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REPORT AND RECOMMENDATION
OF THE
PRESIDENT OF THE
INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT
TO THE
EXECUTIVE DIRECTORS
ON A
PROPOSED LOAN
TO THE INDEPENDENT STATE OF PAPUA NEW GUINEA
FOR THE
POPONDETTA SMALLHOLDER OIL PALM DEVELOPMENT PROJECT

October 1, 1976

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CURRENCY EQUIVALENTS

US\$1	=	K 0.78
K 1	=	US\$1.27
K 1,000,000	=	US\$1,270,000

WEIGHTS AND MEASURES

1 hectare (ha)	=	2.47 acres
1 kilometer (km)	=	0.62 miles
1 metric ton	=	2,206 lbs.

ABBREVIATIONS

CDC	-	Commonwealth Development Corporation
DPI	-	Department of Primary Industry
DTWS	-	Department of Transport Works and Supply
FFB	-	Fresh Fruit Bunch
OPC	-	Office of Project Coordination
PMC	-	Project Management Committee
PNG	-	Papua New Guinea
PNGDB	-	Papua New Guinea Development Bank

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

REPORT AND RECOMMENDATION OF THE PRESIDENT OF THE
INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT
TO THE EXECUTIVE DIRECTORS ON A PROPOSED LOAN TO
THE INDEPENDENT STATE OF PAPUA NEW GUINEA FOR A
FOURTH AGRICULTURAL DEVELOPMENT PROJECT

1. I submit the following report and recommendation on a proposed loan to Papua New Guinea for the equivalent of US\$12.0 million, to be repaid in 20 years including a grace period of 4-1/2 years, to help finance a fourth agricultural development project. From the proceeds of this loan US\$4.02 million to help finance smallholder development costs would be lent to the Papua New Guinea Development Bank; this loan would be at 9 percent for 16 years, including a grace period of 7 years.

PART I - THE ECONOMY

2. An economic mission visited Papua New Guinea in January/February 1976. Its report "Papua New Guinea: Economic Situation and Development Prospects" (Report No. 1150-PNG) was distributed to the Executive Directors in July 1976. The following discussion of recent political and economic developments and an assessment of future prospects are based on this report. Country data for Papua New Guinea are included in Annex I.

3. Papua New Guinea achieved internal self-government on December 1, 1973, and independence from Australia on September 16, 1975. The first event, accompanied by pressure for replacement of Australians in Government and business by Papua New Guineans (localization), led to an accelerated departure of expatriates. Realizing the dangers in this situation, the Government sought to hire key staff directly and began to recruit a number of expatriates from countries other than Australia. Today, localization is proceeding as rapidly as possible consistent with the maintenance of standards for government services. On the political front, the most serious difficulty was a secessionist movement in Bougainville; however, the traditional Melanesian reliance on negotiation and conciliation, rather than confrontation, has led to a satisfactory arrangement which will keep Bougainville and the earnings from its copper mine in PNG.

4. PNG's economy has two major elements - a large indigenous subsistence sector based on traditional agriculture and a rapidly expanding modern "market" sector, accounting for over 70 percent of output and income, but a minority of the population, with emphasis on mining, export-oriented plantation agriculture, government operations, and services. Real GDP grew at more than 8 percent per annum during the period 1967/68 to 1973/74. This growth was led by the market sector, growing at over 10 percent per annum,

while the nonmarket sector grew at less than 1 percent per annum. As a result, the share in GNP of the traditional subsistence sector, from which the majority of the local population still derives the main part of its living, fell from about two-thirds to less than 40 percent. The growth rate of population is at present about 3 percent per annum, a sharp increase over the 2 percent per annum rate of ten years ago, due mainly to a halving of the infant/child mortality rate. Per capita GNP in 1975 was US\$450 but this average includes the high income expatriate sector; the per capita GNP of the local population, representing 98 percent of the total population, is about US\$320; probably 50 percent of the local population - mainly those in the subsistence sector - have per capita incomes of about US\$130 or less.

5. The Bougainville copper mine has played an important role in the country's recent economic achievements. Mining's share in GDP rose from 2 percent in 1968/69 to 32 percent in 1973/74. The impact of Bougainville on national investment was also large, and during the construction phase, it accounted for nearly 60 percent of all fixed capital formation in the country. The impact on exports was first felt in 1971/72, and in the next two years this one copper mine doubled PNG's export earnings; the growth of exports from Bougainville has accounted for the bulk of incremental GDP in the last few years.

6. Real expenditures by the Government increased at a rate of close to 7 percent per annum during the past five years. This rise was mainly caused by a substantial increase in current outlays, dominated by wages and salaries (45-50 percent of total current expenditures) and the purchase of goods and services (35-40 percent). Government employment of staff almost doubled from 1971 to 1975, and simultaneously there were substantial increases in wage and salary levels. The Government realizes the great importance of restraining both employment and salary increases, and has recently taken steps to ensure such restraint.

7. PNG benefits greatly from Australian assistance, both financial and technical, although the relative importance of this assistance is declining. Australian grants provide 43 percent of the 1975/76 budget, a drop from the 70 percent provided in 1963. The commencement of copper production on Bougainville in 1972 expanded domestic revenues by about one-third and thus contributed to self-reliance. Under the terms of the most recent agreement, Australia's aid program for PNG will amount to approximately A\$1 billion (US\$1.27 billion) over the next five years.

8. Expatriates, largely Australians, accounted for about 14 percent of the Government staff as of July 1, 1975, compared to 20 percent in 1971. Slightly under half of the expatriates are paid directly by the Australian Government, which will continue to cover their salaries as part of its aid package for the next two years. Many other senior administrative and professional and higher technical posts are also filled by expatriates. Consequently, there is a pressing need for local people with comparable professional skills.

9. The long run goal of self-reliance has tempered the Government's approach to foreign investment, which it hopes to attract on a selective and controlled basis. The National Investment and Development Authority (NIDA) registers and licenses all foreign enterprises in PNG and coordinates Government policy. Foreign investment will be sought in those activities which are desirable for their ability to produce revenue and foreign exchange and for which the necessary capital or expertise is not available in PNG, but the investors must agree to meet terms and conditions which assure increasing local participation.

10. In the long run, no sector of the economy will have nearly as large an impact on the pace, directions, and quality of development as the Central Government. It is by far the largest employer, the largest source of investment activity, and the largest mobilizer and provider of capital. Its most crucial task is to set goals, to devise policies and programs, and to mobilize the resources needed to achieve these goals. PNG has not had a development plan since the First Five-Year Development Plan (1969-73) and the Interim Plan for 1973/74, but the philosophy of the present Government is expressed in the "Eight Aims", which, in addition to growth, stress equitable distribution of income, increased control of the economy by Papua New Guineans and decentralization of economic activity. These objectives reflect a shift of emphasis from the First Five-Year Plan, which concentrated on the build-up of infrastructure and the development of the modern sector of the economy. However, this new strategy has not yet been translated into quantitative terms, except in a few sectors, and no attempt has yet been made to develop a national set of sectoral priorities. The Central Planning Office is preparing a new development plan which will incorporate the Eight Aims into a coordinated national framework.

11. The PNG economy imports a large share of its capital and consumer goods, including food requirements. Until 1972, the balance of payments traditionally showed a negative trade balance, with exports dominated by a few agricultural commodities whose total value covered only about half the annual imports; the other half was covered by the Australian budget grant. In April 1972, the Bougainville copper mine came into production. The 1970/71 level of agricultural exports of about US\$85 million was suddenly dwarfed by copper exports of US\$206 million in 1971/72, and PNG's traditionally negative trade balance became positive. However in 1974, copper prices fell sharply, and copper's contribution to the country's exports dropped from 70 percent to about 50 percent. Bougainville's impact has not been large enough to create a favorable balance on the combined goods and services account (except in 1973/74) and PNG still relies on the Australian grant to balance its external accounts.

12. Total external public debt outstanding as of December 31, 1975, amounted to US\$310.8 million, of which US\$81.5 million (including US\$1.9 million exchange adjustment) was owed to the Bank Group. Public debt service payments in 1974-75 were about 3 percent of exports of goods and nonfactor services. Debt payments to the Bank Group were only about 13 percent of total debt service payments. Debt service is expected to rise to about 4 percent of exports in the early 1980s. In addition, there are:

considerable dividend and interest payments abroad, mainly as a result of the Bougainville copper mine. PNG is considered creditworthy for a limited amount of Bank loans.

13. In addition to Australia, other bilateral sources (viz. Japan and New Zealand) are also expected to make aid funds available. The Asian Development Bank has lent to PNG from its Special Fund and is expected to continue lending to PNG in the future.

PART II - BANK GROUP OPERATIONS

14. Bank Group assistance to Papua New Guinea thus far has consisted of five loans (US\$55.5 million) and five development credits (US\$25.2 million), which together have helped to finance nine projects. This assistance has focused largely on infrastructure development - 86 percent of total Bank Group assistance has been for power, telecommunications, highways and ports. Agricultural projects - mainly oil palm and livestock - have absorbed the remaining 14 percent. IFC has not been involved in PNG.

15. Project implementation has been satisfactory, although in some cases disbursements have been slow because of cumbersome administrative procedures requiring multiple clearances for preparing withdrawal applications. Annex II contains a summary statement of Bank loans and IDA credits as of August 31, 1976, and notes on the execution of on-going projects.

16. In view of the extreme paucity of infrastructure in PNG in previous years, the past emphasis of Bank Group assistance was deemed appropriate as a necessary foundation for future economic development. However, during the next few years the Bank Group intends to adopt a somewhat different sectoral strategy. Infrastructure projects would continue to be assisted, but to a lesser extent, and would represent about half of the proposed lending program. An increasing amount of Bank Group financing would be directed towards assisting agricultural and rural development. These projects would aim at increasing agricultural production, improving indigenous cash cropping methods, and raising subsistence living standards. Many projects would include components of social and economic infrastructure, such as education, health and roads.

17. While the manpower constraint which confronts PNG has been relieved temporarily by the Government's aggressive recruitment of expatriates, skilled PNG technical and administrative personnel are scarce relative to the need. Consequently, the technical advice and support which Bank staff provide through project preparation and supervision of on-going projects will be especially important. Also, the Bank stands ready to advise, when asked, on the costs and benefits of major resource exploitation projects, which may compete for resources with projects aimed directly at improving the welfare of the subsistence sector.

18. Australia will be PNG's most important aid source for the coming years. The Bank Group will continue to cooperate with the Australian Government, and will be prepared to consider co-financing of some projects should the Australian and PNG Governments express interest in such arrangements.

PART III - THE AGRICULTURAL SECTOR

19. For the majority of PNG's population, agriculture is the most important sector. Some 90 percent of the population is at least partly dependent on agriculture which, aside from the enclave Bougainville copper mine, is PNG's only source of foreign exchange earnings. Of its 47.5 million ha of land area, about one-third is suitable for agriculture. However, only about half of the available area is put to agricultural use. Thus, there is considerable opportunity for agricultural expansion.

20. The bulk of the population is still engaged in subsistence agriculture. For these people, kao-kao (a sweet potato) is the principal crop and pig rearing is also widespread. Commercial agriculture consists of a rapidly expanding subsector producing fruits, vegetables, meat and eggs for the growing urban population; and an export oriented subsector growing plantation crops. Of these latter, copra and coconut oil, coffee and cocoa are the most important, comprising some 90 percent of the subsector, with rubber, tea, and, recently, palm oil assuming an increasing share.

21. In 1974, agricultural exports were valued at about US\$160 million (K 126 million). In order to minimize the impact on the economy of fluctuating copper prices, Government agricultural policy places significant emphasis on increasing agricultural exports.

Land Tenure

22. A serious impediment to further agricultural development is the "native land" system. About 97 percent of all land in PNG is held under this system of communally-owned tribal tenure. As a result of the difficulties in establishing ownership and usage rights over economically-sized parcels, cash cropping is not widespread and frequently is done only on a small scale. The most successful commercial agricultural development by smallholders has been undertaken on Government-owned land, leased to smallholders on a long-term (99 years) basis. Government is presently formulating policy on land tenure, which is intended to minimize these difficulties.

Agricultural Development Policy

23. As in other sectors, the Government has only an indicative plan for the agricultural sector which must be translated into quantitative terms. Broadly stated, this policy is to utilize the agricultural sector as a vehicle to minimize income disparities between urban and rural areas.

Moreover, the Government wishes to substitute imported foods with domestic production as quickly and as economically as possible. Two alternative types of development appear feasible. While they are certainly not mutually exclusive, they are radically different in concept and will demand careful decisions by Government policymakers.

24. The first alternative, in situ rural development, is by far the more difficult, but if successful would have a greater impact on a larger proportion of the population. This strategy calls for expanding village output and improving subsistence living standards through well designed integrated rural development projects. Government is anxious to initiate such projects. However, the conception and preparation of such projects must overcome serious sociological impediments. Village farmers, individually and in groups, frequently lack sustained economic motivation, stemming at least partly from the traditional pattern of communal land ownership under which an individual cannot expand his holdings without unanimous consent from his clan. In recognition of these traditional mores, Government has prepared a modest development plan for the Southern Highlands, incorporating a communal approach. The first component of this plan, a beef ranch, is already underway, but it is still too early to evaluate its success.

25. In the meantime, the Government, faced with more immediate requirements for economic growth and additional foreign exchange sources, is not neglecting its second alternative - smallholder settler developments on Government land. This type of project has already met with noteworthy success in PNG. Cash cropping of coffee, cocoa, rubber, tea, copra and, more recently of oil palm, have all been established on such schemes. Government is particularly anxious to exploit this potential as quickly as possible since, in addition to providing the settler family with improved living standards and access to social amenities, this type of project can significantly increase foreign exchange earnings. Among these commodities, oil palm has perhaps the greatest potential for rapid expansion. There are considerable areas of fertile, unused and virtually unpopulated lands in the coastal mainland and the islands, which are ideally suited to oil palm cultivation.

Oil Palm Development

26. PNG experience to date has shown that the country has a comparative advantage for oil palm production. Because of the favorable combination of climate and soil type, oil palm trees consistently come into production a year to 1-1/2 years earlier and yield up to 20 percent more than the same varieties grown in other parts of the world. With IDA assistance (Credits 175-PNG and 348-PNG) the Government has developed a highly successful strategy in the Hoskins oil palm project, which introduced oil palm cultivation in PNG.

27. The Hoskins Project on the island of New Britain includes a 4,000 ha nucleus estate jointly owned by Government and an experienced foreign company; a 6,000 ha smallholder sector and a central factory, also jointly owned by Government and a foreign investor, to process both

smallholder and estate output. Field performance of this project has been excellent; in fact, the principal implementation problem was earlier and higher yields than anticipated which were beyond the processing capacity of the factory at that time. Present factory capacity, however, is now expanded and able to accommodate all production. Smallholders now number some 1,750. A substantial number of these have already been able to repay their initial loans to PNGDB considerably ahead of schedule. In addition to the direct benefits, the Hoskins project has had important linkages to development of the area. The township of Kimbe has seen rapid growth of its population as a result of employment opportunities in developing ancillary industries, particularly banking and shipping.

PART IV - THE PROJECT

28. Popondetta, the administrative center of the Northern District, is located in the Papuan region of mainland Papua New Guinea. Its population of 36,000 is now mainly engaged in subsistence agriculture. Previously, Popondetta was also the site of widespread land settlement schemes based on cocoa plantings. While these thrived initially, in 1968 the crops were attacked by insects. Following this devastation, most of the expatriates involved in the scheme left, and the villagers have not been able to rehabilitate the ruined areas.

29. The proposed project would convert these wasted cocoa areas, together with presently forested land - some 5,600 ha in all - to oil palm smallholdings. Oil palm is not susceptible to the disease and pests which destroyed the cocoa plantings. Some 1,400 smallholder farms would be established. A concurrent development would be the establishment of a 4,000 ha nucleus estate and a palm oil mill to serve both the smallholders and the estate. The nucleus estate and factory would be financed jointly by the Government and the Commonwealth Development Corporation (CDC). In addition to the on-farm development, the project would also provide suitable social and economic infrastructure to smallholders.

30. The project, together with a similar scheme at Biella, was first appraised in March 1974. It was envisaged that the two schemes would combine to form one project. However, there were serious delays in the Government's negotiations with its joint venture partner in the Biella scheme and in CDC's appraisal of the Popondetta project, which in turn hampered the Bank's appraisal of the smallholder components. The Biella project was finally dropped from the Bank's project and a final mission visited PNG in February 1976. Loan negotiations were held in Washington in September 1976. PNG's delegation was led by Ken Woodward, Assistant Secretary for Finance. Representatives from CDC also attended the negotiations as observers. A Loan and Project Summary is included in Annex III. The Appraisal Report, dated September 23, 1976, Report No. 1160-PNG, has been circulated separately.

Project Description

31. The proposed project would benefit some 1,400 smallholders, including 600 new settlers, 200 existing settlers and 600 village families. New settlers would be given 6 ha plots, 4 ha of which would be planted immediately in oil palm thus providing a reserve plot for eventual expansion of oil palm or diversification into other cash crops as conditions warrant. The remaining smallholders would plant 4 ha plots in oil palm. Additional land would be made available as necessary for each family to have a food garden for home consumption. All the smallholders would be furnished with long-term credit facilities for on-farm development to be channeled through the Papua New Guinea Development Bank (PNGDB), and with agricultural extension and visiting inspection services to be provided by the Department of Primary Industry (DPI). A Government company would be established to transport smallholder fresh fruit bunches (FFB) to the mill, to disburse FFB payments to smallholders and to maintain smallholders' individual financial accounts. The smallholder area would be provided with necessary infrastructure, including feeder roads and health, education and welfare services. Finally, the project would include a technical assistance component which would provide funds to recruit key expatriate personnel to assist the smallholder project, and provisions for improving training programs for field officers of PNGDB and DPI in smallholder credit operations.

32. The proposed project has been based on the highly successful smallholder oil palm settlement scheme at Hoskins (described in paragraph 29 above), a scheme that clearly demonstrated the suitability of coastal PNG for oil palm cultivation. In the Hoskins experience, even settlers with no experience in tree crop agriculture have, with extension assistance, been able to meet the technical and managerial requirements to ensure the project's success. The proposed project at Popondetta recognizes that financial viability for individual lots is imperative, since without sufficient incentive, the required inputs of family labor may not be forthcoming. Plots of 4 ha should prove adequate, taking into account fluctuations in yields and prices. As a result of the proposed project, family (that is, the immediate rather than the extended family) incomes would rise from the estimated annual subsistence level of US\$655 to about US\$1,900 at peak production, after loans are fully repaid. Project revenues would enable the full recovery of direct on-farm development costs to the smallholders. Settler selection would be on a nationwide basis with some preference given to the Northern district in which the project would be located. Selection criteria would include marital status, age, health, education, language ability, experience in tree-crop agriculture, landlessness and vocational experience. A successful applicant would be given one month from the date of notification to take up his block. If he failed to do so within this period, another applicant would be chosen. Settlers would be given long-term leasehold titles to their blocks on occupancy and would not be entitled to sell without permission from the Department of Natural Resources.

33. A concurrent development, not included in the Bank project but crucial to its success, is the establishment of a 4,000 ha nucleus estate and centralized milling facilities to process both smallholder and estate output. Milling facilities must be on-stream in time to process the first harvest of fruit (both estate and smallholdings) expected in the mid-1980s and milling efficiency must ensure maximum yield of oil and kernel. The factory would purchase smallholders' FFB using an agreed price formula; the Bank would be consulted prior to making any changes in this formula. (See draft Loan Agreement, Section 3.05.) Under its agreement with the Government, CDC, which has considerable experience in this field, would be responsible for mill design, construction and management. The CDC Board has approved in principle financing for this project. Draft versions of CDC's legal documents covering the establishment of the nucleus estate/factory complex were reviewed during negotiations, and they are expected to be signed within the coming weeks. The final execution of the CDC agreement is a condition of effectiveness. (See draft Loan Agreement, Section 6.01 (a).)

34. The planting program would commence in 1977 and, because of a staggered planting programs for existing villagers, would not be completed until 1982. Smallholders would purchase suitable planting material from the nucleus estate company. (See draft Loan Agreement, Section 3.03 (b).) During this time, road improvement works and the construction of standard low-cost housing to accommodate new settlers would be underway. An integral part of the development program is the provision of social amenities to settlers. Thus the project would upgrade and expand to usual Government standards local community centers, schools, markets, trade stores, police posts and health facilities. The benefits from these improved facilities would be made available to villagers in the vicinity of the project but who would not directly participate in the project itself. Thus the project would have an important impact on the community as a whole and not just on the settlers alone.

35. In addition to providing extension and visiting inspection services specifically for oil palm development, additional extension staff would be available to assist the smallholders with their own food gardens. Government has undertaken to provide adequate extension staff as and when required. (See draft Loan Agreement, Section 3.03(a).) Although not included in the Bank project, an important item will be the development of a research program aimed specifically at the problems of oil palm cultivation in Popondetta. This research will be carried out by the nucleus estate for the benefit of both the estate and the smallholders. (See draft Loan Agreement, Section 3.03(c).)

36. The efficient transportation of the smallholders' FFB to the factory is essential for high quality oil production and optimum returns to smallholders. Thus the project would establish a separate Government-owned transport company. In addition to pick up and delivery of FFB, this company would also disburse FFB payments to settlers and maintain financial accounts for individual settlers. The transport company would be established prior to the first harvest on a basis satisfactory to the Bank. (See draft Loan Agreement, Sections 3.04(a) and (b).)

Project Costs

37. Total project costs are estimated at US\$18.51 million (excluding the labor contribution of settlers) with a foreign exchange component of US\$11.22 million or 61 percent. Within this total, smallholder development costs account for some 20 percent and extension and social services some 15 percent, roads 12 percent, the smallholder transport company some 6 percent, vehicle and equipment 7 percent, and technical assistance some 4 percent, the remainder being allocated to physical and price contingencies. Cost estimates were based on prices prevailing in February 1976. Physical contingencies represent 5 percent of all base costs except roads for which 20 percent was added to base costs. This latter figure is somewhat high in comparison to other countries, but is thought necessary based on experience in constructing of similar roads in PNG. Price increases for equipment are estimated at 9 percent in 1976, gradually declining to 7 percent by 1980, at which level they stabilize. Inflation for civil works (including both foreign and local costs) is estimated at 13 percent in 1976, declining to 10 percent by 1980 and remaining at that level thereafter. Local cost increases (excluding civil works) are assumed at 9 percent annually.

Financing

38. The proposed Bank loan of US\$12.0 million would finance some 65 percent of total project costs, including the entire foreign exchange component plus US\$0.7 million in local cost financing for agricultural extension staff. Government and PNGDB would contribute the remaining financing on a ratio of about 3 to 1.

39. The loan would be made to the Government to be repaid in 20 years including 4-1/2 years grace period. Funds for smallholder development (US\$4.02 million) would be on-lent to PNGDB at 9 percent interest per annum, to be repaid within 16 years (including a 7-year grace period), under the terms of a Subsidiary Loan Agreement satisfactory to the Bank. (See draft Loan Agreement, Section 3.01 (c).) The conclusion of this Agreement is a condition of effectiveness. (See draft Loan Agreement, Section 6.01 (b).) PNGDB's contribution to project financing (US\$1.76 million) would represent the local cost component of smallholder development.

40. PNGDB loans to existing settlers and villagers would be for 9 years at 11 percent and to new settlers for 13 years at 11 percent, in both instances including a four-year grace period. (See draft Loan Agreement, Schedule 4.) These terms and conditions would not be altered without prior consultation with the Bank. (See draft Loan Agreement, Section 3.01 (c).)

41. PNGDB's resources should be adequate to meet the project's requirements; nevertheless, assurances were obtained that should it become necessary, Government would provide PNGDB with additional funds to complete on-farm development (see draft Loan Agreement, Section 3.01 (b)). The smallholders' contribution to the project would consist of their labor,

priced at the ruling minimum rural wage rate, and valued at US\$3.47 million over the project development period. This has not been included in the cost estimates.

42. Government's contribution would represent the local currency costs (US\$4.76 million total) of the smallholder transport company, social and extension services, road and technical assistance, with the exception of that portion of local extension staff salaries which would be financed by the Bank loan.

43. The balance of the oil palm development program, including the construction of the processing unit and establishment of the nucleus estate, would be financed jointly by Government and CDC. Total cost of this component is estimated at US\$27.6 million of which CDC would finance about US\$13.8 million (including loan funds and equity) and Government, the remainder.

Organization and Implementation

44. The project would be implemented on three levels: (i) a newly established organizational structure would oversee the physical implementation of the smallholder project, including the establishment of the smallholder transport company; (ii) DPI would be responsible for the provision of extension services; (iii) PNGDB would serve as the conduit for on-farm development loans to smallholders.

45. As a result of the Hoskins experience, a central unit to coordinate the multiplicity of Government departments involved in the project was deemed necessary to ensure smooth implementation. Thus, an organizational structure, to serve as a model for future projects, has been devised to provide maximum coordination and communication between the various line departments involved in the program and between headquarters staff and field officers. A Project Management Committee chaired by the Director of DPI has been constituted with a membership reflecting all relevant departments - in this case Finance, Transport Works and Supply, Natural Resources, as well as PNGDB and the Provincial Commissioner of the Northern Province. In addition, a Technical Director has also been appointed to the Project Management Committee to oversee technical aspects of project preparation and implementation. A Project Coordinator has been appointed to be responsible to the Project Management Committee for supervising the administration of the project, including project reporting, monitoring, cost control and accounting. The Project Coordinator is located in the Department for Finance in the recently established Office of Project Coordination. The Project Coordinator would be assisted by a suitably qualified Project Accountant who would, aside from working on the smallholder project per se, also report to Government on all financial matters relating to the estate/factory complex being developed as a Government/CDC joint venture. The Project Accountant would be appointed by June 30, 1977. (See draft Loan Agreement, Section 3.02.) Field supervision would be the responsibility of the Project Manager (Field) who would be appointed by March 31, 1977. (See draft Loan Agreement, Section 3.02.) He would be a DPI staff member and

head of the DPI field team at Popondetta. At the Government's request, the project would provide funds for recruiting an expatriate to serve as Project Manager (Field), Project Accountant, and three senior staff for the transport company.

46. The proposed organizational structure would ensure that the required infrastructure, and extension, education, health and community development services are available as required. Staffing of these services would be the responsibility of the respective line departments.

47. In addition to supplying the chairman of the Project Management Committee, the Technical Director, and the Project Manager (Field), the DPI would be responsible for extension services. In addition to their technical and advisory functions, the extension officers would act as field agents for the PNGDB in appraising and supervising loans to smallholders. In order to improve the performance of both DPI and PNGDB staff in this field, a consultant would be employed to improve staff training programs.

48. PNGDB would be the channel for the smallholder on-farm development credit. In this activity it would liaise closely with the DPI officers acting as its field agents, and with the proposed smallholder FFB transport company responsible for smallholder accounting services. Although PNGDB's performance under previous Bank Group projects has been generally satisfactory, some improvements are necessary to strengthen its financial position. In the past, PNGDB has received grants and loans on easy terms as a subsidy from the Government. Such access to soft funds has acted as a disincentive to long-term planning. As PNGDB matures as an institution, Government subsidies are expected to decrease and therefore future funds will be on harder terms. Thus it is essential that PNGDB should become more self-supporting. PNGDB has therefore agreed to institute a more effective system of financial management and long-term planning. (See draft Loan Agreement, Section 4.02). In addition, certain revisions in PNGDB's lending and investment policy and strengthening of its staff are required. It was agreed that appropriate measures, satisfactory to the Bank, would be undertaken. (See draft Loan Agreement, Sections 3.06 and 4.01(b)(i).)

Environmental Impact

49. Forests in the project area and unproductive cocoa areas will be replaced by oil palm plantings. None of the forests in the project area is designated a game or nature reserve. Road specifications have been designed to minimize soil erosion and disturbance to river flows. The palm oil mill would be situated in the nucleus estate, far removed from the villages and settlements. Adequate care would be taken to incinerate empty bunches and to deal with mill effluent by sludge trenches or other appropriate technology.

Procurement and Disbursement

50. All items for smallholders' on-farm development, (including fertilizers, pesticides, tools, equipment and housing materials) would be procured in small lots, averaging about US\$210,000 per annum over the full development period, and, in any one year, no higher than about US\$470,000. Such small amounts are not suitable for international bidding, and the goods would therefore be locally procured in accordance with procedures acceptable to the Bank. Construction of housing for extension staff and social workers, and buildings for the transport company would be phased over eight years, with average annual outlays of about US\$142,000 and would thus also be too small to be suitable for international bidding. For all these items, contracts would be awarded on the basis of local competitive bidding (but not excluding foreign bids) in accordance with Government procurement procedures satisfactory to the Bank.

51. Except for some housing materials, all the goods would have to be imported. International suppliers are well represented in PNG and competition between them is keen. Provision of spare parts is adequate. The vehicles proposed for the smallholder transport company would be supplied over a four year period and would be acquired from local trucking companies which operate competitively in PNG.

52. The construction of new roads and bridgeworks to be done under the project would together total some US\$1.6 million. The work would be spread over a four year period. The expected average annual outlays of about US\$425,000 would be broken down into a number of small contracts, which would be too small to be suitable for international competitive bidding. However, there are a number of local contractors, some with foreign backing, who are quite capable of undertaking the work. Thus, it is expected that the Department of Transport, Works and Supply (DTWS) would do the designs and offer the works to local tender. The upgrading work (about US\$665,000) is more in the nature of maintenance work and would be performed by the DTWS, which is best equipped to carry out this type of work. However, the supply of gravel for the upgrading work would be undertaken by local contractors. Recruitment for technical assistance personnel and consultants for visiting inspection services would follow Bank Group guidelines for hiring consultants.

53. The Bank loan would be disbursed over an eight year period. This lengthy disbursement period is dictated by the requirements of the project, namely a four- to five-year clearing and planting period (including the nucleus estate), and a three-year gestation period before the plants come to maturity. However, 88 percent of the credit would be disbursed in the first six years.

54. The Bank would reimburse 70 percent of long-term PNGDB loans to oil palm smallholders and 75 percent of Government expenditures on the transport company, construction of buildings, and vehicle and machinery for extension and social services provided by the project. Road construction and upgrading would be reimbursed at the rate of 70 percent and salaries of local extension staff at the rate of 50 percent. The foreign exchange cost of technical assistance would be fully reimbursed.

Justification

55. The immediate direct benefits of the project would be twofold. Firstly, significantly improved income and living standards would accrue to the 1,400 smallholders involved in the project, all of whom would be given a firm base in the cash economy. The project would thus foster the Government's rural development objective of geographic dispersion of development and increased opportunities in the monetized sector for Papua New Guineans. Settler costs per family have been estimated at about US\$6,000, throughout the seven-year development period, if appropriate adjustments are made to the cost of extension and social services to take into account the benefits accruing to non-participants. This compares very favorably with similar schemes in other countries.

56. Secondly, the expansion of oil palm production would strengthen the agricultural sector and increase foreign exchange earnings. The considerable comparative advantage in oil palm cultivation which PNG enjoys has already been highlighted. The proposed project, together with the nucleus estate, would bring into production some 5,600 ha of presently unutilized but very fertile land. At maturity the Popondetta program would be exporting some 42,400 tons of palm oil and 7,400 tons of palm kernel annually, valued at US\$13.7 million, a significant increase in the PNG context. However, in global terms PNG cannot expect to become a major producer - in 1988 total PNG production will represent some 1 percent of total world production and only 2 percent of total world exports.

57. In addition to the direct benefits, the project would have important linkage effects on the development of the Popondetta region. The employment effects which should be viewed in the context of the overall project and ancillary industry growth associated with it is significant. It is estimated that these will amount to some, 3,100 jobs as follows: smallholder development - 2,100; Government services and transport company - 300; and secondary urban and rural development - about 700.

58. The economic rate of return for the project is estimated at 14.5 percent. This assumes that non-participants living in the project area would also benefit from the extension and social services to be provided under the project and, in view of this, that an appropriate adjustment to the cost of these services is warranted. The estimate also incorporates a shadow wage equal to 50 percent of the prevailing minimum rural wage rate. If the extension and social services are fully costed to the project, the economic rate of return (using the shadow wage rate) would be 11 percent. This calculation is a conservative estimate of the real benefits of the project, since no attempt has been made to quantify important secondary benefits such as increased employment opportunities in trade and marketing consequent upon increased production and incomes in the project area, reduced transport costs to the general population as a result of improved roads, and the potential benefits to smallholders of marketing food crops or expanded production of oil palm. Risks associated with the project are considered minimal. Valuable experience has been gained from the Hoskins Project in devising organizational and management structures. Even conservative price projections yield satisfactory incomes for the smallholders.

Social Impact

59. Many of the settlers and laborers would be expected to migrate from other parts of the country - the settlers from the more populated rural areas, particularly the Highlands, and the laborers from the unemployed pool in urban areas. The choice of settlers would be made with a view toward wide geographic selection. The design of settlements recognizes the need to integrate people from many different parts of the country but does not ignore potential social conflicts attendant on this process. Thus, an attempt would be made to settle families from a single ethnic group in adjoining properties and also to integrate these ethnic groups with groups from other parts of the country.

PART V - LEGAL INSTRUMENTS AND AUTHORITY

60. The draft Loan Agreement between The Independent State of Papua New Guinea and the Bank and the Report of the Committee provided for in Article III, Section 4(iii) of the Articles of Agreement and the text of a draft resolution approving the proposed loan are being distributed to the Executive Directors separately. The draft agreement conforms to the normal pattern for loans for agricultural projects.

61. Features of special interest in the draft Loan Agreement are described in paragraphs 33-36, 39-41, 45 and 48 of this report. Additional conditions of effectiveness are the execution of the agreement between the Government and the CDC, and the execution of the Subsidiary Loan Agreement between the Government and PNGDB.

62. I am satisfied that the proposed loan would comply with the Articles of Agreement of the Bank.

PART VI - RECOMMENDATION

63. I recommend that the Executive Directors approve the proposed loan.

Robert S. McNamara
President
by David A. Knox

Attachments
Washington, D.C.
October 1, 1976

TABLE 3A
PAPUA AND NEW GUINEA - SOCIAL INDICATORS DATA SHEET

ANNEX 1
Page 1 of 4 pages

LAND AREA (THOU KM ²)	PAPUA AND NEW GUINEA			REFERENCE COUNTRIES (1970)		
	TOTAL	AGRIC.	MOST RECENT ESTIMATE	LIBERIA	IVORY COAST	TRINIDAD AND Tobago ^{ex}
TOTAL	475.4					
AGRIC.	0.0					
GNP PER CAPITA (US\$)	160.0	310.0	450.0	290.0	340.0	1180.0
POPULATION AND VITAL STATISTICS						
POPULATION (MID-YR, MILLION)	1.9	2.5	2.7	1.3	5.4	1.0
POPULATION DENSITY PER SQUARE KM.	4.0	5.0	6.0	12.0	16.0	200.0
PER SQ. KM. AGRICULTURAL LAND	..	173.0	..	..	..	..
VITAL STATISTICS						
AVERAGE BIRTH RATE (/THOU)	44.4	43.1	40.6	42.8	46.1	32.5
AVERAGE DEATH RATE (/THOU)	25.5	20.2	17.1	23.5	23.3	7.1
INFANT MORTALITY RATE (/THOU)	..	..	..	137.3	..	34.0
LIFE EXPECTANCY AT BIRTH (YRS)	38.6	45.1	47.7	41.0	41.0	67.8
GROSS REPRODUCTION RATE	..	2.9	2.9	2.6	3.1	2.2
POPULATION GROWTH RATE (%)						
TOTAL	2.7	2.6	2.0	3.3/a	3.4/a	2.1/e
URBAN	..	..	16.7	..	8.7/b	..
URBAN POPULATION (% OF TOTAL)	..	6.0	11.0/a	26.2	28.0	12.0
AGE STRUCTURE (PERCENT)						
0 TO 14 YEARS	40.5	42.8/a	45.2/a	40.7	42.5	41.2
15 TO 64 YEARS	56.6	56.2/a	53.3/a	56.0	54.8	54.8
65 YEARS AND OVER	2.9	1.0/a	1.5/a	3.3	2.7	4.0
AGE DEPENDENCY RATIO						
ECONOMIC DEPENDENCY RATIO	0.8	0.8/a	0.9/a	0.8	0.8	0.8
FAMILY PLANNING ACCEPTORS (CUMULATIVE, THOU)	..	..	..	..	..	25.4
USERS (% OF MARRIED WOMEN)	..	..	..	..	..	..
EMPLOYMENT						
TOTAL LABOR FORCE (THOUSAND)	1040.0	1260.0/a	..	580.0	2600.0	350.0/a
LABOR FORCE IN AGRICULTURE (%)	89.0	82.0	..	72.0	82.0	22.0
UNEMPLOYED (% OF LABOR FORCE)	..	..	..	20.0/c	6.0	12.5
INCOME DISTRIBUTION						
% OF PRIVATE INCOME REC'D BY -						
HIGHEST 5% OF HOUSEHOLDS	..	..	..	61.7/d	..	..
HIGHEST 20% OF HOUSEHOLDS	..	..	..	72.6/d	..	..
LOWEST 20% OF HOUSEHOLDS	..	..	..	5.3/d	..	..
LOWEST 40% OF HOUSEHOLDS	..	..	..	10.9/d	..	..
DISTRIBUTION OF LAND OWNERSHIP						
% OWNED BY TOP 10% OF OWNERS	..	..	..	..	..	..
% OWNED BY SMALLEST 10% OWNERS	..	..	..	..	..	..
HEALTH AND NUTRITION						
POPULATION PER PHYSICIAN	14390.0/b	11630.0	11130.0/b	10450.0	12140.0	2320.0
POPULATION PER NURSING PERSON	2450.0/b,c	2370.0	1870.0/b	4140.0	2480.0/d	360.0/b
POPULATION PER HOSPITAL BED	170.0/b	150.0	150.0/a	530.0	680.0/d	230.0
PER CAPITA SUPPLY OF -						
CALORIES (% OF REQUIREMENTS)	..	..	..	88.0	108.0	97.0
PROTEIN (GRAMS PER DAY)	..	..	..	36.0	60.0	64.0
-OF WHICH ANIMAL AND PULSE	..	..	..	10.0/e	18.0/e	34.0/c
DEATH RATE (/THOU) AGES 1-4	..	..	..	..	..	1.8
EDUCATION						
ADJUSTED ENROLLMENT RATIO						
PRIMARY SCHOOL	88.0/d-62/d	66.0/b-68/b	..	43.0	76.0	110.0/d
SECONDARY SCHOOL	2.0/a-1/a	9.0/b-6/b	..	12.0	11.0/f	40.0
YEARS OF SCHOOLING PROVIDED (FIRST AND SECOND LEVEL)	10.0	10.0	10.0	12.0	13.0	15.0
VOCATIONAL ENROLLMENT (% OF SECONDARY)						
ADULT LITERACY RATE (%)	17.0	19.0	18.0/a	5.0	7.0	8.0/e
ADULT LITERACY RATE (%)	..	..	31.0/a	15.0	20.0	88.0
HOUSING						
PERSONS PER ROOM (AVERAGE)	0.7/e	..	..	..	..	..
OCCUPIED DWELLINGS WITHOUT PIPED WATER (%)	..	..	..	..	..	68.0/f,g
ACCESS TO ELECTRICITY (% OF ALL DWELLINGS)	80.0	..	..	..	..	66.0/f
RURAL DWELLINGS CONNECTED TO ELECTRICITY (%)	..	..	..	..	..	..
CONSUMPTION						
RADIO RECEIVERS (PER THOU POP)	..	..	..	132.0	17.0	276.0
PASSENGER CARS (PER THOU POP)	2.0	7.0	7.0	11.0	10.0	75.0
ELECTRICITY (KWH/YR PER CAP)	30.0	64.0	356.0	330.0	120.0	1173.0
NEWSPRINT (KG/YR PER CAP)	..	0.1	0.2	0.1	0.2	5.5

SEE NOTES AND DEFINITIONS ON REVERSE

NOTES

Unless otherwise noted, data for 1960 refer to any year between 1959 and 1961, for 1970 between 1968 and 1970, and for Most Recent Estimate between 1973 and 1975.

** Trinidad and Tobago has been selected as an objective country because both countries are small island nations and also both countries recently became independent. The vast majority of people in each country are dependent on agriculture for their livelihood, and both countries possess significant agricultural potential.

<u>PAPUA NEW GUINEA</u>	1960	/a Ratio of population under 15 and 65 and over to total labor force; /d Papua and New Guinea respectively; /e Total, urban and rural.	/b 1961; /c Including assistant nurses;
	1970	/a 1966; /b Papua and New Guinea respectively.	
	MOST RECENT ESTIMATE:	/a 1971; /b 1972.	
<u>LIBERIA</u>	1970	/a Due to immigration, growth rate is higher than the rate of natural increase; /b Ratio of population under 15 and 65 and over to total labor force; /c Unemployed and partially employed; /d Population; /e 1964-66.	
<u>IVORY COAST</u>	1970	/a Due to immigration, growth rate is higher than the rate of natural increase; /b 1965-70; /c Ratio of population under 15 and 65 and over to total labor force; /d Government only; /e 1964-66; /f 12-18 years of age.	
<u>TRINIDAD AND TOBAGO</u>	1970	/a 15-64 years of age; /b Including midwives; /c 1964-66; /d 5-11 years of age; /e Government maintained and aided schools only; /f 1966; /g Inside only.	

86, October 5, 1976

DEFINITIONS OF SOCIAL INDICATORS

Land Area (thou km²)

Total - Total surface area comprising land area and inland waters.

Urbic - Most recent estimate of agricultural area used temporarily or permanently for crops, pastures, market & kitchen gardens or to lie fallow.

GNP per capita (US\$) - GNP per capita estimates at current market prices, calculated by same conversion method as World Bank Atlas (1973-75 basis); 1960, 1970 and 1975 data.

Population and vital statistics

Population (mid-yr. million) - As of July first; if not available, average of two end-year estimates; 1960, 1970 and 1975 data.

Population density - per square km - Mid-year population per square kilometer (100 hectares) of total area.

Population density - per square km of agric. land - Computed as above for agricultural land only.

Vital statistics

Crude birth rate per thousand - Annual live births per thousand of mid-year population; ten-year arithmetic averages ending in 1960 and 1970, and five-year average ending in 1975 for most recent estimate.

Crude death rate per thousand - Annual deaths per thousand of mid-year population; ten-year arithmetic averages ending in 1960 and 1970, and five-year average ending in 1975 for most recent estimate.

Infant mortality rate (/thou) - Annual deaths of infants under one year of age per thousand live births.

Life expectancy at birth (yrs) - Average number of years of life remaining at birth; usually five-year averages ending in 1960, 1970 and 1975 for developing countries.

Gross reproduction rate - Average number of live daughters a woman will bear in her normal reproductive period if she experiences present age-specific fertility rates; usually five-year averages ending in 1960, 1970 and 1975 for developing countries.

Population growth rate (%) - total - Compound annual growth rates of mid-year population for 1950-60, 1960-70, and 1970-75.

Population growth rate (%) - urban - Computed like growth rate of total population; different definitions of urban areas may affect comparability of data among countries.

Urban population (% of total) - Ratio of urban to total population; different definitions of urban areas may affect comparability of data among countries.

Age structure (percent) - Children (0-14 years), working-age (15-64 years), and retired (65 years and over) as percentages of mid-year population.

Age dependency ratio - Ratio of population under 15 and 65 and over to those of ages 15 through 64.

Economic dependency ratio - Ratio of population under 15 and 65 and over to the labor force in age group of 15-64 years.

Family planning - acceptors (cumulative, thou) - Cumulative number of acceptors of birth-control devices under auspices of national family planning program since inception.

Family planning - users (% of married women) - Percentages of married women of child-bearing age (15-44 years) who use birth-control devices to all married women in same age group.

Employment

Total labor force (thousand) - Economically active persons, including armed forces and unemployed but excluding housewives, students, etc.; definitions in various countries are not comparable.

Labor force in agriculture (%) - Agricultural labor force (in farming, forestry, hunting and fishing) as percentage of total labor force.

Unemployed (% of labor force) - Unemployed are usually defined as persons who are able and willing to take a job, out of a job on a given day, remained out of a job, and seeking work for a specified minimum period not exceeding one week; may not be comparable between countries due to different definitions of unemployed and source of data, e.g., employment office statistics, sample surveys, compulsory unemployment insurance.

Income distribution - Percentage of private income (both in cash and kind) received by richest 5%, richest 20%, poorest 20%, and poorest 40% of households.

Distribution of land ownership - Percentages of land owned by wealthiest 10% and poorest 10% of land owners.

Health and Nutrition

Population per physician - Population divided by number of practicing physicians qualified from a medical school at university level.

Population per nursing person - Population divided by number of practicing male and female graduate nurses, "trained" or "certified" nurses, and auxiliary personnel with training or experience.

Population per hospital bed - Population divided by number of hospital beds available in public and private general and specialized hospital and rehabilitation centers; excludes nursing homes and establishments for custodial and preventive care.

Per capita supply of calories (% of requirements) - Computed from energy equivalent of net food supplies available in country per capita per day; available supplies comprise domestic production, imports less exports, and changes in stock; net supplies exclude animal feed, seeds, quantities used in food processing and losses in distribution; requirements were estimated by FAO based on physiological needs for normal activity and health considering environmental temperature, body weights, age and sex distributions of population, and allowing 17% for waste at household level.

Per capita supply of protein (grams per day) - Protein content of per capita net supply of food per day; net supply of food is defined as above; requirements for all countries established by USDA Economic Research Services provide for a minimum allowance of 60 grams of total protein per day, and 20 grams of animal and pulse protein, of which 20 grams should be animal protein; these standards are lower than those of 75 grams of total protein and 23 grams of animal protein as an average for the world, proposed by FAO in the Third World Food Survey.

Per capita protein supply from animal and pulse - Protein supply of food derived from animals and pulses in grams per day.

Death rate (/thou) ages 1-4 - Annual deaths per thousand in age group 1-4 years, to children in this age group; suggested as an indicator of malnutrition.

Education

Adjusted enrollment ratio - primary school - Enrollment of all ages as percentage of primary school-age population; includes children aged 6-11 years but adjusted for different lengths of primary education; for countries with universal education, enrollment may exceed 100% since some pupils are below or above the official school age.

Adjusted enrollment ratio - secondary school - Computed as above; secondary education requires at least four years of approved primary instruction; provides general, vocational or teacher training instructions for pupils of 12 to 17 years of age; correspondence courses are generally excluded.

Years of schooling provided (first and second levels) - Total years of schooling; at secondary level, vocational instruction may be partially or completely excluded.

Vocational enrollment (% of secondary) - Vocational institutions include technical, industrial or other programs which operate independently or as departments of secondary institutions.

Adult literacy rate (%) - Literate adults (able to read and write) as percentage of total adult population aged 15 years and over.

Housing

Persons per room (average) - Average number of persons per room in occupied conventional dwellings in urban areas; dwellings exclude non-permanent structures and unoccupied parts.

Occupied dwellings without piped water (%) - Occupied conventional dwellings in urban and rural areas without inside or outside piped water facilities as percentage of all occupied dwellings.

Access to electricity (% of all dwellings) - Conventional dwellings with electricity in living quarters as percent of total dwellings in urban and rural areas.

Rural dwellings connected to electricity (%) - Computed as above for rural dwellings only.

Consumption

Radio receivers (per thou pop) - All types of receivers for radio broadcasts to general public per thousand of population; excludes unlicensed receivers in countries and in years when registration of radio sets was in effect; data for recent years may not be comparable since most countries abolished licensing.

Passenger cars (per thou pop) - Passenger cars comprise motor cars seating less than eight persons; excludes ambulances, hearses and military vehicles.

Electricity (kwh/yr per cap) - Annual consumption of industrial, commercial, public and private electricity in kilowatt hours per capita; generally based on production data, without allowance for losses in grids but allowing for imports and exports of electricity.

Newsprint (kg/yr per cap) - Per capita annual consumption in kilograms estimated from domestic production plus net imports of newsprint.

COUNTRY DATA - PAPUA NEW GUINEA

<u>AREA</u>	<u>POPULATION</u>	<u>DENSITY</u>
475,366 km ²	2.65 million (mid-1974)	
	Rate of Growth: 2.6% (from 1966 to 1974)	13.6/km ²

POPULATION CHARACTERISTICS (1974)

Crude Birth Rate (per 1,000)	44.2
Crude Death Rate (per 1,000)	16.3
Infant Mortality (per 1,000 live births)	96.0

HEALTH (1974)

Population per Physician	10,860
Population per Hospital Bed	224

EDUCATION

Adult Literacy Rate (1971)	32.2%
Primary School Enrollment (1975)	56.8%

ACCESS TO ELECTRICITY

% of Population - Urban	50%
-------------------------	-----

GNP PER CAPITA IN 1975 US\$450 /1

GROSS DOMESTIC PRODUCT IN FY75
(at current prices)

ANNUAL RATE OF GROWTH (% , FY69 constant price)

	<u>US\$ Million</u>	<u>%</u>	<u>FY71-72</u>	<u>FY72-73</u>	<u>FY73-74</u>
GDP at Market Prices	1,365.6	100.0	2.8	20.1	1.2
Gross Domestic					
Investment	220.2	16.1	-20.1	-43.7	-37.5
Gross Domestic Saving	201.4	14.7	-32.9	243.4	86.3
Current Account Balance	149.0	10.9	-	104.2	18.6
Exports of Goods, NFS	566.4	41.5	36.3	-23.3	-4.6
Imports of Goods, NFS	556.8	40.8	-5.7		

OUTPUT, LABOR FORCE AND PRODUCTIVITY IN 1972

	<u>Value Added^{/2}</u>		<u>Labor Force</u>		<u>V. A. Per Worker</u>	
	<u>US\$ Million</u>	<u>%</u>	<u>'000</u>	<u>%</u>	<u>US\$</u>	<u>% of National Average</u>
Agriculture	258.7	40.1	158	48.8	1,637	82.2
Industry	189.7	29.4	43	13.3	4,411	221.4
Services	197.1	30.5	123	37.9	1,602	80.4
Total/Average	645.5	100.0	324	100.0	1,992	100.0

GOVERNMENT FINANCE

	<u>Central Government</u>			
	<u>(K Million)</u>	<u>% of GDP</u>		
	<u>FY75</u>	<u>FY72-73</u>	<u>FY74</u>	<u>FY75</u>
Current Receipts	179.7	12.3	13.6	18.0
Current Expenditures ^{/3}	341.0	27.8	27.6	34.2
Current Deficit	-161.3	15.5	14.0	16.2
Capital Expenditures	33.1	5.8	3.0	3.3
External Assistance (net)	137.6	16.2	15.2	13.8

^{1/} 1975 World Atlas.

^{2/} At factor cost.

^{3/} Includes salaries and allowance paid by the Australian Government to its overseas officers in the PNG public service.

COUNTRY DATA - PAPUA NEW GUINEA

MONEY, CREDIT AND PRICES

	<u>FY73</u>	<u>FY74</u>	<u>FY75</u>
	(Million K outstanding end of period)		
Money and Quasi Money/1	149.3	284.0	303.5
Bank Credit to Public Sector	19.3	-12.4	8.4
Bank Credit to Private Sector	118.3	137.9	170.1

(Percentages or Index Numbers)

Money and Quasi Money as % of GDP	25.1	28.3	
Consumer Price Index (1971=100)	111.0	143.3	154.1
Annual Percentage Changes in:			
Consumer Price Index (1971=100)	4.8	29.1	7.5
Bank Credit to Public Sector	1.0	-164.2	167.7
Bank Credit to Private Sector	-12.6	16.6	23.4

BALANCE OF PAYMENTS /2

	<u>FY73</u>	<u>FY74</u>	<u>FY75 /3</u>
	(US\$ Million)		
Exports of Goods	304.4	676.3	562.3
Import of Goods	276.9	330.4	496.0
MF-Service (net)	-38.1	-29.6	-56.7
Resource Gap (deficit = -)	-10.6	316.3	9.6
Factor Service Payments (net)	-122.8	-306.3	-50.2
Net Transfers	188.2	222.6	189.6
Balance on Current Account	54.8	232.6	149.0
Private Capital	-30.9	-95.4	-27.5
Public M.I.F. loans (net)	40.1	53.8	46.7
Direct Investment	68.4	210.2	-45.2
Other Capital n.e.i.	-94.8	-163.7	-174.4
Residual (surplus)	37.6	237.5	-51.4

MERCHANDISE EXPORTS (AVERAGE FY73-75)

	<u>US\$ Million</u>	<u>%</u>
Coffee	38.8	7.7
Cocoa	33.5	6.7
Copra & Copra Products	43.0	8.6
Timber	19.9	4.0
Copper Ore & Concentrates	323.7	64.5
All Other Commodities	42.8	8.5
Total (excl. Reexports)	501.7	100.0

EXTERNAL DEBT, DECEMBER 31, 1975

	<u>US\$ Million</u>
Public Debt, incl. Guaranteed	311
Non-Guaranteed Private Debt	-
Total Outstanding & Disbursed	311

FUEL AND RELATED MATERIALS

	<u>FY72</u>	<u>FY73</u>	<u>FY74</u>	<u>DEBT SERVICE RATIO FOR FY75 /4</u>	<u>%</u>
	(US\$ Million)				
Imports	15.2	14.2	29.6	Public Debt, incl. Guaranteed	2.9
Exports	-	-	-	Non-Guaranteed Private Debt	-
				Total Outstanding & Disbursed	2.9

RATE OF EXCHANGE

<u>Until 12/23/72</u>	<u>9/9/73 - 9/30/74</u>
US\$1.00 = K0.840	US\$1.00 = K0.675
K1.00 = US\$1.19	K1.00 = US\$1.49
<u>12/23/72 - 2/13/73</u>	<u>9/30/74 - 6/30/75</u>
US\$1.00 = K0.784	US\$1.00 = K0.752
K1.00 = US\$1.28	K1.00 = US\$1.33
<u>2/13/73 - 9/9/73</u>	<u>6/30/75 - 7/25/76</u>
US\$1.00 = K0.704	US\$1.00 = K0.794
K1.00 = US\$1.42	K1.00 = US\$1.26
	<u>From 7/25/76</u>
	US\$1.00 = K0.763
	K1.00 = US\$1.31

IBRD/IDA LENDING (as of 8/31/76) (US\$ Million):

	<u>IBRD</u>	<u>IDA</u>
Outstanding & Disbursed	48.5	20.7
Undisbursed	7.0	4.5
Outstanding incl. Undisbursed	55.5	25.2

1/ PNG has been part of the Australian monetary and banking system. Figures on money and quasi money are therefore only estimates.

2/ PNG as part of the Australian monetary system has had no complete separate balance of payments. Figures on private capital and monetary movements are rough estimates. The country has not had foreign exchange reserves on its own until the last year.

3/ Preliminary.

4/ Ratio of debt service to exports of goods and nonfactor services.

THE STATUS OF BANK GROUP OPERATIONS IN PNGA. STATEMENT OF BANK LOANS AND IDA CREDITS

As of August 31, 1976

<u>Loan or Credit Number</u>	<u>Year</u>	<u>Borrower</u>	<u>Purpose</u>	<u>Amounts (US\$ millions)</u>		
				<u>Bank</u>	<u>IDA</u>	<u>Undisbursed</u>
Three credits and three loans fully disbursed				34.7	11.0	-
852-PNG	1972	PNG	Telecommunications	10.0		3.0
326-PNG	1972	PNG	Ports		9.2	1.9
348-PNG	1973	PNG	Livestock		5.0	2.6
999-PNG	1974	PNG	Power II	<u>10.8</u>		<u>4.0</u>
		Total now outstanding		<u>55.5</u>	<u>25.2</u>	<u>11.5</u>
		Amount sold		<u>6.1</u>		
		Total now held by Bank and IDA /1		<u>49.4</u>	<u>25.2</u>	
		Total undisbursed		<u>7.0</u>	<u>4.5</u>	<u>11.5</u>

B. PROJECTS IN EXECUTION /2

Loan No. 737 Upper Ramu No. 1 Hydroelectric Project; US\$23.2 Million
Loan of May 26, 1971; Effective Date: July 30, 1971;
Closing Date: September 30, 1976

The project consists of a 75 MW underground power station, related substations, and 320 miles of transmission lines linking centers previously served by small diesel units. The civil works were completed

/1 Prior to exchange rate adjustments.

/2 These notes are designed to inform the Executive Directors regarding the progress of projects in execution, and in particular to report any problems which are being encountered, and the action being taken to remedy them. They should be read in this sense, and with the understanding that they do not purport to present a balanced evaluation of strengths and weaknesses in project execution.

ahead of schedule within the 20 percent cost escalation over the original estimate, but delays occurred in equipment supplies and commissioning of the third unit which took place in July 1976, about ten months behind the original schedule. The total project cost expressed in Australian dollars is now A\$34.8 million as against A\$30.3 million during appraisal (15 percent increase). The difference in terms of US dollars is larger because of exchange rate movements. The project is still economically justified even with the changed economic situation.

Loan No. 999 Second Power Project; US\$10.8 Million Loan of
June 12, 1974; Effective Date: December 27, 1974;
Closing Date: December 31, 1979

This project consists of three distinct items:

- (i) training of local staff to permit an early and rapid reduction of expatriates;
- (ii) modest distribution expansion covering needs thru 1979; and
- (iii) shortfall in foreign exchange for Loan 737-PNG because of the devaluation of the US dollar.

Procurement of distribution materials is underway. As for staff recruitment, ELCOM is having extreme difficulties in reaching the target figure due to movement of overseas staff back to Australia and difficulties in finding suitable replacements. Another factor is that otherwise competent expatriates originally selected as trainers have not always been suitable in every case. To overcome these problems partially, ELCOM has employed management consultants, in particular P.A. Management Consultants Pty. Ltd., to conduct training courses or to provide guidance. Since July 1974 six such courses/exercises, at a cost to ELCOM of A\$107,000, have been conducted. The results achieved to date have been promising with about 140 Papua New Guineans having completed their training. Local staff have been gradually taking over daily operations.

Loan No. 852 Second Telecommunications Project; US\$10.0 Million
Loan of July 21, 1972; Effective Date: January 19, 1973;
Closing Date: June 30, 1977

The project provides for: (a) installation of 13,000 lines of automatic switching equipment; (b) provision of UHF/VHF radio systems; (c) installation of multiplex equipment to provide 650 additional circuits and extension of long-distance automatic exchanges; and (d) consultant services. It supports P&T's July 1973, to June 1975, development program and follows immediately on that successfully completed under the first loan 546-PNG. As a result of a reduction in demand for local subscribers' connections when the schedule for independence was first announced, the project was spread over four years instead of three years and the closing date extended to June 30,

1977. Construction is proceeding satisfactorily and the project is expected to be complete in advance of the revised closing date. Growth in traffic particularly for the long distance and international services has been greater than estimated and this has offset the initial reduction in demand for local services so that financial results have been highly satisfactory and have exceeded appraisal forecasts.

Loan No. 326 First Ports Project; US\$9.2 million Credit of July 21, 1972; Effective Date: February 8, 1973; Closing Date: September 30, 1977

The original project consisted of extending port facilities at Lae and Kieta, land reclamation for new storage facilities at Port Moresby, a new port development at Alotau, provision of mechanical handling equipment, and consultant services. Work on all the original port improvements included in the project has been completed; the contract for improvements to the Ocean Wharf at Kieta, subsequently included in the project, has been let. There will not be any expenditures for mechanical equipment as originally foreseen. Papua New Guinea Harbors Board's financial position remains sound. It has undertaken a review of its tariff and cash flow position over the next five years in the light of the development programs' requirements and some revision of tariffs will be required. Total cost of the civil engineering projects is practically the same as previously reported and it is anticipated that the total amount of the credit may not be expended.

Loan No. 348 Smallholder Livestock Credit Project; US\$5.0 Million Credit of January 4, 1973; Effective Date: May 11, 1973; Closing Date: December 31, 1976

The Project supports the Government's program for development of livestock production by smallholders. Sub-loans are made through the Papua New Guinea Development Bank (PNGDB) to smallholders for beef, pig and poultry production. Technical assistance to smallholder livestock producers is provided by the Department of Primary Industry (DPI). The Project also provides for farmer training, in-service training of DPI extension staff and for upgrading livestock research. Physical progress of the Project has been good in that the total number of sub-loans has been in excess of the appraisal estimate. However, the average sub-loan size has been much smaller than the appraisal estimate and only about 50 percent of the credit was disbursed at June 30, 1976. The Government will request an extension of the closing date from December 31, 1976, probably to December 31, 1978.

PAPUA NEW GUINEAFOURTH AGRICULTURAL DEVELOPMENT PROJECTLoan and Project Summary

Borrower: Government of Papua New Guinea

Amount: US\$12.0 million

Terms: 20 years maturity including 4-1/2 years grace

Onlending: \$4.02 million would be onlent to PNGDB at 9 percent for 16 years including 7 years of grace.

Project Description: The project will establish about 1,400 smallholders on about 5,600 ha for oil palm cultivation and provide them with long-term credit, extension services, social and economic infrastructure, including feeder roads, housing, and health, education and welfare facilities. The project would also establish a Government-owned transport company to serve the smallholders. Not included in the project but crucial to its success, is the concurrent establishment of a nucleus estate and factory to process both smallholders and estate production. The nucleus estate/factory complex is being financed by the Government and the Commonwealth Development Corporation. The project also includes a technical assistance component which provides funds for the employment of key expatriate personnel (24 man-years in all) for the smallholder project and for a consultant (2 man-years) to establish training programs for DASF and PNGDB staff in smallholder credit operations.

Estimated Costs:

	US\$ million		
	<u>Local</u>	<u>Foreign</u>	<u>Total</u>
Smallholder development	1.1	2.6	3.7
Transport company	0.2	0.8	1.0
Extension services	1.1	0.3	1.4
Social services	0.9	0.4	1.3
Vehicle equipment and machinery hire	0.3	1.0	1.3
Technical assistance	0.1	0.7	0.8
Roads	0.7	1.6	2.3
Contingencies			
Physical	0.3	0.6	0.9
Price	2.3	3.4	5.7
Total project cost	7.2	11.3	18.5

Financing Plan:

The proposed Bank loan of US\$12.0 million would represent some 66 percent of total project costs, including the entire foreign exchange component plus some US\$700,000 in local expenditures for extension staff. Government and PNGDB would contribute the remainder on a ratio of about 3 to 1.

Estimated Disbursements:

Bank FY	77	78	79	80	81	82	83	84
Annual	0.5	1.3	2.2	2.8	2.1	1.7	0.8	0.6
Cumulative	0.5	1.8	4.0	6.8	8.9	10.6	11.4	12.0

Procurement:

Procurement of all items except road works would be in small annual lots, unsuitable for international bidding. Local competitive bidding, employing procedures satisfactory to the Bank and not excluding foreign bidders, will be employed. Road works, which are more in the nature of maintenance, will be carried out under force account.

Rate of Return:

14.5 percent

Appraisal Report:

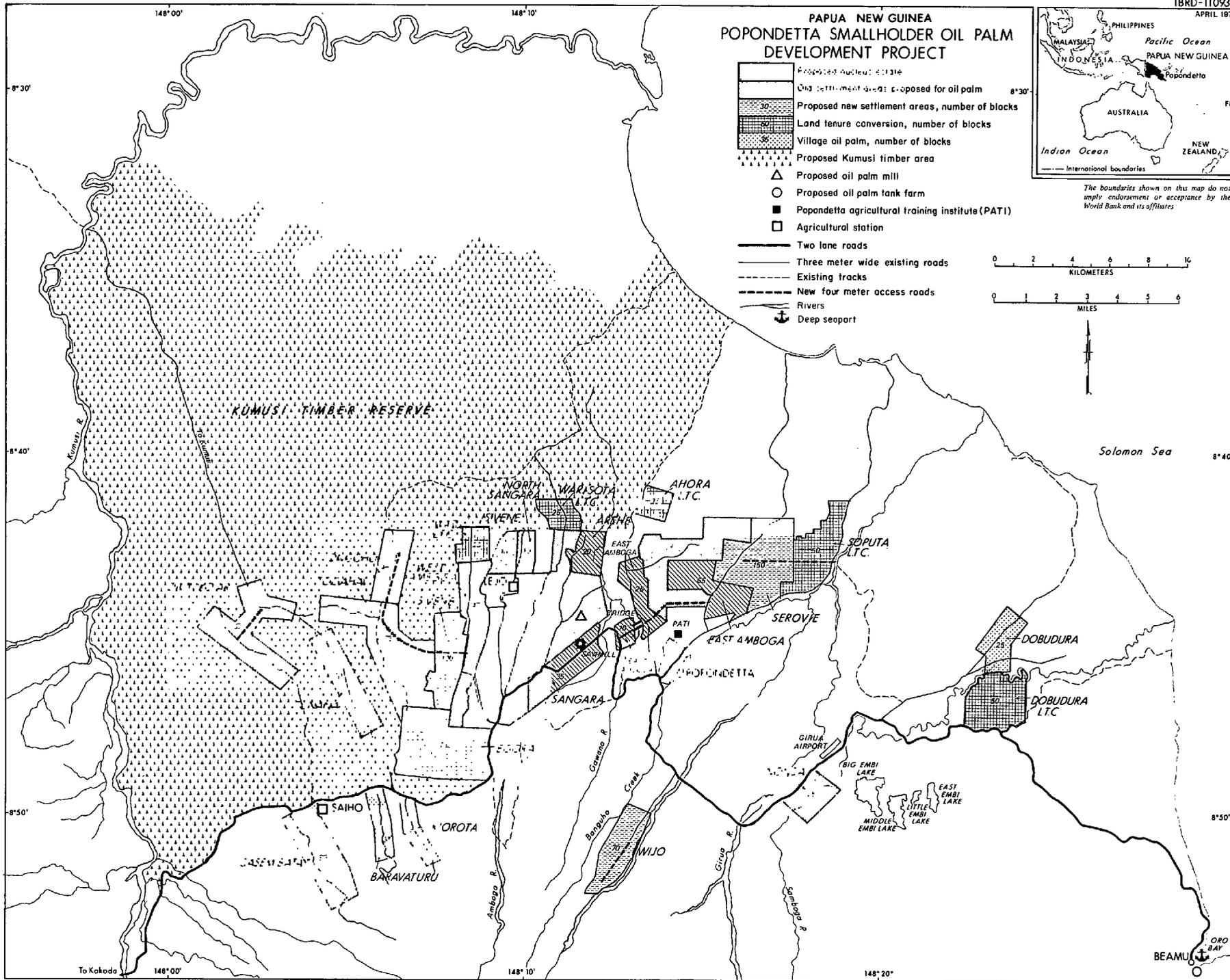
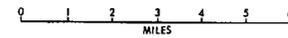
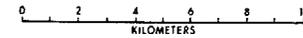
Report No. 1160-PNG, dated September 23, 1976.
East Asia and Pacific Region

PAPUA NEW GUINEA POPONDETTA SMALLHOLDER OIL PALM DEVELOPMENT PROJECT

-  Proposed nucleus estate
-  Old settlement areas proposed for oil palm
-  Proposed new settlement areas, number of blocks
-  Land tenure conversion, number of blocks
-  Village oil palm, number of blocks
-  Proposed Kumusi timber area
-  Proposed oil palm mill
-  Proposed oil palm tank farm
-  Popondetta agricultural training institute (PATI)
-  Agricultural station
-  Two lane roads
-  Three meter wide existing roads
-  Existing tracks
-  New four meter access roads
-  Rivers
-  Deep seaport



The boundaries shown on this map do not imply endorsement or acceptance by the World Bank and its affiliates



To Kokoda

ORO BAY