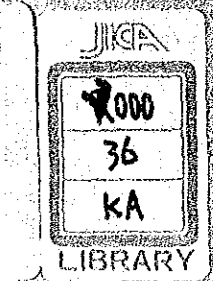


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ANNUAL REPORT

TECHNICAL COOPERATION OF THE JAPANESE GOVERNMENT

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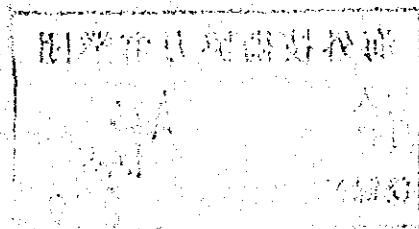
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**TECHNICAL COOPERATION
OF
THE JAPANESE GOVERNMENT**



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FOREWORD


On the threshold of the 1970s, the United Nations, at its General Assembly Session last fall, adopted, in connection with the "north-south" problem, an epoch-making declaration known as the "International Development Strategy for the Second United Nations Development Decade". This Declaration, which takes into account the achievements of the "First United Nations Development Decade" of the 1960s, as well as the recommendations on the ultimate aims of foreign aid in the 1970s contained in such documents as the Pearson Report and the Tinbergen and Jackson Reports, was intended to be the grand design that would give an integrated global picture of the scope and substance of what must be accomplished in the development of the developing countries during the coming decade.

Japan has in recent years achieved remarkable economic progress. As a result, both the developed and the developing countries now expect much more of Japan. Recognizing this, the Government has, in the domestic context, expanded and strengthened the "External Economic Cooperation Council" and has launched a vigorous program of activities in this connection. One consequence of this is that the Committee on External Technical Assistance has submitted recommendations to the Government entitled "Ultimate Aims of Technical Assistance", which could well provide the guidelines for Japan's technical assistance in the 1970s. Furthermore, Mr. K. Miyazawa, the Minister of International Trade and Industry, and Mr. K. Aichi, the Foreign Minister, expressed, respectively, in the OECD Ministerial Council and the Fifth Ministerial Conference of the Economic Development of Southeast Asia, Japan's intention to allocate 1 percent of its GNP to foreign aid by 1975, thus emphasizing this country's determination to deal positively with external assistance.

The Overseas Technical Cooperation Agency has at this time published this 1970 edition of "Technical Cooperation of the Japanese Government."

It is hoped that at a time when there is an increasing awareness of the importance of foreign aid, this booklet will deepen the understanding in various quarters about Japan's technical cooperation and that it will prove helpful in the implementation of future policy.

December 1970

Keiichi Tatsuke
Director-General 
Overseas Technical Cooperation Agency

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PART I

INTRODUCTION

CHAPTER 1

TRENDS IN DEVELOPMENT ASSISTANCE AND JAPAN'S POSTURE

1. Progress in Economic Development of the Developing Countries during the 1960s

As the first United Nations Development Decade comes to its close, it might be well to review the economic progress made by the developing countries during this ten-year period.

The basic objective of this first Development Decade was to raise the average annual rate of economic growth of the developing countries to 5 per cent. This objective is considered to have been largely attained and the anticipated results have been achieved to some extent. Moreover, the designation of the 1960s as the first United Nations Development Decade should be highly evaluated since it had a stimulating effect on the thinking and action of the developed countries, and marked a break from the stagnation and inertia characteristic of the developing countries toward increased efforts at self-help, in the attainment of a more independent and self-sustaining economy.

It cannot be concluded from this, however, that the first Development Decade was a success in all respects. To be sure, the economic growth of the developing countries during the period 1960-1968 recorded an average annual rate of expansion of 5.2 per cent. During the same period, however, the growth of per capita gross national product came to only 2.7 per cent. Against this, the average annual rate of expansion of the developed countries came to 5.1 per cent and the *per capita* growth was 3.8 per cent, indicating the slower growth rate of the developing countries. It must be pointed out, furthermore, that these gains in economic development have not been evenly shared and there has been a marked disparity among developing countries. In several countries, moreover, the average rate of increase in both total and *per capita* gross national product in this period has actually declined in comparison to the rate achieved in the 1950s. With certain exceptions, such as petroleum-producing countries, the fact is that not many countries have made rapid progress in real terms.

With respect to exports, which constitute one of the most important elements in economic development, the share of developing countries in world exports, which had shrunk from 31 per cent in 1950 to 21 per cent in 1960, declined further to 18 per cent in 1968. Although the absolute volume of trade is increasing yearly, the developing countries

cannot derive satisfaction from this fact alone.

Thus, while the developing countries have achieved some measure of economic growth, we must not overlook the fact that in the meantime the disparity between the North and the South is increasing instead of diminishing.

2. International Study of Technical Cooperation

In light of these circumstances, the need to intensify international efforts in the field of development, by designating the 1970s as the Second United Nations Development Decade, came to be recognized. On the request of the International Bank for Reconstruction and Development, the Pearson Commission, consisting of international authorities in the development field, submitted its report, familiarly known as the "Pearson Report," in October 1969. In the United Nations, also, a report entitled "Guidelines and Proposals for the Second United Nations Development Decade," or the so-called "Tinbergen Report," was submitted in January 1970. It might be pertinent to summarize here some of the reflections and suggestions that have been made with respect to technical cooperation in these recommendations on development assistance.

The Pearson Report points out as an introspective observation of the 1960s that the objectives and methods of technical assistance failed, in many cases, to meet the actual needs of the developing countries and that it was particularly so in the agricultural and educational fields.

It also points out that technical assistance has not been adequately integrated with capital assistance. That is to say, "only too often the transfer of knowledge and know-how becomes a mechanical projection of the rich country's own view of technology and education, while low-income countries need new and different solutions to their unique problems." It concludes that "a reorientation of technical assistance effort would be an important contribution to accelerating development."

The Tinbergen Report points out that technical assistance to a developing country "should be provided on the basis of certain priorities and directed to solving the most critical economic and social problems. The development plan of the country should be the essential mechanism for achieving this." The report draws attention to the basic requirements of technical assistance experts,

stating that "it is necessary to ensure that the experts are well qualified for the tasks entrusted to them and that, among other things, they devote appropriate attention to imparting knowledge and experience to their national counterparts in developing countries." Moreover, it points out that the proper approach for technical assistance should be to help "improve development planning at the national and sub-regional levels" in developing regions.

It is noteworthy that these recommendations emphasize the importance of the role of technical assistance in cases where changes are contemplated in the economic and social structures of the developing countries.

These recommendations, while evaluating highly the trends in technical assistance during the 1960s,—namely, that "technical assistance has been growing at more than 10 per cent per annum..." and that "in total, there are some 80,000 students and trainees benefiting from bilateral programs, and over 110,000 advisers, technicians, teachers and volunteers are active in official aid programs" (Pearson Report)—are nevertheless, based on the fact that although technical assistance has been growing quantitatively, many shortcomings in the quality of assistance are becoming increasingly apparent.

Accordingly, in considering the question of development assistance for the 1970s, it would be well to accept these recommendations frankly as an introspective reappraisal of the 1960s. Thus in the launching of a new and expanded technical cooperation, these recommendations should be incorporated into the strategy and a drastically new approach be sought.

3. Japan's Technical Cooperation

In reviewing Japan's technical cooperation over the last ten-odd years, it will be recalled that it was first launched from the standpoint of fulfilling the basic mission of technical cooperation, namely, the development of human resources and the supplying of techniques essential for development. It took the form of accepting trainees and providing the service of technical assistance experts, as well as carrying out basic studies for development. Such efforts were subsequently strengthened to include the establishment of overseas training centers and regional projects to disseminate agricultural techniques. Moreover, the area of technical cooperation was expanded to include medical cooperation and primary products development cooperation. This was the result of the decision taken to extend greater and more effective assistance in recognition of the importance of the role of technical assistance in the attainment of the development plans of the recipient country.

The Japanese Government has already taken the

decision to allocate 1 per cent of its gross national product to economic cooperation by 1975. As a result, this country would be expected to face increasing pressures to expand its technical cooperation, which has not as yet reached the levels achieved by other developed countries.

The Government's External Economic Cooperation Council, which began its work in the autumn of 1969, established within its organization a Committee on Technical Assistance and submitted an interim report on technical assistance in July 1970. In this report it points out certain problems, such as the need to pursue effective programs to establish an integrated system and careful planning, as well as improvements in the administrative structure. Currently, Japan's assistance posture is showing signs of change as demonstrated by the commitments for increased volume of assistance by its representatives at the Ministerial Council of the OECD and the Fifth Ministerial Conference for the Economic Development of Southeast Asia, as well as expression of support for the untying of aid at the Senior Officials' Meeting of the DAC. These proposals, coming as they do at a time when Japan is about to enter an era of large-scale assistance of the 1970s, are indeed timely in giving a direction to the policy of technical assistance that would respond to the needs of the new age.

4. The Volume of Japan's Economic and Technical Assistance

Japan began to extend assistance to developing countries after the war in 1954 when she joined the Colombo Plan as a donor country. At that time its domestic economic foundation was still weak and its foreign exchange holdings meager. It thus lacked the reserve capacity to extend positive assistance to the developing countries. However, through its economic development in the 1960s, Japan's gross national product rose to second place in the free world. As a result, increasing international expectation has come to be placed on Japan to play a role commensurate with its status in the solution of the North-South problem which has become a matter of world-wide concern. For these reasons, the time has come for Japan to give serious thought to the question of economic cooperation, on the recognition that it must contribute positively to the economic development of the developing countries.

Fortunately, Japan was able to achieve an economic growth rate of over 10 per cent for four consecutive years since 1966. Its balance of payments also indicated a large surplus over two consecutive years, namely, 1.102 billion dollars in 1968 and 2.283 billion dollars in 1969. On the basis of this high growth rate and favorable balance of payments, Japan's assistance to developing coun-

tries came to 1.263 billion dollars in 1969, indicating an increase of 20.4 per cent over 1968. As a result, the ratio of aid to the GNP came to 0.76 per cent, which was a slight increase over the figure of 0.74 per cent for 1968. Of this total, the volume of official development assistance (ODA), whose increase is being called for in a world-wide context, came to 435.6 million dollars on a disbursement basis in 1969, an increase of 79.4 million dollars over the previous year. On a commitment basis the amount was 541.5 million dollars, an increase of 212.8 million dollars over the previous year.

Bilateral technical assistance, which forms part of governmental grants within the framework of official development assistance, came to 19 million dollars in 1969, an unprecedented increase of 5.3

million dollars over the figure of 13.7 million dollars for 1968. On a commitment basis the total amount of technical assistance came to 20.8 million dollars, an increase of 2.6 million dollars over the figure of 18.2 million dollars for the preceding year.

Such increase in the volume of technical assistance indicates that medical assistance, agricultural development assistance and primary products development assistance have at last been launched in earnest. It also indicates that efforts have been made to consolidate the foundation for increased technical assistance, including the expansion of domestic training facilities, improvement in the arrangements and conditions for exports and the strengthening of follow-up programs for experts and returned trainees.

CHAPTER 2

SOME PROBLEMS IN JAPAN'S TECHNICAL COOPERATION AND APPROACH REQUIRED FOR THEIR SOLUTION

According to the Pearson Report and the Tinbergen Report, development assistance during the 1960s has achieved some measure of success. The fact must not be overlooked, however, that as far as the effectiveness of assistance to the developing countries is concerned there is room for considerable improvement in several respects. It is particularly noteworthy that the role of technical assistance within the framework of aid, namely, the importance of studies on feasibility prior to extending assistance, methods to enhance effectiveness in the execution of development plans, training of technicians needed for development, studies to adapt development programs to meet local needs, as well as improvements in the social environment such as education and medical care have been emphasized.

As we enter the 1970s, the Second United Nations Development Decade, a reappraisal of Japan's technical assistance must be made and reforms instituted where necessary. As a country that has achieved a high economic growth, Japan is faced with the problem of how to harmonize its economic policy and the policies of the developing countries of the world in the common pursuit of welfare and peace. To accomplish this, a clear concept must first be established as to what external aid is and then assistance to the developing countries must be promoted with the understanding and cooperation of the entire nation. Under these circumstances, if Japan is to strengthen and expand its technical assistance, it must consider how best effective assistance can be extended with the limited financial and human resources available. Reference has been made to this matter in the past, but it might be appropriate to review some of the problems and the means by which they might be resolved.

1. Formulation of Long-term Assistance Plans

In the implementation of Japan's technical assistance in the past, the situations in the recipient countries were not always fully grasped, with the result that assistance was extended very much as requested by the recipient country. In such cases adequate information to evaluate such factors as the degree of priority of a given project, the

feasibility of a project, the local social environment and the estimate of effectiveness of a project in the recipient country was often lacking, resulting in poor performance. This in turn led to a low evaluation in many countries of Japan's technical assistance. In seeking to improve such a situation and to bring about better results, it is necessary as a first step toward more effective cooperation, to collect information on the political, economic, social, educational and cultural situation in each recipient country, to study development plans based upon such information, to define the area and scope of assistance, to pursue adequate discussions with the recipient country and finally to draw up a long-term assistance plan for that country.

2. Integration of Project Aid

In addition to assistance extended to individual projects, Japan's technical cooperation also covers such assistance as may be extended to overseas training centers, as well as to regional development mainly concerned with agricultural development. Under a more expanded technical cooperation which must be envisaged for the future, efforts must be made to enhance the effectiveness of the programs. Nevertheless, in the developing countries, the factors that retard development are not merely confined to the absence of modern industrial technology, but exist in the form of various and complex elements stemming from the social structure.

Therefore, if it is intended that development assistance should have an impact on the economic and social development of a given region, then project aid must be organically integrated with other elements before being placed in operation, if the desired results are to be obtained. For example, demonstration farms and training centers in the agricultural sector can enhance their effectiveness by operating at the same time a dissemination or promotion center for passing on modern agricultural methods to farm units in the vicinity.

Again, in giving assistance and guidance to farm units in the Asian region, since rice production alone is not sufficient, research and guidance should be provided for multiple farm management covering various dry-field crops, which is another im-

portant area of tropical agriculture. Particularly, in this region where many farms utilize live-stock, technical guidance on livestock breeding and veterinary service might be needed by the farmers. Indeed, in certain cases, an overall and integrated approach that would include the area of medicine and education may be called for. Again, with respect to projects which require large capital funds, an overall planned approach, such as extending financial assistance, would of course be necessary. It is important not to make the mistake of judging projects within the narrow framework of technical cooperation simply because it falls under that category.

Particularly, in the execution of regional development projects related mainly to agriculture, there will be an increasing demand in the future for cooperation, not only in providing technical assistance on agriculture, but in consolidating the infrastructure, such as roads, harbors and even railways. Since these matters are central to the problem of regional development, close integration between technical assistance and capital assistance will be necessary, and development projects that would truly meet the needs of the recipient country should be undertaken.

Accordingly, if the 1970s is to be regarded as an era of assistance on an expanded scale, Japan must discover and execute integrated package programs that would cause the least waste or loss to both the recipient and donor countries.

3. Improvement in the Program for the Acceptance of Trainees

The program for the acceptance of trainees numbering over one thousand a year is an extremely difficult one and entails numerous problems, since it deals directly with persons.

(1) Because of the differences in the academic background of individual trainees, as well as in the objectives of training, it is an extremely difficult proposition to bring them all together in a group training course of limited duration and still obtain the desired results. On the other hand, if a large number of trainees are to be accepted yearly, it would be impossible to provide them all with individual training courses. To solve this difficulty, therefore, in the enrolment of trainees for the present group training courses, it would be advisable to group them as far as possible by country or by region, and to provide curriculums that are best suited to the respective local situation. Furthermore, efforts should be made to move in the direction of establishing courses related to studies that are most needed in such countries or regions.

Another new undertaking should be the adoption of a more positive approach in receiving survey teams by countries. Especially in countries with

relatively high technological standards, it is the elevation of productivity relative to the systems or methods rather than the technological standard itself that is being called for. It is from such a stand-point then that the receiving of survey teams should be evaluated. With respect to regional training, the importance of which has been frequently stressed internationally, due consideration should be given. In the Asian region, in particular, in cases where the facilities and capacity to train people in the neighboring countries exist, it might be more effective to conduct training programs in these countries than in Japan. In such case, the trainees could be dispatched to a particular country in the region, with the subsistence allowance and training expenses of the receiving country borne by Japan. In other words, the adoption of the so-called third country training formula could well be an effective answer. Thought should therefore be given to expediting the establishment of such a system.

(2) With respect to training facilities, the only facilities for the exclusive use for training at present are the two centers for agriculture and fishery, respectively, of the Overseas Technical Cooperation Agency.

Obviously, however, it would not be advisable to build limitless numbers of exclusive facilities covering every field of training, from agriculture to computers. Planning based on a long-term projection, which takes into consideration the needs of the developing countries as well as the domestic situation in Japan is called for. Consequently, it should be to the benefit of both the recipient country and Japan to differentiate the subjects or categories of training into those that can produce beneficial results only if they are carried out in Japan and to those that can be handled by the developing countries, and to create an institutional arrangement for training accordingly.

4. Improvement in the Program for the Dispatch of Experts Abroad

Although industrial technology has made great strides in Japan and there are numerous technicians in the country, it is by no means an easy task to dispatch such experts overseas for technical cooperation work in the developing countries. To make this possible, numerous problems must be resolved and improvements introduced into the system of dispatching experts.

(1) Persons who are currently being dispatched overseas as experts consist of national public service officials, officials of local public entities and members of private enterprises. Therefore, since they are already engaged in the work of their respective organizations, to send them overseas would mean temporary separation from their regular work.

For the agencies and enterprises to which they belong, this would entail considerable sacrifices. From the domestic point of view, given the present situation where rapid progress is being made in industrial technology, the release of valuable personnel, even for a year or two, would create enormous difficulties. Under these circumstances, the problems mentioned above will have to be resolved, if an increasing number of experts are to be found and their services secured.

For this purpose, a long-term estimate should be made of the number of experts required in specific fields. With respect to national public service officials, steps should then be taken to secure the necessary authorized number of personnel and to ensure that the domestic functions will not be impaired during the period of assignment overseas of such personnel. With respect to private enterprises, adequate compensation should be provided for the losses sustained by the enterprises as a result of offering the services of their personnel for duty outside their organizations. Again, from the long-term viewpoint, it would be necessary to foster the cultivation of experts who would be willing to make overseas technical cooperation their life work and, for this purpose, to establish a system that would provide stability for the livelihood of such people. Furthermore, consideration should be given toward raising the efficiency of projects by mobilizing persons from private enterprises on an increasing scale.

(2) Improvement in the status and treatment of experts is one approach toward solving some of the difficulties of this program. Quite obviously the work of the expert is a difficult one, since, in addition to technological expertise, it involves the use of a foreign language. To those persons who overcome this difficulty and take up this work, remuneration commensurate with such effort should

be given as a matter of course. In Japan, where the system of employment for life is traditional, there are quite a number of people, who individually have an interest in the work of overseas cooperation. Consequently, technical cooperation cannot really be launched unless such people can be convinced that it would offer them a secure life-time occupation. Moreover, for such experts the education of their children is a matter of great concern. It would be desirable, therefore, to make arrangements to enable the parents to proceed abroad without anxiety about their children at home and for the children to utilize their vacation to visit their parents overseas.

(3) With respect to the functions of the experts dispatched abroad, since their work is being performed overseas in foreign countries concerning which current information is not always readily available, it is not possible to direct or manage detailed business from Japan. Accordingly, considerable powers should be given to skilled and capable experts in the execution of programs so that they will be allowed flexibility in adopting such measures as may be required by the local situation, thus enabling them to perform their duties more effectively. It is important, in conducting any project, to always bear in mind that technical assistance must never become the self-complacent undertaking of the donor country without understanding and consideration of actual conditions in the recipient country.

5. Improvement in the Administrative System

Since it is expected that the volume of technical assistance will increase further and the work will become more diversified in the future, one of the most important tasks ahead is to consolidate the administrative structure to meet this new situation.

PART II

DETAILED DISCUSSION

CHAPTER 1

ACCEPTANCE OF TRAINEES

Section 1. Outline of Program

Since 1954, when Japan first accepted trainees from the developing countries of Asia under the United States Training Plan for Third Countries at the expense of the United States, followed next year by the commencement, on a substantial scale, of trainees acceptance at its own expense under the Colombo Plan, Japan has received and trained, up to the present time, 12,489 trainees from countries in Asia, Africa, the Middle and Near East, Central and South America and other regions.

Looking back over the growth and progress made by this program, the changes that have occurred in its pattern, volume and quality from its early stages up to the present clearly reflect the manner in which the economic and social development and progress of the developing countries have been achieved during this period. The process of transition of this program over the last sixteen years can be divided roughly into the following pattern.

(1) First Period: Period of Infancy (1954-1960)

This was a period in which high government officials, mainly from Asian countries, were invited to participate in short-term inspection programs organized on an individual basis, to deepen their understanding of actual conditions in Japan.

(2) Second Period: Period of Growth (1961-1965)

During this period the training program which had hitherto been directed mainly toward Asian countries was expanded to cover the Middle and Near East, Africa and Central and South America.

The acceptance of middle-level technical personnel increased sharply and the subjects as well as the scope of training were significantly expanded. Thus technical training covering every field of activity from "rice production to atomic energy" was begun.

In the meantime, in addition to the individual training courses, group training courses were established, while a longer training period became more general. Also trainees came to be accepted on a multilateral basis through programs of international organizations, such as the IAEA and FAO, and trainees were accepted into research and training institutions of the national government, public organizations and private enterprises.

(3) Third Period: Period of Development (1965-1970)

During this period the number of trainees ac-

cepted exceeded 1,000, and Japan's training program formula (such as group training offers) came to be accepted by the developing countries. Previously invitations to Japan had been extended sporadically to persons from specially designated agencies. However, with the improvement in facilities for the acceptance of trainees, personnel related to their various technical assistance programs, such as local instructors (counterparts) of overseas technical cooperation centers, local assistants of Japanese experts coming under the program for the dispatching of such personnel, and local technical staff for development survey projects came to be received in Japan. Thus an element having the character of an assistance type formula possessing an organic rapport with the various types of technical assistance was introduced into the program for the acceptance of trainees. The stage was thus reached where some strategic results could be expected from Japan's technical cooperation.

(4) Fourth Period: Period of Transition from Quantity to Quality (1970-1975)

The volume and scale of the present program expanded rapidly from the First to the Third Period. In connection with the future development of this program the "degree of technological accomplishment" of the trainees in Japan will be brought under careful scrutiny. From the standpoint of reducing the gap in the economic and social development between the developed and developing countries and in view especially of the problem of how to narrow the "technical gap" between the donor and recipient countries without delay, this is only natural in view of the high expectation the developing countries place on achieving quick results from this program.

To solve this problem, the group training system which was established during the Third Period should be reappraised, including its training curriculums, and a thorough study of appropriate methods to assess qualifications, such as "diplomas" and "certificates" issued by advanced third countries to trainees who have completed their courses should be made, covering the years up through 1975.

The transition of the program for the acceptance of trainees has been described above as falling largely into four distinct patterns. The primary objective of the trainees acceptance program is to

transmit "technology" both in depth and in scope to the developing countries through the medium of trainees. However, as can be seen from several appraisals of results made in the past, it is not only "technology" but many other cultural and social elements of Japan that will be transmitted to those countries by the individual trainees who have returned from Japan. Together with the various types of "technical assistance" the manner in which this program should evolve in the future should be carefully studied with a view to giving it both substance and quality.

Section 2. General Situation of Trainees Acceptance in Fiscal 1969

For the current fiscal year (1969) a total of 1951 trainees were accepted of whom 767 came under the group training program consisting of 80 courses and 824 under the individual training program consisting of 432 courses. Of the above new courses under the group training program established for this fiscal year consisted of nine courses, namely, truck farming(Asian Tax Seminar, bamboo processing, flood warning system, criminal judicial administration, mining, plastics, women's administration seminar, and garbage disposal facilities

1. Group Training Course

Table of Group Training Courses Given at Tokyo Headquarters
(Total 57 courses) (* indicates new course)

Name of Course	Duration	Main Institution and Facilities	Number of Participants by Country	
Prevention and Treatment of Crime and Delinquency	May 5, 1969 through Aug. 1, 1969	United Nations Asia and Far East Institute for the Prevention of Crime and Treatment of Offenders	India 1 Korea 1 Pakistan 1 Singapore 1 Rep. of China 1 Malaysia 1	Indonesia 1 Nepal 1 Philippines 1 Thailand 1 Ceylon 1 Total 11
Local Government Administration	Jan. 1, 1970 through Apr. 19, 1970	Local Autonomy College Ministry of Home Affairs	Bhutan 1 Philippines 1 Malaysia 2 Rep. of China 1 Indonesia 2 Laos 1	Tanzania 1 Korea 2 Rep. of Viet Nam 2 Thailand 2 Pakistan 2 Total 17
Agricultural Cooperatives	Aug. 25, 1969 through Dec. 24, 1969	Institute for the Development of Agricultural Cooperation in Asia	Mexico 2 Afghanistan 1 India 1 Ceylon 3 Philippines 2 Laos 1 Ethiopia 2	Indonesia 1 Iran 3 Malaysia 3 Thailand 2 Ghana 1 Turkey 2 Total 24
Fresh-Water Fish Culture Propagation Research	Apr. 7, 1969 through Nov. 25, 1969	Fresh-Water Fisheries Research Laboratory, Fisheries Agency	Ceylon 1 Nepal 1 Philippines 2 Laos 2 Thailand 2	Iraq 1 Afghanistan 1 Brazil 1 Indonesia 1 Total 12

management.

The courses which were held in fiscal year 1968 but were not held in the current fiscal year consisted of six courses, namely, on women for crime prevention, teratology, cancer control, carrier telephone engineering and Asian Highways Seminar. The principal role of carrying out the training of such large numbers of trainees and courses was assumed by the Tokyo Headquarters, the Tokyo International Centre, the Osaka International Training Centre, the Nagoya International Training Centre, the Uchiyama International Agricultural Training Centre and the Misaki International Fishery Training Centre with the cooperation and deep understanding of this program on the part of research and training institutions of national and public agencies and the factories of private industry. As a result the training program for a total of 1951 trainees was effectively carried out.

When the number of trainees accepted are broken down by fields, agricultural and fisheries, account for 24 per cent of the total with high ratios also in the welfare and postal service fields, while by area breakdown the Asian region took the largest share.

Name of Course	Duration	Main Institution and Facilities	Number of Participants by Country			
Rice Cultivation Research	May 25, 1969 through Dec. 25, 1969	Central Agricultural Experimental Station, Ministry of Agriculture and Forestry	Burma	1	Indonesia	1
			Thailand	2	Philippines	2
			Ceylon	3	Total	9
Livestock Hygiene Research	May 10, 1969 through Nov. 9, 1969	National Institute of Animal Health, Ministry of Agriculture and Forestry	Cambodia	1	Colombia	1
			Philippines	1	Argentina	1
			Indonesia	1	Brazil	2
			Ceylon	1	Mexico	1
			Laos	1	Rep. of Viet Nam	1
			Thailand	1	Total	12
Forest Products Research	May 15, 1969 through Nov. 14, 1969	Government Forestry Experiment Station, Forestry Agency	Afghanistan	1	U. A. R.	1
			Thailand	1	Total	3
Forestry Research	May 15, 1969 through Nov. 14, 1969	Government Forestry Experiment Station, Forestry Agency	Ethiopia	1	Brazil	1
			Thailand	1	Indonesia	1
					Total	4
Marine Fisheries Research (including Fishing Gear and Methods)	(1) July 1, 1969 through Dec. 20, 1969 (2) Sept. 15, 1969 through Mar. 14, 1970	Tokai Regional Fisheries Laboratory, Fisheries Agency	Ceylon	1	Thailand	1
			Peru	1	India	1
			(fishing gear and methods)			
			Chile	1	Indonesia	1
			Peru	1	Chile	1
					Total	8
Bamboo Processing*	July 1, 1969 through Apr. 3, 1970	Kyushu Branch, Manufacturing Science Research Institute, Ministry of Int'l Trade & Industry	Nepal	1	Laos	2
			Thailand	1	Philippines	1
			Burma	1	Total	6
Criminal Judicial Administration*	Sept. 14, 1970 through Dec. 14, 1970	United Nations Asia and Far East Institute for the Prevention of Crime and Treatment of Offenders	Rep. of China	1	Malaysia	1
			Indonesia	1	Nepal	1
			Iran	2	Philippines	2
			Korea	1	Thailand	3
					Total	12
Crime Prevention (Senior Course)	Feb. 18, 1970 through Mar. 31, 1970		India	1	Nepal	1
			Indonesia	1	Singapore	1
			Iran	2	Thailand	2
			Korea	1	Total	9
Microwave	Sept. 15, 1969 through Dec. 24, 1969	Nippon Telegraph and Telephone Public Corporation	Brazil	3	Kenya	1
			Cambodia	1	Sudan	1
			Mexico	1	Indonesia	1
			Iran	2	Thailand	1
			Colombia	1	Peru	1
			Ethiopia	1	Laos	1
			Malaysia	1	Somali	1
					Total	17
Telephone Exchange	Feb. 15, 1970 through May 15, 1970	Nippon Telegraph and Telephone Public Corporation	Afghanistan	1	Colombia	2
			Cambodia	1	India	1
			Ceylon	1	Iran	1
			Pakistan	1	Thailand	2
			Nigeria	1	Peru	1
					Total	12
Telex Communication Engineering	Feb. 10, 1970 through May 9, 1970	Kokusai Denshin Denwa Co., Ltd.	Pakistan	1	Afghanistan	1
			Iran	1	Chile	1
			Ethiopia	1	Philippines	1
			Sudan	1	Malaysia	1
			Cambodia	1	Kuwait	1
			Colombia	1	U. A. R.	1
			Korea	1	Total	13
International Telegraph and Telephone Services	Jan. 10, 1970 through Mar. 27, 1970	Kokusai Denshin Denwa Co., Ltd.	Malaysia	1	Indonesia	1
			Thailand	1	Singapore	1
			Argentina	1	Mexico	1
			Afghanistan	1	Rep. of China	1
			Iran	1	Total	9

Name of Course	Duration	Main Institution and Facilities	Number of Participants by Country	
Water Supply Facilities	Nov. 1, 1969 through Jan. 31, 1970	Environment Sanitation Bureau Ministry of Health and Welfare	Afghanistan 2 Thailand 3 Iran 1 Cambodia 1 Nigeria 1	Ceylon 1 Iraq 1 Rep. of China 1 Rep. of Viet Nam 1 Philippines 1 Total 13
Garbage Disposal Facilities*	Jan. 15, 1970 through Apr. 14, 1970	Environment Control Section, Environment Sanitation Bureau Ministry of Health & Welfare	Rep. of China 1 India 1 Korea 2 Malaysia 2	Singapore 1 Sudan 1 Thailand 1 Total 9
Family Planning (Seminar)	Mar. 1, 1970 through Mar. 25, 1970	Family Planning Federation of Japan	Indonesia 7 Philippines 1 Rep. of Viet Nam 3 Rep. of China 1	Ceylon 1 Malaysia 1 Thailand 1 Turkey 1 Total 16
Seminar on Economic Planning	Feb. 25, 1970 through Apr. 10, 1970	Economic Research Institute Economic Planning Agency	Thailand 2 Iran 1 Peru 1 Paraguay 1 Mexico 3 Argentina 1	Rep. of China 1 Iraq 1 Equador 1 U. A. R. 1 Philippines 2 Total 15
Tuberculosis Control	May 12, 1969 through Sept. 30, 1969	Japan Anti-Tuberculosis Association, Tuberculosis Research Institute	India 1 Malaysia 1 Philippines 1 Indonesia 2	Afghanistan 1 Iran 1 Korea 1 Thailand 1 Total 9
Surgical Treatment of Pulmonary Tuberculosis	Nov. 1, 1969 through Mar. 31, 1970	Japan Anti-Tuberculosis Association, Tuberculosis Research Institute	Rep. of China 1 Rep. of Viet Nam 1 Philippines 1	India 1 Indonesia 1 Thailand 1 Total 6
Educational Television Program	July 15, 1969 through Oct. 10, 1969	Central Training Institute, Japan Broadcasting Corporation	Korea 1 Rep. of Viet Nam 2 Philippines 1 Rep. of China 4	Turkey 1 Nigeria 2 Thailand 1 Mexico 2 Total 14
Television Broadcasting	Apr. 14, 1969 through June 24, 1969	Radio Regulatory Bureau, Ministry of Postal Services	Pakistan 2 Indonesia 1 Rep. of China 1 Iran 1	Uganda 1 Thailand 2 Kenya 1 Total 9
Computer	Jan. 15, 1970 through Mar. 14, 1970	Data Processing Society	Cambodia 1 Singapore 1 Korea 1 Mexico 1 Rep. of China 1 Rep. of Viet Nam 2	Ceylon 1 Malaysia 1 Pakistan 1 Thailand 2 Ghana 1 Total 13
Telephone Lines	Apr. 15, 1969 through July 14, 1969	Nippon Telegraph and Telephone Public Corporation	Iraq 1 Cambodia 1 Thailand 2 Panama 1	Kuwait 2 Colombia 1 Bolivia 1 Mexico 1 Total 10
Television Technology	July 15, 1969 through Nov. 20, 1969	Central Training Institute, Japan Broadcasting Corporation	Philippines 1 Malaysia 1 Thailand 2 Nigeria 1	Rep. of China 1 Korea 2 Rep. of Viet Nam 1 Total 9
Seminar for Senior Staffs in Postal Administration	Feb. 1, 1970 through Feb. 28, 1970	Postal Bureau, Ministry of Postal Services	Thailand 2 Singapore 1 Malaysia 1 Korea 2	Rep. of China 2 Laos 1 Indonesia 2 Pakistan 1 Total 12

Name of Course	Duration	Main Institution and Facilities	Number of Participants by Country			
Short-Wave Radio Engineering	June 8, 1969 through Oct. 7, 1969	Kokusai Denshin Denwa Co., Ltd.	Cambodia Syria U. A. R. Ghana Iraq	1 1 1 1 1	Afghanistan Peru Mexico Sudan Total	1 1 1 1 9
Seminar for Senior Staffs in Telecommunication Management	Oct. 14, 1969 through Oct. 30, 1969	Administrative Director's Office of Ministry of Postal Services	Colombia Chile Equador Bolivia Guatemala	1 1 1 1 1	El Salvador Costa Rica Brazil Mexico Venezuela Total	1 1 1 1 1 10
Satellite Communication	Oct. 15, 1969 through Dec. 14, 1969	Kokusai Denshin Denwa Co., Ltd.	Brazil Ethiopia Iran Kenya Mexico Thailand	1 1 1 1 2 1	Peru China Korea Saudi Arabia Pakistan Total	1 1 1 1 1 12
Southeast Asia Telecommunication Development Seminar*	Mar. 11, 1970 through Mar. 24, 1970	Ministry of Postal Services	Rep. of Viet Nam Laos Rep. of China	1 1 1	Malaysia Indonesia Thailand Total	2 1 1 7
Automobile Service Engineering	June 1, 1969 through Dec. 17, 1969	Toyota Motor Sales Co., Ltd. Chubu Nippon Automobile Service Engineering School, Nissan Motor Co., Ltd.	Laos Burma Indonesia Kenya Thailand Pakistan	1 2 2 1 4 1	Malaysia Sudan Nigeria Dominican Rep. Philippines Total	1 1 1 1 1 16
Railway Signal and Communication Engineering	Mar. 20, 1970 through July 19, 1970	Sales Training School, Japanese National Railways, Japan Signal Industry Association	Thailand Indonesia Argentina	1 2 1	Brazil Iran Pakistan Total	1 1 1 7
Railway Rolling Stock Engineering	May 10, 1969 through Sept. 9, 1969	Japanese National Railways Japan Railway Rolling Stock Export Association	Sudan Bolivia Iran Indonesia	1 1 2 1	Chile U. A. R. Argentina Thailand Total	1 2 1 1 10
Bridge Engineering	June 10, 1969 through Sept. 9, 1969	Ministry of Construction Japan Highway Public Corporation	Indonesia Laos Thailand Iran	1 1 2 1	Philippines India Malaysia Total	1 1 1 8
Surveying and Mapping	May 10, 1969 through Nov. 9, 1969	Geographical Survey Institute Ministry of Construction	Thailand Philippines	1 2	Bolivia Total	1 4
Seismology and Earthquake Engineering	Sept. 1, 1969 through Aug. 31, 1970	International Seismological Engineering Department Architectural Research Institute, Ministry of Construction	Philippines Afghanistan Venezuela Bolivia Taiwan U. A. R. Iran Peru Chile Colombia	2 2 1 1 1 1 1 3 1 1	Yugoslavia Brazil Equador Costa Rica Pakistan India Nepal Greece Czechoslovakia Total	1 1 1 1 1 2 1 1 1 24
Port and Harbor Engineering	Aug. 1, 1969 through Nov. 30, 1969	Ports and Harbors Technical Research Institute, Ports and Harbors Bureau, Ministry of Transportation	India Philippines U. A. R. Ceylon Indonesia Venezuela	2 1 2 1 1 1	Burma Nigeria South Yemen Syria Thailand Malaysia Total	1 1 1 1 3 1 16
Ports and Harbors (Seminar)	Jan. 26, 1970 through Mar. 25, 1970	Ports and Harbors Technical Ministry of Transportation	Venezuela Thailand Indonesia U. A. R. Colombia Iran Singapore India Korea	1 2 2 1 1 1 1 1 1	Argentina Malaysia Ceylon Turkey Pakistan Iraq Chile Rep. of China Total	2 1 1 1 1 1 1 1 20

Name of Course	Duration	Main Institution and Facilities	Number of Participants by Country	
Narcotic Smuggling Control (Seminar)	Aug. 29, 1969 through Oct. 2, 1969	Safety Division, Criminal Investigation Bureau, National Police Agency	Singapore 1 Philippines 3 India 2 Thailand 2 Malaysia 1 Indonesia 2	Laos 1 Rep. of Viet Nam 2 Korea 2 Iran 2 Rep. of China 1 Total 19
Vocational Training (Seminar)	Sept. 24, 1969 through Nov. 23, 1969	Institute of Vocational Training Vocational Training Bureau Ministry of Labor	India 1 Iran 1 Sudan 1 Uganda 1 Philippines 1 Burma 1 Ethiopia 1 Indonesia 1 Korea 2	Thailand 1 U. A. R. 1 Rep. of China 3 Laos 1 Singapore 1 Nigeria 1 Somalia 1 Nicaragua 1 Total 20
Vocational Training Instructor (Seminar)	Apr. 7, 1969 through June 6, 1969	Ishikawajima Harima Heavy Industries, Institute of Vocational Training, Vocational Training Bureau, Ministry of Labor	Korea 1 Ceylon 1 Ethiopia 1 Turkey 1	Philippines 2 U. A. R. 2 Indonesia 1 Laos 1 Total 10
Vocational Training Counselor Education Course	Apr. 7, 1969 through Mar. 31, 1970	Institute of Vocational Training	Tanzania 1 Kenya 1 Burma 1 Ceylon 3 Ethiopia 2 Indonesia 3 Iraq 1	Korea 1 Laos 2 Philippines 3 Thailand 3 U. A. R. 1 Rep. of Viet Nam 1 Sudan 1 Total 24
Railway Planning Operation*	Sept. 1, 1969 through Oct. 31, 1969	Headquarters, Japanese National Railways	Argentina 1 Brazil 1 Burma 1 Rep. of China 1	Indonesia 2 Iran 1 Korea 1 Mexico 1 Total 9
Women Administration (Seminar)*	Mar. 15, 1970 through Apr. 20, 1970	Women and Youth Division Ministry of Labor	Malaysia 1 Burma 1 Thailand 2 Philippines 1	Korea 1 Indonesia 1 Rep. of China 1 Total 8
Asia Tax Seminar*	Sept. 1, 1969 through Oct. 25, 1969	Tax Bureau, Ministry of Finance	Indonesia 2 Rep. of China 2 Korea 2 Ceylon 2	Thailand 2 Malaysia 2 Philippines 2 Singapore 2 Total 16
Hydro-Electric Power Engineering	Aug. 24, 1969 through Dec. 17, 1969	Electric Power Development Co., Ltd., The Chubu Electric Power Co., Ltd.	Brazil 2 Guatemala 1 Indonesia 2 Thailand 2 Turkey 1	Malaysia 1 Nigeria 1 Iran 1 Laos 1 Total 12
Thermal-Electric Power Engineering	Aug. 24, 1969 through Dec. 17, 1969	The Tokyo Electric Power Co., Ltd., The Kansai Electric Power Co., Ltd.	Brazil 3 Venezuela 1 Colombia 1	Peru 3 Turkey 1 Total 9
National Government Administration	Jan. 10, 1970 through Apr. 18, 1970	Institute of Public Administration, National Personnel Authority	Indonesia 2 Philippines 1 Thailand 1 Korea 1 Malaysia 1 Nepal 1	Pakistan 1 Rep. of Viet Nam 2 Laos 1 Bhutan 1 Rep. of China 1 Total 13
Trade Promotion	May 10, 1969 through July 9, 1969	The World Trade Center	Peru 1 Colombia 1 Cambodia 1 Thailand 1 Malaysia 1 India 1 Pakistan 1 Korea 1 Philippines 1 Iran 1	Afghanistan 1 Iraq 1 Malta 1 Ceylon 1 Rep. of China 1 Ethiopia 2 Ghana 1 Indonesia 1 Kenya 1 U. A. R. 2 Total 22

Name of Course	Duration	Main Institution and Facilities	Number of Participants by Country		
Industrial Standardization	Nov. 20, 1969 through Mar. 3, 1970	Ministry of International Trade and Industry, Japan Standards Association	India 2 Korea 1 Philippines 2 Turkey 1 Argentina 1 Mexico 1 Indonesia 1	Pakistan 1 Thailand 2 U. A. R. 2 Rep. of China 1 Iran 1 Malaysia 1 Rep. of Viet Nam 1	Total 18
Iron and Steel	Jan. 17, 1970 through Apr. 20, 1970	Ministry of International Trade and Industry, Japan Iron and Steel Federation	Indonesia 2 Philippines 1 Brazil 2 Singapore 1	India 1 Rep. of China 1 Korea 1 Thailand 2	Total 11
Offshore Prospecting	May 10, 1969 through Dec. 20, 1969	Geological Survey Station, Ministry of International Trade and Industry	Indonesia 1 Thailand 1 Rep. of China 2 Korea 1	Philippines 1 Rep. of Viet Nam 1 Saudi Arabia 1	Total 8
Groundwater Resources Development	June 1, 1969 through Dec. 20, 1969	Geological Survey Station, Ministry of International Trade and Industry, Japan Well-Drilling Association	Afghanistan 1 Ceylon 1 Iran 1 Ethiopia 1 Indonesia 2 Laos 1	Thailand 1 Philippines 1 Korea 1 Saudi Arabia 1 Rep. of China 1	Total 12
Flood Warning* (Seminar)	Sept. 10, 1969 through Nov. 1, 1969	Ministry of Construction	Rep. of China 3 Korea 1 Laos 1	Philippines 3 Thailand 2 Rep. of Viet Nam 1	Total 11
Mining*	Oct. 1, 1969 through July 31, 1970	Japan Mining Association	Korea 1 Philippines 2 Thailand 1	Bolivia 1 Peru 3 Congo 2	Total 10

Table of Group Training Courses Given at Osaka International Training Centre
(Total 10 courses) (* indicates new course)

Training of Highly Skilled Workers	Apr. 7, 1969 through Mar. 31, 1970	Higashi Yodogawa Vocational Center	Burma 2 Malaysia 1 Pakistan 1 Philippines 1 Iran 1	Korea 1 Thailand 1 Ceylon 1 Indonesia 1 Ethiopia 1	Total 11
Dentistry	Apr. 7, 1969 through Mar. 31, 1970	Osaka Dental College	Philippines 2 Thailand 1 Korea 2	Nepal 1 Bolivia 1	Total 7
Offset Printing	Apr. 7, 1969 through Sept. 4, 1969	Japan Typology Society	Thailand 1 Nepal 1 Malaysia 1 Burma 1	Indonesia 1 Afghanistan 1 Ethiopia 1 Pakistan 1	Total 8
Glass Engineering*	Oct. 25, 1969 through Mar. 31, 1970	Osaka Industrial Technological Laboratory	Philippines 2 Indonesia 1 Thailand 1 Korea 1	Pakistan 1 Syria 1 Turkey 1	Total 8
Agricultural Machinery Repair and Maintenance	June 14, 1969 through Dec. 13, 1969	Kubota Iron and Machinery Works, Ltd., Yanmar Diesel Co., Ltd.	Nepal 1 Thailand 2 Philippines 2 Rep. of Viet Nam 1	Indonesia 1 Ceylon 1 Ethiopia 1	Total 9
Smaller Enterprises Management	Jan. 19, 1970 through Mar., 1970	The Osaka International Training Centre	Indonesia 1 Thailand 1 Ceylon 1 Nepal 1 Peru 1 Malaysia 1	Korea 1 Pakistan 1 Philippines 1 U. A. R. 1 Rep. of China 1	Total 11

Name of Course	Duration	Main Institution and Facilities	Number of Participants by Country			
Maintenance and Improvement of Railways	July 1, 1969 through Sept. 30, 1969	Osaka Railway Management Bureau, Japanese National Railways	Philippines	1	U. A. R.	2
			Indonesia	2	Rep. of China	1
			Iraq	2	Thailand	1
					Total	9
Plastics*	Nov. 15, 1969 through Mar. 31, 1970	Osaka Municipal Industrial Research Institute	Iran	1	Turkey	1
			Thailand	1	Philippines	1
			Indonesia	1	Singapore	1
					Total	6
Mint	Mar. 1, 1970 through July 20, 1970	Osaka Mint Bureau	Nepal	1	Thailand	1
			Pakistan	1	Rep. of China	1
			Indonesia	1	Korea	1
					Total	6
Electronics	July 1, 1969 through Dec. 14, 1969	Osaka Prefectural Industrial Promotion Center	Pakistan	1	Thailand	1
			Philippines	1	U. A. R.	2
			Iran	1	Rep. of China	1
					Total	7

Table of Group Training Courses Given at Nagoya International Training Centre
(Total 9 courses)

Ceramic Engineering	Apr., 1969 through Dec., 1969	The Nagoya Industrial Technological Laboratory, Ministry of International Trade and Industry	Brazil	1	Nigeria	1
			Chile	1	Philippines	1
			India	1	Thailand	1
			Indonesia	1	U. A. R.	1
					Total	8
Automobile Service Engineering Techniques	June, 1969 through Dec., 1969	Toyota Motor Sales Co., Ltd.	Burma	2	Indonesia	1
			Thailand	2	Laos	1
			Dominican Rep.	1	Philippines	1
					Total	8
Electric Plating Techniques	June, 1969 through Dec., 1969	The Nagoya Industrial Technological Laboratory, Ministry of International Trade and Industry	Burma	2	Indonesia	1
			Thailand	2	Laos	1
			Dominican Rep.	1	Philippines	1
					Total	8
Poultry Farming	June, 1969 through Dec., 1969	Okazaki National Livestock Breeding Station, Ministry of Agriculture and Forestry	Afghanistan	1	Malaysia	1
			Ceylon	1	Laos	1
			Indonesia	1	Philippines	1
			Thailand	1	Total	7
Smaller Enterprises Development (Seminar)	June, 1969 through Aug., 1969	Nagoya Chamber of Commerce and Industry	Indonesia	2	Nigeria	1
			Brazil	1	Paraguay	1
			Ceylon	1	Peru	1
			Thailand	1	Turkey	1
					Total	9
Foundry	Sept., 1969 through Apr., 1970	The Nagoya Industrial Technological Laboratory	Afghanistan	1	Korea	1
			Brazil	1	Nigeria	1
			Rep. of China	1	Pakistan	1
			Indonesia	1	Philippines	1
			Thailand	1	Total	9
Regional Development	Jan., 1970 through May, 1970	Nagoya Chamber of Commerce and Industry	U. N. Trainee		OCTA Trainee	
			Afghanistan	1	Ceylon	1
			Rep. of China	1	Rep. of China	1
			India	2	Indonesia	1
			Indonesia	1	Iran	1
			Laos	1	Korea	1
			Nepal	1	Thailand	1
			Thailand	1	Philippines	2
			Rep. of Viet Nam	1	Brazil	2
					Pakistan	1
					Total	11
					Total	20
Textile Engineering	Feb., 1970 through June, 1970	The Nagoya Industrial Technological Laboratory	Brazil	1	Rep. of China	1
			Ceylon	1	Thailand	1
			Indonesia	1	U. A. R.	1
					Total	6

Name of Course	Duration	Main Institution and Facilities	Number of Participants by Country			
Shipbuilding Technology	Oct., 1969 through Apr., 1970	Nagoya Shipbuilding Yards of Ishikawajima-Harima Heavy Industries Ltd.	Burma	1	Indonesia	1
			Rep. of China	1	Iran	1
			India	1	Thailand	1
			U. A. R.	2	Total	8

Table of Group Training Courses Given at Uchiyama International Training Centre
(U. I. A. T. C.) (Total 4 courses) (* denotes new course)

Rice Cultivation and Extension Work	Apr., 1969 through Feb. 29, 1970		Bhutan	1	Burma	1
			India	1	Indonesia	2
			Philippines	2	Laos	1
			Malaysia	2	Pakistan	1
			Thailand	2	Total	13
Agricultural Machinery Utilization	ditto		Afghanistan	1	Bhutan	1
			Burma	1	Brazil	1
			India	1	Indonesia	2
			Philippines	1	Laos	1
			Malaysia	2	Thailand	2
					Total	13
Land Improvement	ditto		Afghanistan	1	Ghana	2
			Iran	1	Iraq	1
			Philippines	1	Indonesia	1
			Laos	1	Nigeria	1
			Thailand	1	Total	10
Truck Farming*	ditto		U. A. R.	2	Afghanistan	1
			India	1	Ceylon	1
			Iran	1	Malaysia	1
			Philippines	2	Tanzania	1
			Thailand	1	Laos	1
					Total	12

Table of Group Training Courses Given by the Misaki International Fishery Training Centre (M. I. F. T. C.) (one course)

Name of Course	Duration	Number of Participants by Country			
Coastal Fisheries	Apr. 7, 1969 through Mar. 6, 1970	Burma	1	Mexico	1
		Ceylon	1	Nigeria	2
		India	1	Panama	1
		Indonesia	2	Peru	1
		Iran	2	Philippines	2
		Kenya	1	Singapore	1
		Lebanon	1	Sudan	1
		Malaysia	2	Tanzania	1
		Thailand	2	Turkey	1
				Total	24

2. Individual Training Course

The total number of trainees accepted for individual training courses for the fiscal year 1969 came to 824, which was 57 more than the number accepted for group training courses for the same fiscal year. The greater effectiveness of individual training courses lies in the fact that by flexible operation of this program the requests of the countries sending the trainees can be met and the training courses can be adapted to the technical levels of the participating trainees. In particular,

in the long training courses of from six months to a year in the experimental stations and research institutes of the various ministries and the research institutions of universities and other organizations, the trainees have had opportunity to accomplish adequate research in their particular fields of specialization and achieved significant results.

In the training courses involving short-term inspection tours, the acceptance of high-level technicians is increasing (30 for the current fiscal year). These government officials, by deepening their knowledge and understanding of Japan and

strengthening the ties of friendship between their countries and Japan, are playing an important role in the further enhancement of the achievements in technical cooperation. Also for certain specific fields group training courses were given where all the participants came from the same country (Ceylon Textile Course, Korean Taxation Course and Burma Railway Tunnel Course etc.) By comparison to the general group training courses, these courses had certain advantages, such as the fact that the technological backgrounds of the participants were similar, that the objectives of training were the same and that the technological levels of the participants were relatively even. Therefore, significant results were achieved.

Since individual training courses have had considerable success in comparison to group training courses due to the advantages mentioned above, requests for individual training courses from various countries are increasing yearly.

3. Orientation

In order to help trainees to deepen their understanding and to remove any anxiety over their day-to-day livelihood while in Japan, a general orientation program, prior to the commencement of training, is being provided, including lectures on Japan's geography, history and economic, social and cultural affairs, a general explanation about technical cooperation and the work of the OTCA, and briefings on living conditions in Japan. Such orientation is normally given for a week. For this fiscal year a total of 62 orientations were given at Tokyo and other local Centers in which 1,020 persons participated.

4. Japanese Language Course

Japanese language courses are being given to trainees to enable them to have a better understanding of Japan, to make their daily life more convenient as well as to assist them in acquiring their technical training. Of late the demand for Japanese language education among the trainees is rising.

In these circumstances, for the current fiscal year, Japanese language education has been expanded and strengthened both in quality and in scope. The number of both the Elementary Night Courses and the Intensive Courses has been increased and Intermediate Level Courses have been newly established. Altogether 586 trainees were given Japanese Language Courses in Tokyo and the other Local Centers.

5. Health and Welfare

In order to protect the trainees from illness and accidents and to enable them to experience a full and enjoyable period of training in Japan,

medical treatment, including regular physical check-ups and preventive inoculations, was provided, while recreational activities, such as bus trips, visits to Japanese homes, social gatherings and sporting events, were organized. For this fiscal year, moreover, measures to insure trainees against accidents were taken. These included insurance policies amounting to 13,900 dollars for trainees engaged in practical training in courses involving considerable danger, such as the Burma Railway Tunnel Course and the Mining Course, as well as highway accident insurance amounting to 33,300 dollars for trainees participating in bus tours during orientation or other bus trips.

6. Evaluation

The training evaluation with regard to trainees accepted during the fiscal year 1969, to be made at the time of return to their respective countries, was conducted with the two following objectives:

(1) Estimate and evaluation of the results of training in Japan.

(2) Diagnosis of future measures to consolidate and strengthen the program.

The evaluation was directed mainly to the group training courses and covered the following points:

(1) Estimate and Evaluation of the results of training

(a) To what extent were the objectives of the training courses attained? (degree of achievement of objectives)

(b) To what extent were the trainees able to assimilate knowledge and technology? (degree of acquisition of knowledge and technology by trainees)

(c) To what extent were the trainees able to satisfy their expectations of the training program? (degree of satisfaction of trainees)

(2) Diagnosis for Purpose of Strengthening the Training Program

(a) Were the training courses formulated consistent with the objectives and were they managed and executed effectively? (programming and operation)

(b) In the execution of training programs, what kind of problems existed between the trainees and the recipient side (OTCA and other training institutions). (problems in the execution of training)

(c) Was the selection of the training courses appropriate? (appropriateness of the courses)

(d) What sorts of problems were there in connection with the daily life of the trainees? (problems concerning daily life)

7. After-care of Returned Trainees

(1) Survey of the Actual Situation of Returned Trainees

The survey of the actual situation of returned trainees has been carried out each year by regions. Since 1965 until the last fiscal year, such surveys were completed with respect to countries in South-east and Southwest Asia, as well as Latin America. Accordingly, for the present fiscal year, staff members of the OTCA were sent to countries in the Middle East and African regions, namely, Iran, Iraq, Turkey, UAR, Ethiopia, Sudan, Kenya and Tanzania, where on-the-spot surveys of the situation of returned trainees were conducted. In these surveys much valuable information and data were obtained, such as the status of utilization by the

returned trainees of technology acquired in Japan, local technical problems and requests to the OTCA.
(2) Follow-up Activities (literature and supplying of equipment)

Technical literature, such as KENSHU-IN, FARMING JAPAN, LOOK JAPAN, TECHNOCRAT and HOW TO DEVELOP SMALLER INDUSTRIES, were sent to returned trainees.

With respect to the granting of machinery and equipment, as can be seen in the following table, there were in all 15 cases where machinery and equipment were provided, of which 6 were in general equipment and 9 in medical equipment.

	Machinery and Equipment Provided	Recipient Country*	Destination
General Equipment	Carpentry equipment Fishing nets etc.	Malaysia Lebanon	Advisory Services Division, MARA Fisheries Bureau
	Equipment used for vocational training	Sudan	Vocational Training Center Khartoum
	Equipment for fisheries research	Costa Rica	Agronomy of the Ministry of Agriculture
	Farm cultivating machinery	U. A. R.	Department of Vegetable Crop Research Centre
	Tank apparatus for maintaining Constant sea water temperature	Korea	Fisheries Research and Development Agency
Medical Equipment	Equipment for Tuberculosis Surgery X-ray car	Philippines Philippines	Jose R. Reyes Medical Hospital Philippines Department of Health Naga City
	Equipment for Tuberculosis Surgery	Afghanistan	Avicenna Chest Clinic
	Equipment for Tuberculosis Surgery	Pakistan	Jinnah Postgraduate Medical Center
	Equipment for Use in Examination of Cancer of the Stomach	Thailand	Royal Thai Air Force Hospital
	Equipment for Tuberculosis Surgery Gastrocope	Thailand Chile	Central Chest Hospital Nonburi Hospital J.J. Aguirre Universidad de Chile
	Equipment for Tuberculosis Surgery Gastrocope	Uganda Nigeria	Kawolo Hospital University of Ibadan

(3) Alumni Associations

In recent years there has been a growing trend among ex-trainees to form alumni associations in their respective countries. Already, in Malaysia, the Philippines, Argentina and India, such associations have been formed, since several years ago and are carrying on various activities. In the Republic of China and Indonesia preparations to form such bodies are well under way. In the course of 1969, with the cooperation of the Embassy of the UAR in Japan, preparations to establish an alumni association for the UAR were begun.

From Sudan, Iran, Ethiopia, Pakistan and Singapore, requests to form alumni associations of returned trainees have also been conveyed.

The OTCA has extended assistance to the activities of the alumni associations that have thus far been established. And in order to strengthen further the amicable relations between these countries and Japan, it has sent educational and other material, such as textbooks on Japanese conversation, various technical literature as well as rosters

of returned trainees and has also loaned 16 mm films on industrial technology.

8. Technical Assistance Programs Under Reparations and Other Agreements

(1) Program Acceptance of Trainees under the Reparations Agreement

<Acceptance of Trainees Under the Reparations Agreement with the Philippines>

The program for the acceptance of the Philippines reparations trainees was carried out under the provisions of paragraph 7, item 6, "training in Japan of technicians and workers of the Philippines," which is a part of the annexed document to the Agreement on Reparations between Japan and the Republic of the Philippines (May 1956). In accordance with these provisions, the OTCA, on the recommendations of the Ministry of Foreign Affairs and under commission of the Philippine Reparations Mission in Japan, concluded a trainees consignment contract by which it received 30 trainees from fiscal 1963 up to fiscal 1968. During

fiscal 1969 it provided training for 5 persons.

The respective fields of training of these trainees were as follows:

Fertilizers and Insecticides	1
Office Business Management	1
Electronics	1
Public Administration Management	2
Total	5

(2) Acceptance of Trainees Under the Japan-Republic of Korea Agreement

<Program for the Acceptance of Trainees Under the Agreement on Korean Claims and Others>

The program for the acceptance of trainees under the Agreement on Korean Claims was decided in accordance with the provisions of Article 1, paragraph 1(a), "granting of products and services,"

of the Agreement between Japan and the Republic of Korea concerning the Solution to the Problem of Assets and Claims and Economic Cooperation." On the recommendation of the Ministry of Foreign Affairs and under commission of the Korean Mission in Japan, the OTCA concluded with the Korean Mission a trainees consignment contract between December 1965 and 1968 under the Korean First Annual Plan and Second Annual Plan and carried out training programs for 30 and 60 trainees, respectively, in the years succeeding each annual plan.

For the fiscal year 1969, due to circumstances on the Korean side, the indication of the Annual Plan was delayed and the program was postponed.

CHAPTER 2

DISPATCH OF EXPERTS ABROAD

Section 1. Status of Program Implementation

The original budget for the dispatch of experts for the fiscal year 1969 came to 2,988,000 dollars. This was an increase of 17.5 per cent over the previous year and the first time since 1954 that this budget exceeded one billion yen. The number of experts newly sent under bilateral agreements, such as the Colombo Plan, came to 229, while the number of experts who stayed on from the previous year came to 204. The number of experts newly dispatched to international organizations for the current fiscal year came to 33, while 20 stayed on from the previous year. For this fiscal year, in addition to such organizations as the Southeast Asia Fisheries Development Center and ECAFE, to which experts had been sent in the past, an expert was sent for the first time to the Asian Institute of Technology (AIT). This AIT was first established in Bangkok in 1958 as a SEATO project. Subsequently, it became independent and is currently being operated as a Graduate School of Engineering with assistance from such countries as the United Kingdom, the United States, Federal Republic of Germany, Canada and Australia. For this fiscal year an expert has been sent by Japan. The number of experts dispatched, broken down by plan, length of period, whether on a long-term or short-term basis, or on a new or continual basis, is shown in Table 1.

Of the cases where a large number of experts were newly dispatched to the respective plan regions, the more conspicuous ones, in the Colombo Plan area, are the 22 dispatched to Cambodia, 12 to Iran and 19 to Thailand; while for the Middle East and the African Plan region, over half of the newly dispatched experts were concentrated in three African countries (Kenya 5, Tanzania 12, Uganda 11, total 28). Also for the Latin America Plan region, 8 for Brazil and 9 for Peru accounted for the most.

Under the International Organizations Plan, two vessels were constructed through the granting of funds by Japan to the Southeast Asian Fisheries Development Center. With the launching of the two ships (a survey ship to be delivered to the Research Department and a training ship to be delivered to the Training Department of the said center), a total of ten experts were assigned as officers to staff the ships, which sailed to their respective destinations of Bangkok and Singapore.

From the standpoint of types of projects and

plans, the agriculture and fisheries field continues to top the list from last year with 93 newly dispatched, followed by 40 in the postal services field, mainly in telecommunications, 37 in the construction field, 22 in public utilities, consisting mainly of electric power generation, and 19 in transportation, consisting mainly of harbor construction. From this it can be seen that the developing countries are attaching importance to securing foodstuffs and to consolidating the infrastructure, such as roads, bridges, electric power development, harbors and telecommunication.

In the various plans by region, as against the 105 who were dispatched to the Colombo Plan region, an additional 25, or a total of 130, for an increase of 23.8 per cent, were newly dispatched. To the Middle East region, as against 38 for last year, 17 were newly dispatched for an increase of 44.7 per cent. The rate of increase to the Middle East region is particularly noteworthy.

In the overall picture, as against the 240 experts dispatched last year, an additional 30 persons, for a total of 270, constituting an increase of 12.5 per cent, were dispatched. However, as against the 17.5 per cent increase in the budget scale, the increase in the number of those newly dispatched was limited to 12.5 per cent. (The number of newly dispatched experts by month is shown in graph form in Table 2.)

Section 2. Request for Experts

As against the number of experts dispatched mentioned above, the total number of experts requested for this year came to 586 which, when compared with 413 for last year, showed a sharp increase of 41.9 per cent. The rate of increase of 23.6 per cent from fiscal 1967 to fiscal 1968 is approximately twofold.

The number of requests for experts by plan regions and by fields is shown in Table 3. The ratio of dispatch against the number of newly dispatched experts for the present fiscal year comes to 50.4 per cent for the Colombo Plan region, 30.9 per cent for the Middle East and Africa region, 46.9 per cent for the Latin America region, 47.8 per cent for other Asian regions and 85.2 per cent for the International Organizations Plan. In spite of the fact that in the actual number of experts dispatched to the Middle East and Africa region recorded an increase of 44.7 per cent over the previous fiscal year, the ratio of performance against

request was the lowest at 30.9 per cent.

This was due to the sharp increase in requests from this region; to the fact that the actual number of experts dispatched to this region in the ten years since the program was started in 1958 was 235, a relatively low figure as compared to the 766 for the Colombo Plan region; and to the fact that

it was not possible to make a speedy selection of candidates due to delays in obtaining information on the background of the requests made. In response to the total number of requests, the performance ratio was 46.1 per cent, with the result that requests for some 260 experts had to be carried over to fiscal 1970.

Table 1. Number of Experts Dispatched for Fiscal 1969 by Plan and by Length of Period (long-term or short-term)

Plan	Number of Experts Staying from Previous Year				Number of Experts Newly Dispatched			
	Short-term	Long-term	Total	Families	Short-term	Long-term	Total	Families
Colombo Plan	17	120	137	70	88	41	129	21
Middle East and Africa Plan	2	29	31	19	34	16	50	12
Latin America Plan	4	25	29	20	22	7	29	2
Other Asian Plan	6	1	7	0	21	0	21	0
Sub-total	29	175	204	109	165	64	229	35
International Organization Plan	9	11	20	7	17	16	33	11
Government Invitation	0	9	9	1	4	4	8	0
Total	38	195	233	117	186	84	270	46
Science Education	5	0	5	0	5	0	5	0

Remarks: 1) By short-term is meant experts dispatched for less than a year.

2) By long-term is meant experts dispatched for one year or longer.

Table 2. Number of Experts Dispatched by Plan and by Month for Fiscal 1969

Plan \ Month	4	5	6	7	8	9	10	11	12	1	2	3	Total
Colombo Plan Region	3	3	7	14	8	31	17	17	11	4	8	7	130
Middle East and Africa Plan Region	3	2	4	2	10	10	5	9	4	3	0	3	55
Latin America Plan Region	1	0	0	1	7	7	1	0	5	0	6	2	30
Other Asian Plan Region	0	2	1	0	2	4	3	1	5	0	2	2	22
International Organizations Plan	2	5	10	1	1	2	5	4	2	0	1	0	33
Total	9	12	22	18	28	54	31	31	27	7	17	13	270

Table 3. Number of Experts Requested and Dispatched by Plan and by Fields for Fiscal 1969

Plan Region	Status of Execution	Field													Dispatch Performance Ratio	
		Agriculture and Fisheries	Construction	Heavy Industry	Mining	Light Industry	Chemical Industry	Public Utilities	Transportation	Postal Service	Management Techniques	Education	Public Administration	Others		Total
Colombo Region	Number requested	96	30	10	7	8	5	23	16	33	0	22	4	4	258	50.4%
	Number dispatched	40	23	5	7	5	2	11	4	25	0	5	1	2	130	
	Number unable to be dispatched	12	3	1	0	2	0	0	2	1	0	2	0	0	23	
Other Asian Region Republic of China	Number requested	14	5	0	6	2	0	3	3	8	1	0	3	1	46	47.8%
	Number dispatched	9	0	0	2	2	0	0	1	7	0	0	0	1	22	
	Number unable to be dispatched	0	0	0	0	1	0	0	0	0	1	0	3	0	5	
Middle East and Africa Region	Number requested	60	18	8	12	6	0	7	19	10	12	9	5	12	178	30.9%
	Number dispatched	16	9	6	4	1	0	2	5	6	2	0	0	4	55	
	Number unable to be dispatched	12	2	0	0	1	0	0	0	0	3	0	1	0	19	
Latin America Plan Region	Number requested	27	9	2	1	0	0	7	10	3	0	2	3	0	64	46.9%
	Number dispatched	9	2	0	0	1	0	7	8	2	0	1	0	0	30	
	Number unable to be dispatched	7	1	0	0	0	0	0	0	0	0	0	1	0	9	
International organizations	Number requested	21	3	5	1	2	0	1	1	0	5	1	0	0	40	82.5%
	Number dispatched	18	3	4	1	2	0	2	1	0	1	1	0	0	33	
	Number unable to be dispatched	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Grand Total	Number requested	218	65	25	27	18	5	41	49	54	18	34	15	17	586	46.1%
	Number dispatched	92	37	15	14	11	2	22	19	40	3	7	1	7	270	
	Number unable to be dispatched	31	6	1	0	4	0	0	2	1	4	2	5	0	56	

Section 3. Senior Experts Including Advisers on Development Planning and Public Administration

From the last fiscal year up to the current fiscal year, there have been requests for experts to assume senior official posts in the recipient countries, such as advisers on development planning and

public administration. This is a noteworthy trend over the last two to three years. Although during fiscal 1969 there were 15 requests (this includes those carried over from fiscal 1968) for senior experts, only three were actually dispatched. The twelve other cases had to be carried over as pending to fiscal 1970. (Table 4)

Table 4. Pending Requests for Senior Experts

Name of Country	Function	Number	Duration	Date Request Received	Substance of Function
India	Technology, Education System	1	6 months	Dec. 24, 1969	To carry out reform of the Polytechnic School System: Required to participate in a Committee consisting of India, U.K., Soviet Union, Federal Republic of Germany and Japan. The Committee to submit report within 6 months and make recommendations for reform of the system to the Indian Government.
Indonesia	Irrigation	1	2 years	Mar. 9, 1970	To strengthen the Irrigation Department of the Ministry of Public Works (1) Strengthen the function of the Irrigation Department under the 5-year Plan (2) To draw up rehabilitation and construction plans of irrigation projects (3) To examine and study plans for irrigation projects (To act as adviser to the Irrigation Department and to its Director-General)
Laos	Finance Economics	1	2 years	July 11, 1969	In the Ministry of Planning (1) To evaluate the impact of projects (2) Fund procurement planning (Assistance from foreign countries & international organization) (3) Plans for utilization of private capital for development (4) Act as adviser on liaison with the mission sent from Japan
Algeria	Industrial Management	2-3	2-3 months	Sept. 18, 1969	A consultant to carry out general management evaluation or diagnosis on the introduction of sound management to enterprise as well on profits and productivity.
Nigeria	Industrial Development			Sept. 18, 1969	A senior technical consultant who will make a Feasibility Study on, and draw up, specific projects concerning light industries, such as textiles, which are to be promoted under the Industrial Development Plan (1970-1974). To advise on negotiations between investors and purchasers of products and also to act as adviser to the government.
	Economic Rehabilitation Planning	1	2 years	Feb. 26, 1970	A top-class expert who will engage in economic rehabilitation planning work for post-war rehabilitation, at the Ministry of Economic Development of East Central State Government
Tanzania	Transportation	1	2 years	Nov. 8, 1969	General Manager for the Transportation Public Corporation which is in the process of being established

Name of Country	Function	Number	Duration	Date Request Received	Substance of Function
Uganda	Manpower Planning	1	2 years	Jan. 7, 1970	To work at the Economic Planning Ministry in making Demand and Supply Plans of the Ministry of Labor, which is required for the Second 5-year Plan (1971-76)
	Banking Business	1			Adviser for National Commercial Bank
Dominican Republic	Industrial Development	1	6 months-1 year	Apr. 16, 1969	To direct the formulation and execution of program to promote medium and small enterprises at the National Planning Agency (person with a doctorate or master's degree)
El Salvador	Economic Adviser	1		Jan. 24, 1968	The Economic Planning Agency of El Salvador decided to acquire the services of 5 senior experts (1) Overall development planning (2) Industrial development & assistance—construction of industrial sub-divisions etc. (3) Development of agriculture and livestock breeding (4) Vocational training (5) Development of tourist industry from foreign countries to advise the Director-General of the Agency and handle (2) i.e., Industrial development & assistance—industrial sub-divisions.
Paraguay	Economic Planning	1	2 years or more	Feb. 21, 1968	As Adviser to the Economic Planning Agency, the expert will be called upon, in connection with the 1969-73 Five-Year Plan, to coordinate development plans for the agricultural and livestock breeding sector with the industrial sector. He will be called upon to draw up an integrated plan coordinating the development plans on an overall basis with such matters as trade, balance of payments and finance.

CHAPTER 3

EQUIPMENT SUPPLY PROJECT

The equipment supply program for fiscal 1969 was begun with a budget of 333,300 dollars, an increase of 20 per cent over the budget of 277,777 dollars for the preceding fiscal year. As can be seen from the chart indicating the pending requests, numerous requests were received, as was the case in the previous fiscal year, totalling 81 cases involving 34 countries and roughly estimated at 1,257,000 dollars. To meet such requests to the extent possible, it was decided to appropriate an additional 55,600 dollars for a total of 3,889,000 dollars with which to carry out the new program. Also, as a carry-over from the previous fiscal year, there were 8 requests from 7 countries, which it was decided to meet at a cost of 100,800 dollars. An outline of the execution plans for equipment supply projects carried over from the previous fiscal year and new equipment supply projects are shown in Table 2 and Table 3. This program was planned with a view to furnishing equipment and materials indispensable to experts and to Japanese Overseas Cooperation Volunteers in their task of conveying and propagating their technology effectively, as well as to providing trainees with necessary equip-

ment to enable them to utilize effectively their technology after they have returned home. The purpose thus was to enhance the effects of technical assistance extended through the dispatch of experts and Japanese Overseas Cooperation Volunteers as well as through the receiving of trainees.

In connection with these project execution plans, the actual number of projects carried out within the fiscal year is shown in Table 4. As against the plan calling for 22 new projects, involving 21 countries and estimated at 388,000 dollars, there were nine cases of equipment purchased and delivered to 9 countries for 73,800 dollars and 6 cases of equipment purchased but not yet delivered for 5 countries valued at 59,200 dollars.

Owing to delays in the submission of request applications from governments, in the receipt of replies from the recipient governments to inquiries concerning clarifications on requests made, and in finalizing specifications resulting from requests by the recipient governments for changes in the equipment to be supplied, 13 equipment supply projects involving 12 countries and valued at 249,900 dollars had to be carried over to fiscal 1970.

**Table 1. Requests for Equipment Supply for
Fiscal 1969**

(Number of Requests and Amount by Region)

(US\$ 1,000)

Region	Number of Countries	Number of Cases	Amount
Colombo Plan Region	15	50	758.47
Middle East and African Plan Region	12	19	348.64
Latin America Plan Region	6	11	136.94
Other Asian Plan Region	1	1	13.89
Total	34	81	1,257.94

(Note) Amount is a rough estimate including costs of purchase of equipment, transportation costs, insurance and shipping fees.

Table 2. Newly Executed Equipment Supply Projects for Fiscal 1969

(US\$ 1,000)

Plan Region	Number of countries Number of requests Amount	Number of Countries	Number of Cases	Amount
Colombo Plan Region		9	10	242.30
Middle East and Africa Plan Region		9	9	120.73
Latin America Plan Region		2	2	12.10
Other Asian Plan Region		1	1	13.76
Total		21	22	388.89

Table 3. Execution of Equipment Supply Projects Carried Over from Previous Years during Fiscal 1969

Name of Country	Equipment	Quantity	Destination	Remarks
Afghanistan	Agricultural Machinery	1 unit	Ministry of Agriculture	Land transportation costs
Bhutan	Agricultural Machinery	1 unit	Balo Farm	
Burma	Gauge Instrument and Spectro-photometers	1 unit	Siliam Oil Refining Laboratory, Burma	
Cambodia	Teleprinter for 2 different languages	3 units	Postal and Telecommunication Agency	
Philippines	Casting Equipment	1 unit	Philippine Technological University	
Philippines	Wood-working Machine	1 unit	Eastern Philippine University	
Congo	Audio-visual Equipment	1 unit	Lubangon Mining	
Brazil	Electro-spectro Photometers	1 unit	North Brazilian Agricultural Experiment Station	
Total	7 countries 8 cases			Shipping costs

Table 4. Number of Equipment Supply Projects Newly Executed within the Fiscal Year for Fiscal 1969

(US\$ 1,000)

Plan Region	Number of Countries	Cases	Amount	Remarks
Colombo Plan Region	5	6	43.74	for 3 countries and 3 projects, purchase and delivery completed
Middle East and Africa Plan Region	6	6	63.73	for 3 countries and 3 projects, purchase and delivery completed
Latin America Plan Region	2	2	11.80	
Other Asia Plan Region	1	1	13.76	
Total	14	15	133.03	

Table 5. Equipment Supply Projects Carried Over from Fiscal 1969 to Fiscal 1970

(US\$1,000)

Plan Region	Number of Countries	Number of Projects	Amount Carried over	Remarks
Colombo Plan Region	6	7	196.08	of these with respect to 2 countries and 2 projects total amount of purchase and delivery cost carried over
Middle East and Africa Plan Region	6	6	53.80	with respect to 3 countries and 3 projects total amount of purchase and delivery cost was carried over
Latin America Plan Region	0	0	0	
Other Asian Plan Region	0	0	0	
Total	12	13	249.88	

Of the Equipment Supply Projects carried out during the current fiscal year, equipment was supplied as follow-up measures to aid the dispatched experts in the following eight cases:

Country	Destination	Equipment	Quantity
Burma	National Sillam Oil Refining Laboratory	Gauge instrument and spectrophotometer	1 unit
Cambodia	Postal and Telecommunication Agency	Teleprinter for 2 different languages	3 units
Congo	Lubumban Mining Technology Institute	Audio-visual educational equipment	1 unit
Nepal	Ministry for Cottage Industry	Rice paper manufacturing machine	1 unit
Nepal	Ministry for Cottage Industry	Bamboo processing equipment	1 unit
Kenya	East Africa Aviation Bureau	Aviation wireless equipment	1 unit
Saudi Arabia	Ministry of Mineral Resources	Mineral appraisal equipment	1 unit
Uganda	Vocational Training Center, Bureau for the Physically Handicapped	Bamboo processing equipment	1 unit

In the following 10 cases, equipment was supplied as follow-up measure to assist returned trainees:

Philippines	Philippine Technological University	Casting equipment	1 unit
Philippines	Eastern Philippine University	Wood-working machine	1 unit
Burma	Rangoon Veterinary University	Biological microscope	50 units
Malaysia	Pural Development Public Corporation	Wood-working machine	50,000 units
Maldives	Colon Planning Bureau of the Cabinet	Fishing hooks for bonito fishing	1 unit
United Arab Republic		Agricultural machinery	1 unit
Lebanon	Ministry of Agriculture	Fishing hooks for bonito fishing equipment	1 unit
Sudan	Kattoum Vocational Training Institute	Wood-work equipment for vocational training	1 unit
Bolivia	Land Reform Institute	Surveying instruments	1 unit
Costa Rica	Ministry of Agriculture and Pasture	Equipment for fishery research	1 unit

In the following 2 cases, equipment was supplied as follow-up measures to aid both experts dispatched and returned trainees:

Country	Destination	Equipment	Quantity
Pakistan	Medium and Small Enterprises Public Corporation	Dyeing and printing equipment	1 unit
Republic of China	Republic of China Broadcasting Corporation	Television relay car	1 unit

CHAPTER 4

OVERSEAS TECHNICAL COOPERATION CENTRES

Section 1. Outline of Overseas Technical Cooperation Centres

Overseas technical cooperation centres, the first instance of which is the Agricultural Training Centre set up in East Pakistan in 1960, are established in the developing countries, as part of Japan's technical cooperation programs, with a view to contributing to the development of manpower resources in various technical fields acutely needed for the economic and social development of these countries and to assisting in the development of scientific and technical know-how as well as the improvement of productivity.

The centres are broadly classified into such forms as: (1) cooperation in the training and development of technical skills; (2) cooperation in the introduction, improvement and dissemination, as well as adaptation, of advanced scientific knowledge and techniques; (3) cooperation in the improvement of production; and (4) cooperation in the furtherance of public works and regional development projects. The centres are becoming larger in scale, year by year.

As of the end of March 1970, technical cooperation centres established by Japan in Asia, the Middle East, Africa and Central and South America numbered 30. Classified by types, 14 are in the field of agriculture and fisheries, ten in the medium and small-scale industries, three in telecommunications and three in other various fields.

Section 2. Achievements in Fiscal 1969

The centres now in operation are as follows:

The Telecommunications Training Centre in Thailand;

The Technical Training Centre for Road Construction in Thailand;

The Institute of Technology in Korea;

The Technological and Development Centre for Cottage and Small-scale Industries in the Philippines;

The Agricultural Training Centre in East Pakistan;

The Telecommunications Research Centre in Pakistan;

The Prototype Production and Training Centre in Singapore;

The Training and Research Centre for Small-scale Industries in Iran;

The Vocational Training Centre in the Republic of China;

The Training Centre for Fisheries in Indonesia;
The Training and Research Centre for Small-scale Industries in Uganda;

The Training and Research Centre for Small-scale Industries in Kenya;

The Textile Training Centre in Ghana;

The Telecommunications Technical Training Centre in Mexico;

The Technical Training Centre for Textile Industries in Brazil.

Out of these centres, three, namely, the Telecommunications Training Centre in Thailand, the Technical Training Centre for Road Construction in Thailand and the Agricultural Training Centre in East Pakistan, are being provided cooperation on a continuing basis by the experts dispatched under the Colombo Plan and the remaining 12 receive cooperation in the operational aspect.

The general situation of the leading centres are described below.

1. The Technical Training Centre for Road Construction in Thailand

The development of feeder roads in Thailand is as yet in an extremely backward state. This constitutes a big obstacle to the country's economic development. Therefore, the Thai Government has decided to set up pilot pools at various places for the speeding up of road construction and has established a pilot pool at Khon Kaen for the north-eastern part of the country and another one of the same type, with the assistance of Australia and New Zealand, respectively.

The Thai Government requested the Japanese Government to extend assistance for the establishment of a pilot pool as part of its development program in southern Thailand. After reviewing this request, Japan dispatched a preliminary survey team in September 1960, and an implementation survey team late in May 1961, acting on the policy of rendering positive cooperation from the standpoint that this may serve to deepen the understanding of the economic value of the feeder roads in southern Thailand as well as of Japan's construction technique and machinery. As the result of these surveys, it was decided to set up a centre at Songkhla, about 700 kilometres south of Bangkok, and an agreement for cooperation in its establishment was formally signed on November 6, 1961.

The principal purpose of this centre is to construct a road of about 52 kilometres between Samrong and Natawee, and simultaneously to give training to trainees with high school education in operation, repairs and maintenance of construction machinery and to foster the training of technicians who are not only capable of operating various construction machinery but also can put their abilities to use in actual road construction work. Since the training in this centre has been carried on in the course of actual road construction work, systematic training involves much difficulty. Nevertheless, the total number of trainees since the opening of the centre was as follows: 81 operators of heavy machinery; 71 repairmen; 60 operators of construction machinery, 18 surveyors; and 34 others.

Road construction undertaken by this centre under the agreement was first intended for laterite pavement, but later the Japanese side agreed to the request of Thailand for a change in plan to asphalt. A sum of 250,000 dollars required for additional supplies of equipment in connection with the use of asphalt and parts needed for maintenance of the equipment was appropriated in the budget for fiscal 1967. The purchasing and dispatching work of such supplies was completed by the end of March 1968. The centre was thus provided with the necessary equipment for the construction work of a road of about 52 kilometres between Samrong and Natawee at the end of October 1968, excluding that for two additional roads leading to Jana and Kuan Meed. The inauguration ceremony was held in the presence of high officials of Thailand on November 14.

Meanwhile, the Thai side requested an extension of the service period of 10 Japanese workers until the expiration of the agreement, August 1967. (Japanese workers' service was to be terminated on April 15, 1968, while the agreement itself was to expire on November 15.) It was anticipated by the Japanese side that a considerable amount of work for adjustment and arrangement would remain to be done in order to transfer the equipment furnished to Thailand in good condition after the termination of the agreement. Therefore, 7 Japanese workers were stationed until November 22 for the smooth transfer of business on the spot.

2. Prototype Production and Training Centre in Singapore

For the promotion of industrialization, the Government of Singapore created the Economic Development Board in 1962 and has been making every effort since that time to establish industries, in particular to further the development of technology. In September 1962, the Government of Singapore requested the Government of Japan to

extend cooperation in setting up a prototype production and training centre.

In compliance with this request, the Japanese Government sent a preliminary survey team to Singapore and conducted on-the-spot surveys in March 1965. On the basis of the findings of the survey team, the Japanese Government appropriated the sum of 222,200 dollars for cooperation in the establishment of a centre for the development of small-scale industries in Singapore.

The Overseas Technical Cooperation Agency further sent an implementation survey team to Singapore in June 1966, which held discussions with officials of the Government of Singapore on various concrete methods of cooperation, including technical matters.

The agreement concerning this project was signed on October 15, 1966, and the centre was established at River Valley Road in Singapore under the jurisdiction of the Economic Development Board. However, with only 222,200 dollars worth of the equipment to donate, Japan was able to cooperate only in the setting up of four departments; namely, (1) machine shop, (2) tool and die working shop, (3) heat treatment shop, and (4) design and drawing shop. Thereafter, the Singapore side requested Japan repeatedly to help establish at least four additional departments: (1) grinding, (2) electroplating, (3) welding, and (4) forging.

At first, the Japanese side planned to cooperate by setting up the above-mentioned four departments only, but it was later decided to donate additional equipment amounting to 125,000 dollars from the budget for fiscal 1966 for installment in the four additional departments, since it was believed that the prototype production centre with only the four departments could not serve the purpose originally planned. In the actual process of production, training was to be given to engineers, technicians, skilled workers, semi-skilled workers on an integrated basis in the design, development, trial production of metal products, tools, machines and accessories as well as in their manufacture. Upon completion of the buildings of the centre, a total of 11 Japanese workers were dispatched in several groups during the period from August to November 1967. In February 1967, a team of metal plating experts was also dispatched. The training was begun in a part of the department of designing in January 1968. Since then, it has been carried on also in the departments of machines, tool manufacturing, production control, heat treatment, etc., in addition to designing. The centre has also received short-term trainees from outside and conducted several courses of training.

As for prototype production, various types of metal patterns, table-type boring machines and lathes are being manufactured.

The purchasing and shipment of the materials for the equipment to be additionally donated were carried out with a fund of 83,300 dollars appropriated in the fiscal 1969 budget.

3. Vocational Training Centre in the Republic of China (Taiwan)

The Government of the Republic of China is now pushing ahead its fifth Four-Year Economic Development Plan. However, with the rapid progress in industrial development, it is of urgent necessity for the Government to train and secure skilled manpower in the industrial fields.

Though there is a demand for 46,000 skilled industrial workers annually in the Republic, the capacity of the existing educational and technical training facilities to train and supply such workers is not adequate to meet this demand.

To cope with this situation, the Ministry of Economy of the Republic of China decided to launch a four-year program to develop skilled manpower, under the direction of the "National Enterprise Commission." The Commission has laid emphasis on the following three points as the principal aim of development:

- 1) Education and training of skilled and apprentice workers necessary for the industrialization of Taiwan.

- 2) Establishment of a modern method of training in both government and private sectors.

- 3) Establishment of high standard systematic method of vocational and technical training.

In carrying out the skilled manpower development program, the Government of the Republic of China decided to establish training centers in the northern and southern regions of Taiwan to expand and strengthen the program.

It requested the Government of Japan to extend technical cooperation through the "centre method" and to establish the above-mentioned centres in the said two regions.

After examining the above request, the Government of Japan dispatched a mission, comprised chiefly of personnel from the Ministry of Foreign Affairs, to conduct a preliminary investigation for a period of about two weeks beginning in the end of February 1969. As a result of studies in the report on the preliminary investigation, another mission was sent to Taiwan for about a month from June 1, for the purpose of conducting a field survey in the northern and the southern regions (Keelung and Kaohsiung). On the basis of the report on the survey submitted by the mission, the Government of Japan drew up a plan for implementing the requested assistance.

The expenses for establishing and operating the Government of Japan drew up a plan for implement- (state) enterprises, the combined production of

which accounts for more than forty per cent of the Republic's total industrial production. The centre in the northern region is to train about 720 workers upon materialization of Japan's cooperation, while the centre in the southern region plans to train from 250 to 300 workers annually. Japan's present plan of cooperation is to help in establishing courses for: (1) iron and canning workers; (2) welders; (3) machine mechanics; (4) electrical appliances workers; and (5) mechanical draftsmen. The training will be conducted under three curriculums—"technical apprentice," "trained technician" and "specified."

4. Fishery Technical Cooperation Project in Indonesia

The Government of Indonesia has been making every effort to solve the food problem as an indispensable part of its economic development program, and requested the Government of Japan to extend its cooperation in the modernization of the fishing industry. After carefully examining the request, the Government of Japan decided to cooperate in this project with a donation of machinery and equipment amounting to 277,800 dollars. The OTCA sent a mission to Indonesia for about a month beginning on April 20, 1969, to prepare a concrete plan for the execution of the project. As a result of the negotiations between the mission and the Indonesian side, the following general plan for cooperation was agreed upon:

- (i) The emphasis is laid on the modernization of the fishery industry, such as preservation and processing of marine products and improvement of fishing techniques. In consideration of the financial condition of the Indonesian side, new buildings will not be constructed; instead, existing facilities will be utilized as the training centre.

- (ii) Djakarta Fishing Techniques Research Institute, Djakarta Fisheries Academy, Oceanic Resources Research Institute, Fishing Boats Construction Research Institute and fisheries high schools in Tegal, Bali, Ambon, Mando and Makassar are planned to be enlarged and used as training centres. In addition to the donation of machinery and equipment amounting to about 277,800 dollars, Japanese experts in fisheries in general and, specialists in preservation and processing of marine products will be also provided.

5. Training Centre for Small-Scale Industries in Iran

Japan and Iran concluded an agreement on economic and technical cooperation in December 1957. The establishment of a training centre for small-scale industries was negotiated between the Governments of Japan and Iran. In May 1960 the Government of Iran requested the Government of Japan

to cooperate in the establishment of a centre for training the workers for machinery and plastic departments. Accordingly, in June of that year, a Japanese mission was sent to Iran and, as a result of negotiations, an agreement was reached to establish a training centre for small-scale industries at Karaji near Teheran. The agreement was signed formally in September 1960.

Under this agreement, Japan donated wooden molds, machinery for casting, forging, welding and plastic amounting to 162,600 dollars and sent to Iran 8 technical experts including the director-general of OTCA. Seven Iranian assistant instructors were invited to Japan to undergo necessary training. The opening ceremony of the Centre was held in October 1962.

The Centre gives practical and theoretical instructions to trainees as workers and mechanics for the machinery and plastic departments, and also conducts research and experiments necessary for possible improvement of technology in Iran. The term of training is one year, and those who have finished the course of primary school, or those who are regarded as having knowledge equivalent to or more than primary school graduates, are eligible to become a trainee.

The course of training in the machinery department is divided into machines, finishing, assembly, sheet metal working, welding, casting, forging and wooden mold working, and the course in the plastic department into molding and plumbing. The trainees are recruited from the people in general by public announcement; their schooling is diverse as some come from primary schools and others from senior high schools. The third term was completed in March 1969 and a total of about 300 persons have so far been trained in the Centre.

The first term of cooperation under the agreement was terminated in September 1963. The term, however, was extended for a further two years at the request of the Government of Iran. The extended term ended in September 1965 and the operation of the Centre was to be taken over by the Government of Iran. But preparations for operation of the Centre were immature, and the Government of Iran again requested the cooperation of the Government of Japan. The request for continued cooperation was agreed upon, and four experts were sent to Iran as advisers to the Centre in January 1966 under the Middle-East and African Technical Cooperation Plan. Two of them are still working actively in the Centre. It might be added that the Government of Japan, after examining the Government of Iran's concrete plan for establishing an agricultural equipment repair department at the Centre, decided to supply the latter with experts and necessary equipment. The expenses amounting to 55,600 dollars were defrayed from

the budget for assistance in the small-scale project for fiscal 1969.

Iran is currently carrying out its fourth 5-year plan (1968-1972). It has taken a positive approach in the economic and social development plan. Especially, in order to promote the mechanization of agriculture, the Government of Iran considered it urgent to foster and train mechanics for the repair of agricultural machines and implements, and requested the Government of Japan to extend its cooperation in this sector.

The Government of Iran, having in mind the effective utilization of the existing machinery, welding, sheet metal working, and casting departments at the Training Centre for Small-Scale Industries at Karaji, planned to enlarge the existing diesel department and to establish a new agricultural equipment repair department. A formal request was made to the Government of Japan in May 1969 to cooperate in materializing this plan.

After examining the request, the Government of Japan decided to cooperate with Iran positively, since such cooperation would not only help to improve the existing departments at the Centre and thereby contribute to the development of Iranian agriculture but also would help in developing a market for Japan's agricultural machines and implements. The Government of Japan consequently sent three researchers for about 10 days from July 5 to conduct necessary on-the-spot studies for the realization of the project.

6. Training Centre for Small-Scale Industries in Kenya

As part of its Africanization program the Government of Kenya has been pursuing a policy aiming at the promotion and protection of its domestic enterprises in order to achieve industrial development. With a view to fostering small-scale industries, it requested the Government of Japan to cooperate in its plan to establish a training centre for small-scale industries.

The Government of Japan sent a research mission to Kenya in August 1963. As a result, a decision was made to cooperate and a formal agreement on cooperation was signed between the Governments of Japan and Kenya on July 30, 1964. The Government of Japan donated the necessary machinery and equipment amounting to 152,500 dollars and dispatched a mission of twelve persons, including the director-general of OTCA, during the period from September to December 1964. However, preparations for the building offered by the Government of Kenya were slow in progress, and the Centre's training courses at the outset had to be limited chiefly to a theoretical training course for a period of 9 months.

The Centre has six departments—metal working,

assembly and repair of electric appliances, machine sewing, wood-working, assembly and repair of machines, processing of leather and hide. It is training persons to become operators of small-scale industries in future by giving them technical and management courses. It also has a research department and a management consultation department, the trainees of the latter department being owners of small-scale industries. Forty-four persons completed their training as 4th-term trainees in 1968, and the 5th-term training is now under way.

The period of cooperation extended to the Centre under the "Agreement" was to terminate in July 1968. The Government of Kenya requested an extension of the term stipulated in the Agreement for a further 2 years. The request was examined and agreed to in principle. Accordingly, the Japanese personnel in the Centre who had completed their term of service were replaced by new personnel.

The Government of Japan purchased and shipped 3,900 dollars worth of machinery and equipment required for complementing the Centre with the budget for fiscal 1967. It also purchased and shipped 55,600 dollars worth of machinery and equipment necessary for enlarging the departments for maintenance of motor vehicles and for casting iron with the budget carried forward from fiscal 1968.

7. Training Centre for Fibre Industry in Brazil

In June 1961 the Government of Japan sent a research mission to Brazil at the request of the Government of Brazil. As a result, it was agreed that a technical training centre for fibre industry be established at Recife in N.E. Brazil. The agreement on cooperation was formally signed in March 1962.

Under the Agreement, a donation of machinery and equipment equivalent to 222,200 dollars in total was made by Japan. Six Japanese technical experts, including the Director-General of OTCA, were dispatched to Brazil, and Brazilian assistant instructors were invited to Japan to receive necessary training.

The cooperation of the Japanese side in the establishment of the Centre was carried out as scheduled. The purchase and shipment of the machinery and equipment, training in Japan of the Brazilian assistant instructors, and dispatch of the Japanese personnel required for the Centre were all completed by August 1964, and in July 1965 the Centre was opened provisionally when the buildings provided by the Brazilian side were ready for use.

The above Centre, which is to be one of the training centres of SENAI, the vocational training organization of Brazil, aims at the education and training of skilled middle-level technicians in the

spinning industry by re-training those of foremen class and by giving technical training necessary for maintenance and repair of spinning factories, techniques in spinning operation and quality control. For this purpose the courses on mixing, carding, glossing and coarse spinning, fine spinning and twisted yarn, preparation for cotton fabrics, cotton fabrics, comber, testing and quality control were established. The term for each course was 6 months, and the number of trainees totalled 40.

However, installation of the machines and the construction of the buildings were incomplete, and the Centre was able to open only the course on automatic spinner for its first training term in August 1965. During the four and a half months term of the course, 14 foremen from private enterprises were trained. In the second term training for a 4-month period, 5 courses on mixing, carding, glossing, coarse spinning, fine spinning, finishing, preparation for cotton fabrics, automatic spinner were opened with 50 persons receiving training. The 3rd term, begun in August 1966 with 34 trainees, was conducted for 4 and a half months. In the 4th term (begun in February 1967) 55 persons were given training. The 5th term had 28 persons in 5 courses (August 1967-December 1967). There were 33 trainees for the 6th term. In the 7th term, from August 1968 to December 1968, 45 persons were trained. Total number of the persons trained at the Centre, including those given training in the 9th term, was 343. Currently, 29 persons are at the Centre as 10th term trainees.

In addition to the training of foremen for manufacture of cotton fabrics, the Centre has now been requested to train technicians in work requiring higher skills, such as finishing and processing including dyeing and weaving. In order to meet this demand, the Government of Japan established a laboratory course in the Centre as a special course and purchased and shipped additional machinery and equipment amounting to 7,100 dollars in fiscal 1966. The Government of Brazil further requested Japan's cooperation in the establishment of a dyeing and finishing department. A mission was sent to Brazil from Japan to conduct necessary research. As a result, a sum of 222,000 dollars was included in the budget for fiscal 1968, and the machinery and equipment required with the enlarging of the Centre were purchased and sent to Brazil. As regards the departments which have already been established, an understanding was reached to extend the term of Agreement until July 1970 so that a full 5-year training might be carried out. It was also decided that the newly opened dyeing and finishing department will have 2 specialists from Japan and conduct a full 3-year training course.

CHAPTER 5

DEVELOPMENT SURVEY (Pre-Investment Survey)

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

This work is designed to dispatch Japanese experts and engineers to developing countries to conduct field surveys for development projects, mainly in the public sector, at the request of their respective governments, and to submit development projects to those governments in the form of survey reports, after preparing the basic plans for development based on the results of the field surveys.

From the establishment of OTCA to the end of March 1970, field surveys were conducted in regard to 148 development projects. By regional groups, in the number of field surveys so far carried out by the Agency, Southeast Asia ranks first with 92, followed by the Central and South America with 32 and the Near-Middle East and Africa with 24. As regards the number of such surveys by types, consolidation of the infrastructure ranks first with 89, followed by production with 52 and comprehensive development with 7. In addition, 2 preliminary surveys and 5 detailed design surveys were conducted.

Section 2. Examples of Development Surveys in Fiscal 1969

The survey projects conducted in fiscal 1969, including those carried on from the previous fiscal year, are as follows:

<SURVEYS ON DEVELOPMENT PROJECTS FOR THE LOWER MEKONG BASIN>

1. Survey on Establishment of Aluminum Smelting Industry in Cambodia (to be continued into fiscal 1971).
2. Survey for the Development of the Great Lake Area in Cambodia, Lower Mekong Basin (continued from the previous fiscal year and to be continued into the next fiscal year).
3. Survey for the Sambor Development Project (continued from the previous fiscal year).
4. Survey for the Railway Construction Project in Laos (do.).

<SURVEYS ON THE ASIAN HIGHWAY CON- STRUCTION PROJECT>

1. Survey for the Nong Khai-Vientiane Bridge Construction Project (continued from the previous fiscal year and to be continued into the next fiscal year).

2. Survey for the Goral River Bridge Construction Project in East Pakistan (Project for Jessore-Faridpur Highway Construction Project, continued from the previous fiscal year).
3. Survey for the Dacca-Faridpur Construction Project in East Pakistan (to be continued into the next fiscal year).

<PRE-INVESTMENT BASIC SURVEYS>

1. Survey for the Dairy Development Project in the Republic of Korea.
2. Survey for the Agricultural Water Resources Development Project in the Republic of Korea (continued from the previous fiscal year).
3. Survey for the New Port Construction Project in the Republic of China (do.).
4. Survey for the Taichung International Port Construction Project (to be continued into the next fiscal year).
5. Survey for the Project for No. 2 Bridge across the River Chaopia in Thailand (continued from the previous fiscal year).
6. Survey for the Coastal Fisheries Development in Cambodia (continued from the previous year and to be continued into the next fiscal year).
7. Survey for the Radio and Television Broadcasting Network Expansion Project in Cambodia (initial survey, to be continued into the next fiscal year).
8. Survey for the Project of Constructing a Fishing Port on the Eastern Coast of West Malaysia (continued from the previous year and to be continued into the next fiscal year).
9. Survey for the Kuantang Fishing Port Construction Project in Malaysia (newly undertaken and completed).
10. Survey for Comprehensive Barito River Basin Development in Indonesia (initial survey, to be continued into the next fiscal year).
11. Survey for the Tourism Development Project in Nepal (dispatch of a survey team was suspended under the special circumstances of the Nepalese Government).
12. Survey for the Islamabad Water Supply Project in West Pakistan (to be continued into the next fiscal year).
13. Survey for the Colombo City Land Development Project in Ceylon (to be continued into the next fiscal year).
14. Survey for the Urban Transportation System in Teheran, Iran (to be continued into the next fiscal year).

15. Survey for the Microwave Network Construction Project in Ethiopia (initial survey, continued from the previous fiscal year).
16. Survey for the Microwave Network Construction Project in Ethiopia (2nd survey, newly started and completed).
17. Survey for Television Broadcasting Network Project in Uganda (continued from the previous fiscal year).
18. Survey for the Railway Construction Project in Tanzania (to be continued into the next fiscal year).
19. Survey for the Nariva Swamp Area Agricultural Development in Trinidad and Tobago.

<DETAILED DESIGN FOR ECONOMIC DEVELOPMENT PROJECTS>

1. Detailed Design for the Vientiane Airport Expansion Project in Laos (to be continued from the previous fiscal year).
2. Detailed Design for the Project for Construction of Chruoy-Smach Port in Cambodia (do.).
3. Detailed Design for the Kuching Port Construction Project in Malaysia (continued from the previous fiscal year and to be continued into the next fiscal year).

<SURVEYS FOR OVERSEAS DEVELOPMENT PROJECTS>

1. Survey for the Li-Wu Chi Hydroelectric Power Development Project in the Republic of China (continued from the previous fiscal year and to be continued into the next fiscal year).
2. Survey for Offshore Mineral Resources Development Project in the Philippines (to be continued into the next fiscal year).
3. Survey for Development of Industrial Estates in Thailand (newly undertaken and completed).
4. Basic Study on Electric Power Development Project (Long-range) in Indonesia (to be continued from the previous fiscal year).
5. Survey for the Karnafuli Hydroelectric Power Development Project in East Pakistan (do.).
6. Survey for the Hydroelectric Power Development Project at Kirtün on the Harsit River and Berke on the Ceyhan River (do.).
7. Survey for the Economic Cooperation Project on the Small and Medium-Scale Industries in Africa (newly undertaken and completed).
8. Survey for the Cauca River Regulation Project in Colombia (do.).
9. Survey for the Mineral Resources Development Project in Brazil (to be continued into the next fiscal year).

The following is the outline of the survey conducted for the principal projects.

<SURVEY ON DEVELOPMENT PROJECT FOR THE LOWER MEKONG BASIN>

1. Survey on Establishment of Aluminum Smelting Industry in Cambodia

(1) Purpose of Survey and Background

As to the Sambor Development Project, one of the main stream development projects of the Lower Mekong Basin, a Japanese survey team conducted a preliminary survey in 1961, and started a full-scale survey in 1962. In 1969, the team submitted to the Mekong Committee a survey report.

Meanwhile, Cambodia is planning to make the area around the port of Sihanoukville into a free trade zone (with an area of 3,000 ha.), thereby to invite the establishment of factories there.

This Project, forming as it does a part of the Lower Mekong Basin Development Projects, is designed to construct in the free trade zone an aluminum refining plant, which will operate with imported alumina as raw material by utilizing 875 MW electric power to be distributed after the completion of the Sambor Development Project, and to export aluminum ingots thus produced.

(2) Description of Survey

Field surveys have so far been conducted on the following: legal, economic, social and labor conditions of Cambodia; investigations into the actual conditions of the plants processing aluminum products; the situation of imports of aluminum products, the actual situation of aluminum demand, such as aluminum consumption; the location, operation, and construction of plants, etc.

<SURVEY ON THE ASIAN HIGHWAY CONSTRUCTION PROJECT>

1. Survey for the Dacca-Faridpur Construction Project in East Pakistan

(1) Purpose of Survey and Background

This Project, which has for its objective the rapid improvement of the facilities of communication between the southeastern part of East Pakistan and the area separated from the mainland by the Padma River, will also contribute to the development of the area lying between Dacca and the left bank of the Padma River. As the Asian Highway No. 1 may be shortened as a result of the completion of this Project, this route will constitute an important route in future, under the Asian Highway Project.

Japan has so far carried out a series of measures for technical cooperation in regard to the Asian Highway No. 1 Improvement Project. In 1966, at the request of the Pakistani Government, Japan carried out a field survey for the Gorai River Bridge Construction Project, and confirmed the

feasibility of the Project. Moreover, it completed the necessary technical survey and the general design for the Project.

Subsequently, in 1968, it conducted a technical and economic survey on the highway construction project to form a short-cut link between Jessore and Faridpur, including the Gorai River Bridge, and completed the road survey. These surveys have important significance in the improvement of the road network in East Pakistan.

(2) Description of Survey

At first, it was considered that it would not be appropriate to conduct from the outset a detailed field survey for the Project, since it included the Highway traversing the Padma River, one of the largest rivers in the Asian Continent, the condition of which is unstable, and that the Survey should be carried out on a preliminary basis. However, at the earnest request of the Pakistani Government, a general feasibility survey was conducted for the Project. After the completion of this survey, the following results were obtained:

The Survey was conducted mainly to study the technical and economic aspects of the Dacca-Faridpur Highway Construction Project and to draw up a general design of the Highway itself. A comparative study was made between the utilization of a ferry service or a bridge as a means of crossing the Padma River. It was found that although construction costs would be smaller in the case of a ferry service, the probable benefits to be gained from the use of a bridge would be much greater and more advantageous from the viewpoint of national economy. It was found that the construction of an access road on both sides of the Padma River, including bridges, would present no way construction in East Pakistan and the bridge way construction in East Pakistan and the bridge construction project across the Gorai River are taken into account. But it is expected that the planned height of the Highway will be lower and the bridges shorter, thus making the construction very economical, especially if the construction work is coordinated with the implementation of the dyke construction project under contemplation by WAPDA. The planned Highway starts from the Burhiganga Bridge south of Dacca, crosses the Dhales Wari River, the Padma River and the Arial Khan River by bridges, and connects with the Faridpur-Barisal Highway at north of Bhanga extending over 66 km. in length. The prospects were considered favorable, both from a technical and economical standpoint.

<PRE-INVESTMENT BASIC SURVEYS>

1. Survey for the Dairy Development Project in the Republic of Korea

(1) Purpose of Survey and Background

With a view to implementing the Dairy Farming Promotion Project, which the Republic of Korea intends to carry out with the assistance of the World Bank, a draft plan of the Project prepared by the Republic of Korea on a preliminary basis was reviewed from the production and distribution aspects. Recommendations were made on various problems affecting the future implementation of the Project.

(2) Description of Survey

Among the areas already designated by the Government of the Republic of Korea as priority areas for dairy farming promotion, the central district (mainly for the production of milk for drinking) and the Honam area (for the production of processed milk) together were considered most appropriate for selection as the areas for the Survey. Although the substance and structure of business should be changed according to different stages of development, it is necessary that the Republic of Korea Dairy Farming Processing Co., Ltd., with capital fully invested by the Government, operate the business, for the time being, by setting up an integrated system of guidance and business operation covering the production, processing and sales of dairy products. The degree of priority and appropriateness of the Project can be fully justified in view of economic considerations and the profitability of the business. However, since dairy farming is still in an infant stage of development, it is necessary for the Government of Korea and the aforesaid Company to give effective guidance for the development of dairy farming in the country.

Under this Project, the Agriculture and Fishery Village Development Corporation, a Government agency, is to carry out integrated business management, operating on a company basis, covering the induction of milk cows, milk processing, construction of processing facilities. It is planned that foreign funds will be used for part of the working expenses, and a loan from the World Bank is expected for this purpose. A plan of operation prepared on the basis of the results of the Survey, is now under examination at the World Bank.

2. Survey for the Project for Construction of No. 2 Bridge across the River Chaopia in Thailand

(1) Purpose of Survey and Background

The Thai Government has drawn up a 10-year plan for the redevelopment of the national capital region, in view of the fact, that the increasing population in both Bangkok and Thonburi, cities

which form the core of the national capital region, are paralyzing their functions as cities. It is therefore devoting its energies to the epoch-making work of town-building, including the strengthening of the traffic network between the two cities, rational utilization of land and consolidation of the old city area. Particularly with regard to the transportation sector, only four bridges have been constructed over the River Chaopia flowing between the two cities. Among them the Memorial Bridge across the central part is always faced with heavy traffic congestion. For the dispersal of this traffic load, the construction of two more bridges is planned under the Second 5-year Plan (1967-1971). However, it is considered that the construction of one additional bridge is necessary.

With regard to No. 1 Bridge of the above two, a feasibility survey was conducted in fiscal 1967 and a detailed design was drawn up in fiscal 1968.

As to the No. 2 Bridge construction project, experts were dispatched in the first half of fiscal 1968 to make a comparison between the two sites, Sathon and Silam, which had been proposed for the construction of the bridge. As a result of this study, Sathon was chosen. Following this, in the latter half of fiscal 1968, a traffic survey and an economic survey were conducted. In fiscal 1969 a survey was conducted for designing the bridge structure, including a comparison of types of movable bridges, and a feasibility report was prepared.

(2) Situation of Survey

The following conclusions were reached as a result of the surveys conducted:

It is anticipated that the traffic load across the Chaopia River will increase sharply in the future with the development of the national capital region. Therefore, the Sathon Bridge should be constructed so that it will be opened for public use in 1975. As the need for Sathon Bridge is very great, the Thai Government is at present preparing for the construction of Tha Chang Bridge, and it is believed the construction of the Sathon Bridge will follow. Under the present survey, it is assumed that the bridge will be ready for use in 1975. It is evident that at that time there will be a heavy demand for traffic.

The expected traffic load of the Sathon Bridge will be very heavy in the future, but since this will be restricted by the structural conditions of the bridge and the situation of the road along the access road, it is advisable that 6 lanes in both directions be set up.

As to the access road on the Bangkok side of the Sathon Bridge, there should be 4 additional lanes on the Sathon Road by utilizing the channel running in the center of the road, making the total 8 lanes. The access road on the Thonburi side of Sathon Bridge should be planned to connect directly with

Charoennakhon Road, and also should be on a separate level from it with 4 lanes. It should at least extend to the west as a 6-lane highway and connect with Phra Chao Tak Sin Road.

The Chaopia River at Sathon is about 220 m in width. With regard to Sathon Bridge, the three spans in the riparian part should each have a main clear span of 60 m and a span of 45.5 m should be added to the land area on both sides. Thus, it should have 5 spans in all and a total length of 313 m.

The central span should be a steel bascule bridge, and caissons would be most fitting for the substructure of the central span of the bascule bridge type. In regard to the construction design, due care should be paid to the following points in particular:

At the positions where piers will be constructed in the river, a thorough geological survey must be conducted by boring.

The cross-sectional area of the river will be substantially reduced, thus affecting the water flow to a considerable extent. This might accelerate the corrosion of the river-bed. It will therefore be necessary to see that piers are made as small in size as possible, thereby to make the level form of the pier less resistant to the water flow and also to adopt appropriate measures against the possible corrosion of the river-bed. As to the movable span in the center, due consideration should be given to lightening its weight by the employment of a single-sectional main girder and open-grating floor plates. Also, efforts should be made to make the piers as small as possible by reducing the size of the mechanical parts, including counterweight, contained in the piers.

The cost of the construction work for the Sathon Bridge is estimated to come up to \$456 million. However, the probable economic effects, even its immediate benefits alone, are calculated to reach \$213 million in 1975 when it is expected to be opened for the use of the public.

3. Survey for the Urban Transportation System in Teheran, Iran

(1) Purpose of Survey and Background

The population of the city of Teheran has increased sharply in recent years. As of 1968 it reached 2.9 million. Therefore, the traffic congestion caused by buses and taxis, the major means of transportation in the city, has become acute. In order to cope with this problem, the Iranian Government decided to map out a plan to consolidate a transportation system most adapted to Teheran by choosing from among monorails, underground railways and elevated roads, and to formulate emergency measures for locations where the obstruction of traffic was greatest. Therefore, it

requested the Japanese government to assist in settling this problem. In response to this request, a study was made of a town planning program which would form the basis for the future image of Teheran, a forecast was made of the future traffic demand, and a basic plan was drawn up to determine how much of this traffic demand could be met by underground railways, monorails and super-highways respectively. At the same time, on the basis of a survey conducted on the spot of the conditions for the implementation of the construction work, the costs of general design of structures, construction methods, and a rough estimate of construction costs were calculated.

(2) Description of Survey

The plan for a transportation network system was prepared on the basis of the city planning for Teheran (6 million population), with 1975 as the target year. Out of the municipal elevated roads with a total length of about 120 km consisting of 2 loop and 6 radial roads, the construction of city loop elevated roads having a length of around 23 km and costing ¥25.5 billion (\$70 million) was recommended as the project needing immediate attention.

As to rapid transit railway and underground railway, the construction of around 20 km costing \$150 million, out of 6 lines with the total length of about 112 km, was recommended as work needing immediate attention. As to two of the 6 lines, it will be possible to utilize monorails in view of the traffic load, and the construction cost will be 55 percent of that of an underground railway.

On the other hand, in order to remedy the traffic jam on the trunk roads in Teheran, emergency measures to ensure smooth traffic through the adoption of multiple level crossings at principal intersections and by improving the signal control system should be adopted. The cost for these measures is estimated at \$1.35 million.

4. Survey for the Microwave Network Construction Project in Ethiopia (Second Plan)

(1) Purpose of Survey and Background

The survey was conducted to select suitable sites for stations needed to construct the microwave route extending over about 830 km between Addis Ababa and Asmara, No. 1 route, as part of the Microwave Circuit Network Construction Project, on the basis of the pre-investment basic survey conducted in fiscal 1968, and also to prepare draft construction specifications.

(2) Description of Survey

After the full-scale technical survey, it was decided to construct a single-circuit telephone line with a 960-channel capacity conforming to international circuit standard, together with a reserve single-circuit line, and to establish a long-distance

microwave circuit, route for the improvement of long-distance telephone service and for transmission of video and audio signals of black and white television on the 625-scanning line system. In addition, specifications for execution of the construction work for the circuit and draft specifications for inviting tenders were prepared. A total of 16 stations consisting of receiving and transmitting stations and relay stations will be constructed. The cost is roughly estimated at around \$2,780,000. The construction cost is expected to be financed by a loan from the World Bank.

<SURVEYS FOR OVERSEAS DEVELOPMENT PROJECTS>

1. Survey for Offshore Mineral Resources Development Project in the Philippines

(1) Purpose of Survey and Background

With a view to studying the possibility of development of mineral, including petroleum, resources in Area No. 2 (starting from Larap, Luzon Is. and including Mindoro Is. to its south, Masbate Is., and Samar Is. as well as the coastal areas) on the recommendation of ECAFE's committee for co-ordination of joint prospecting for mineral resources in Asian Offshore Areas (CCOP), a survey was conducted, by aero-magnetic prospecting, of the subterranean structure, especially the thickness of the sediments and the shape of their base.

(2) Description of Survey

Measurements were taken by fixing the area to be surveyed and the line of measurement. As the area to be surveyed, six traverses were set up with a length of about 350 km, starting from off the northern shore of the southern part of Luzon Is., crossing Luzon Is., Marinduque Is. and Mindoro Is. and leading to a point offshore south of Mindoro Is., and extending for a greater distance from northeast to southwest. Six additional traverses of around 150 km in length extending from a point offshore north of the southern part of Luzon Is. and running parallel to the first six to Luzon Is., with the distance between each being set at 6 km, were also set up.

Mainly because of the weather condition then prevailing, it was impossible to fly over part of the planned traverses. Another traverse was added to a point west of the planned area in the northern sea area off the southern part of Luzon Is. and 5 tie-lines ranging from 100 km to 50 km in length were measured.

In conducting the measuring work a magnetometer was installed for ground use in the Geophysical Institute of the Philippine Meteorological Observatory in Quezon City to observe hour-to-hour changes in terrestrial magnetism, and observations were made during flight hours. Furthermore, to

obtain the results of the measurement, a tentative cross section revised for day-to-day change and a tentative magnetic change (total value of magnetism revised for day-to-day change) were prepared as spatial work on the spot.

According to the magnetic features indicated by the tentative magnetic chart, basin structure was presumed to exist in the offshore area north of the southern part of Luzon Is., while, in some areas lying between Bondoc Peninsula in the southern part of Luzon Is. and the northeastern part of Marinduque Is., it is presumed that the sinking of the base has caused big faults and has formed a Graben condition. It can be presumed that no unusual situation in magnetism exists in the area south of the above, but the base is believed to be deep. In future, when the magnetism chart is redrafted on the basis of accurate indications of geographical points and a quantitative analysis is made, the geological interpretation may be altered.

2. Survey for Development of Industrial Estates in Thailand

(1) Purpose of Survey and Background

In Thailand, industrial as well as agricultural development constitutes the most important problem in improving and stabilizing the nation's life. For the promotion of industrial development, the essential requisite is to make effective use of the country's resources, and also as the first step in-

dustrial development projects adapted to the peculiar features of individual areas must be mapped out. From this viewpoint, surveys were conducted of the principal areas for development from physical, economic and social angles with regard to conditions of location. Thus, the possibility of industrial development in those areas was studied and a basic course of development was indicated. A development plan for industrial complexes to implement measures for development was also prepared.

(2) Description of Survey

The following conclusions were drawn from the results of the surveys conducted:

There are three categories of points for industrial development in Thailand: (1) seaside points for development of heavy and chemical industries; (2) inland points for development of light and machine industries; and (3) points for development by the processing industry. The (2) can be further divided into: (a) the section where the manufacturing industry is properly located by zoning under city planning and under the factory law; and (b) the section where the industrial complex is constructed and development is pushed on actively as a government project. When these points for development and the need for studying the materialization of development are duly considered in combination, conclusions as are shown on the following table will be obtained:

Need for materialization of development Points for development	Seaside area surrounding Bangkok	Inland area surrounding Bangkok	Eastern Seaside area	Northern part-Northeastern part
①			⊙	
② a		○		⊙
b	⊙	⊙	○	○
③	⊙		○	

As conditions for industrial location, river, irrigation canals and creeks play an important role.

In the development of the eastern section of the seaside industrial area, an adequate supply of water for industry is a most important requisite. For the full-scale formation of the heavy and chemical industrial area, the need can be met, for the present, by levelling up the storage of water in the Ban Phra Reservoir and otherwise. But, from a long-range point of view, the construction of water works to draw water from the river exclusively for industrial use must be considered.

There are three forms of industrial complexes: (1) that intended exclusively for industry; (2) industry including housing; (3) that integrating industry, housing and a commercial area. Under the present survey, for the urban area around Bangkok, development points for each of these forms were selected, and the scale of development and the promotion of land utilization were indicated.

As a new location for seaside industrial development, Kaem Krabang in Srirach which has various advantages, with respect to port and harbor facilities, soil quality, conditions of the sea, roads

and water supply, is considered most suitable for the project. As to the types of industry to be located, it is desirable that the seaside industrial complex be an integrated one including the power industry and the like. Development of a commercial port as No. 2 Bangkok Port at this point is also felt to be desirable.

3. Survey for the Cauca River Regulation Project in Colombia

(1) Purpose of Survey and Background

The Cauca River is a big river which flows from south to north through the Cauca plain, one of the most fertile areas in the South-American continent, and has a drainage basin of about 9,000 km². However, of the agricultural land of 200 km², from 10,000 to 20,000 ha, even as much as 60,000 ha in some years, in the region extending from Timba to Cartago is inundated by flood during the period from November to December almost yearly, thereby causing considerable damage to agricultural products. To cope with this situation, it was planned to construct a dam at some point up the river and to build river embankments in the flood-stricken area, in order to lessen the flood damage, and also to carry out drainage works in the farmland to be improved and to generate hydroelectric power at the dam site, thereby to meet the power demand in Cauca Plain where a remarkable growth rate has been seen in recent years.

(2) Description of Survey

A survey team conducted an on-the-spot survey for about 50 days from June 1969. As a result, the following conclusions were reached:

Power demand centering around the city of Cali on the CVC system as of 1968 is estimated at 211 MW and 1,000 GWH and, if combined with the Bogota and Medellin systems for which joint construction work is now under way, will come to 920 MW and 5,000 GWH. The increase rate is estimated at 9-12%.

To meet the above demand, a reservoir with an effective water depth of 34 metres and capable of storing 350 million m³ of water will be constructed by intercepting the Cauca River with a 133m high semi-arch dam at Salvajrina. It will then be possible to generate electric power with a maximum of 210 MW and an annual power capacity of 813 GWH.

This reservoir will be utilized to regulate floods during the rainy season. Combined with the river embankments extending over 400 km and the drainage repair works over 280 km, which will be constructed on the lower Cauca, it will prevent the submersion of arable land extending to 80,000 ha in area. Furthermore, by discharging water from the reservoir in the dry season, water pollution in the river below Cali can be reduced.

The probable benefits from the above are estimated at 11.9 million dollars a year and the construction costs for various facilities at 91.3 million dollars.