	Power Tillers & Agricultural Machinery	1	Ministry of Agriculture, East Pakistan Follow-up to returned trainees and Japanese experts in Comilla, Nator, Gaibandha, and Gouripur
5	Singapore	Telereceiver, oscilloscope, etc. (Radio & Television Servicing Section)	1	Singapore Vocational Institute Follow-up to T.V. experts and returned trainees
6	Thailand	Language Laboratory System	1	Language Training Institute in DTEC, Thailand Follow-up to Japanese language experts & Japanese language training to those who are scheduled to study in Japan
7	Kenya	Shrimp Trawl Net & Marine Diesel Engine	1	Fisheries Department, Kenya Government Follow-up to fisheries experts and cooperation volunteers
8	Iraq	Salinomer & Fisheries Research	1	Research Station for the Sea Fish in the South in Iraq Follow-up to fisheries experts and returned trainees
9	Syria	Veterinary Research (Gaschrometer, microscope, artificial incubator, etc.)	1	Veterinary Laboratory Bob-Shurki, Damascus, Syria Follow-up to livestock sanitation experts
10	Bolivia	Irrigation Pump	1	Vivero Nacional de Frutales "San Benito" de Cochabamba, Bolivia Follow-up to fruit growing experts
11	El Salvador	Lathe, chassis, lubricator, machine tool, etc. (Machinery and Automobile Servicing Section)	1	Instituto Técnico Industrial, El Salvador Follow-up to machinery experts and automobile servicing experts

cases that Japan's budget per equipment is very small. Since 1964 up to this year, 57 requests amounting ¥1,299 million have been submitted from developing countries. How to carry out equipment supply projects most effectively with this limited budget of ¥50 million is the most difficult problem to the OTCA. From this standpoint, the OTCA has been concentrating its effort on the combination of the "man and material" idea through supplying of equipment as a follow-up to Japanese experts to bring about greater achievements. However, because of budgetary limitation, Japan can satisfy only a portion of the requests in terms of money, number of cases and number of requesting countries. It is impossible to fully respond to the sincere requests of so many developing countries.

It is of urgent necessity to realize an increase of the budget, strongly urged both in Japan and abroad. With current budget it is impossible to perform activities needed to make the projects effective, such as aftercare services pertaining to equipment supply and assignment of experts for instructing installation and operation.

Together with an increase of the budget, it is urgently required to establish a system in which a good performance of follow-up activities including supply of spare parts are ensured, and technical experts to guide in the operation and maintenance of equipment can be assigned without difficulty, a step which will improve equipment supply qualitatively.

With a view to performing effective equipment supply by the combination of "man and material," cases where Japan responds to requests are determined after carefully reviewing the background of requests, purpose of supply, and technical level of the recipient countries.

It is necessary to conduct an extensive on-the-spot pre-investigation in order to accurately grasp the detailed specifications of equipment to be supplied, place of installation, relation of equipment supply to experts and trainees and to the development programs of recipient countries. Evaluation after supply of each item of equipment should also be conducted so as not to make our assistance unfruitful.

CHAPTER 4

OVERSEAS TECHNICAL COOPERATION CENTERS

Section 1. Outline of Overseas Technical Cooperation Centers

Overseas Technical Cooperation Centers are established with a view to provide training, in the recipient countries, to technical experts, especially of medium level, who are needed in the developing countries, and to demonstrate advanced Japanese techniques. Overseas technical cooperation centers are the largest-scale project among various forms of Japan's technical cooperation and is highly appreciated and anticipated by the recipient countries. The requests for these centers, which are incorporated as a part of the development programs of the governments concerned, vary in contents according to their policies and industrial conditions. For example, the Virus Research Institute in Thailand and the Telecommunication Research Center in Pakistan are aimed at research, and the Agricultural Demonstration Farms in India was originally meant for demonstration. The functions of technical training centers are also varied and can be briefly classified as follows; centers which carry out production together with training, such as the Training Center for Small-Scale Industries in Afghanistan, those which are aimed at training entrepreneurs for small-scale industries, such as the Training and Research Center for Small Scale In-

dustries in Kenya, and those which carry out actual road construction during the training process, such as the Technical Training Center for Road Construction in Thailand, as well as those which carry out prototype production together with training such as the Prototype Production and Training Center in Singapore.

As part of the development programs of the countries concerned, these centers are playing an important role. Especially those centers that have been established recently have come to play an increasingly important role in recipient countries; such as the Training and Research Centers for Small-Scale Industries in Kenya and the Technological and Development Center for Cottage and Small-Scale Industries in Philippines, aiming at training entrepreneurs for small-scale industries as an integral part of government policy for the promotion of small-scale industries, and the Prototype Production and Training Center in Singapore aiming at structural improvement of thousands of small-scale enterprises, which are vital to Singapore's industrialization policy.

Several centers are established every year, and there are 26 of these centers, already in operation or planned with worksites at 34 different places. The area covered has been extended from the

Asian region to the Near-Middle East, Africa, and Central and South America.

These centers are established by agreement with the governments of the countries concerned. Based on this agreement, Japan provides the recipient countries with necessary equipment, machinery, teaching material and tools, while she sends out technical experts, and receives counterparts technicians for training at Japan's expense. On the other hand, the recipient country furnishes the land and buildings required, together with ancillary facilities, bearing the maintenance and management expenses including personnel expenses of local staffs. Through such joining cooperation, these centers are established and managed.

They are to be handed over to the recipient country after expiry of the duration of the agreements which is in principle, three years. However, this period is often extended, and even after transfer to the recipient country, the assignment of Japanese experts may be continued in order to ensure satisfactory operation. For example, five centers, for which the cooperation period expired in 1965, and one center expired in 1966 have been receiving Japanese experts even after handing over of these centers.

The Fisheries Training Center in Ceylon and the Training Center for Small-Scale Industries in Afghanistan were completely transferred to the recipient countries in fiscal 1967.

The cooperation periods of the Agricultural Demonstration Farms in India which was established under the first agreement, and the Marine Products Processing Training Center, also in India, expired in April and June 1967, respectively. The former was handed over to India, of which the Surat Farm and Shahabad Farm were later developed into agricultural extension centers and are scheduled to receive further cooperation from Japan under a new agreement. To the latter, the assignment of Japanese experts is being continued under the Colombo Plan.

Overseas Technical Cooperation Centers in Fiscal Year 1967

Vocational Training Institute in Uganda and the Agricultural Extension Center in India are scheduled to be newly established. As to the Telecommunication Technical Training Center in Mexico (Escuela de Capacitacion en Comunicaciones Electricas), the Kyung-Puk Institute of Technology in Korea, and the Prototype Production and Training Center in Singapore, Japan carried out necessary work for the establishment with the budget including the sum brought forward from fiscal 1966.

On the other hand, Japan expanded and strengthened some of the existing centers such as the Telecommunication Research Center in Pakistan, Tech-

nical Training Center for Road Construction in Thailand, Technological and Development Center for Cottage and Small-Scale Industries in the Philippines, Training and Research Center for Small-Scale Industries in Kenya, Agricultural Demonstration Farms in India, and The Agricultural Technical Center and The Livestock Breeding Center in Cambodia.

(1) Centers to be newly established

1) Vocational Training Institute in Uganda

Ardently wishing to promote modernization and industrialization of the country, Uganda is making efforts especially in promoting the small-scale industries, and in fostering skilled workers. At the strong request of the country, Japan decided to establish a training center for small-scale industries and sent out an implementation survey mission in October 1967 which, for about a month, conducted an on-the-spot survey and had discussions with officials of Uganda.

Based upon the findings of this survey team, a design for the center's building was drawn, while purchase and transportation of machinery, and assignment of staffs are to be executed in fiscal 1968, as soon as arrangements, including budgetary appropriation, to receive them have been completed by Uganda.

2) Agricultural Extension Centers in India

Since the four Agricultural Demonstration Farms under the first agreement proved successful in obtaining the desired results, the Government of India requested Japan's continued cooperation, being desirous of promoting her agricultural production by means of extension of agriculture.

After a field survey and discussions with officials of the Indian Government were conducted by a survey team sent out in March 1967, the establishment of agricultural extension centers at two different places was agreed upon. The agreement for the establishment of the centers was signed on March 5, 1968, but it was impossible for Japan to start necessary work for the establishment in the fiscal year of 1967. Therefore, Japan plans to carry out the purchase and dispatch of equipment and assignment of experts in fiscal 1968.

3) Telecommunication Technical Training Center in Mexico (Escuela de Capacitacion en Comunicaciones Electricas, Mexico)

The agreement was signed on July 25, 1967. Under this agreement, Japan executed in the same year the purchase and dispatch of microwave equipment and dispatched necessary staffs.

4) Kyung-Puk Institute of Technology in Korea

The agreement was signed on October 25, 1967. Under this agreement, Japan effected in the same year the purchase and dispatch of the equipment for three sectors of mechanical processing, chemis-

try and casting.

5) Prototype Production and Training Center in Singapore

The agreement was signed on October 15, 1966. In 1967, based upon this agreement, Japan execut-

ed the purchase and dispatch of equipment for mechanical processing, tool metal pattern and others, and dispatched necessary staffs.

(2) Expansion and Strengthening of Centers

1) Telecommunication Research Center in

Name of Overseas Cooperation Center	Agreement Signed	Date Established	Expiry Date of Cooperation under Agreement	Remarks
Technical Training Centre for Textile Industries in Brazil	Mar. '62	July '62	July 22, '70 (schedule)	Dyeing sec. was added in '68
2nd. Agricultural Demonstration Farms in India	Dec. '64	Apr.-June '65	Apr.-June '68	Demonstration, Training of farmers, etc.
Textile Training Centre in Ghana	May '63	Feb. '67	May 23, '70	1st period training is being conducted
Telecommunication Research Centre in Pakistan	Nov. '63	July '64	June 30, '69	2 years extension done, additional equipment supplied
Training and Research Centre for Small-Scale Industries in Kenya (Kenya Small Scale Industry and Research Centre)	July '64	Apr. '66	July 25, '70	2 years extension scheduled, 3rd period training is being conducted
Technical Training Centre for Road Construction in Thailand	Nov. '64	Apr. '65	Nov. 15, '68	Completion of 52 km road by end of Nov. '68 scheduled, additional equipment supplied
Technological and Development Centre for Cottage and Small-Scale Industries in the Philippines	Sept. '66		(expiry of agreement) Sept. 8, '70	9 persons dispatched, preparations for establishment are on
Prototype Production and Training Centre in Singapore	Oct. 15, '66		Oct. 14, '70	11 persons dispatched, preparations for establishment are on
Telecommunication Technical Training Centre in Mexico	July 25, '67	Dec. '67	(expiry of cooperation) Dec. 4, '70	8 persons dispatched, established on Dec. 5, '67
Agricultural Technical Centre in Cambodia	Oct. '66		Sept. 30, '69	Equipment supplied under expansion program
Livestock Breeding Centre in Cambodia	Oct. '66		Sept. 30, '69	Equipment supplied under expansion program
Medical Centre in Cambodia	"		"	"

Name of Overseas Cooperation Center Transferred	Agreement Signed	Date Established	Expiry Date of Cooperation Period under Agreement	Number of Instructors	Experts under Colombo Plan
Agricultural Training Centre in Pakistan	July '60	Sept. '60	July 29, '65	7	4
Telecommunications Training Centre in Thailand	Aug. '60	Jan. '61	Aug. 23, '65	10	6
Fisheries Training Centre in Ceylon	Mar. '61	Oct. '62	Sept. 19, '65	8	3
Training Centre for Small Scale Industries in Iran	Sept. '60	Aug. '63	Sept. 11, '65	8	5
Training Centre for Small Scale Industries in Afghanistan	Mar. '61	Aug. '63	Sept. 14, '65	8	4
Virus Research Institute in Thailand	Nov. '61	Feb. '63	May 24, '66	4	4
Agricultural Demonstration Farms in India	July '62	Aug.-Nov. '62	Apr. 22, '67	16	0
Marine Products Processing Training Centre in India	Mar. '62	Dec. '63	June 30, '67	7	4

Pakistan

Japan supplied additional equipment including telegraph, telephone and transmission equipment apparatus for the expansion of this center.

2) Technical Training Center for Road Construction in Thailand

Japan supplied additional equipment for asphalt pavement, and spare parts for periodical maintenance, etc.

3) Technological and Development Center for Cottage and Small-Scale Industries in the Philippines

Japan supplied additional equipment including steam-hot press for bamboo works and center lathe.

4) Training and Research Center for Small-Scale Industries in Kenya

Japan supplied supplementary equipment and spare parts.

5) Agricultural Demonstration Farms in India

Japan supplied supplementary equipment and spare parts.

6) Agricultural Technical Center and Livestock Breeding Center in Cambodia

Japan supplied additional equipment such as tractor, agricultural machines, agricultural medicines, fertilizer, cowhouses, pens, etc.

(3) Transfer of Centers

In fiscal year 1967, Japan transferred to India the management of the Agricultural Demonstration Farms and Marine Products Processing Training Center at the expiration of the cooperation periods under the first agreement. As for the Marine Products Processing Training Center, however, India was not yet ready to take over the whole management and, accordingly, even after the expiry of the cooperation period, Japan decided to continue her cooperation under the Colombo Plan for another two years and dispatched four experts.

(4) Assignment of Staffs

In fiscal year 1967, Japan assigned staffs to 17 centers. The number of staffs assigned was 188.

Section 2. Outline of Centers

The Overseas Technical Cooperation Centers can be classified into two categories, one is composed of those established by Japan under bilateral agreement with the governments of developing countries, and the other those established by Japan, jointly with other countries, under multilateral agreement with the governments of the countries concerned. Japan has so far adopted the former, bilateral type, and the Southeast Asian Fisheries Development Centre which has just been established is the first example of the latter type.

Centers under Bilateral Agreement

(1) New Centers in Preparation

1) Kyung-Puk Institute of Technology in Korea

The Government of Korea is making efforts to

train middle level technicians, as a part of her 2nd Five Year Plan for economic development. At the request of the Government of Korea to establish the center needed for this purpose, Japan sent out an implementation survey mission to hold talks with officials of the Korean Government and the people concerned on the details of setting up and managing the center.

Being attached to Yeungnam College in Taegu City as the Institute of Technology, this center is expected to conduct training and guidance in three sectors, mechanical processing (sheet metal, welding, forging, and others), chemistry (analysis), and casting, which are vitally needed in Korea. Having 30 trainees who are either graduates of high school or those with higher competency, in each department for a term of two years, the center will qualify them for graduation from Primary College (equivalent to Japan's Junior College).

On October 25, 1967, the official documents were exchanged between the two countries. Japan sent out in August 1968 the staffs prior to the opening of the Institute on October 30, 1968.

2) Vocational Training Institute in Uganda

As for Vocational Training Institute in Uganda, President Obote of Uganda requested Japan's cooperation for its establishment, when he met Prime Minister Sato during his visit to Japan in 1965. Japan decided to extend cooperation for the establishment.

An implementation survey mission consisting of five experts was sent out in October 1967, for about a month. As a result of the survey, it was decided that the center should grant to the trainees, as one of the objectives of training, a new certificate of qualification called Super-G 1, superior to the Grade 1 certificate which is the proof of highest technical attainment in Uganda. To extend cooperation in constructing the building of the center, Japan completed drawing of the basic plan in March 1968, and submitted it to the Government of Uganda.

The agreement on the center was signed on June 28, 1968, and six training departments such as machining, machinery fitting, welding and flame cutting, sheet metal working, electrical fitting and electrical wiring, and motor vehicle mechanics (automobile) to be established in the center. And ten experts are scheduled to be dispatched from Japan.

The trainees are, as a rule, employed workers who are recommended by their employers. As the industrial conditions of Uganda make it difficult for the employer to send employees to the center for a long period, it is planned to introduce the so-called sandwich system to give to a trainee 6-month training twice with a certain period of

interval.

Since Uganda is a country situated remote from the shore, it was agreed that inland transportation cost of the equipment between Mombasa and Kampala was to be borne by Japan.

3) Agricultural Extension Centres in India

Each of the four farms under the first agreement concerning the Agricultural Technical Center attained the purpose initially intended, and in April 1967, at the expiration of the agreement, Japanese staff returned to Japan after they transferred the management to India.

Prior to the expiry of the agreement, India requested Japan's continued technical cooperation at some of the farms.

Considering that the farms had achieved the desired results as demonstration farms, and realizing the necessity to go to the next stage of carrying out extension work to the farmers, the Japanese Government decided to extend further cooperation by reorganizing them into agricultural extension centers.

After several negotiations, two places were chosen for establishment of extension centers, namely, the Surat district in Gujarat province, and the Shahabad district in Bihar province. On March 5, 1968, the agreement for the setting up of these centers was signed between the Japanese and Indian Government.

Under this agreement, Japan is to supply the necessary experts and equipment, to train Indian agricultural specialists and leaders of farmers, and to conduct field tests and demonstrations, aiming at spreading and improving more economical methods in rice-cultivation. These Agricultural Extension Centers are to be managed by Indian personnel, and the main duty of Japanese experts is to give advice to the Indian personnel.

The Japanese staff assigned to each center is to be comprised of about four experts in cultivation, soil and fertilizer, and agricultural equipment, etc., one of whom is to be appointed as a chief advisor. These experts are scheduled to be dispatched in fiscal 1968 as soon as possible after they have received orientation in the form of language training and technical training.

(2) Centers under Cooperation

1) Technical Training Center for Textile Industries in Brazil

At the request of the Government of Brazil, a survey team consisting of four experts was sent out in June 1961. As a result, it was decided to set up a technical training center for textile industries in Recife City in the northeastern part of Brazil. The agreement to this effect was formally signed in March 1962.

Under the agreement, Japan donated equipment and sent out six technical experts including the

Director of the center in August 1964, while several Brazilians of assistant professor rank were invited to Japan for training.

By August 1964, purchase and dispatch of equipment to be supplied, training of Brazilian assistant professors in Japan, and selection and assignment of suitable Japanese staffs, etc., were completed. In July 1965, the center was opened provisionally.

The northeastern part of Brazil, which produces excellent raw cotton and has the cotton industry as its basic industry, was suffering from extremely low productivity, although the labor conditions and consumption market were favorable to the industry. To overcome this difficulty, Superintendencia do Desenvolvimento do Nordeste (SUDENE) laid out the reorganization program of the cotton industry, and set itself to revive the industry by furnishing funds for overall replacement of machinery equipment, training technicians, and modernization of management.

Under supervision of SUDENE, and as one of the training facilities of SENAI (vocational training institute in Brazil), this center was aimed at augmenting medium-class technicians by retraining of those who have a foreman's rating in maintenance and operation techniques of factory as well as quality control techniques for the cotton spinning industry. For this purpose, the center was scheduled to carry out the 6-month training for 40 trainees in courses such as blowing and carding, combing, drawing and roving, spinning and twisting, preparing of weaving, weaving, and testing and quality control. However, the first period training was conducted only in the automatic loom course for four months and a half from August 1965, with the participation of 14 trainees of foreman class from the private sector, since the machinery installation and the building were only partially completed. In the second period training, which covered five courses, namely, blowing and carding, drawing and roving, preparing of weaving, weaving and automatic loom, 50 trainees participated for four months. The third period training was given to 34 trainees for four months and a half from August 1966, and the fourth period to 55 trainees from February 1967, and the fifth period to 28 in five courses (Aug.—Dec. 1967). At present, the sixth period training is being given to 33 trainees.

In the meantime, the textile industry in the northeastern part of Brazil saw remarkable development. Under the circumstances, there has been an increasing demand for the center to conduct not only the training of foremen but also higher technical training such as dyeing and final processing, and testing. To meet demand of Brazil for the modernization of its cotton industry, Japan pro-

vided the center with a laboratory course as a special training course. In 1967, Brazil requested Japan to set up a dyeing and final processing course, which Japan agreed to study.

Since the cooperation period under the agreement to expire in July 1968, Japan plans to extend it by two years, at the strong request of the Brazilian Government. At the same time, Japan plans to respond to the aforementioned request of the Brazilian Government for cooperation in establishing the dyeing and final processing course which has been needed for the textile training center.

2) Agricultural Demonstration Farms in India

(a) Four Farms under the first Agreement

India considered it important to promote the development of her agriculture, in order to solve the serious food shortage problem, and mapped out a series of food increase programs including a regional plan for intensive farming. In this connection, India requested Japan to cooperate in setting up model farms based upon Japanese rice-cultivation techniques. At this request, Japan dispatched an implementation survey mission in November 1961, and after the field study, four places, Nadia district in West Bengal province, Sambalpur district in Orissa province, Shahabad district in Bihar province, and Surat district in Gujarat province, were determined as sites for model demonstration farms. The agreement was formally signed in April 1962.

Under this agreement, Japan donated equipment such as farming implements, experimental appliances and observation and mensuration instruments and dispatched 16 rice-cultivation experts, namely four for each farm.

In the first year, the centers produced crops two or three times higher in yields than ordinary farms in India. As the success was often reported in newspapers, many people are paying visits there for inspection.

As the initial agreement for the center was to expire in April 1965, India requested Japan to extend the agreement and to conduct training for general farmers, as well as to give demonstrations in each of the centers. Responding to this request, Japan agreed to extend it for another two years, until April 1967, while donating additional equipment to carry out extension and training.

In the fifth year, some of the farms realized a splendid crop, more than four tons of rice in the husk per acre by introducing Formosan variety.

The other farms also showed the superiority of the Japanese rice-cultivation techniques by raising crops averaging 1.5 to 2 tons, three or four times as much as those ordinarily produced in India.

Meanwhile, at the request of the local governments, each farm decided to start training farmers on a full scale to disseminate rice-cultivation

techniques. Farmers trained on these farms totaled more than 1,300 up to March 1967. At Nadia Farm, farmers were trained how to handle farming implements, especially the pump-driver. At Sambalpur Farm, training in rice-cultivation techniques was given to Agricultural Extension officers, personnel in charge of improved method extension (Village Level Workers), of the provincial government, as well as to general farmer (cultivators). At Shahabad Farm, farmers were trained in cooperation with agriculture schools. At Surat Farm, model farmers were designated and the guidance was conducted for Ashram (a kind of public technical school) and agriculture schools. Thus, each of the farms conducted training in its most proper way.

Prior to the expiry of the agreement in April 1967, Japan dispatched survey team to conduct, for a month from March 10 of that year, to work out a future cooperation policy. Both parties acknowledged that the center had obtained its desired results in demonstrating the Japanese rice-cultivation techniques and agreed that India should manage it independently. In April 1967, all of the Japanese staffs returned to Japan after they transferred the center to India.

On the other hand, the Indian Government requested Japan to extend cooperation in establishing new agricultural extension centers. After reviewing the request, Japan decided to cooperate with respect to two farms, Surat Farm and Shahabad Farm. (See 3) 'Agricultural Extension Centres in India' of 1. (1) 'New Centers in Preparation' of this Section)

(b) Four Farms under second Agreement

The first four farms were so popular among the people that India strongly requested Japan to set up additional farms in several districts. In 1964, Japan planned to set up another four farms and dispatched an implementation survey mission. After studying the result of the survey, Japan agreed to set up four farms in the Guntur district in Andhra Pradesh province, Mandya district in Mysore province, Ernakulam district in Kerala province and Kolaba district in Maharashtra province, similar to those existing farms. The agreement was signed in December 1964. As for the staffs of the newly established Farms, Japan assigned 16 experts, four for each farm, in the middle and latter part of March 1965.

Newly established Farms conducted demonstrations of Japanese rice-cultivation techniques and training of Indian agricultural specialists and farmers similar to what was conducted in the former Farms. As soon as the staff members arrived at their new posts, they started the first planting, and yields were considerably increased at the harvest from August to November on each Farm.

In the second year India had unusually little rain. In spite of limited and delayed rice planting caused by water shortage, and other unfavorable conditions brought about by harmful insects, the staff members' strenuous efforts were regarded with a better harvest than in the previous year.

In the third year, they further improved the rice-fields and one of the farms raised a crop of more than 50 mds/acre which the Farms under the first Agreement took five years to achieve. As a result, it turned out that the Farms could be transferred to Indian hands at the expiration of the cooperation period in April—June 1968. As in the case of the Farms under the first Agreement, Japan dispatched a survey team for a month from early December 1967 to conduct on-the-spot survey to work out of a policy after the expiry of the cooperation period.

The survey team concluded from the technical point of view that Khopoli Farm in Maharashtra province and Mandya Farm in Mysore province should be reorganized into agriculture extension centers.

Based upon this survey report, Japan studied the matter and decided to cooperate in reorganizing these two Farms into agriculture extension centers in conformity with the report of the survey team.

The present Japanese staff members are to come home as soon as their terms expire in April-June 1968.

3) Textile Training Center in Ghana

On his visit to Japan as a head of a Trade Mission in October 1959, the Trade Minister of Ghana expressed his earnest wish to rectify the state of unbalanced trade between Japan and Ghana, and proposed to conclude an agreement for trade and economic and technical cooperation for closer relations between the two countries.

In 1960, relating to the above technical cooperation the Ghanaian ambassador at Tokyo requested Japan's cooperation in setting up a technical training center in Ghana. After reviewing the matter, Japan decided to set up the textile training center and dispatched an implementation survey mission consisting of five experts in November 1962. As a result, Tema City, situated some 30 kilometers northeast of Accra, was fixed upon as the site of the center. The agreement on the establishment of the center was formally signed in May 1963.

In order to contribute to the economic and technical development of Ghana, the center is aimed at developing and extending textile technology, and at increasing the domestic demand for textile products by training technicians in production of cotton textile and towels, dyeing, finishing of cotton fabrics, and simple sewing, meeting the special requirements of the Government of Ghana. Having

a junior class to train graduates from the Junior Technical Institute into primary-class technicians, and a Senior class to train graduates from the Senior Technical Institute into medium-class technicians, the center is scheduled to conduct 12-month training in physical and chemical experimentation of fabrics, production of cotton fabrics and towel, dyeing, sewing and finishing.

Under the aforementioned agreement, Japan furnished the center with machinery for dyeing, weaving, finishing, sewing, and testing together with various machine tools. At the same time, eight Japanese technical instructors including the managing director of the center were sent out as instructors from January to November 1965, while some assistants of Ghana were invited to Japan for training.

Under the agreement, Ghana was to furnish land, buildings, and other ancillary facilities. Owing to financial difficulty caused by a fall of the cocoa price and other reasons, and to a change of government in February 1966, the construction of the building was delayed. But, the construction of the work shop progressed since the autumn of 1966. Following the completion of the work shop, the center was provisionally opened on February 27, 1967, and started the first period training for 31 trainees.

In the circumstance, the agreement period expired on May 22, 1967, but both Governments agreed upon a three years' extension until May 22, 1970, in order to attain the end initially contemplated. In fiscal 1968, seven staffs are scheduled to be dispatched to replace the present staffs.

4) Telecommunication Research Center in Pakistan

The Government of Pakistan planned to set up a comprehensive telecommunication center at Hari-pur in West Pakistan as a part of her second Five Year Plan, and requested Japan's technical assistance for the center for research purpose. In 1961, the Cabinet of the Pakistan Government approved to set up this research center, and Pakistan formally requested Japan to extend technical cooperation.

After studying the earnest request of Pakistan, Japan decided to set up the telecommunication research center, and accordingly dispatched a survey team in July 1962, which carried out on-the-spot survey and held discussions with officials of the Government of Pakistan. The agreement for the setting up of the center was concluded on November 16, 1963.

Japan donated to this center equipment for the telephone exchange, telegraph, wireless telecommunications, transmission, and testing, and has sent out a total of eleven staff members including the managing director of the center since March

1964.

The center is aimed at functioning as a research center to conduct the effective research necessary to promote the development program of Pakistan's extensive telecommunication facilities. The center intends to develop the most suitable communications method based upon the present state of the communications service, and conducts a practical research for developing the efficiency of communications service by improving the quality of the facilities. The center is carrying out research on wireless relaying and so on, keeping in close contact with the Maintenance and Facilities Division of Pakistan Telegraph and Telephone Department (PTT).

Since it was opened on July 1, 1964, the center has conducted both research and guidance in such departments as telephone exchange, telegraph, wireless telecommunications, carrier transmission, and testing. On the other hand, a regular weekly meeting participated by all research personnel has been held for the purpose of reporting progress on research and discussions on various subjects. Examples of research subjects are; practical use of semi-automatic subscriber line routiner in the telephone exchange department; conversion from Morse telegraph using single iron wire to telephone system in the telegraph department; transmission test between Rawalpindi and Murree, solar cell (VHF), and measurement for the introduction of the same frequency system (HF) in the wireless telecommunications department; and printed circuit in the testing department. Having completed the scheduled instruction, the Japanese experts in the testing department returned to Japan after transferring their duty to their Pakistani counterparts.

Although the initial cooperation period under the agreement was to expire at the end of June 1967, Japan agreed on a two years' extension, at the strong request of the Government of Pakistan. Accordingly, on November 15, 1967, the official documents were exchanged between the two countries to continue cooperation until June 30, 1969.

5) Training and Research Center for Small-Scale Industries in Kenya

The Government of Kenya requested Japan to set up a training and research center for small-scale industries for training capable personnel and thereby promoting industrialization, protection and upbringing of her industries, especially small-scale industries under African management. The agreement was formally signed between Japan and Kenya on July 30, 1964.

The center launched its training activities on July 27, 1965, with a main 9-month lecture program.

Having six departments of millwrights, electric components and machines, trailoring and dress-

making, furniture-making and joinery, assembling and repair of small machinery and equipment, and leather-working, the center has been training prospective entrepreneurs for small-scale industries by providing them with essential techniques and managerial know-hows in the Technical Course and Management Course. In addition to these training courses, the center has a "research department" to conduct the research necessary for the training, and "management consultant department" to provide consultation service for entrepreneurs of small-scale industries including those who have finished the training courses. The number of trainees in the first period training which ended on April 22, 1966, was 49, namely, nine in millwrights, eight in leather-working, seven in machines, eight in electric components, six in trailoring and dress-making, and eleven in furniture-making and joinery. Among the graduates of the center, those who have certain qualification are to be furnished with a fund for starting a business by the Industrial and Commercial Development Corporation, institute of the Government of Kenya. With 49 trainees out of 1,970 applicants who were publicly recruited through newspaper advertisements, the second period training was conducted for a period of nine months starting in August of the same year. The third period training is currently being conducted for 54 trainees.

As the cooperation period under the agreement was to expire in July 1968, the Government of Kenya requested Japan to make a two-year extension of the agreement. After reviewing this request, Japan agreed in principle to the extension. At the same time, since the majority of the Japanese staff had completed their terms of service at the end of 1967, Japan sent out another group of staff to replace them.

6) Technical Training Center for Road Construction in Thailand

At present, Thailand is retarded in the development of its feeder road network, which constitutes a serious obstacle to her economic development. To remove this obstacle, the Government of Thailand decided to set up pilot pools in various districts of the country with a view to promoting road construction. Having established a pilot pool at Khon-Kaen, in the northeastern part of Thailand with Australian assistance, the Government of Thailand requested Japan's assistance in setting up a pilot pool in the southern part of the country. Japan dispatched a survey team for preliminary investigation in September 1963, and decided to establish a technical training center for road construction. The agreement was formally signed on November 1964, to establish the center at Songkhla City, situated some 700 kilometers south of

Bangkok.

The Center is aimed at giving training and guidance to Thai technicians in design, construction and maintenance of road, and operation of machinery and equipment used for road construction in its training process, utilizing a road of about 60 kilometers length from Samrong to Natawee. Having separate training courses in operation, maintenance and repair of the construction machinery, the center is chiefly aimed at training high-school graduates or those of equal competency into technical experts who would be able to exercise their skills in operating machinery and equipment in actual road construction. Also, the Center is aimed at fostering those who are proficient not only in practical use but also in basic theory of such machinery and equipment.

Items of equipment include bulldozers, motor graders, road stabilizers, power shovels, dump trucks, etc. Japan assigned in February 1965, ten experts including the managing director of the Center. On April 16, 1965, the opening ceremony was held with the attendance of Prime Minister Thanom.

Ninety operators of heavy construction machinery, 20 fitters, and 26 dump truck drivers have been so far trained.

After completion of 70% of the scheduled section of the road including its laterite pavement works as arranged by the agreement, the Government of Thailand strongly requested Japan to use asphalt as paving material. Eventually, the construction program was changed, and the Government of Thailand has assumed the responsibility for the road construction.

At the strong request of Thailand, Japan executed additional purchase and dispatch of equipment for asphalt paving and spare parts for construction machinery. Since the Center has been fully equipped with this additional supply, the road construction is scheduled to be completed in November 1968, the last month of the present agreement in force.

7) Technological and Development Centre for Cottage and Small-Scale Industries in the Philippines

For the promotion of cottage and small-scale industries through utilizing and processing the abundant natural resources that have not been fully exploited in the past the Government of the Philippines reorganized its administrative structure and created the National Cottage Industries Development Authority (NACIDA) under the Department of Industry and Trade in 1962. With a view to training technicians and entrepreneurs of small-scale industries through vocational technical guidance, NACIDA requested the Japanese Government to

extend technical cooperation in setting up such a training center. Japan accepted such an offer and dispatched in November 1965, an implementation survey mission and it was decided that the center should take up, in its vocational training, such types of occupation as forging, small machine parts manufacturing, ceramics, textile, fiber-craft and weaving, bamboo and rattan-craft, and woodcraft. Consultation and management were also to be added. The center is scheduled to conduct its training in three courses, i.e. (a) technicians training course, (b) management and technical training course, and (c) re-training course for NACIDA staff.

As the site of the center, Marikina City, situated some twenty kilometers east of Manila, was selected. The Agreement concerning the Establishment of Technological and Development Centre for Cottage and Small-Scale Industries was formally signed in Japan on September 29, 1966, in the presence of Prime Minister Sato of Japan and President Marcos of the Republic of the Philippines. Japan sent out in 1967 ten experts who are now preparing for the opening of the Center.

8) Prototype Production and Training Center in Singapore

The Government of Singapore created the Economic Development Board in 1962, and has been making every effort to develop modern enterprises, in particular the development of technology. Since September 1962, the Government of Singapore requested Japan repeatedly to set up a prototype production and training center. The Japanese survey team found out that development of small-scale industries in Singapore was a matter of urgent necessity and the Agreement between the two Governments was signed in October 1966.

Being established at River Valley Road in Singapore City, the center is scheduled to train engineers, technicians, skilled workers, and semi-skilled workers both in practical and theoretical aspects of prototype production. At first, only four training departments, namely, 1) machine shop, 2) tool and die working shop, 3) heat treatment shop, and 4) design and drawing room were to be established in the Center. However, it was later decided to establish four additional departments, i.e., grinding, electroplating, welding, and forging. In its production process, the center is to train engineers, technicians, skilled workers, semi-skilled workers in designing, development, trial production of metal products, tools, machines, and accessories as models to the metal working industry. Also, it will undertake to develop equipment for improving production techniques.

Eleven Japanese experts including the managing director of the Center were sent out in 1967, and

an expert in electroplating is scheduled to be dispatched in fiscal 1968.

The Center started training in manufacturing a small-type bench drilling machine for prototype production training.

Production of a lathe is also to be commenced in the near future, as soon as the Center receives the necessary drawings from a Japanese manufacturer of machine tools.

9) Telecommunication Technical Training Center in Mexico

(Escuela de Capacitacion en Comunicaciones Electricas Mexico)

To overcome the serious shortage of technicians, the Government of Mexico worked out a program for the expansion of the Telecommunications School (Escuela de Capacitacion en Comunicaciones Electricas) under the Ministry of Communications and Transportation (SCT) Subsecretario de Comunicaciones y Transportes). In enforcing the program, Mexico requested Japan to extend technical assistance in May 1964, and the Japanese Government decided to extend cooperation by assigning experts to the Telecommunications School (Escuela de Capacitacion en Comunicaciones Electricas) in November 1964.

In 1965, Mexico repeatedly requested Japan to establish additional training courses in the school, to send out instructors, and to supply teaching materials and equipment necessary for the new courses.

Accordingly, Japan decided to set up a technical cooperation center in 1966 and it was finally agreed in July 1967 that five training courses, namely, microwave, automatic telegraph exchange, radio communication, carrier transmission, and system design of telephone network, were to be established in the Center with a view to training engineers with respect to the installation, operation and maintenance of telecommunication facilities.

Japan transferred to the Center the three experts who had been assigned under the Technical Cooperation Program for Central and South America, and dispatched another five experts in August 1967.

The opening ceremony of the Center was held on December 5, 1967.

10) Agricultural Technical Center of Friendship Between Japan and Cambodia

As Cambodia renounced the right to demand Japanese reparations for the War, Japan decided to extend economic and technical assistance in the amount of ¥1,500 million in total. In March 1959, the Agreement of Economic and Technical Cooperation between Japan and Cambodia was signed, which included the provisions for the construction of the three centers for agriculture, livestock breeding, and medical treatment, and the dispatch of

experts, and supply of materials and equipment needed for operating the centers. The Agricultural Technical Center of Friendship Between Japan and Cambodia has as its objective to contribute to an increased yield of agricultural products in Cambodia by conducting research and extension of agricultural techniques. The Center conducts research and investigation on the production techniques of rice, dry field products, and utilization of agricultural machinery, as well as training for agricultural technicians and farmers.

An experiment was conducted for increased yield of rice crop through maximum utilization of Japanese techniques of rice cultivation. Efforts were also made to improve irrigation and drainage facilities. Utilization of paddy-fields in the dry season was also effected. As a result, they raised a crop of 4-5 tons of rice in the husk per acre. As for giving training to technicians, Japanese experts conducted technical guidance to Cambodian counterparts during their day to day work, instead of setting up a specific training course in the Center. As for technical training for farmers, Japanese experts gave indirect guidance through Cambodian staff.

As Cambodia was not fully prepared to take over the management of the Center after the expiry of the agreement, Japan decided to further improve the management of the Center. It was decided to convert the Center's 300 hectares rice field into a seed-rice field, through utilizing the well equipped research facilities. The Center plans to select kinds of excellent crop out of the miscellaneous kinds of rice, cultivate the selected kinds at this intended seed-rice field, to distribute them to the farmers so that the miscellaneous kinds of rice may be replaced by those excellent kinds raised at the Center. "Exchange of notes between the Government of Japan and the Loyal Government of Cambodia under the Provision of the Agreement of Economic and Technical Cooperation between Japan and Cambodia," was exchanged in Phnompenh on September 30, 1966.

11) Livestock Breeding Center of Friendship Between Japan and Cambodia

This Center was established as a part of Japan's cooperation under the Agreement of Economic and Technical Cooperation between Japan and Cambodia, and is aimed at improving and extending livestock breeding techniques, thereby contributing to the improvement and increase of livestock and the increase of dairy products.

The Center started its activities for improvement and multiplication of the breeding stock and poultry supplied by Japan. The Center was able to obtain excellent results in multiplication and distribution of livestock and poultry, production of

dairy products, egg-laying, etc., despite disadvantageous natural conditions. While taking proper measures for the health and hygiene of livestock and poultry raised in the Center, the staff went around the nearby farms to conduct inspection and technical guidance.

As for technical training for farmers, it is conducted directly by the Cambodian staff, with indirect participation of Japanese experts. By closely collaborating with extension organizations in Cambodia, and by holding exhibitions in the Center, the Center has obtained the desired results in getting general farmers to know more about livestock breeding. Although the term of service of dispatched experts under the agreement expired in October 1965, Japan has continued cooperation by sending out experts under the Colombo Plan.

Like the case of the Agricultural Technical Center, it was decided that this Center should function as a pilot center for the full-scale promotion of the dairy cattle production program desired by Cambodia, with emphasis on the promotion of dairy farming, especially on the production and sale of milk, and the distribution of breeding stock as the basic policy of the Center after the expiry of the Agreement, so that Cambodia could be prepared to take over the management of the Center. As the Center had no production facilities because it was initially started as a place chiefly for research and technical training, it was decided to start stock raising. By providing grazing ground with fence and shelters, the Center plans to keep on multiplying the number of basic cows until it reaches 100, which is the maximum number that can be raised in the Center.

For this purpose, Japan has, in 1966, 1967, 1968, provided to the Center with dairy cattle, breeding pigs and facilities such as fence and shelter, etc.

12) Medical Center of Friendship Between Japan and Cambodia

This center was established as a part of Japan's cooperation under the Agreement of Economic and Technical Cooperation between Japan and Cambodia, and is aimed at improving and extending medical treatment techniques in Cambodia. In 1964, following the completion of medical facilities in March, seven experts were sent out from Japan in June. During the term of the first Japanese experts, the Center had 22,601 patients in total, namely, 16,500 for internal treatment, 3,825 for surgery, and 2,276 for obstetrics and gynecology, and performed 157 operations in surgery, and 67 in obstetrics and gynecology. Japan provided the Center with an X-ray therapeutic apparatus and a mobile X-ray clinic. However, since there were too many people who wished to have an X-ray examination, the Center was compelled to gradually restrict

the work, so as not to exhaust in two or three months all the films that were transported from Japan. Medicines and sanitary materials were also restricted in usage because of large consumption due to unexpected number of patients, and Japan supplied additional medicines.

As the term of services of the dispatched experts under the Agreement expired in May 1965, Japan continued cooperation by sending out three more experts under the Colombo Plan.

The Agreement of Economic and Technical Cooperation between Japan and Cambodia expired on July 5, 1966, but Japan decided to continue cooperation for another three years starting on October 1, 1966, and the official document to this effect was exchanged.

(3) Centers Transferred to Recipient Countries

1) Farm Mechanization Training Institute in East Pakistan

In January 1958, the project of setting up an agricultural center was proposed for the first time, after the survey team led by Professor Togari of Tokyo University reported the result of the investigation. In July 1959, Japan dispatched an implementation survey mission and decided to establish an agricultural training center in Dacca in East Pakistan. In July 1960, the agreement to this effect was formally signed.

Under this agreement, Japan donated agricultural machinery and implements, machine tools for repair work, tools and implements for laboratory work, tools and implements for meteorological survey, testing and measuring instruments for agriculture machinery, and dispatched six technical experts including the director of the Center. The opening ceremony was held in September 1960.

The purpose of this Center is to give further education to the Thana Agricultural Officers and extension workers in each district with on-the-spot training, to extend Japanese agricultural techniques to native farmers through the extension staffs, and to conduct research and experiment for agricultural improvement in Pakistan.

At the start of the training, the Center organized two training terms a year, with 40 trainees in each of them, and had such departments as paddy-field rice cultivation, soil fertilizers, dry-field farming, agricultural equipment, and blight and harmful insects. In fiscal 1962, Japan sent an expert for the horticulture department which was newly added to the center.

The term of agreement for this center was to expire in July 1963, but it was extended by two years at the request of the Government of Pakistan, and the cooperation period ended on July 29, 1965. Accordingly, seven staff members returned to Japan at the expiration of their terms of serv-

ice. During the five years from the start of the Center, the total number of trainees reached 318 over nine terms. These people, returning to their own districts, have been engaged in the guidance and extension of their acquired techniques. After the expiration of Japan's cooperation period, Pakistan decided to reorganize the center into the Farm Mechanization Training Institute and conduct its management. At their request Japan dispatched in November 1965 a chief advisor and four experts in the departments of rice cultivation, agricultural machinery, dry-field farming and horticulture with a term of two years under the Colombo Plan.

The purpose of the Farm Mechanization Training Institute was to train agricultural technicians who would be needed in the future with the development farm mechanization in East Pakistan. The training was conducted for U.A.A. (Union Agriculture Assistant) and young farmers with a term of three months, and the total number of the trainees through the whole seven terms reached 249 by the time the four experts returned to Japan in November 1967. These trainees are now playing active roles in their own fields.

2) Telecommunications Training Center in Thailand

In August 1959, Japan sent an implementation survey mission to hold discussions with officials of the Government of Thailand. As a result, it was decided that a technical training center should be established at Nondhaburi, 12 kilometers north of Bangkok, and on August 24, 1960, an agreement was officially signed. Under this agreement, Japan donated equipment such as telephone exchange equipment, while seven technical training experts including the director of the Center were dispatched. In February 1961, this Center was opened.

The Center offers training in installation, operation, and maintenance of telecommunications facilities. Training is being conducted for assigned trainees from Thai telecommunications institutions and for persons publicly recruited, in such departments as telephone exchange, carrier transmission, microwave, wireless telecommunications, television and radio broadcasting. The Center organized two training courses, namely, a regular course to train primary telecommunications technicians, and a special course for technicians to learn higher techniques. The regular course training started with a term of one year, but the course was reorganized into a three-year course, when the Center was raised to the level of Technical Institute in 1963 at the request of the Thai Government. The term of the special course training was initially three months, but in 1964 it was reorganized into a four-month course to provide trainees with higher-level knowledges.

Although the cooperation period under the agreement for this Center expired in August 1963, the period was extended by two years at the request of the Thai Government, and a radio and television broadcasting department was added. Japan dispatched two more experts and donated additional equipment. In 1964, the Government of Thailand newly constructed a three-storied reinforced concrete building at the site of the Center.

The agreement for this Center expired in August 1965, but since Thailand wished continued cooperation after the expiry of the agreement, Japan dispatched six experts in July 1965.

During seven years from the opening of the Center up to March 1968, the Center carried out four training terms of the regular three-year course. Since the three-year course was started, all the graduates have obtained employment e.g., in the Telephone Organization of Thailand (TOT), Post and Telegraph Department (PTD), Royal State Railway, Thai Television, etc.

The Thai Government plans to raise the Center to the status of a university in the future.

3) Fisheries Training Center in Ceylon

Ceylon is dependent upon imports for more than 50% of her marine products. Under the circumstance, Japan dispatched a survey team for fisheries in 1958, and submitted to the Government of Ceylon a recommendation for a 10-year plan for the promotion of fisheries. As Japan's proposal for the establishment of a training center for fisheries received the immediate approval of Ceylon, Japan sent an implementation survey mission in February 1960, and decided to establish the center in Negombo City situated some 30 kilometers north of Colombo. An agreement to the effect was formally signed in March 1961.

Under the agreement, Japan donated equipment and materials for practical training in fishery, a training vessel, fishing gear and tackle for dragnet fishery, equipment and materials for marine engine operation, and other teaching materials, while sending eight technical experts including the managing director of the center. The center started training upon its provisional opening in October 1962. After the formal opening, Japan went on expanding the center, in fiscal 1963 and 1965. The center organized two training courses, namely, the fishery course and the marine engine course. In the fishery course, it conducts training, with a term of six months, in fishery with advanced fishing implements, and handling and management of mechanized fishing boat. In the marine engine course, it conducted training, with a term of one year, for fishermen and their leaders in handling and simple repairing of marine engines.

Training by the center has been continued with

emphasis laid upon coastal fishery. The cooperation period under the agreement expired on September 19, 1965. But, as Ceylon was not fully prepared to take over the center, she requested Japan for continued cooperation. Meeting this request, Japan sent in October 1965 two experts in the fishery course, and one expert in the marine engine course under the Colombo Plan.

Training for tenth-term trainees in the fishery course, and for fifth-term trainees in the marine engine course, is now being conducted. The total number of trainees have reached 182, namely, 143 in the fishery course, and 39 in the marine engine course.

In September 1967 Japan conferred with Ceylon over the management of the center after the expiry of the terms of services of the Japanese experts dispatched under the Colombo Plan. As it was considered that the Ceylonese staff had attained capability to take over the center after receiving training, the Japanese experts completely transferred the center to them, and returned to Japan at the expiry of their terms of services.

Thus, the center has been independently managed by Ceylon since September 1967 as a training institute under the Department of Fisheries, Government of Ceylon.

4) Training Center for Small-Scale Industries in Afghanistan

In March 1960, Japan sent out a survey team for the development of small-scale industries at the request of the Government of Afghanistan, and advised Afghanistan to develop nine types of industry including bicycle assembling.

As Afghanistan requested Japan to set up a training center for practical training in industrial technology, Japan sent another survey team in September 1960, which discussed the matter with Afghanistan authorities and carried out investigations. As a result, Japan decided to set up a training center for small-scale industries having three departments, namely, bicycle assembling, glassware, and plastic molding, at Kabul City. The agreement was formally signed in March 1961.

Under the agreement, Japan donated equipment and materials such as bicycles, glassware, plastics, and electric equipment. On the other hand, Japan dispatched eight experts including the managing director of the center, for a period of more than three years.

In the bicycle assembling department, training was conducted by importing requisite parts other than the frame and front fork which were manufactured locally. In the glassware department, training was conducted in vitrics, ranging from compounding and melting of raw materials to manufacturing of domestic glassware such as bot-

les, plates, and small bowls. In the plastic molding department, training was conducted in extrusion molding of household articles and plastic pipes.

It was originally scheduled that the trainees of the center should be assigned, as medium-class experts, to factories to be established by the Government of Afghanistan in accordance with its program for promoting the development of smaller enterprises. However, it turned out that they could not get the jobs, since the program did not make progress as planned and that no other enterprises of this kind existed in Afghanistan. Therefore, the Center gradually began to undertake production, and most of the first 50 trainees have remained in the Center not only to receive further training but also to manufacture various products.

In the bicycle assembling department, they assembled about 1,000 bicycles and sold 80% of them. These bicycles enjoyed great popularity as the first bicycles ever made in Afghanistan. In the glassware department, the trainees manufactured with their own die-making, glassware such as ashtrays and cups suitable for use by the Afghan people. They also found that most of the raw materials were locally available. In the plastic molding department, at first they had difficulty chiefly in securing raw materials, but this problem was solved as the Government of Afghanistan started import of raw materials when the occasion required. As the Center made steady progress in its production system, it became necessary to improve its selling system. In April 1965, a direct sales depot was set up in the heart of Kabul City, and sales of the Center's products, especially bicycles, amounted to more than ¥10 million.

At the expiry of the agreement in September 1965, after a year-and-half extension, the center was transferred to Afghanistan. But Japan extended further cooperation by sending out, under the Colombo Plan, four technical advisors in place of eight staffs who had been assigned earlier, since Afghanistan found it difficult to completely take over the management of the Center. These technical advisors returned to Japan at the expiry of their terms of services in October 1967, after completely transferring the management of the Center to Afghanistan.

5) Marine Products Processing Training Center in India

In March 1960, when India dispatched to Japan a survey team for fishery consisting of the Assistant to the Deputy Secretary, Ministry of Food and the Director of Fisheries, Mysore and other personnel concerned, India requested Japan to render technical assistance in the field of marine products processing, with a view to developing and extending

her fisheries to improve the dietary life of the Indian people. After reviewing this request, Japan decided to extend cooperation in training and cultivating Indian technicians to manufacture frozen fish sausage and canned provisions. Based upon the findings of the survey team, Japan decided to set up a technical training center for marine products processing at Mangalore City in Mysore. The agreement to this effect was formally signed in March 1962.

In accordance with the agreement, Japan donated equipment and machinery to manufacture frozen provisions, canned provisions, and fish sausage, as well as equipment and materials needed for practical training in a manufacturing process. At the same time, Japan dispatched in December 1962, seven technical advisors including the managing director of the Center, while accepting five Indian staff members including assistants for training in Japan. The Center started the first training in July 1963.

As the Center is aimed at bringing up technician leaders for marine products processing in India, training is designed chiefly to help trainees attain proficiency in concentrated subjects, instead of spending efforts thinly on many aspects of marine products processing. While teaching marine products processing theory, the Center carries out practical training in structure, handling, assembling, and disassembling of equipment and machinery, as well as in manufacturing process, under departments dealing with canned provisions, frozen provisions, and fish sausage.

The Center organized training with a one year term for 30 trainees, who are college graduates, as a rule, selected out of many applicants from all parts of India. At present, the fifth period training is being conducted for 29 trainees. After effectively conducting the first, second, third, and fourth period training which progressed smoothly, the Center sent out a total of 107 graduates. All the graduates were able to get employment on a wide and diverse range from the Governmental Fisheries Departments and Marine Fisheries Research Stations to private marine products enterprises, and their future activities are greatly anticipated.

As the agreement expired in March 1965, India strongly requested Japan to extend it, and Japan extended the term of cooperation by two years and three months until June 1967. In accordance with this extension, Japan executed additional purchase and dispatch of equipment for ice manufacturing in fiscal 1965. As a result, the Center was enabled to carry out training in keeping fish fresh with ice, which is indispensable to marine products processing. On the other hand, with a view to smoothly transferring the Center to India after the ex-

piry of the agreement, Japan started in June 1961, to accept graduates of the Center for training in Japan as staff members of the Center. As India requested Japan's further cooperation at the expiry of the agreement on June 30, 1967, Japan has extended continued cooperation by assigning four experts to the Center for a term of two years under the Colombo Plan.

6) Training Center for Small-Scale Industries in Iran

Further to the agreement for economic and technical cooperation, which was concluded in December 1958 between Japan and Iran, Japan proposed to set up a training center for small-scale industries in Iran. On this proposal, the Government of Iran requested Japan in May 1960, to establish a training center which was aimed at training skilled workers in the fields of machining and plastics. It was decided to set up the Center at Shahre Sanate Karadj in the suburbs of Teheran. The agreement on this was formally signed in September 1960.

In accordance with the agreement, Japan has so far donated machinery needed for wooden-pattern making, casting, forging, welding, and production of plastics. At the same time, Japan dispatched eight technical experts including the managing director of the Center, and invited seven Iranian assistants for training in Japan. The Center held its opening ceremony in October 1962.

While carrying out practical and theoretical training for workers and technicians in the machining and plastics departments, the Center aimed at conducting research and experiment necessary for technological improvement that could be executed in Iran. The Center organized training with a term of one year for trainees who are either graduates of primary school or those of higher competency.

In the machinery department, training covered machining, finishing, assembling, sheet metal working, welding, casting and wooden-pattern making, while in the plastics department, it covered molding and pipe-making. The trainees, ranging from graduates of primary schools to those of high schools, are selected from the public. In September 1965, at the end of the third term, the graduates totaled 181.

The cooperation period under the agreement for this Center expired in September 1963, but at the request of the Iranian Government the cooperation period was extended by two years. Although the management of the Center was to be transferred to Iran upon the expiry of the cooperation period in September 1965, Iran requested Japan to continue cooperation because she was not fully prepared to take over the Center. Under the Technical Cooperation Program for the Near and Middle East

and Africa, Japan dispatched to this Center four experts as advisors in January 1966, who are now playing an important part there.

7) Virus Research Institute in Thailand

As the rate of deaths due to virus diseases was extremely high in Thailand, it was considered urgently necessary to increase medical facilities and to improve environment sanitation. Therefore, the Government of Thailand earnestly requested Japan's medical cooperation in order to stamp out virus diseases. Under a policy of setting up a virus research Institute in Thailand, Japan dispatched a survey team to the country in June 1961. As a result it was decided to establish Institute in Bangkok, and the agreement to the effect was signed in November 1961.

Based upon this agreement, Japan donated an electron microscope, equipment for serology research, equipment for tissue-cultivation method research, and equipment for biological tests, etc. and the number of assigned staff including the managing director totaled 10. At the same time Japan has been accepting each year one or two Thai trainees for training in Japan.

This institute served as a research institute, and has conducted research on the actual conditions of virus diseases in Thailand, clinical examination, research on epidemic prevention, training of the Thai staff in the field of virus research, and guidance for research institutes in Thailand. Research subjects are epidemics, diagnosis of virus diseases, culture of virus antigen for diagnosis, preservation of virus stock, manufacture and inspection of virus vaccine, investigation of patients of virus diseases, and other research relevant to sanitary administration. Training has been conducted in such fundamental techniques of virus research as preservation and handling of virus, biological tests, cultivation, serum reaction, and manufacture and inspection of virus vaccine.

Following the assignment of Japanese staff members in September 1962, the opening ceremony of the institute was held in February 1963, with the attendance of Prime Minister Sarit. The center has attained steady progress. For example, more than 4,000 cases are brought to the center for inspection in a year, and the center has succeeded in trial cultivation of hydrophobia vaccine and dengue virus type 1 vaccine.

The cooperation period of this institute under the agreement was to expire in November 1964, but it was extended by one year and half to May 1966, at the strong request of Thailand. Since May, 1966, Japan has been sending experts under the Colombo Plan. In fiscal 1966, Japan executed purchase and dispatch of additional equipment such as an electron microscope.

(A Center Established Under Multilateral Agreement)

The Southeast Asian Fisheries Development Center

The establishment of this Center was proposed for the first time by the delegate of Thailand at the first meeting of the Ministerial Conference for the Economic Development in Southeast Asia held in Tokyo in April 1966. The definite proposal for the establishment was submitted by the delegates of Thailand and Singapore to the Conference for the Agricultural Development in Southeast Asia held in Tokyo in December of the same year, and an agreement was reached to form a working group to study problems related to the establishment of the Center.

The working group met in Bangkok in March 1967, and made a report on some basic matters. The report was submitted to the second meeting of the Ministerial Conference for the Economic Development in Southeast Asia held in Manila in April of the same year. After reviewing the report, the Ministerial Conference agreed to ask the working group to prepare a draft of the agreement for the establishment of this Center. The working group, which met in Singapore from July through August 1967, prepared the draft of the agreement and distributed it to the governments concerned.

On December 28, 1967, the Agreement for the establishment of the Center was signed in Bangkok by Japan, Thailand and Singapore. Later, on January 16, 1968, the Philippines signed the agreement, while Malaysia and the Republic of Viet-Nam signed it on January 26, 1968. So far, these six countries have participated in the Agreement. The inaugural meeting of the Council was held in Bangkok from March 18 through 21, 1968, at the invitation of the Thai Government.

The Training Department is established at Paknam in Thailand and is designed chiefly to conduct training for fishery technicians and to study fishing implements and methods. Training is to be conducted to provide trainees with practical skills, especially in the handling and operation of fishing implements, marine engines, and nautical instruments, instead of mere fishery knowledge.

The Research Department was established at Changi in Singapore, and was designed chiefly to exploit a finishing ground and to carry out research on fishery resources and oceanic survey. It is to be carried out with special emphasis upon the exploitation of new fishing grounds through trial operations.

Japan contributed fund for the purchase of following vessels and equipment needed for the establishment of both the Training and Research Departments: (1) a training vessel and a research vessel; (2) equipment and materials for research

on fishing implements and methods. (material testing equipment for fishing implements, fishing implements, and measuring equipment), equipment and materials for training in fishery techniques (fishing net, teaching materials for navigation, marine engine, and machinery), and equipment and materials for research (equipment for research on the fishery resources, equipment for oceanic survey). Besides, Japan plans to contribute to a scholarship fund for trainees.

Japan plans to dispatch a total of 21 experts (12 for the Training Department, nine for the Research Department).

Section 3. Problems of Overseas Technical Cooperation Center

It is nearly eight years since the first overseas technical cooperation center, namely, Agricultural Training Centre, was established at Dacca in East Pakistan in 1960. Many centers were established since then, and almost every country in Asia has at least one technical cooperation center established under Japanese assistance. As shown in previous paragraphs, even after the expiry of original agreements for the centers, Japan has usually continued cooperation, if asked by the recipient government, by extending the agreement term, dispatching experts, and donating equipment and materials.

The type of technical cooperation centers has shifted from one for training purposes to produce technical experts of medium and lower level, to a center for research and experimental purposes. At the same time, these Centers have gradually come to play an important role in the economic development programs of the recipient countries.

In spite of these achievements, Japan's cooperation in establishing these centers by way of equipment donation and expert dispatch faces a number of serious problems and the Japanese Government is making efforts to alleviate the difficulties occurring in the course of establishing and maintaining these centers. However, most of the problems must be solved in cooperation with the recipient countries.

(1) The first problem is that the period of agreement is too short. The fact that centers transferred to recipient countries should need continued cooperation under the Colombo Plan for considerable period after the expiry of agreement may be attributable to insufficient preparations on the part of recipient countries to run these centers by themselves. However, as it usually takes at least three years for this kind of center to reach the stage of smooth and autonomous operation even in Japan, the period of agreement which is three years as a rule is not sufficient, for most of the developing

countries. The agreement should have longer period of duration depending upon the type of training or research required and the conditions prevailing in recipient countries.

(2) The second problem, and perhaps one of the most important, relates to counterparts in the recipient countries.

Cooperation by way of these centers has as one of its essential objectives to help the recipient countries to take over the management of the centers within period of the agreements which is usually three years (when this period is extended further, often by two years, the assignment of Japanese experts is continued even after the transfer of centers). Under this type of assistance, the competency of local counterparts who work with the Japanese experts holds the key to taking over the management of centers, since these counterparts are expected to conduct necessary research, training or extension after the departure of Japanese experts.

(3) The third problem is how to set up centers best suited to the prevailing situations in the recipient countries.

Since the centers are established in the recipient countries for its own benefit, it is needless to say that the economic, social and natural conditions of the recipient countries should be taken into consideration in establishing the center. It is of vital importance to set up centers whose programs are closely coordinated with manpower and economic development programs of the recipient countries. In view of the considerable amount of expenditures to be borne by the recipient countries for establishing centers, the degree of enthusiasm for such center on the part of the recipient country should be confirmed. It should also be necessary to conduct preliminary and implementation surveys. In this connection, it might be a good idea to assign technical experts to recipient countries for a considerable period of time to make a thorough survey of the feasibility of establishing and maintaining the proposed center.

(4) The fourth problem of these centers is its relatively small size.

The majority of the centers in terms of equipment supply are smaller in scale than those provided by other aid-giving countries although it is gradually becoming larger. This point of size has been often the source of dissatisfaction and criticism of the recipient countries. It might be necessary in future to consider establishment of a larger scale center if a recipient country has attained considerable economic progress and is prepared to receive larger aid by providing adequate counterpart facilities, fund and personnel to utilize the large amount of equipments and experts to be supplied