

PAPUA NEW GUINEA

A REPORT OF GENERAL SURVEY

JANUARY 1975

Japan International Cooperation Agency

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Preface

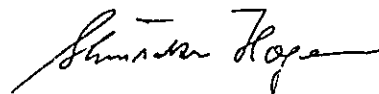
At the request of the Australian Government and the Papua New Guinean Government, the Japanese Government undertook a review of the Papua New Guinean Social and Economic Improvement Plan, of the development of various industries and of the possibility of development aid. The Japanese Government entrusted the execution of the study to the Overseas Technical Cooperation Agency. (This agency was reorganized into the Japan International Cooperation Agency on August 1, 1974, with the newly formed JICA taking over the duties of the former.) The Overseas Technical Cooperation Agency understood that Papua New Guinea has reached a very important stage from political, economic and social standpoints on the eve of its independence and fully recognized the significance of dispatching a general and basic survey team on a governmental basis.

The survey team, was headed by Mr. Toshio Shishido, Director General of Nikko Research Center, Inc., and comprised of ten members. The field survey was performed from June 29 through July 27. During this period, the team made on-site inspections of main spots in the country and gathered various materials and data through discussion with the officials of the Papua New Guinean Government, the Australian Government and many agencies. Happily, the team was able to achieve the expected objectives, as the inspections and discussions progressed satisfactorily with cooperation of the Papua New Guinean Government and others concerned.

This report is a summary of the results of the field survey and subsequent studies. We will be most gratified if this report becomes a guide for the future assistance policies by the Japanese Government to Papua New Guinea, and contributes to the friendly relations between both countries after Papua New Guinea achieves independence.

In closing, we are particularly grateful to all the persons concerned of the Australian Government and the Papua New Guinean Government who cooperated so fully with us.

January 1975



Shinsaku Hogen
President
Japan International
Cooperation Agency

I Summary and Conclusions

- 1) This survey team, with the active assistance and cooperation of the Government of Papua New Guinea (hereinafter referred to as "PNG"), made a survey of the status quo of the economy and society in PNG. In the course of the survey, team members were able to have unreserved discussions with high officials of the PNG Government. Thus, the team was able to gain a thorough understanding of potential economic growth and social development in PNG after independence. The team is therefore deeply grateful to the hospitality of the PNG Government.

- The Papua New Guinea Economy and Its Foreign Aid Strategies

- 2) The team highly appreciates the profound efforts to make reforms and improvements toward independence by the PNG Government, since autonomy was acquired in 1973. In particular, the team believes that the "Improvement Plan" is much more active than conventional economic plans of other developing countries, and that the policies listed in the eight points are indispensable to the post-independence PNG economy. The team also believes that this plan constitutes a strong guidepost not only for creation of the new PNG economy but also for the development of the rural community which has, so far, remained underdeveloped.
- 3) Japanese cooperation with PNG must be basically consistent with the intention of this "Improvement Plan."
- 4) We expect that when the "Improvement Plan" evolves into a new long-range plan, more concrete objectives for rural development will be development will be defined and governmental guidelines regarding the priority of each policy in the plan will be given. The object of rural development is to improve agricultural productivity and to raise the income of farmers who are living on a subsistence level and account for 90 per cent of the population. This plan aims to mitigate the gap between rural and urban areas and also to assure localization* of the PNG people. It will be necessary to 1) define concrete objectives for improving productivity in the primary sector industries of agricultural, cattle-breeding, fishing and forestry, 2) draw up time schedules and 3) identify the necessary funds and new technology required. The Japanese Government will be able to ascertain from these specifications, what the true needs of the PNG economy are.
- 5) In the "Improvement Plan", the advocated policy objectives which receive emphasis are equalization, decentralization and localization, and social development, rather than on economic growth and resource preservation rather than export promotion as policy objectives. In FY 1973/74, the

* The term localization is used here to mean that the indigenous PNG peoples in rural areas will be assured of major and active economic, social and political roles in the post-independence period. As used in the Improvement Plan, the term refers specifically to rural economic and social development.

environment surrounding the PNG economy has been turning in its favor, and therefore PNG could enjoy favorable international balance of payments and high economic growth. But since this phenomenon was a kind of windfall profit caused by a sudden rise in copper prices and a worldwide economic boom, it is dangerous to expect that these favorable conditions will continue in the future.

Another important consideration would be the adoption of a common economic development plan by many of the developing countries to curb domestic inflation, to foster import substituting industries and to promote industrialization, with the aim of attaining high economic growth and export promotion. An economic policy which balances social development and economic growth is awaited.

- 6) The PNG Government is especially sensitive to inroads of foreign private enterprise. However, one should avoid underestimating the past role of foreign capital in economic growth of PNG particularly in terms of introduction of advanced technology and promotion of modernization of the economy and society, all of which are brought by foreign capital. Any company owned wholly or partly by foreign capital which aims only at exploitation of resources or does not cooperate in local development will be regulated by the "Foreign Capital Act" soon to be enacted. However, the PNG Government should be receptive to the inflow of foreign capital which follows the government's policy and accepts the stipulated requirements.

As of the end of 1973, the contribution by Japanese private enterprise to the PNG economy amounted to A\$ 40 million in direct investment (including A\$ 24 million in long-term low-interest loans from the Japan Export and Import Bank, the Overseas Economic Cooperation Fund, etc.) This investment has played an important role in PNG industrialization. As a result, almost all the exports of marine products, worth A\$ 6 million, and forestry product exports worth A\$ 20 million can be attributed to the activities of Japanese enterprise. More than half of the exports from Bougainville copper mine are bound for Japan. Employment of PNG people and additional income created by the direct and indirect investment of Japanese enterprise are estimated to be 2,000 people and A\$ 2 million, respectively.

- 7) Loans to Japanese enterprise and joint ventures in PNG which may be regarded as Japanese aid to PNG in a broad sense, amounted to A\$ 24 million in committed funds as of the end of 1973. The PNG Government authority, however, criticized this Japanese aid as being project-oriented by specific enterprises, and that the aid was not on a grant-basis and furthermore was of the resource exploiting type. However, it should not be forgotten that the construction of lumbering roads financed by low-interest long-term loans not only serves the enterprises concerned but also provides facilities to local inhabitants, while construction of harbor facilities also brings economic benefit to local inhabitants. Moreover, afforestation financed by these aid funds will not only create new resources but also will increase the quantity of resources available in the same area, as compared with the regions not under forest management. Exploitation of water power also contributes to effective use of untouched

resources and energy.

- Points of concurrence between Japanese Foreign aid and PNG expectations-

- Seeking a meeting point between capacity and need -

- 8) It can hardly be denied that Japanese aid to date has been comprised of three types: export-oriented, development import and private enterprise cooperation. Economic aid from Japan both in 1968 and in 1973 are shown in Table 1. In 1968, export credits granted to developing countries by funds from Japan Export and Import Bank and other organizations accounted for 54% of total aid. In 1973, this percentage fell to 12%, but private direct investment rapidly increased from 12% to 63% during the same period. As a result, the flow of aid funds from the Overseas Economic Cooperation Fund, etc., rapidly increased.

Recently, tied aid for selling Japanese commodities has been discontinued, but the amount of aid in the form of loans to private enterprises surpasses that of aid on a governmental basis. This may be due to Japan's economic situation, in that she has been obliged to lean toward export promoting aid since her balance of payments has been a bottle neck to economic growth. Recently, the Japanese Government has granted aid funds to foster investment to secure supplies of resources vital to the Japanese economy, which lacks natural resources. A great part of the rapid increase in direct investment in 1973 was accounted for by resource securing incentives.

Raising the weight of Official Development Assistance (ODA) and increasing the grant element, coupled with a change in the Japanese aid policy and a softening of terms and conditions of aid will be needed in future. Emphasis will be laid on technical assistance.

- 9) As, however, great change in the way Japanese aid funds are distributed can not be expected for the time being, consideration will be needed to coordinate Japanese aid with the above-mentioned demand from PNG.

For this purpose, we have prepared a matrix as shown in Table 2, which lists types and modes of Japanese aid in five sectors of the PNG's economy and shows what type of aid is possible or preferable for each of the sectors. This is simply an illustration, but what is shown in this matrix provides the comparison between Japanese aid capacity, especially in the field of technical cooperation, and the needs of PNG, thus enabling a real matching of the two. For example, per capita national income in PNG exceeded US\$ 400 in 1973/74, and therefore PNG belongs to the category of ordinary developing countries according to Japanese criteria. Accordingly, PNG can not be the object of a direct governmental grant. Besides, PNG has a large surplus in her balance of payments, so there is little possibility for commodity aid which is mainly meant to cover deficits in the balance of payments.

As a result, what has been requested by PNG, namely not specific project oriented aid on a grant basis, may be comprised of technical assistance, dispatch of experts and overseas youth volunteers, acceptance

of technical trainees to Japan, bearing the cost of feasibility studies for projects, etc. Besides, it is difficult to use aid funds by the Japanese Government as impact loans for which use is not specified. If, however, the government budget of PNG is divided into the general budget and the development budget, and funds from International Bank for Reconstruction and Development or Asian Development Bank are included in the development budget, it may become possible to induce public funds from the Japanese Government into the PNG budget.

Another means directed at this same end would be to arrange an acceptance system for foreign financial aid such as forming an agency in which the government plays the leading role. (The present Development Bank of PNG is an example.)

- 10) Even though PNG can expect Japanese aid in the form of technical cooperation, it should be realized that at the moment technical cooperation to all countries is only 1% of Japanese foreign aid. Moreover to date Japanese technical cooperation has given priority to Asia (Asian countries received 54% of technical cooperation aid in 1973), and the share of the Pacific area was only 0.7%. (Refer to Table 3) Even if the share of technical cooperation rises in the future and priority is shifted to the Pacific area, a remarkable increase can hardly be expected. Therefore, in order to meet the expectations of the PNG Government with restricted aid funds, effective use of the funds through distribution into priority projects is desirable.

Table 1. Modes of Japan's Economic Aid (Total to All Countries)

		(million US\$)	
		Net Financial Flow from Japan to Less Developed Countries	
		<u>1968</u>	<u>1973</u>
A.	Government	678 (64.5)	2,190 (37.6)
(1)	Official Development Assistance	356 (33.8)	1,011 (17.3)
	Bilateral:	307	765
	(a) Grant	117 (11.1)	220 (3.8)
	Project Base	103	163
	Technical	14 (1.3)	57 (0.9)
	(b) Loan	190	546
	Multilateral Agencies	49	46
(2)	Other Official Flow	322	1,179
	Export Credit	290	254
	Direct Investment	32	569
B.	Private	371	3,654
(1)	Export Credits	280	440
(2)	Direct Investment	91 (8.6)	3,072 (52.5)
(3)	Others		142
<u>A + B Total</u>		<u>1,049 (100.0)</u>	<u>5,844 (100.0)</u>
	Ratio of Aid to GNP	0.74	1.42
	ODA/GNP	0.25	0.25
	Sub total of export credits	570 (54.2)	
	Sub total of Direct Investments	123 (11.7)	3,642 (62.5)

Table 2. Japanese Aid to PNG Economy: By Sector and Modes

Type of Aid	Nature of Aid	Implementing Agency	Amount U.S. \$ (mil) in 1973	Subsistence Sector (I)	Semi-Subsistence Sector (II)	Cash Economy Sector (III)	Expatriate Enterprise (IV)	Government (Public Sector) (V)
Technical Cooperation	Training	JICA	54	①	①	③		②
	Dispatch of Expert	JICA			①	③		②
	Providing of Equipment	JICA			①	③		②
	Establishment of Centers	JICA			④	⑥		⑤
	Development Study	JICA			⑦	⑦		⑧
	Volunteers	JICA	3	⑨	⑨			⑩
Grant	Project	M. F. A.	163	④	④			⑤
	Commodity	"						⑪
	Food	"						⑪
Gov't Loan ODA	Project	OEFC	1,179					⑫
	Project	EXIM. B.						⑫
	Commodity	OEFC			⑭	⑮		⑬
	Commodity	EXIM. B.						
	Bankloan	OEFC			⑭	⑮		
Gov't loan Non/ODA	Suppliers' Credit	OEFC				⑮	⑰	⑰
		EXIM. B.					⑰	⑰
		JICA					⑰	⑰
Private loan			3,654				⑰	
Private Investment							⑱	

- Explanation of Table 2 -

Table 2 illustrates in what fields PNG can expect Japanese technical cooperation and what made of Japanese cooperation is suitable for which sector. It may be pointed out here that this table is simply an illustration and does not represent areas to which the Japanese Government is committing its cooperation.

The first columns show the types of cooperation and their implementing agencies, while the fourth column shows the amount spent in 1973 in US dollars. The last five columns show the five sectors of PNG economic activity, that is, (I) subsistence sector (which employs about 50% of the PNG population), (II) semi-subsistence sector (employing about 40% of the population and including cultivation of some farm products for sale), (III) cash economy sector, (IV) expatriate enterprise sector and (V) government sector.

In order to promote future technical cooperation between Japan and PNG, it would be useful to have thorough mutual understanding between donees and implementing agencies.

An example of possible cooperation may be technical cooperation, for training of extension workers in agricultural, forestry or marine product industries in the subsistence sector, shown as 1 in Table 2 and to be implemented by JICA (the Japan International Cooperation Agency).

EXIM Bank refers to the Japan Export and Import Bank; OECF and MFA stand for the Overseas Economic Cooperation Fund and Ministry of Foreign Affairs respectively. Nature of cooperation is shown by the number in the table.

- ① Training of extension workers in agricultural, forestry, fishery and marine product industries.
- ② Family planning, training of home economists and paramedical personnel, administrative training and others.
- ③ Technical training for small manufacturing industries.
- ④ Laboratories in agricultural, forestry, fishery and marine product industries, etc.
- ⑤ Clinical laboratories, geological survey bureaus, etc.
- ⑥ Training centers for small-scale manufacturing industries, etc.
- ⑦ Land surveys, improvement of plant and animal breeds, resource prospecting, etc.
- ⑧ Public health and sanitation surveys, road construction surveys, surveys of electric power and water resources, etc.

- ⑨ Extension services for the agricultural, forestry, fishery marine and products and cattle breeding industries.
- ⑩ Family planning, extension service or training of home economists, paramedical personnel, engineers and operators.
- ⑪ Providing of medical supplies and equipment, medicines, etc.
- ⑫ Feasibility studies and engineering of roads, ships, hydro electric power, etc.

The following items with double circles do not fall into the category of technical cooperation, but they are forms of aid presently being or likely to be implemented.

- ⑬ Loans for imports of specific commodities.
- ⑭ Loans for agriculture.
- ⑮ Loans for construction and manufacturing industries.
- ⑯ Infrastructure in connection with Madang chip and canning factories and Open Bay forest development.
- ⑰ Loans for expatriate enterprises.
- ⑱ Investment for expatriate enterprises.

Table 3. Geographical Distribution of Japanese Technical Cooperation in 1973 (Total to All Countries)

(Unit: Million US dollars)

	Amount	Percentage
Asia	30.9	54.0 %
(Southeast Asia)	21.2	37.1
Middle and Near East	2.2	3.8
Africa	6.3	11.0
Latin America	6.7	11.7
Europe	0.7	1.2
Oceania	0.4	0.7
Unclassified	10.0	17.5
Total	57.2	100.0

Source : Foreign Ministry, "Statistics of Japanese Foreign Assistance", 1974.

- Appraisal of Specific Projects

- 11) At present, concrete requests for Japanese aid which the PNG Government has made are (I) participation in a feasibility study for the development of the Purari River and (II) establishment of a fishery training center. Although the purpose of this survey team was not to appraise any specific project, we think these two projects can safely be recommended as aid objects since they fall within the matrix shown in Table 2, and thus are an instance in which there is concurrence between PNG expectations and Japan aid policy. (Refer to II Summary of Reports by Sectors)

- 12) Since, however, the power development program for the Purari River seems to be large-scale compared with the size of the PNG economy, a careful survey and study will be required. Therefore, the scope of the feasibility study should not be restricted to investigations of purely technical or engineering potential, but should cover studies or analysis of the following:
 - (I) possible locations of industries consuming 1,800 MW of electric power, which are expected to be developed,
 - (II) funds required for related infrastructure like transportation and communication or harbors,
 - (III) methods of collecting funds for governmental investment if managed by the PNG Government,
 - (IV) possibility of investment from International Bank for Reconstruction and Development and Asian Development Bank which are major sources for financing the project and
 - (V) the social impact caused by such a large-scale project.

- 13) In addition to the projects mentioned above, the PNG Government has requested aid for many projects like the following:
 - (I) promotion of afforestation activities in afforestation centers, as well as training of afforestation experts,
 - (II) dispatch of experts for technical guidance on rice planting,
 - (III) improvement of fishery bases as well as improvement of harbor facilities for marine products processing plants,
 - (IV) establishment of training centers for skilled workers in small-scale industries,
 - (V) improvement of airports. However, considering the modes of Japanese aid and their quantitative limitations, it is impossible to satisfy all of these requests at one time. It is hoped that The PNG Government make requests to the

Japanese Government after considering the priority ranking of these projects and also the balance between Japanese aid and aid from other donor countries.

II Summary of Reports by Sectors

1. Economy, Finance International and Balance of Payments of PNG

1-1 Economy

PNG is endowed with abundant natural resources and has little of the population pressure which exists in many other developing countries. Hence potential for economic development is high, so long as the development is grounded on a properly formulated basic plan. Her economic growth has sharply accelerated since the beginning of the development of the Bougainville copper mine toward the end of the 1960's. As a result, there has emerged a striking dual structure embracing the less developed subsistence sector and the rapidly growing market economy sector. In 1973/74, exports of copper ore concentrate and other primary products increased substantially and the real growth rate in the market economy sector was over 16%. Thus the per capita national income was much greater than the average in developing countries in Southeast Asia, exceeding US\$ 400. The balance of trade and the balance of international payments became favorable for the first time in 1972/73 and this trend accelerated in 1973/74. These notable features of PNG as a resource-rich country differentiate it from other developing countries.

At the same time, the rapid growth in the market economy sector has brought about several kinds of problems. The first problem is inflation caused by development as well as that induced by global inflation, especially with the rise in the prices of imported commodities which originated in the oil crisis of 1973. This has resulted in a sharp rise of the wage level. Secondly, as a result of dualization of the economic structure, there has been a widening urban-rural gap in income distribution as well as between expatriates and the indigenous population, causing social and political problems. Thirdly, disintegration of rural communities has brought increased population inflow to cities, producing an unemployment problem and urban problems.

Based on the experience of the First Five-Year Plan which ended in 1972/73, the Improvement Plan 1973-74 was adopted. This "Eight Points Plan" aims at more balanced economic growth, giving priority to rural development for raising the living standard of the indigenous population, equitable distribution of economic benefits, localization, etc. In the forth-coming Second Five-Year Plan starting in 1974/75, the objectives of the Improvement Plan will be upgraded and special priority will be given to rural development and social development, which may reduce the pace of economic growth. On the other hand, the plan calls for pushing preparations for such long-range economic development projects as the Purari River power development project. Since the world economy has entered into a period of stagflation caused

by the heavy boost in the oil price and since a slowdown of world economic growth is also expected in the long term, the PNG economic development plan will necessarily have to adopt to world economic trends.

1-2 Finance and Aid

The scale of the PNG national budget is large in terms of the economy. This is because large expenditures are required for the establishment of infrastructure, economic development, social services, general administrative expenses, etc. . However, dependence on aid from the Australian Government and loan funds guaranteed by the government have been very high because of the low level of domestically generated revenue in PNG. Even though this situation greatly improved in 1973/74, total government revenue consisted 40% of domestic internal revenue, 45% of aid and 15% of loans. The PNG Government, in the short-run, plans to cover the financial gap by obtaining a promise of a high level of aid (A\$ 500 million for the coming three years) from the Australian Government and by striving for further diversification of aid sources. In the long-run, there is a policy to achieve financial independence by raising domestic revenues through economic development. As the first step, it has been decided to increase the tax revenue from Bougainville Copper Ltd. by amending the Bougainville Copper Agreement. As, however, this revenue is vulnerable to fluctuations in the international copper price, appropriate management is required. Besides the above, the PNG Government plans to have a resource export tax. Domestic revenues may be expected to grow over the long run through the development of large scale resource using projects such as the Purari River project and others. However, continuous aid is necessary until the achievement of financial independence.

1-3 Trade and International Balance of Payments

The PNG international balance of payments has shown dramatic improvement since 1972/73. Although the high rate of dependence on copper ore and other primary products whose prices are subject to fluctuation makes the country's balance of payments highly unstable. The government is taking an optimistic view for the long run, based on the country's favorable position as a resource country. Nor has it anticipated a sharp decline in copper prices on the world market. However, the impact of a sharp increase in the oil price will soon emerge in every area of the world economy. This will not justify an optimistic view by PNG.

In the short run, we may anticipate considerable uncertainty in regard to aid from the industrialized countries, and financing and loans from international organizations. Over the long run, however, there is room for optimism in regard to the inflow of capital for resource development in PNG.

2. Aid of Various Countries to PNG

2.1 Aid from the Advanced Countries

The majority of aid from various foreign countries to PNG is on a grant basis. Including the financial aid from Australia on a grant basis which covers half of the PNG national budget, almost all aid from the United Nations, New Zealand, the United Kingdom, Canada, etc. is untied grant aid. Of course, there are also loans from the International Bank for Reconstruction and Development, but their share of total is very low. This is in sharp contrast with the fact that most aid going to South-east Asian countries is generally on a loan basis. This may be due to the specific fact that PNG is presently in a pre-independence stage. As PNG gains independence, it may be preferable for her to remain flexible about the forms of aid which she receives. In other words, she should lay a foundation for a structure which can absorb many kinds of aid, ranging from soft to hard.

Besides, it can be pointed out that present aid from various countries is mainly in line with what the PNG Government emphasizes in national development. That is, aid is in line with the development of grass-root level projects. The fields of aid activity are education, training, fostering of local communities, medical services, etc., which can be safely said to be quite sound and appropriate to the current state of PNG society, and therefore very beneficial to it. The accepting of aid in the form of volunteer activities is a realistic measure, suitable to the present state of PNG society, for materializing the policy of the PNG Government.

2-2 Japanese Aid

Japanese aid is generally in the form of tied loans for revenue-earning projects, and therefore not readily adaptable to the conventional PNG conception of aid. Moreover, in comparison with aid from other advanced countries, Japanese aid is considered to be of the resource exploitation type and finds it hard to respect the status and policies of the recipient country. So far, Japan has extended aid to PNG on a grant basis only for a limited number of projects. Accordingly, it will be necessary to select projects and to decide the aid policy only after fully considering these PNG circumstances.

2-3 Acceptance of Aid by PNG

The Aid Coordinating Committee is the central agency through which the PNG government channels aid funds; the Committee makes every effort to coordinate the aid received with national policies. The existence of this Committee permits clarification of the role of each specific aid project within PNG society, enabling not only the donor countries to understand the concrete objectives of the aid but also PNG to get the maximum benefit from this aid. This procedure is of extremely high value and attitude should be highly appreciated.

In addition, aid to be expected from advanced countries in the future will be in the form of mixed grants and loans, and their scope will broaden. Therefore, within the PNG Government, coordination between the Aid Coordinating Committee and the newly established NIDA (National Investment and Development Authority) will be needed.

3. Agriculture and Forestry

3-1 Agriculture

The PNG territory has a total land area of 47.5 million ha, of which arable land is about 2.1 million ha. Out of a total population of 2.51 million, about 90 percent may be classified in the agricultural sector, while this sector contributes about 40% to GDP.

The most notable feature of the PNG agricultural industry is the coexistence of two sectors: subsistence farming and farm production for the market economy. Of total farm land, about 1.7 million ha is used for subsistence farming, in which about 60% of the total agricultural population is engaged and which contributes about 30% to GDP. The second feature is that a large quantity of food is imported, with about 20% of total imports comprised of food. The third feature is that exports of such agricultural products as coffee, coconut and cocoa amount to one-third of total exports. The fourth feature is the system of land ownership. Almost all the land, excluding a small amount of state owned land and some held by Catholic missions, is traditionally owned collectively by the community, which is quite peculiar to PNG.

At present, there is an increasing danger that the rural villages will collapse, due to a shift from a subsistence economy to a commodity economy, to population migration to cities and to low productivity in subsistence sector. In order to find a way out of these difficulties, the PNG Government is making strenuous efforts at rural development. In concrete terms, these efforts consist of promotion of agricultural production through financing from the development bank, extension services of agricultural technology, introduction of new marketable crops in nuclear estates, introduction of handicraft industries to rural villages and construction or improvement of infrastructure like roads.

While the PNG agriculture has abundant potential because of extensive land resources and favorable climate, it simultaneously has the above-mentioned various problem areas. Therefore, Japanese agricultural cooperation hereafter should be in line with the rural and agricultural policies of the PNG Government. Japanese cooperation might take the form of advising on agricultural policies, sharing the experience of agricultural development in Japan and of rice production.

3-2 Forestry

Of a total land area of 47.65 million ha, about 40 million ha is covered by forests, which contain vast possibilities for forestry development. However, there are some restrictions such as imperfect infrastructure (e.g., roads), problems in processing owing to the various tree species,

and frequent stoppages in forestry activities because of community ownership of forests. Operating under such circumstances as these, forestry now accounts for a mere 1% of GDP. But on the other hand, the percentage of lumber in her exports is 7%, which is relatively high. Therefore, PNG forestry operations are of the export-oriented type.

While the team was not formally requested to look into the forestry industry during the survey period, an implicit reference was made as follows: cooperation with afforestation projects in deforested locations, for example, that in the Gogal Basin near Madang where a joint venture with Japanese enterprise is operating a chip factory using forest resources, as well as cooperation in a forestry course to be given at the University of Technology in Lae and other research institutions.

Considering the weight of joint ventures with Japanese enterprises in present PNG forestry activities and the weight of Japan in her lumber trade, forestry will be one area of high priority on a government basis between the two countries.

However, PNG seems to be expecting grants for each of the above projects and such problems remain to be settled in coordinating the aid requests with Japan's possible modes through the newly established Japan International Cooperation Agency.

4. Fishery

4-1 Present Status and Problems of Fishery

Putting aside foreign and joint fishery enterprises, PNG has few enterprises run by indigenous peoples. A majority of her fishery is still on the subsistence level. Besides, her fishery administration has been unsystematic and fragmented, while the administration has made little efforts so far in this field. In determining future fishery development plans, balance among production, distribution and consumption will necessarily be considered.

Moreover, in order to solve the problem of a lack of statistical data which is the basis of administration, statistical data and a long-term study of fishery policies by qualified research institutions need to be made.

4-2 Direction of and Strategies for Fishery Development

Studies should be performed from the following two standpoints: first, the possibility of small-scale production fully utilizing the abundant natural resource endowment in daily life of the people; and secondly, large-scale fishery on an enterprise basis, utilizing resources which can not be used by small scale fishery. While foreign technology and capital should be induced for fostering fishery as an enterprise, as much of the management as possible should be transferred to indigenous hands.

In order to promote coastal fishery, enhancement of administrative abilities and on the spot improvement and reinforcement of fishery extension activities are needed. For this purpose, it is necessary to train a

number of administrators to be in charge of fishery as well as specialized extension personnel.

In addition to the improvements on the administrative level, it is also necessary to make a preferential selection of regions with favorable conditions for fishery and of regions where fishery is quite prosperous, as models for promoting nation-wide coastal fishery. This will permit an effective upsurge from the fisherman level. (Establishment of model fishing villages, organizing of fishery associations and establishment of fish markets may be considered). In order to improve technology, it is necessary to look for those who can be leaders and instruct the fishermen on fishing techniques.

In order to train people to be the important key personnel for running fishing enterprises, candidates for the future middle management should be trained in fishing techniques, thus attempting to raise their knowledge of fishery management.

In order to achieve this objective, it is necessary to have intensive and systematic training of personal; and for this training to be effective, it must be carried out at specialized, centralized institutes with an enriched curriculum.

5. PNG as a Resource

5-1 The Present Status

The world resource situation, especially natural mineral resources, is undergoing dramatic change. There has been remarkable depletion of natural mineral resources with lower grades of ores mined under worse conditions, while at the same time, nationalism in the resource producing countries is surging up. On the other hand, demands for natural mineral resources are increasing gradually.

It is true that copper development in Bougainville Island has resulted in great success and at the same time is contributing to the national revenue of PNG. However, it is not correct to infer from the success in Bougainville copper development that future development can be anticipated. This is because:

- (1) Development costs will rise remarkably owing to worsening of mining conditions and the mining of lower grades of ores.
- (2) It is abnormal to have investment by foreign enterprise play an overly heavy role in one country's economy, especially when foreign exchange earnings are dependent on such activity; hence, in terms of a balanced national economy, it is likely that there will be an emerging trend towards economic nationalism.
- (3) There is both the possibility and the fear that resource development may be used as a political tool because of an upsurge of racial consciousness, and resource nationalism.

5-2 Matters to be Considered in Establishing Resource Policies

Effective utilization of foreign private investment in connection with resource development will have to be considered by PNG, whose internal revenue is scarce at present. For inducing foreign investment concrete governmental policies are to be established as soon as possible. Following points are considered important in clarifying these policies.

The first is a problem of balance between the tempo of resource development and that of growth of the national economy. It is natural that impetuous development by foreign investment will cause economic conflict, if the domestic economy is not stable and sound. Generally, resource development requires a long time period from geological surveys to extraction of the resource as in the case of public works like water resource development, while the period of resource extraction or use (revenue-earning period) itself is short. Accordingly it is very important to have criteria for selecting each project, with a proper time schedule for development projects as a whole, which are to be closely coordinated with the objectives of economic development. These criteria will enable the selective and active use of foreign investment in PNG.

The second is to gain an understanding of the behavior of foreign private investment companies. These companies are quite active in prospecting activities, looking for good luck in the form of second and third Bougenvilles. However, future resource development in PNG will require huge capital expenditures, especially as an initial cost for improvement of infrastructure because development sites are moving further inland and wages and material prices are increasing. At the present stage, the PNG Government with small financial resources may inevitably make foreign investment companies bear all costs for infrastructure, unless otherwise stipulated. Therefore, investors will take the following factors into account in their decision-making: 1) calculating total necessary investment and estimated profit based on analysis of deposits and projections of mineral prices; 2) negotiating with the PNG Government regarding the regulations like corporation income tax and tax holidays in a certain period. This means that private foreign investors will select investment targets on the basis of a comprehensive judgment which includes international factors and available alternatives.

Accordingly, in order to utilize foreign investment effectively and promote development, the PNG Government will have to have a broad understanding of the risks enterprises will be taking and, at the same time, to guide and control those enterprises in a systematic administrative way with an international vision together with having the ability to assess the appropriateness of the proposed investment.

Thirdly, scientific analysis of the economic impact of resource development is required. Resource development sites are moving inland and development projects tend to be isolated from other economic activities. Therefore, there are many difficulties facing any attempt to undertake integrated regional development, even if huge private investors participate in the project.

Using resource development as the core of rural development requires a long-range perspective of regional development plans as well as a concrete plan to set up infrastructure with the increase of government revenue brought by resource development. For example, to enhance regional economic potential, it might be necessary to design an industrial complex for lumber processing, which would intensify the use of road infrastructure, or again, to prepare blueprints for future copper refineries and fertilizer plants. Employment must be examined in terms of the potential for an adequate supply of manpower, and especially in terms of securing highly qualified labor force. At the same time, this will require, on the national plan level, having a definite notion of how to convert smoothly manpower which has been engaged in construction to manpower which can be used in operations.

Fourthly, environmental problems caused by resource development and problems of the social impact of development are to be considered. It should be kept in mind that the early stage of development is crucial for the prevention of environmental destruction. Therefore, regulations should specify the methods of development and anti-pollution measures to be taken in the production stage. These should be fully recognized by those companies in advance, thus enabling the companies to be ready for bearing the expenses for preventing environmental disruption as part of total development costs. What must be avoided are situations in which only devastated sites and unusable roads remain when extraction of resources has been terminated after 15 or 20 years of operation. Many examples of such situations as this may be seen in many advanced and developing countries.

From the above-mentioned viewpoints, especially when resource development is planned, it is very important to prevent misunderstanding between PNG and Japan through the smooth exchange of information on development policies and regulation principles on a governmental basis. At the same time, private investors should be informed of the circumstances in PNG. In addition, supervisory organizations should also be studied.

6. Purari River Power Development Project

6-1 Outline of the Purari River Development Project

The Purari River power development project started when the initial pre-feasibility report on the possibility of development by Nippon Koei Co., Ltd. was submitted. The study was conducted for two years at a cost of 150 million yen under agreement with and cooperation of the Australian and the PNG Governments.

This project is to construct a dam at Wabo on the Purari River and to promote economic and social development of PNG by using the large quantity of electric power (1,800 MW) generated there. Heavy power consuming industries like aluminum refinement, ferro-alloy production, electrolytic copper and electrolytic zinc and caustic soda production will be needed and the necessary raw materials such as bauxite, iron ore,

and manganese from Australia and copper, limestone, natural gas, etc. from PNG must be provided.

Necessary expenses for the project were estimated as follows at of the end of 1973:

Feasibility study	(for about two years)	US\$ 5.5 million
Dam construction	(for about ten years)	US\$ 760 million

This development project requires much capital investment because the climate of the Purari River is hot and humid, while the inflow of sand from rivers will make it difficult to carry out survey activities, transport machines and materials and do construction work.

The PNG Government, being cognizant of the necessity for early development of the Purari River power project conducive to strengthening the industrial base as well as fostering regional development and agricultural development in the Papua side of the country, is striving to conduct the feasibility study at the earliest possible time. Therefore, the PNG Government has requested technical cooperation from the Japanese and Australian Governments, proposing to share the total expenses for the study of US\$ 5.5 million as follows:

PNG	US\$ 1 million
Japan	US\$ 2.25 million
Australia	US\$ 2.25 million

An important factor for the success of the entire Purari River development project is whether or not Purari hydro-power generation proves advantageous in view of the world-wide hike in oil energy prices. Therefore, there must be simultaneous study not only of the technical feasibility of the dam which will generate electric power, but also of other related projects like local development projects which will utilize the power effectively, as well as of a plan to improve industrial infrastructure, and related industries, examined at the same time.

6-2 Japanese Cooperation and Problems

The Japanese Government is considering taking part in the feasibility study as a joint project among the three countries of Japan, Australia and PNG in response to this request by the PNG Government.

The following may be pointed out as problems in the Purari River development project:

- (1) As the project requires a huge amount of funds which will exceed the present level of PNG national income, careful consideration should be given to the time schedule for execution of the project.
- (2) A thorough analysis of the environmental impact of the Purari River development project on fishery, forestry, and on labor and social life is necessary.

- (3) For checking into the possibility of industrial development, a study of such conditions as industrial infrastructure, investment programs, finance, markets and techniques will be needed.
- (4) Immediate procurement of personnel for execution of the project is important. Although many other difficulties may well emerge, it may be anticipated that the project will become a significant one serving as a symbol of nation-building while Papua New Guinea awaits her imminent independence.

7. Construction

7-1 Problems of Landownership

Traditional patterns of landownership stand in the way of development in PNG. Although the overall land area is large, that of government owned land can not easily be utilized for the construction of public facilities (roads, schools, hospitals, etc.), offices, houses, factories or agricultural estates, because it is difficult to obtain agreement from all the people who insist on their ownership rights to the land and also because it is difficult for the average person to comprehend transference of landownership itself.

Land is always the basis of development. Hence, (1) the ownership system should be modernized, and (2) the government should increase its share of land-ownership. For this purpose, a land survey should be carried out and maps or land inventories should be made as early as possible.

7-2 Education and Vocational Training

Although PNG people are hard-working and self-motivated, the educational and vocational opportunities open to them have been very limited. As a result, there is a shortage of skilled laborers as well as of professionals on the one hand, and a surplus of unskilled laborers on the other hand. Therefore, an intensive education system and training program should be established.

7-3 Level of Social Services

The social services such as hospitals, first aid centers, vocational training centers, employment offices, etc. available in PNG are satisfactory compared with those in other developing countries. This level should be maintained in the future as well.

7-4 Roads

Turning to the road system, we see that roads passable for vehicles are found mainly in and around major towns. They are generally not connected with each other, except for the road which links the Central Highland with Lae. Although the air transport system is popular and offers good passenger transport, it is not economical for cargo trans-

portation. In order to achieve economic development, expansion of the road system is indispensable as a basic infrastructure.

7-5 Construction Activities

It is interesting that the Australian Commonwealth Department of Works still acts as a consultant for development works. In PNG, where there is still insufficient know-how among the indigenous officials for undertaking large-scale development projects consultant activities are appreciated.

There are still many expatriate consultants and contractors, who are also playing important roles in construction activities. Because indigenization of this field is not very easy, the opportunity of in-service training should be provided more actively by the government with the support of these consultants and contractors.

8. Transport

8-1 Air Transport

Transport as a form of social overhead capital is indispensable for development and growth. The establishment of a reliable and efficient transport system to connect and integrate each local economy is necessary in order to achieve nationalization of economic activity which is currently being promoted, to develop local industries and to establish an independent and self-supporting economic system. The air transport system in PNG is advanced. Since other transport modes and facilities have been retarded owing to such special circumstances as topographic conditions and historical reasons, the convenience of air transport and its wide coverage have been appreciated. At present, the air transport network which covers every place in the country including isolated islands and secluded places in the mountains is playing an important role in politics and economy. Although the government established the National Airlines network and is planning to expand and improve it, it is also necessary to plan for the improvement of airports, and increase the number of aircraft and their size and speed in view of the increasing demands (especially for passenger transport) caused by the future national development. Therefore, the improvement and expansion of major airport facilities, construction of new local airports, and modernization of air-navigation safety devices must be promoted under a long-term improvement plan.

8-2 Road Transport

A highway from Lae to the Central Highland was constructed under the five-year road improvement plan started in 1969 and, at present, construction of trunk roads and roads for industrial use and expansion of road paving, are being actively undertaken, but the road transport facilities are generally underdeveloped owing to the topography. Passenger transport facilities such as buses and taxis are also restricted to some major cities and public transport facilities are not available in almost

all districts. As for cargo transport, there are many company owned trucks in districts with good roads, but a shipping industry business is not found because of the fragmented local economy. It is expected that efforts for improvement of land transport will be made for a some time in the future and that areas covered by land transport will be expanded. Since transport demand will grow rapidly with the development of local industries, it is necessary to improve the land transport system by means of consolidating transport companies for both passengers and cargo on a regional basis. And to improve and augment the number of vehicles will also be required in order to secure good land transport system, which complies with the increase of demand.

8-3 Marine Transport

Marine transport, especially coastal marine transport, may play an important role in promoting nationalization of economic activities and fostering of local industries in PNG which has the total length of coastline of 12,830 km and more than 600 islands. However, coastal shipping is on a small scale which corresponds to the present fragmented local economy, and offers few services. Of course, shipping services with remote places may be assumed to be very few. Accordingly the consolidation of small enterprises will again be needed for having sound, reliable and effective management of navigation services. This can be attained by proper government guidance. And for those services which are not operated on a commercial basis, direct government intervention and protection will be needed.

As one of the measures to counter the price hike, the PNG Government is studying a plan to establish a national line for ocean navigation which will keep freight charges at a reasonable level. But, further examination will be necessary since the plan requires not only a huge amount of funds for purchase and maintenance vessels but also for solving the problems of hiring crew.

Although the need for maritime training is beyond dispute, further examination including the education system will be necessary, as details of the plan are not definite at present.

As for ports and harbors, a few remarks may be made. Large scale development projects such as the Purari River development project, requiring construction of harbors as infrastructure, have been appearing. The severe topographical conditions will necessitate a thorough investigation of harbor location.

9. Desirable Pattern of Japanese Investment in PNG

9-1 Japanese Investment in PNG

Investment activities of Japanese enterprises in PNG are, in reality, mostly engaged in the development of forestry resources, fishery, extraction of palm oil, mining, etc. and investment in manufacturing industries is found only in lumber chips and plywood. At present, the

majority of investment activities can safely be said to be focussed on processing of primary products. Considering that the domestic market of PNG is rather small because her economic structure is still self-sustaining, that her population is as small as 2.5 million and that the markets are fragmented due to topographical conditions, business activities aiming at the domestic market are clearly limited. On the one hand, from the standpoint of a country like Japan which has big domestic market, but depends upon overseas countries for almost all material resources, it is quite natural that her overseas investment activities are mostly oriented to the development of natural resources. On the other hand, from the standpoint of the PNG Government, it is natural to give priority to investment directly connected with domestic development rather than to foreign investment which has little effect on domestic development.

The PNG Government is earnestly considering how to utilize direct investment from abroad for domestic development and, for this purpose, is preparing to establish a National Investment and Development Authority (NIDA).

9-2 Requirement from the PNG Side

What constitutes necessary investment for PNG was clearly indicated to the survey team. The main points are as follows:

- (1) The reasons why PNG wants to establish friendly relations with Japan are 1) that Japan constitutes a large economic bloc in Asia, 2) that she has advanced industrial techniques, and 3) that she is cooperating with developing countries.
- (2) For the establishment of a cooperative relationship with Japan, the three factors of aid, trade and investment must be well balanced. While PNG is satisfied with trade with Japan, further cooperation in investment and aid will be necessary.
- (3) The main concern of PNG about foreign investment is how to control it. Bills on an Investment Development Act and Trade Administration Act are in preparation as a means for controlling foreign investment.
- (4) As for Japanese investment, PNG wishes Japan to fully understand and comply with basic principles and policy of the PNG Government. Besides, she wants the Japanese Government to make her points of view known to Japanese enterprises to the greatest possible extent.
- (5) As conditions under which foreign investment will be welcome, the following are important:
 - a) Investment should be consistent with the Eight Points Plan.
 - b) Foreign investments, which selfishly exploit PNG resources or whose profits accrue only to foreign investors, are not desirable.

- c) Investments should raise the living standard of all PNG peoples at the grassroots level.

The most important point among these can be summarized as follows: foreign investment should be of the type that promotes social development in line with the philosophy of the "Eight Points". Considering these points, an important factor in establishing future friendly relations between PNG and Japan is how Japanese investment activities manage to meet the expectations of the PNG Government.

9-3 Expectations and Criticism of Activities of Japanese Enterprises

Activities of Japanese enterprises which are highly regarded in PNG include the following:

- (1) Establishment of an industrial base, with the introduction of new techniques. (JANT chip plant, fishery, etc.)
- (2) Development of human resources in PNG, such as employment and training of the indigenous peoples, and introduction of management skills.
- (3) Strengthening of production capacity of local industries and indirect transfer of technology.
- (4) Fostering of processing industries for primary products (lumber, cocoa, coffee, etc.) which in the past had been exported unprocessed.
- (5) Introduction of new system of cargo collection and production.

On the other hand, the following criticisms of Japanese enterprises are often heard:

- (1) Japanese often bribe officials of the PNG Government due to excessive competition among Japanese, thereby corrupting innocent government officials. This has caused heated debate in the PNG Diet, and is linked with a lowered image of the Japanese as corrupt.
- (2) Resources of PNG are shipped abroad without being processed by those enterprises and important resources are not utilized effectively within the country.
- (3) Japanese enterprises sometimes advance into areas which the Papua New Guineans are capable of developing themselves, thereby not contributing to the growth of latent potential.

Considering the above, Japanese enterprises should pay attention to the following points in order to keep friendly relations with PNG in the future:

- (1) Far-sighted consideration and selection of projects for developing new means of production in PNG. In short, there must be consi-

deration of developing projects in which Japanese enterprises can cooperate in nation-building of PNG.

- (2) For this purpose, it will be necessary for the Japanese to foster talent like development engineers who can not only formulate projects but analyze impacts of social development.
- (3) Innovative overseas management philosophy by the enterprises and improvement of coordination between the head offices in Japan and liaison offices will be required. This will facilitate local office activities which are in line with the development of PNG potential, while at present, local offices are operating under the direct control of short-sighted market competition principles.
- (4) Arrangement of basic rules for cooperation among Japanese enterprises and for their international activities.

Recently, disorderly commercial activities of Japanese enterprises and their short-sighted business activities have caused severe criticism in PNG.

Since PNG is a society whose natural environment, people and economy have not yet been polluted, Japan must be mindful not to import into PNG unfair competition principles in raw form.

III Appendices

1. The Survey Team and Its Itinerary The Project

(i) The background of the dispatch of the survey team may briefly summarized. The project originated from a speech by Foreign Minister Ohira at the first Japan-Australia Ministerial Conference held in October 1972, in which he stated that Japan would cooperate in PNG nation-building as much as possible. Foreign Minister Kiki requested, *viva voce*, the dispatch of a Japanese development survey team at the Japan-Australia Ministerial Conference held in October 1973 and the Australian Ambassador to Japan requested, by a note verbal, dispatch of a development survey team to Director of Economic Cooperation Bureau, Ministry of Foreign Affairs. A written request specifying fields to be studied was forwarded from the Australian Embassy in Tokyo in January 1974 and it was decided on the Japanese side that the study should be executed early in the 1974 fiscal year. Then, consultation between the ministries concerned was repeated from April through June and a formal reply by a note verbal was given to the Australian Embassy in Tokyo on June 21, 1974. The contents of the Australian request were to perform a sectoral study of PNG, touching on industries and infrastructure, etc., and to review the PNG Improvement Plan while, at the same time, considering the modes and fields of cooperation with Japan which would be suitable for PNG in the future. At present, although the economic relation between PNG and Japan has been so close that many private enterprises have already operated in PNG and some private-based survey teams have been also dispatched their disorderly overseas operations may have incurred fear on the part of the PNG Government itself. Therefore the ministries concerned agreed that an early dispatch of the government-based survey team to collect data and identify the possible fields for Japan's aid was necessary. Accordingly, duties of the team were specified as follows and it was decided to execute a field survey for about one month.

- (1) Review of the PNG Improvement Plan
 - (2) Investigation of the status quo of each sector, such as industry and infrastructure.
 - (3) Consideration of the orientation toward development of PNG.
 - (4) Examination of the administrative structure and management capabilities of the project.
 - (5) Selection of fields, choice of projects and formulation of modes of Japanese future technical cooperation as well as recommendations thereon to the Japanese Government.
- (ii) Composition of the survey team and itinerary of field survey:

Members of the survey team were selected as follows so as to fulfill the above-mentioned duties:

<u>Position</u>	<u>Role</u>	<u>Name</u>	<u>Assiliation</u>
(1) Chief	Economic planning	Toshio Shishido	Director General, Nikko Research Center, Inc.
(2) Assistant Chief	Political and economic affairs	Tsuneo Tanaka	Vice Director, European and Oceanic Bureau, Ministry of Foreign Affairs
(3) Member	Agriculture and forestry	Yasuhiko Nisawa	International Coopera- tion Division, Agri- cultural and Forestry Economic Affairs Bureau, Ministry of Agriculture and Forestry
(4) Member	Fishery	Tatsuhiko Iwasawa	International Division, Marine Fishery Department, Fishery Agency
(5) Member	Industrial planning	Shuji Tamura	Technical Coopera- tion Division, Inter- national Trade Bureau, Ministry of International Trade and Industry
(6) Member	Industrial location	Yoshihiko Sasaki	Location Guidance Division, Industrial Location and Environ- mental Protection Bureau, Ministry of International Trade and Industry
(7) Member	Transport	Masaki Imahashi	Policy Division, Minister's Secretari- at, Ministry of Transport
(8) Member	Construction	Mitsuhiro Sasanuma	Construction Promo- tion Division, Plann- ing Bureau, Ministry of Construction
(9) Member	Finance	Mitsuhiro Yamada	Director, Overseas Research, Nikko Research Center, Inc.

<u>Position</u>	<u>Role</u>	<u>Name</u>	<u>Assiliation</u>
(10) Member	Project coordination	Jiro Kuroda	1st Implementation, Section, Development Survey Department, OTCA

The field survey itinerary was as follows:

<u>Date</u>	<u>Place</u>	<u>Activity</u>
June 29 (Sat.)	Ar. Sydney Lv. Sydney	Conference with staff concerned of Japanese embassy
	Ar. Canberra (AN 355)	
July 1 (Mon.)	Canberra	Consultation with Japanese Ambassador Conference with Australian Government
2 (Tue.)	Lv. Canberra Ar. Sydney (AN 355)	Conference with PNG Research Unit of Australian National University Consultation with Japanese Consulate General at Sydney
3 (Wed.)	Lv. Sydney Ar. Port Moresby (TN 1304)	Briefing at Foreign Ministry of PNG Government
4 (Thu.)		Briefing at Central Planning Office Briefing at Finance Ministry
5 (Fri.)		Briefing at Central Planning Office Briefing on agriculture and forestry Briefing on foreign aid
6 (Sat.)		Inspection of proposed dam site in Purari Valley (Chartered aircraft)
7 (Sun.)		Arrangement of materials, etc.
8 (Mon.)	Lv. Port Moresby Ar. Rabaul (PC 102)	(Shishido, Yamada) Development Bank and Commercial Development Ministry (Nisawa, Iwasawa) Fishery Ministry (Tamura, Sasaki) National Industrial Development Agency (Imahashi, Sasanuma, Kuroda) Liaison Office of United Nations, Canadian Volunteer Office

<u>Date</u>	<u>Place</u>	<u>Activity</u>
July 9 (Tue.)		Briefing with District Commissioner, ENB Visit to Ministry of Agriculture, Forestry and Fishery at Kerabat Visit to Vudal Agricultural College
10 (Wed.)	Lv. Rabaul Ar. Madang (PX 111)	(Tanaka, Yamada, Sasanuma) Education Office (Tamura, Iwasawa, Imahashi) Office of Agriculture, Forestry and Fishery (Nisawa, Sasaki, Kuroda) Forestry Office
11 (Thu.)		Briefing with District Commissioner, Madang, and other parties concerned Visit lumber mill and felling site of JANT Lumber Industry
12 (Fri.)	Lv. Madang Ar. Kainantz (Chartered aircraft)	(Tamura, Kuroda) Inspection of Minor enterprises Inspection of proposed site for cannery Inspection of Ram River Hydroelectric Power Station
13 (Sat.)	Lv. Kainantz Ar. Goroka (via Highland Highway)	Briefing with District Commissioner, East Highland and other parties concerned Inspection of Highland Highway
14 (Sun.)	Lv. Goroka Ar. Port Moresby	Inspection of Goroka Teachers College and rainbow trout hatchery Closed meeting of survey team
15 (Mon.)		Consultation with Australian High Commissioner (Shishido, Tanaka) Consultation with Vice Minister of Foreign Relations and Trade Conference with Central Planning Office, Ministry of Foreign Relations and Trade, Ministry of Finance, Ministry of Agriculture, Forestry and Fishery, etc.
16 (Tue.)	Lv. Port Moresby Ar. Sydney	(Shishido) Consultation with Ministry of Foreign Relation and Trade Consultation with Purari Committee Consultation with Ministry of Labor

<u>Date</u>	<u>Place</u>	<u>Activity</u>
		(Sasanuma) Consultation with Ministry of Housing and Construction and Ministry of Public Works
		(Iwasawa) Consultation with Ministry of Agriculture, Forestry and Fishery
		(Misawa) Consultation with Department of Forests
		(Iwahashi) Consultation with Ministry of Housing and Construction and Ministry of Labor
17 (Wed.)	Lv. Sydney Ar. Tokyo	(Shishido) (Tamura, Sasaki, Yamada, Kuroda) Consultation with PNG Research Unit of Australian National University Conference with Economics Department, PNG University Consultation with Lands Survey and Mines (Sasanuma) Consultation with Public Works (Imahashi) Consultation with Civil Aviation Office (Iwasawa, Nisawa) Consultation with Agriculture, Forestry and Fishery and Copra Market Association (Tanaka) Consultation with press editor
18 (Thu.)		(Tanaka) Consultation with Special Adviser to the Chief Minister Consultation with Adviser to Defense Minister
	Lv. Port Moresby Ar. Lae	(Sasanuma) Inspection of University of Technology, Return to Port Moresby
	Lv. Port Moresby Ar. Lae (PX)	Conference with District Commissioner, Morobe Conference with Lae Technical College
19 (Fri.)		(Sasanuma) Conference with Ministry of Transport and Ministry of Labor Hearing, Conference and Inspection at University of Technology

<u>Date</u>	<u>Place</u>	<u>Activity</u>
		Inspection of Lower Markham Basin Stock Breeding Project
19 (Fri.)	Lv. Port Moresby Ar. Hong Kong (QF)	(Tanaka) Lv. Port Moresby
20 (Sat.)		(Sasanuma) Consultation with Ministry of Public Works and Ministry of Educa- tion
		Inspection of CNGT Lumbermill
	Lv. Hong Kong Ar. Tokyo (JL)	(Tanaka) Lv. Hong Kong
	Lv. Lae Ar. Hoskins (PX)	(Nisawa)
21 (Sun.)	Lv. Port Moresby Ar. Sydney (AN)	(Sasanuma)
	Lv. Lae Ar. Rabaul (PX)	(Nisawa) Inspection of forests near Kimbe
22 (Mon.)	Lv. Sydney Ar. Manila (QF)	(Sasanuma)
	Lv. Rabaul Ar. Kieta	(Nisawa) Inspection of Settin Bay Lumber Co.
		Conference with District Commissioner, Bougenville
		Inspection of Bougenville Copper Mine
23 (Tue.)		(Sasanuma) Asian Development Bank
	Lv. Hoskins via Lae Ar. Port Moresby	(Nisawa) Inspection of Bougenville Copper Mine
24 (Wed.)		(Sasanuma) Asian Development Bank
	Lv. Port Moresby Ar. Popondetta (PX)	(Nisawa)
	Lv. Kieta Ar. Port Moresby (PX)	
25 (Thu.)	Lv. Manila Ar. Tokyo (NW)	(Sasanuma)
	Lv. Popondetta Ar. Port Moresby (PX)	(Nisawa)

<u>Date</u>	<u>Place</u>	<u>Activity</u>
25 (Thu.)		(Yamada, Kuroda) Hearing and Consultation with Central Bank (Iwasawa) Conference with Fisheries Division (Tamura, Sasaki) Conference with Electricity Commission (Iwahashi) Conference with PNG University
26 (Fri.)	Lv. Port Moresby Ar. Hong Kong (QF)	
27 (Sat.)	Lv. Hong Kong Ar. Tokyo (JL)	

(iii) List of Local Counterparts, etc.

On the occasion of this survey, the team received cooperation in briefings, discussions, and other ways from the following:

(1) Central Government personnel concerned

Chief Minister	
Special Adviser to the Chief Minister	Mr. A. Voutas
Chief Minister's Office	Mr. Kone Vanuawaru
Minister for Defence, Foreign Relations and Trade	Mr. Albert M. Kiki
Secretary, Department of Foreign (Relations and Trade) (D. F. R. T.)	Mr. W. Conroy
Assistant Secretary, D. F. R. T.	Mr. C. R. S. Rodgers
Chief of Protocol, D. F. R. T.	Mr. R. Kekedo
Acting First Assitant Secretary, D. F. T. R.	Mr. J. Warnock
D. F. T. R.	Mr. J. Balagetuna
D. F. T. R.	Mr. R. Chow
D. F. T. R.	Mr. V. Maragau
Minister for Finance	Mr. Julius Chan
Secretary, Department of Finance (D. F.)	Mr. Mekere Moronta
Assistant Secretary, D. F.	Mr. Ken Woodward
D. F.	Mr. D. C. Wilson
Director, Central Planning Office	Mr. David Lukas

C. P. O.	Mr. Palian Lukas
C. P. O.	Mr. John Tovve
C. P. O.	Mr. Frank Miro
Secretary, Department of Forests	Mr. D. R. McIntosh
Department of Agriculture, Stock and Fisheries, (D. A. S. F.)	Mr. T. Langton
D. A. S. F.	Mr. R. Densley
Fisheries Division, D. A. S. F.	Mr. M. Michell
D. A. S. F.	Mr. K. White
First Assistant Director of Works, Department of Public Works	Mr. C. Best
Special Adviser to the Minister for Mines and Energy	Dr. S. Zorn
Director, Office of Minerals and Energy	Mr. N. Agonia
Department of Lands, Survey and Mines	Mr. N. Logan
Department of Labor and Industry	Mr. Huggins
Director, National Investment and Development Authority	Mr. D. Allen
Assistant General Manager, PNG Electricity Commission	Mr. E. S. Dryer
Chairman, Purari Committee	Mr. K. Dyer
Department of Business Development	Mr. D. Knox
Director of the Department of Housing and Construction	Mr. Tonissen
Bank of Papua New Guinea (B. P. N. G.)	Mr. E. Coppinger
Secretary, B. P. N. G.	Mr. E. Kaivovo
Civil Aviation Officer, Department of Transport	Mr. Tauvosa
Civil Aviation Officer, Department of Transport	Mr. Mitchell
Department of Transport	Mr. Fuelling
(2) Australian Government personnel concerned	
High Commissioner	Mr. T. K. Critchley
Consultant to PNG Government	Dr. P. Drysdale
PNG Research Unit, Australia National University (A. N. U.)	Dr. R. Garnaut
PNG Research Unit, A. N. U.	Dr. J. Longmore
OADAS, Department of Foreign Affairs	Mr. K. Keneally

Officer for Secondment to Defence
Division of Chief Minister's Department

Mr. Webb

(3) District Government personnel concerned

District Commissioner, East New Britain (E. N. B.)	Mr. J. Bagita
Deputy District Commissioner, E. N. B.	Mr. E. V. Smith
Deputy District Commissioner, E. N. B.	Mr. C. Ali
Agronomist, Lowlands Agricultural Experimental Station	Mr. P. N. Byrne
District Forests Officer, (E. N. B.)	Mr. K. Hart
Deputy Principal, Vudal Agricultural College	Mr. B. Heath
Regional Forests Officer, (E. N. B.)	Mr. E. Hammermaster
Regional Controller of Agriculture (E. N. B.)	Mr. E. Wilson
District Superintendent of Education (E. N. B.)	Mr. G. Harrington
District Commissioner, Madang	Mr. B. Gegeyo
Business Development Officer, Madang	Mr. D. Knox
Fisheries Inspection and Training Officer, Madang	Mr. A. Adams
District Officer of Agriculture, Stock and Fisheries, Madang	Mr. S. Yuni
District Officer of Forests, Madang	Mr. J. Godlee
District Officer of Public Works, Madang	Mr. J. Meehan
District Commissioner, Eastern Highland (E. H.)	Mr. B. Borok
Deputy District Commissioner, (E. H.)	Mr. P. J. Walsh
District Business Development Officer, (E. H.)	Mr. E. W. Hankin
Executive Officer of PNG Coffee Marketing Board	Mr. B. J. Beil
Assistant District Commissioner, Kieta	Mr. A. Melville

(4) International organization personnel concerned

Resident Representative, UNDP	Mr. T. Unwin
Resident Representative, British Service Overseas (B. S. O.)	Mr. B. Clarke

Field Staff Officer, Canadian University Service Overseas (C.U.S.O.)	Mr. B. Shelly
Project Manager, Yonki Power Station	Mr. J. Kim
(5) Financial Agency personnel concerned	
Managing Director, Development Bank	Mr. R. V. C. Cole
Managing Director, Investment Corporation of P.N.G.	Mr. L. G. C. Moyle
Manager, PNG Banking Corporation	Mr. J. Small
(6) University personnel concerned	
Economics Department, University of Papua New Guinea	Dr. J. F. Sloggett
"	Dr. John Conroy
"	Dr. G. H. Harris
"	Dr. Martin Evans
Vice Chancellor, University of Technology (U. O. T.)	Dr. J. A. L. Sandover
Head, Department of Physics, (U. O. T.)	Dr. E. Balasubramanian
Head, Department of Civil Engineering (U. O. T.)	Dr. D. S. Mansell
(7) Other personnel concerned	
Managing Editor, Post-Courier	Mr. Lockwood
Geography Department, University of PNG	Dr. Jackson
(8) Australian Government personnel concerned	
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A. S. Pacific Branch, D. F. A.	Mr. J. H. A. Hoyle
Chief, PNG Section, D. F. A.	Mr. I. E. Nicholson
PNG Section, D. F. A.	Mr. W. Fisher
PNG Section, D. F. A.	Mr. B. J. Wyborn
Director, PNG Office	Mr. J. H. Greenwell
Assistant Director, PNG Office	Mr. A. Kerr

Commissioner, PNG Commission
Second Secretary, PNG Commission
Director General, Development
Assistance Agency (D.A.A.)
Director, Division 2, D.A.A.
Assistant Director, PNG Projects &
Programmes Branch
Assistance Secretary, PNG Branch
Trade Relations Division, Department
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Mr. Oala Rarua
Mr. A. Farapo
Mr. L. W. Johnson
Mr. D. Mentz
Mr. P. Kelloway
Mr. B. V. Leedham

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