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REPORT AND RECOMMENDATION
OF THE
PRESIDENT
TO THE
EXECUTIVE DIRECTORS
ON A
PROPOSED LOAN
TO
THE REPUBLIC OF INDONESIA
FOR A
NATIONAL RESOURCE SURVEY AND
MAPPING PROJECT

January 15, 1976

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CURRENCY EQUIVALENT

US\$1.00	=	Rupiahs (Rp) 415
Rp 1.00	=	\$0.241
Rp 1 million	=	\$2,409.64

METRIC EQUIVALENTS

1 kilometer (km)	=	0.62 miles
1 square kilometer (km ²)	=	0.39 square miles

Fiscal Year

April 1 - March 31

ABBREVIATIONS

BAKOSURTANAL	-	National Coordinating Agency for Surveys and Mapping
BAPPENAS	-	National Development Planning Agency
CIDA	-	Canadian International Development Agency
JANTOP	-	Survey and Mapping Division of the Department of Defense

GLOSSARY

Base-Map	-	A standard map prepared to a high standard of accuracy based on precise geodetic control, utilized as a basic reference for preparing maps for specialized purposes.
Charts	-	Maps portraying the specific information required for aerial and maritime navigation.
Geodetic Control	-	Establishment on the ground and precise determination of position of a network of reference points, which are plotted on aerial photographs during the map production process.
Large-Scale	-	Used in the text to denote photography and maps of 1:50,000 scale and above (e.g. 1:40,000, 1:25,000, etc).
Small-Scale Planimetric Maps	-	Used to denote scales below 1:50,000 (e.g. 1:100,000). Maps portraying horizontal distances between any two points precisely to scale.
Thematic Maps	-	Maps depicting specific categories of information (e.g. land use, rainfall) for analytical or planning purposes.
Topographic Maps	-	Maps portraying elevation contours.
Remote Sensor	-	Images derived from the reflectance of terrestrial objects, obtained from high flying aircraft, the Earth Resources and Technology Satellite, or the recently launched LANDSAT II satellite.

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

REPORT AND RECOMMENDATION OF THE PRESIDENT
TO THE EXECUTIVE DIRECTORS ON A PROPOSED LOAN TO THE REPUBLIC
OF INDONESIA FOR A NATIONAL RESOURCE SURVEY AND MAPPING PROJECT

1. I submit the following report and recommendation on a proposed loan to the Republic of Indonesia for the equivalent of US\$13 million to help finance the National Resource Survey and Mapping Project. The loan would have a term of 20 years, including six years of grace, with interest at 8-1/2 percent per annum.

PART I - THE ECONOMY

2. The latest economic report on Indonesia "Indonesia: Development Prospects and Needs" of April 15, 1975 (708-IND) described and analyzed the structure of production and incomes, the recent changes in the availability of resources, and the medium and longer-term outlook for the Indonesian economy. Country data are shown in Annex 1.

3. In 1969, at the start of Indonesia's First Five-Year Plan, the per capita income of the Indonesian population was probably no higher than half a century ago. A majority of the population lived below a minimum welfare standard, especially on Java. Most were dependent exclusively or primarily on agriculture, where farms were generally very small. Under-employment was widespread. While the inflation of the mid-1960s had been overcome, infrastructure was still in very poor condition.

4. The Government's efforts during the First Five-Year Plan period (April 1, 1969 - March 31, 1974) were successful in putting the economy on the road towards development. Most physical objectives were achieved or nearly so, and there was very substantial rehabilitation of run-down infrastructure and government enterprises in agriculture and manufacturing. Investments increased at a very fast rate, rising from 9 to 19 percent of GNP. While 57 percent of Government development expenditures were financed from abroad, the reliance on foreign financing was much smaller than the level rate of nearly 80 percent foreseen in the Plan. Real GDP increased at an annual rate of over 7 percent. GNP per capita in current prices reached about \$125 ¹/ in 1973. The Government instituted programs for the labor intensive rehabilitation of infrastructure and other programs which created substantial incomes and employment. In all, however, given the annual increase in the labor force of about one million, one cannot be confident that the employment situation improved during the First Plan period, and from available information it is difficult to judge the extent to which the poorest section of the population shared in the gains of development.

5. The Second Five-Year Plan (April 1, 1974 to March 31, 1979) builds on the achievements of the First Plan. While the First Plan dealt mainly

¹/ \$130 on World Bank Atlas basis.

with the urgent needs for stabilization and rehabilitation under conditions of great scarcity of resources, progress has been such that the Second Plan can give much more weight to such problems as employment, equitable distribution, regional growth and education. The Plan identifies a number of specific low-income target groups and, in general, adopts an employment-oriented development strategy. It aims at a continued growth in investments, needed both because capital intensity will tend to increase as the rehabilitation phase draws to an end, and because more socially-oriented investments will be made. Overall, the Plan expects GDP to grow at 7.5 percent per annum.

6. Over the decade 1961-71, Indonesia's population grew by 2.1 percent a year. However, as a result of changes in the age, distribution and declining mortality, the current growth rate is estimated at 2.5 percent. Even under the most optimistic assumptions with regard to fertility decline, the growth rate would only come down gradually, and the population would nearly double by the end of the century. While Indonesia still has substantial unutilized land reserves in the Outer Islands, these are limited in relation to the expected population increase, and a further large increase in population pressures - already severe on the Inner Islands - must be expected. Since 1969, the Government has been operating and gradually extending a family planning program. The number of acceptors has been increasing rapidly. The Second Five-Year Plan foresees a much more comprehensive attack on the population problem.

7. During the years 1976-79, average annual additions to the labor force are estimated at 1.2 million, increasing to more than 1.4 million in the years 1980-85. In addition, substantial underemployment exists, and there is the risk that even relatively simple technological improvements may adversely affect existing employment. The Second Plan's projections show that employment growth would almost keep up with the growth in the labor force, and even this may be too optimistic. Thus, the employment thrust of the Plan needs to be further strengthened if an appreciable increase in real labor earnings - and a wider spread of the benefits of development - is to be attained.

8. Towards the end of 1973, when the Second Plan was being finalized, prospects for resource availability improved dramatically. In line with other OPEC countries the Government raised the export price of oil in successive stages from \$3.70 per barrel in April 1973 to \$12.60 per barrel in July 1974. Early in 1974 (and again in 1975) the Government also successfully renegotiated the contracts with foreign oil companies, enabling it to retain a greater share of the oil income. As a result, the net contribution of the oil sector to the balance of payments and Government revenues was expected to increase very considerably; a large increase in foreign exchange reserves and a budget surplus were anticipated for 1974/75. 1/

1/ Indonesian fiscal year April 1, 1974 - March 31, 1975.

9. By October 1974, foreign exchange reserves had risen by \$650 million from their level at the beginning of 1974/75 and Government revenues were exceeding the levels originally estimated. The Government authorized much higher levels of expenditures, mainly for development, which reflected the improved revenue prospects. However, the recessionary conditions in the industrial countries began to affect the volume of oil exports and production by the middle of the year. Indonesia's high quality oil tended to become overpriced ^{1/} as world oil demand slackened and output declined from an average of 1.45 million bpd (barrels per day) in the first half of 1974 to 1.31 million bpd in the second half. Proceeds from non-oil exports also started to decline as prices, and sometimes export quantities, fell.

10. In October 1974 also, the first signs appeared of what turned out to be a substantial financial overextension by PERTAMINA, the national oil company. PERTAMINA had undertaken a large and diversified investment program financed to a substantial extent by short-term borrowing. In the third quarter of 1974/75 it started withholding part of the corporate oil tax it had collected on behalf of Government from the foreign oil companies; by the end of the fiscal year a total of Rp 346 billion (\$830 million) had been so withheld and used to meet PERTAMINA's financial obligations. Early in 1975 PERTAMINA failed to meet payments due to some foreign banks, and the Government stepped in and took decisive action. It banned all independent foreign borrowing by PERTAMINA and other Government enterprises and gave Bank Indonesia the sole authority to contract foreign obligations, instructed Bank Indonesia to provide the funds needed to meet PERTAMINA's external obligations, undertook a comprehensive review of the oil company's investment projects and began the process of reducing and re-planning the company's investment program and of cancelling and renegotiating many of the related procurement contracts.

11. The combination, in the last half of 1974/75, of slackening receipts from exports of oil and other products, and of the need to meet PERTAMINA's short term obligations resulted in a loss of the foreign exchange reserves gained in the first half of the fiscal year. By March 31, 1975, these reserves were at the same level as at the beginning of April 1974.

12. The balance of payments situation did not improve in the first half of 1975/76. With continuing recessionary conditions in Indonesia's principal markets exports failed to increase while imports rose again (about 30 percent on an annual basis). Debt service payments on behalf of PERTAMINA were very large (about \$1.0 billion). As a result, Indonesia's foreign exchange reserves declined by another \$480 million, despite substantial capital inflows, including two syndicated public cash borrowings totalling \$575 million raised in the international capital market.

^{1/} The premium on Indonesian oil has recently been reduced by the Government's decision to raise the price of its main crude by 1.5 percent (to \$12.80) as compared with the 10 percent increase in the price of Saudi Arabian light crude agreed at the meeting of OPEC in September 1975.

13. For the remainder of the 1975/76 fiscal year balance of payments prospects appear distinctly more favorable. Signs of modest recovery from the recession have appeared in some industrialized countries, commodity prices seem to have bottomed out and oil exports from Indonesia have increased in recent months. Rice and fertilizer import needs are smaller given the sizable stocks now on hand. Prices of some other imported commodities have also fallen. Service on PERTAMINA's debt should be much smaller and the Government has recently raised another cash loan amounting to \$425 million. A modest build-up of foreign exchange reserves is now projected in the second half of the fiscal year.

14. Budgetary revenues in 1974/75 were much lower than had been anticipated at the middle of the year due partly to the withholding of oil tax by PERTAMINA and partly to the shortfall in oil exports in the second half of the year. The budget was, however, still in balance by year's end as the Government reduced budgetary expenditure and certain authorized expenditures were carried over into the 1975/76 fiscal year. The budget for 1975/76 is balanced. Revenues as well as current and domestically financed development expenditures are now expected to be about 10 per cent lower than originally budgeted but still about 30 per cent higher than in the previous year.

15. In spite of the shortfall in budgetary revenues, and the administrative difficulties involved in implementation of some projects, total development expenditures doubled in 1974/75 compared to the previous year. In 1975/76 they are expected to reach Rp 1.4 trillion or \$3.3 billion, including foreign project finance totalling about \$1.0 billion and fertilizer subsidies amounting to \$350 million. This is about three times the actual expenditures in 1973/74; even when adjusted for price changes this represents a near doubling.

16. Preliminary figures indicate that the high growth rate achieved during 1969-1973 was maintained in 1974. At constant 1973 prices, gross domestic product rose by 7.5 percent in 1974. Partial indicators seem to point to slower growth of output in 1975. The inflation rate was very high in the first part of 1974 as, among other factors, world inflation, was transmitted through both export and import channels, but abated somewhat later in the year, partly as a result of the Government's stabilization measures in April 1974. Nevertheless, for the year as a whole it reached 40 percent. While still considerable, the average inflation rate for 1975 is expected to be only half of 1974's or about 20 percent.

17. In the aftermath of the PERTAMINA crisis the Government is faced with problems which, although serious, are surmountable. The review of PERTAMINA's projects has resulted in cancellation or renegotiation of

many contracts and reductions in project scope and size. ^{1/} The Government has more recently undertaken a broader review of projects initiated by various Government departments and other State entities in an effort to bring future expenditures in line with available resources and the priorities set out in the Second Plan. It is considering very carefully any major new programs or projects, since considerable resources will be needed in the next year or two for the completion of projects already initiated.

18. A longer-term effect of the recent financial difficulties will be on the country's external public debt service obligations during the rest of the decade. Debt service payments over the next several years will be much larger than previously envisaged as a result of the large borrowings by the Government in the current fiscal year. Debt service in 1975/76 is now estimated at \$500 million, which would be more than 10 percent of officially projected net oil and other exports. Debt service payments on all loans contracted to December 31, 1975, may reach about one billion by 1978 before declining as shorter-term maturities are paid off. This is about \$500 million more per year than the payments projected on the basis of debt outstanding at the end of 1974. With debt service obligations from these borrowings substantially higher than expected earlier (about 12 percent of exports in 1978), the margin for further borrowing on other than semi-concessional terms has now become much more limited. The amounts, terms and purposes of future borrowing therefore need to be kept under continuous careful review.

19. While the recent balance of payments and budgetary difficulties have upset some of the Government's plans, the long-term prospects for Indonesia's development remain good. The country has a substantial potential for further productive investment, employment and income growth. In agriculture, a vigorous pursuit of on-going programs in irrigation, development of new plant varieties and technical services, provision of credit and current inputs, etc., promises to yield high returns. In addition, there are large opportunities for the development of new areas, of food and tree crops - partly in conjunction with a rapidly growing transmigration program. The industrial potential is good, both for modern capital-intensive natural resource-based activities and for more labor-intensive, partly export-oriented industries.

20. The Government is clearly set on a course of accelerated growth in investment, employment and income to realize Indonesia's potentials and improve the welfare of the broad mass of the people. With a determined effort to mobilize additional resources, a judicious use of them and assuming

^{1/} The planned capacity of the Krakatau Steel plant for example was reduced from 2,000,000 to 500,000 tons per year and the existing supply contracts were reduced by \$750 million.

an international economy which is reasonably favorable to Indonesia, very significant progress can be made in this direction.

PART II - BANK GROUP OPERATIONS IN INDONESIA

21. Part I of this Report emphasized Indonesia's plans for and need to undertake a large investment and development program designed to provide productive work opportunities (with resultant increased incomes) for its presently underemployed and growing labor force. Substantial external financing, the larger part on concessional and semiconcessional terms, as well as a considerable volume of technical assistance is also required. The Bank is planning to increase its lending to Indonesia and in particular to support projects designed to: improve agricultural credit, research and extension; rehabilitate and expand irrigation systems; increase the production and distribution of fertilizer; assist transmigration and nucleus estates; increase non-agricultural employment in small towns, and rural and small-scale industries; and rehabilitate and expand urgently needed transportation and other infrastructure.

22. As of November 30, 1975, Indonesia had received 37 IDA credits totalling \$561.8 million and eight Bank loans amounting to \$426.5 million. ^{1/} At that date, IFC investments totalled \$58.4 million. At the end of 1974 the Bank Group accounted for about 4 percent of Indonesia's total outstanding public debt; by 1978 it is expected to account for 12 percent of total outstanding debt and 5 percent of public debt service obligations. A summary statement of IDA Credits, Bank Loans and IFC Investments as of November 30, 1975, as well as notes on the execution of ongoing projects are contained in Annex II.

23. To date, agriculture accounts for just over one-third of all Bank Group lending to Indonesia, including four IDA credits for estate rehabilitation, six for the rehabilitation and expansion of the irrigation systems, two for fisheries, and one each for seeds, beef cattle, sugar and smallholder tea and rubber. In the industrial sector, the Bank Group has assisted in three projects to expand PUSRI's fertilizer production capacity, three for development finance companies (Government-owned and private) which play a major role in fostering the growth of industrial enterprises, and one for the Pulo Gadung industrial estate. Loans and credits have also been extended to the transportation, education, telecommunications, tourism, power, population, urbanization and water supply sectors, and four credits have been made for technical assistance to aid the Government in preparing and formulating its development programs and projects.

^{1/} In addition, Loan 1179-IND for US\$21.5 million for an agricultural research and extension project was signed December 19, 1975.

24. Bank Group lending to Indonesia started with an IDA Credit in 1968 for irrigation rehabilitation; almost half of all loans and credits have been made since mid-1972, with lending on Bank terms commencing in June 1974. The rate of disbursements on loans and credits up to the end of 1974 was slow, due in part to the rapid increase of the program during the first four years of lending and in part to the fact that a number of credits have financed projects whose execution is planned to take place over extended periods. Furthermore, in a considerable number of projects there were associated institutional reforms requiring the enactment of new laws and charters which have resulted in delays in the initial implementation stages. However, over the last twelve months disbursements have accelerated and are now at an acceptable level. The Indonesian authorities have become increasingly aware of the delays in project execution caused by cumbersome procedures and the need to establish an effective control system in BAPPENAS (the National Development Planning Agency). At the Government's request, the Bank has arranged for assistance under the Fourth Technical Assistance Credit (Cr. 451-IND) to help set up a monitoring and control system which it is hoped will lead to better project administration.

25. Future Bank lending gives high priority to the agricultural sector through support of projects to increase rice and other crop production in the Inner and Outer Islands, and the expansion of resettlement efforts on the latter. In addition, the program provides for further socially-oriented projects in the fields of urban development and population. Projects for agricultural extension, power, education, shipping, highways, sugar production, fertilizer production and distribution, irrigation, nutrition, as well as a loan to a private development finance company are expected to be ready for presentation in the coming several months.

PART III - CURRENT STATUS OF MAPPING AND RESOURCE SURVEY

26. Resource-based industries, particularly agriculture, forestry, petroleum, gas and hard minerals extraction, are of central importance to the Indonesian economy. They account for more than two-thirds of total employment and over 60 percent of GDP and Government revenues.

27. Most of the resource development efforts of both Government agencies and foreign firms have been directed to the development of land and forest resources and mineral deposits which were well-known and often in production before World War II. Much of this investment has had to be directed to the rehabilitation and modernization of large elements of public infrastructure, such as ports, irrigation systems, and highways and of mining and commercial agriculture establishments which had fallen into disrepair over the previous decades. As the backlog of such investments in the traditional sectors and the more developed areas has been

reduced, and the attention of Government planners has shifted to less-developed regions, serious deficiencies in the availability of information of Indonesia's natural resources and physical environment have become apparent.

28. The lack of adequate resource data has thus become an increasingly important constraint on effective national and regional planning and on the rate of preparation and implementation of individual projects. Efforts to evaluate and map the topography, soils, hydrology, forests, and other resources have been seriously hindered by the absence of up-to-date maps, aerial photography, and geodetic control. At present, geodetically controlled base-maps at the 1:50,000 scale required for thematic mapping and evaluation of most national resources are available for only 13 percent of the total land area of Indonesia. This inadequate coverage, which is proportionally among the lowest in the world, raises the cost of survey work and biases survey activity, systematic resource evaluation, and subsequent development investment towards regions which were previously mapped.

29. The existing situation in the mapping and resource survey fields is due in part to inadequate funding of geodetic and base-mapping work and specialized resource survey and mapping activities, but it is also due to excessive fragmentation of effort in these fields and a resultant inconsistency of work. As the specialized agencies use widely varying map projections, base-map scales, and categories and modes of presentation to represent their research findings, much of their output can neither be evaluated comparatively nor integrated to serve as a firm basis for planning and design of agriculture, transmigration, transportation, and other projects with strong regional impact.

30. The lack of base-map coverage and the slow pace of recent base-map production is also partly due to the total reliance on topographic maps as the nation's base-map source. Most of these topographic maps are produced by the Survey and Mapping Division of the Department of Defence (JANTOP). While detailed planning and thematic maps often require the addition of topographic contour lines, requirements for a national base-map series could be met more efficiently by uncontoured planimetric maps which can be produced rapidly and at a high order of accuracy by the automatic orthophoto process. Such maps would satisfactorily fulfill the fundamental base-map function of presenting the geodetic data required for all subsequent specialized mapping.

31. The National Coordinating Agency for Surveys and Mapping (BAKOSURTANAL) is responsible for coordinating mapping, survey and aerial photography operations within the Government. However, BAKOSURTANAL will need a substantial increase in its staff, budget and facilities to be able to carry out these responsibilities effectively. Also, the lack of an accurate and consistent series of base-maps covering the national

territory has made it difficult for BAKOSURTANAL to standardize sectoral thematic mapping and to coordinate field investigations of resources and environmental conditions.

32. BAKOSURTANAL has recently also been given the major responsibility for resource inventory and evaluation within the Government. This task, which involves the compilation, preliminary economic evaluation, and presentation of resource data in a form that will assist economic planning and policy making, has been performed haphazardly in the past, never having been clearly assigned to any specific agency. The assignment of this function to BAKOSURTANAL will allow it to coordinate the full range of resource field work and analysis as a basis for more effective national planning by BAPPENAS, the National Development Planning Agency.

33. The Government has decided that a substantial investment in aerial photography, geodetic control, equipment and the facilities for the production of base-maps and other mapping materials is necessary to improve Indonesia's resource data base for national and regional planning, in order to make more effective use of Indonesia's resources, and to carry out the increasing number of projects required for Indonesia's expanding development programs. As noted above, it is also the policy of the Government to strengthen BAKOSURTANAL to allow it to take effective responsibility for base-mapping, resource survey and resource inventory and evaluation. This in turn will help ensure continuous updating of data on a permanent and reliable basis and effective coordination and standardization of the tasks performed by specialized resource survey and mapping agencies.

PART IV - THE PROJECT

Background

34. The proposed project consists of several interrelated components which may be grouped into two broad parts. Part I provides for the establishment of a national resource survey and mapping capability, and includes the construction of facilities and the acquisition of equipment required for map production and resource evaluation; procurement of remote sensor imagery and large-scale aerial photography to support detailed resource mapping and evaluation, and navigational charting; and technical assistance and training in project-related fields. In addition, Part I would include a program of mapping and resource survey operations to be implemented by the National Coordinating Agency for Surveys and Mapping (BAKOSURTANAL) utilizing these facilities and services, and a complementary program of technical services to be executed by qualified survey firms. The foreign exchange costs of Part I would be financed by the Bank. Part II of the project provides for the 1:100,000 scale aerial photography, geodetic control, and aerial triangulation required to complete the national base-mapping program. This part of the project would be financed by the Government, possibly with bilateral assistance.

35. Initiation of Part I now is required in order to avoid further serious delay in the overall Indonesian resource survey and mapping effort, particularly because the construction, equipment procurement, and institution-building components included in Part I require a longer lead time than do the survey operations included in Part II. Another reason for proceeding with Part I at this time arises from the availability of a substantial volume of base-mapping materials already being produced through joint Australian/Indonesian operations in Sumatera and Irian Jaya. Between 1976 and 1978 the ongoing Australian bilateral assistance program is expected to produce aerial photography and geodetic data covering about 20 percent of the land area of the country, much of which would remain unprocessed in the absence of the proposed project. Proceeding with Part I at this time will enable that backlog to be substantially reduced through contract map production by qualified survey firms, while still ensuring an initial workload for BAKOSURTANAL in 1978, when its own facilities would be completed, also under Part I of the project. The implementation of Part II would commence in 1978 at the latest, thereby ensuring a continuing flow of small-scale photography and geodetic data throughout the project life, and the completion of base-mapping for most of Indonesia by the end of 1980. The Government has assumed full responsibility for the financing of Part II, with bilateral assistance, or with its own funds. At present, the Government is discussing with the Canadian International Development Agency (CIDA) assistance for Part II, in addition to assistance for a proposed national forest resource evaluation project.

36. The proposed project would provide the implementing agency, BAKOSURTANAL, with the physical capability and technical assistance required to complete an accurate series of geodetically-controlled base-maps for the entire country and to coordinate natural resource inventory and evaluation for Indonesia. Bank Group missions in July 1973 and March 1974 and a CIDA mission in June 1974, assisted the Government in preparing the proposed project. A Bank mission assisted by consultants and a CIDA representative, appraised the project in October/November 1974. Negotiations were held in Washington, D.C. from October 20-28, 1975. The Government delegation was led by Mr. Pranoto Asmoro. The appraisal report (No. 689a-IND dated January 15, 1976) is being circulated separately to the Executive Directors and a project and loan summary is contained in Annex III of this report.

Project Description

37. The main components of the project are:

Part I

- (a) Construction of headquarters for BAKOSURTANAL at Cibinong, including suitable facilities for printing and cartographic shops and photographic laboratories;

- (b) Procurement of cartographic, printing, imagery interpretation, and other equipment required for both map production and reconnaissance resource evaluation;
- (c) Procurement of remote sensor imagery, including earth satellite output;
- (d) Aerial photography at scales of 1:50,000 and above, of approximately 300,000 km² to support detailed mapping of specific areas for project planning and charting purposes;
- (e) Technical services to be executed by qualified survey firms, including geodetic control, photo processing and reproduction, and contract map production for delimited areas;
- (f) Engagement of individual experts to provide technical assistance to BAKOSURTANAL in geodesy, aerial photography, cartography, printing processes and resource evaluation;
- (g) Training in the country and overseas of BAKOSURTANAL's senior technical and professional staff, and training in the country of staff technicians;

Part II

- (h) Aerial photography at a scale of 1:100,000 of approximately 950,000 km²;
- (i) Extension throughout Indonesia of the primary, secondary, and tertiary geodetic control network to density required for 1:50,000 scale mapping; and
- (j) Aerial triangulation of all areas flown.

Base-Map Production

38. Planimetric base-maps at 1:50,000 scale of Java, Bali, the Lesser Sunda Islands, the Moluccas, Sulawesi, and the unmapped portions of Kalimantan, would be produced by BAKOSURTANAL utilizing equipment and technical services provided under Part I of the project and 1:100,000 scale aerial photography and additional geodetic control data to be provided under Part II. Maps covering Irian Jaya and the unmapped portions of Sumatera at the same scale would be produced for BAKOSURTANAL by

survey firms under Part I of the project, utilizing aerial photography and geodetic control provided with Australian assistance. The two sets of maps would be fully compatible, and together would constitute a consistent series which would serve as the basis for resource surveys, thematic mapping, and navigational charting throughout Indonesia. In addition, the equipment to be provided would enable BAKOSURTANAL to add topographic contours to the base-maps of specific areas to be studied intensively.

Charting Operations

39. BAKOSURTANAL would produce urgently required aeronautical and maritime navigational charts, utilizing equipment and large scale aerial photography provided under the project. The charts would be keyed to the new base-maps and to the geodetic data to be produced under the project and through JANTOP's operations. Charting work programs would follow the priorities established by the Department of Communications. In addition, BAKOSURTANAL would provide satellite imagery materials and analysis to the Department of Communications to assist in the preparation of navigational guides and bulletins and to update existing charts.

Regional Resource Surveys

40. Although small-scale photography and satellite imagery will facilitate resource and environmental analysis at the reconnaissance level and help identify broad patterns of potential development, field surveys would be required to generate the more detailed data needed to identify project possibilities and to delineate favorable project areas. Survey operations would be planned and directed by BAKOSURTANAL, although the field teams would be composed of staff drawn from the line departments and universities as well as from BAKOSURTANAL.

Organization and Management

41. BAKOSURTANAL would be responsible for the implementation of the project. It is one of five non-departmental agencies engaged in the collection, processing and analysis of basic data and statistics. ^{1/} These five agencies are under the statutory control of the Minister of State for Research, who has broad authority in the area of natural resource evaluation.

42. BAKOSURTANAL was established in 1969 to advise the President of the Republic of Indonesia on all matters related to mapping, surveys and natural resource evaluation. As noted in paragraph 32, it has recently been given responsibility for resource evaluation activities carried out by the Government and the use of ERTS imagery for resource evaluation

^{1/} The other four are the Central Bureau of Statistics, the Indonesian Institute for Sciences, the National Institute for Aeronautics and Space and the National Agency for Atomic Energy.

purposes. The site selected for the new headquarters of BAKOSURTANAL is part of a 208 ha extent of Government-owned land at Cibinong, West Java, which is under the jurisdiction of the Minister of State for Research.

43. BAKOSURTANAL is administered by a chairman assisted by four deputies, responsible respectively for base-mapping, special maps and charts, resource evaluation, and systems management. The chairman would be the project manager. In addition, a computer programming section would be added to handle the anticipated increase in analytical cartographic and resource inventory work. Due to the importance of the roles they would play in the execution of the project, the future appointments of the Chairman and the Deputies for base-mapping and resource evaluation would be made after consultation with the Bank (Section 4.04(b) of the Loan Agreement).

44. BAKOSURTANAL employs at present about 45 personnel and this number will have to increase to about 220 by the time the project is completed. Some of the additional staff will be recruited from the ranks of university graduates and military officers retiring from the technical mapping services, but a substantial training effort will have to be undertaken in order to allow BAKOSURTANAL to expand its capacity. About half of the required training will be provided under the project and the other half is expected to be provided by foreign and local training programs financed under bilateral aid. In addition, BAKOSURTANAL would organize its own courses to train personnel to meet specific requirements. All of these activities, and the execution of the fellowship program to be financed by the project, would require effective coordination and, to this end, BAKOSURTANAL would appoint a qualified training officer within nine months of the date of the Loan Agreement (Section 3.08 of the Loan Agreement).

45. Although BAKOSURTANAL would increase its staff under its training and recruitment plans, the magnitude and complexity of the tasks to be performed under the project would require additional expertise in several highly specialized fields. The Dutch and Australian Governments are committed under their bilateral aid programs to provide experts in photogrammetry and cartography, geodesy and aerial photography. Provision for additional technical assistance for geodesy and aerial photography would be made under Part II of the proposed project to assist BAKOSURTANAL in the planning and coordination of the extensive survey components included in that portion of the project. The proposed Bank loan would finance a total of about 12 man-years of services of internationally recruited experts in the fields of resource survey, imagery analysis, orthophoto production, aeronautical charting, cartographic reproduction and data analysis. The resource survey expert would be responsible for advising the management of BAKOSURTANAL on the selection of other experts and would be appointed within six months of the date of the Loan Agreement (Section 3.02(b) of the Loan Agreement). BAKOSURTANAL would also engage a suitable firm to assist in carrying out the geodetic control and map production included in the project (Section 3.02(c) of the Loan Agreement).

46. The coordination between BAKOSURTANAL and other Government agencies would be ensured through a steering committee which has been established and is chaired by the Minister of State for Research. There would also be a technical committee, on which the departments concerned would be represented. The Chairman of BAKOSURTANAL would chair this technical committee. The capacity of the specialized agencies which will make use of the base maps produced under the project has been rapidly expanding in recent years, in some cases with substantial technical assistance provided by international and bilateral donors.

47. In the past, available mapping, imagery and survey materials were not distributed as widely as desirable. In order to ensure unrestricted access for all interested Government agencies and private organizations, firms and individuals performing work for the Government, the Government has agreed that all data, imagery, photography, and charts produced under the project would be made available to such agencies, firms and individuals (Section 4.03 of the Loan Agreement). A library to house all materials produced under the project would also be established.

48. The successful implementation of the major mapping and resource survey operations to be executed under the proposed project depends on the timely provision of aerial photography. As substantial delays in obtaining flight clearances have occasionally been encountered by foreign contractors performing aerial photography work on Government-supported projects, the Government has agreed that: (a) BAKOSURTANAL would be responsible for obtaining all clearances required to implement the project; and (b) the Government would ensure that such clearances are issued prior to the signing of aerial photography contracts financed by the proposed loan (Section 3.07 of and Schedule 4 to the Loan Agreement).

Project Cost and Financing

49. The total project costs are estimated at US\$46 million equivalent of which US\$32.2 million, or 70 percent, would be in foreign exchange. Physical contingencies of 15 percent have been allowed on all items, except technical assistance. For equipment, price contingencies are based on projected price increases of 10 percent in 1976, 8 percent in 1977-79 and 7 percent in 1980. For all other items and physical contingencies, prices are based on projected increases of 14 percent in 1976, 12 percent in 1977-79 and 10 percent in 1980. Price contingencies amount to 27 percent of total project costs.

50. The proposed Bank loan of US\$13 million would finance the full foreign exchange cost, or 50 percent of the total cost of Part I of the Project. The local costs of Part I, US\$13 million equivalent, would be covered by annual budget appropriations of the Government. To assure adequate funding during the start-up period, the Government has already formally allocated sufficient funds to BAKOSURTANAL to finance Part I through March 1977. Assurances were obtained at negotiations that, within two years of Loan signing, the Government would make definitive arrangements

satisfactory to the Bank for financing Part II of the Project (Section 3.09 of the Loan Agreement). The proposed loan would have a repayment term of twenty years, including six years of grace.

Procurement and Disbursement

51. Except as noted below, all components of the project to be financed by the Bank loan, including large-scale aerial photography (US\$3.1 million) and materials and equipment (US\$4.0 million) would be procured after international competitive bidding in accordance with Bank Group Guidelines. For equipment and materials, a preference of 15 percent or the level of customs duties, whichever is less, would be provided to qualified local manufacturers. Small off-the-shelf items, costing less than \$10,000 each, and limited to a total of \$200,000 would be purchased through normal Government procedures, which are satisfactory. In addition, some of the required equipment and materials (\$400,000) are highly specialized, patented or compatible with larger equipment systems, and are thus unsuitable for international competitive bidding. Such equipment, after the prior approval of the Bank, would be procured on the basis of prudent shopping procedures. The civil works contracts for headquarters building and facilities (US\$1.4 million) of BAKOSURTANAL would be awarded on the basis of international competitive bidding in accordance with Bank Guidelines. Qualified domestic contracting firms would be given a 7-1/2 percent preference in bid comparison. There are a number of local firms who could compete successfully for this contract.

52. For the provision of technical services, valued at US\$2.2 million, including the extension of geodetic control in Kalimantan, photographic processing and base-map production for Sumatera and Irian Jaya, qualified individual firms or consortia of firms would be selected, following procedures acceptable to the Bank.

53. The proposed loan would be disbursed for 100 percent of the foreign exchange cost of directly imported equipment and materials, 95 percent of the ex-factory cost of such items manufactured locally and 65 percent of the actual cost of imported but locally procured items. It would also be disbursed to cover foreign exchange costs of consultant services and overseas training. The loan would also be disbursed for 65 percent of the cost of civil works, 55 percent of the cost of large-scale photography and for 50 percent of the cost of technical services.

Benefits and Justification

54. The proposed project would make a substantial contribution to the economy of Indonesia by: (a) reducing the costs and delays incurred in the mapping and survey activities required for project preparation and specialized survey purposes; (b) improving the effectiveness of sectoral, regional, and environmental planning and policy-making; and (c) increasing the safety and efficiency of aviation and navigation. Since the mapping undertaken under the project would provide the basis for most other mapping

required for purposes of planning and project implementation and would establish geodetic control for the whole country, the benefits accruing to Indonesia through cost reductions in specialized mapping programs would be considerable. The regional resource surveys would improve the productivity of investment in agriculture, transmigration and land settlement, timber and mineral extraction and related transportation infrastructure, since investment efficiency in those sectors is particularly dependent on the accuracy and coverage of natural resource information. The costs of the proposed project on an annual basis represent less than 2 percent of current public investment in the benefitting sectors, and relatively small improvements in the productivity of these investments due to improved planning and information would alone be sufficient to justify the proposed project. The project can thus be regarded as a central element in the Government's efforts to expand the scope and productivity of its future investment programs.

55. The proposed project would improve the effectiveness of economic planning at all levels of Government. Sectoral planning in the resource-based fields would benefit from an expanded body of resource data derived from aerial photography, satellite imagery, and field surveys, as well as from an institutionalized capacity in BAKOSURTANAL to continuously update and refine the data base and to evaluate resource availabilities in economic terms. This data base and institutional capacity would also enable BAPPENAS, the National Development Planning Agency, to determine where conflicts between various sectoral programs exist, and to select alternatives which make the most effective use of available resources. The regional resource analyses and estimates of regional comparative advantage to be produced by BAKOSURTANAL would provide both BAPPENAS and local administrations with a firm technical basis for regional planning. Finally, the project would provide the information system necessary to monitor ecological developments and to devise policies to prevent environmental deterioration and resource waste.

PART V - LEGAL INSTRUMENTS AND AUTHORITY

56. The draft Loan Agreement between the Republic of Indonesia and the Bank, the recommendations of the Committee provided for in Article III, Section 4 (iii) of the Articles of Agreement of the Bank, and the text of a draft resolution approving the proposed loan are being distributed to the Executive Directors separately.

57. Features of the Loan Agreement of special interest are referred to in paragraphs 43, 44, 45, 47, 48 and 50 of this report.

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

PART VI - RECOMMENDATION

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

Robert S. McNamara
President

Washington, D.C.

January 15, 1976

ECONOMIC INDICATORS

	<u>GROSS NATIONAL PRODUCT IN 1974</u>		<u>ANNUAL RATE OF GROWTH (% , constant prices)</u>		
	<u>US\$ Mln.</u>	<u>%</u>	<u>1960 -65</u>	<u>1965 -70</u>	<u>1974</u>
GNP at Market Prices	22479	100.0	1.9	4.9	5.6
Gross Domestic Investment	4330	19.3	3.3	11.5	19.2
Gross National Saving	4336	19.3	5.8	5.1	64.8
Current Account Balance	6	0.0	.	.	.
Exports of Goods, NFS	6755	30.0	1.5	7.8	0.5
Imports of Goods, NFS	5527	24.6	0.2	10.9	33.2

OUTPUT, LABOR FORCE AND PRODUCTIVITY IN 1971

	<u>Value Added^{1/}</u>		<u>Labor Force^{2/}</u>		<u>V. A. Per Worker</u>	
	<u>US\$ Mln.</u>	<u>%</u>	<u>Mln.</u>	<u>%</u>	<u>US \$</u>	<u>%</u>
Agriculture	4221	44.8	30.5	69.0	138	65
Industry	1915	20.3	3.0	6.8	638	300
Services	3279	34.9	8.3	18.8	395	185
Unallocated	-	-	2.4	5.4	.	.
Total/Average	9415	100.0	44.2	100.0	213	100.0

GOVERNMENT FINANCE

	<u>Central Government</u>		
	<u>Rp Bln.</u>	<u>% of GDP</u>	
	<u>1974/75</u>	<u>1974</u>	<u>1973</u>
Current Receipts	1759	17.9	15.0
Current Expenditure	1001	10.2	10.8
Current Surplus	758	7.7	4.2
Capital Expenditures	966	9.8	7.3
External Assistance (net)	234	2.4	3.2

<u>MONEY, CREDIT and PRICES</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>
		<u>(Billion Rp. outstanding end period)</u>				<u>June</u>
Money and Quasi Money	330	469	695	987	1452	1776
Bank credit to Public Sector	57	129	58	37	- 2	- 29
Bank Credit to Private Sector	306	451	555	936	1126	1837

(Percentages or Index Numbers)

Money and Quasi Money as % of GDP	9.9	12.8	15.2	14.6	14.8
General Price Index(Sept. 1966=100)	612	638	680	891	1253
Annual percentage changes in:					
General Price Index	12.3	4.2	6.6	31.0	40.6
Bank credit to Public Sector	- 5.0	126.3	- 55.0	- 36.2	.
Bank credit to Private Sector	77.9	47.4	23.0	68.6	20.3

NOTE: All conversions to dollars in this table are at the average exchange rate prevailing during the period covered.

^{1/} Conversion at an exchange rate of Rp. 390 = US\$1.

^{2/} Total labor force; unemployed are allocated to sector of their normal occupation. "Unallocated" consists mainly of unemployed workers seeking their first job.

.. not available
. not applicable

TRADE PAYMENTS AND CAPITAL FLOWS

BALANCE OF PAYMENTS

	1972	1973	1974
	(Millions US \$) Est.		
Exports of Goods, NFS	1757	2957	6755
Imports of Goods, NFS	1875	3170	5527
Resource Gap (deficit = -)	-118	-213	1228
Interest Payments (net)	- 46	- 50	- 106
Workers' Remittances	-	-	-
Other Factor Payments (net)	- 318	- 543	-1116
Net Transfers	- 364	- 593	-1222
Balance on Current Account	= 482	= 806	+ 6
Direct Foreign Investment	258	290	471
Net MLT Borrowing			
Disbursements	447	624	1072
Amortization	- 70	- 138	231
Subtotal	377	486	841
Capital Grants
Other Capital (net)	181	208	- 628
Other items n.e.i	98	147	..
Increase in Reserves (+)	432	325	690
Gross Reserves (end year)	574	806	1473
Net Reserves (end year)	458	783	1473
Fuel and Related Materials			
Imports	4	4	4
of which: Petroleum	2	2	1
Exports	877	1348	4556
of which: Petroleum	877	1348	4556

MERCHANDISE EXPORTS (AVERAGE 1972-74)

	US \$ Min	%
Oil	2260	59.1
Rubber	359	9.4
Timber	513	13.4
Palm Oil	93	2.4
Min	104	2.7
Coffee	84	2.2
All other commodities	410	10.8
Total	3823	100.0

EXTERNAL DEBT, DECEMBER 31, 1974

	US \$ Min
Public Debt, incl. guaranteed	5854
Non-Guaranteed Private Debt	..
Total outstanding & Disbursed	..
DEBT SERVICE RATIO for 1974 ^{1/}	%
Public Debt, incl. guaranteed	7.7
Non-Guaranteed Private Debt	..
Total outstanding & Disbursed	..

IBRD/IDA LENDING, (Nov. 30, 1975) (Million US \$):

RATE OF EXCHANGE

Through July 1971
US \$ 1.00 = Rp. 375
1.00 = US \$ 0.0027

Since August 1971
US \$ 1.00 = Rp. 415
1.00 = US \$ 0.0024

	IBRD	IDA
Outstanding & Disbursed	40.9	293.0
Undisbursed	385.6	268.8
Outstanding incl. Undisbursed	426.5	561.8

1/ Ratio of Debt Service to Exports of Goods and Non-Factor Services, with oil exports net of factor payments and imports of the oil sector

.. not available .

.. not applicable

December 17, 1975

THE STATUS OF BANK GROUP OPERATIONS IN INDONESIA

A. STATEMENT OF BANK LOANS AND IDA CREDITS (as of November 30, 1975)

Loan/ Credit Number	Fiscal Year	Purpose	US\$ Million		
			Amount (less cancellation)		
			Bank	IDA	Undisbursed
Two credits fully disbursed				6.0	
127	1969	Irrigation Rehabilitation		5.0	0.1
154	1969	Highway		28.0	0.7
155	1969	Agricultural Estates		16.0	0.2
165	1970	Electricity Distribution		15.0	0.2
193	1970	PUSRI Fertilizer		35.0	0.5
194	1970	Second Agricultural Estates		17.0	2.8
195	1970	Second Irrigation Rehabilitation		18.5	2.2
210	1971	Telecommunications Expansion		12.8	0.8
211	1971	Fisheries		3.5	0.6
219	1971	Education		4.6	0.9
220	1971	Third Irrigation Rehabilitation		14.5	2.5
246	1971	Seeds		7.5	2.8
259	1971	Tea		15.0	4.6
260	1971	Second Highway		34.0	6.7
275	1972	Third Technical Assistance		4.0	1.2
288	1972	Second Education		6.3	5.6
289	1972	Fourth Irrigation Rehabilitation		12.5	2.9
300	1972	Population		13.2	8.6
310	1972	Development Finance Co. (BAPINDO I)		10.0	1.7
318	1972	Inter-Island Fleet Rehabilitation		8.5	5.0
319	1972	Fourth Agricultural Estates		11.0	6.9
334	1972	Second Electricity Distribution		40.0	18.4
355	1973	Beef Cattle Development		3.6	2.9
358	1973	North Sumatera Smallholder Development		5.0	3.3
387	1973	Third Education		13.5	12.8
388	1973	Third Highway		14.0	8.3
399	1973	West Java Thermal Power		46.0	41.1
400	1973	Smallholder and Private Estate Tea		7.8	7.4
405	1973	Sugar Industry Rehabilitation		50.0	36.2
428	1974	Pulo Gadung Industrial Estate		16.5	15.4
436	1974	Private Development Finance Co. (PDFCI)		10.0	10.0
451	1974	Fourth Technical Assistance		5.0	4.4
479	1974	Bali Tourism		16.0	15.4
480	1974	Fisheries Credit		6.5	6.3
514	1974	Jatiluhur Irrigation Extension		30.0	29.6

(Continued)

Loan/ Credit Number	Fiscal Year	Purpose	US\$ Million		
			Amount (less cancellation)		
			Bank	IDA	Undisbursed
1005	1974	Railway	48.0		47.3
1040	1975	Jakarta Urban Development	25.0		20.2
1049	1975	Five Cities Water Supply	14.5		13.7
1054	1975	Development Finance Co. (BAPINDO II)	50.0		48.6
1089	1975	Second Fertilizer Expansion	115.0		81.8
1100	1975	Sixth Irrigation	65.0		65.0
1127	1975	Fourth Power	41.0		41.0
1139	1976	Fertilizer Distribution	68.0		68.0
			426.5/a	561.8	654.4

/a In addition a Loan (1179-IND) of \$21.5 million for the Agricultural Research and Extension Project was signed on December 19, 1975.

A. STATEMENT OF BANK LOANS AND IDA CREDITS (as of November 30, 1975)

	US\$ Million		
	Amount (less cancellations)		
	Bank	IDA	Undisbursed
Total	426.5	561.8	654.4
Total now outstanding	426.5	61.8	654.4
Amount sold	0.1		
of which has been repaid	0.0	0.1	
Total now held by Bank and IDA (prior to exchange adjustment)	426.4	561.8	
Total undisbursed	385.6	268.8	654.4

STATEMENT OF IFC INVESTMENTS (as of November 30, 1975)

<u>Fiscal Year</u>	<u>Obligor</u>	<u>Type of Business</u>	<u>US\$ million</u>		
			<u>Loan</u>	<u>Equity</u>	<u>Total</u>
1971	P.T. Semen Cibinong	Cement	10.6	2.5	13.1
1971	P.T. Unitex	Textiles	2.5	0.8	3.3
1971	P.T. Primatexco Indonesia	Textiles	2.0	0.5	2.5
1971	P.T. Kabel Indonesia	Cables	2.8	0.4	3.2
1972	P.T. Daralon Textile Manuf. Corp.	Textiles	4.5	1.5	6.0
1973	P.T. Jakarta Int. Hotel	Tourism	11.0	-	11.0
1973	P.T. Semen Cibinong	Cement	5.4	0.7	6.1
1974	P.T. Primatexco Indonesia	Textiles	2.0	0.3	2.3
1974	P.T. Monsanto Pan Electronics	Electronics	0.9	-	0.9
1974	P.T. PDFCI	Devlp. Fin. Co.	-	0.5	0.5
1974	P.T. Kamaltex	Textiles	2.4	0.6	3.0
1974	P.T. Semen Cibinong	Cement	<u>5.0</u>	<u>1.5</u>	<u>6.5</u>
		Total	49.1	9.3	58.4
		Less: sold or repaid and cancelled	19.9	1.4	21.3
		Total now held	29.2	7.9	37.1
		<u>Undisbursed</u>			
		(including parti- cipant's portion)	6.1	1.1	7.2

PROJECTS IN EXECUTION 1/

Cr. No. 127: Irrigation Rehabilitation: US\$5 Million Credit of September 6, 1968: Effective Date: March 25, 1969: Closing Date: December 31, 1976.

It is expected that all civil works will be completed by March 1976. Additional drainage work will be carried out under Loan 1100-IND and tertiary development under the proposed Irrigation VII Project. The closing date has been postponed by one year to allow for payment of late accounts. The adequacy and timeliness of operation and maintenance of completed irrigation rehabilitation projects is presently under discussion with the Government.

Cr. No. 154: Highways: US\$28 Million Credit of June 20, 1969; Effective Date: October 2, 1969; Closing Date: December 31, 1975.

Rehabilitation work, of acceptable quality, has been completed. The work accomplished exceeded the project's original target. The program for improved highway maintenance included in the project has been largely completed. Orders have been placed for remaining equipment purchases.

Cr. No. 155: Agricultural Estates: US\$16 Million Credit of June 20, 1969; Effective Date: December 10, 1969; Closing Date: December 31, 1976.

With improvements in management and much higher international prices, particularly for palm oil, prevailing in 1974, the financial position of the estate groups has improved. The field and factory standards have now been raised to a good technical level and the managements have been advised to concentrate on cost control in order to prepare for the time when produce prices may become less attractive. The combined efforts of the management, consultants and IDA missions to review project implementation are yielding good results. The closing date has been postponed to December 31, 1976 to enable payment to consultants for services for other rubber estates.

1/ 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.

Cr. No. 165: Electricity Distribution: US\$15 Million Credit of
October 29, 1969; Effective Date: June 1, 1970;
Closing Date: December 31, 1975.

See comment on Credit No. 334. The closing date, which had already been postponed by 18 months, has been postponed by another six months to December 31, 1975, to allow for payment of small amounts outstanding.

Cr. No. 193: PUSRI Fertilizer: US\$35 Million Credit of June 15,
1970 (as amended May 21, 1973); Effective Date:
January 15, 1971; Closing Date: December 31, 1976.

The urea plant has successfully passed its performance test and is operating at close to rated capacity. The gas gathering and transmission system is also completed and sufficient gas is being delivered to the plant. The closing date has been postponed to December 31, 1976 to allow for delivery and installation of remaining equipment.

Cr. No. 194: Second Agricultural Estates: US\$17 Million Credit of
June 15, 1970; Effective Date: February 9, 1972;
Closing Date: June 30, 1976.

After initial delays, there have been considerable improvements in management and these, combined with high prices, particularly for palm oil, have resulted in the two estate groups being put in a much stronger financial position. On the rubber group (PNP IV) more effort is necessary to improve agricultural standards and tapping methods. With the rapid expansion of investment of the palm oil group (PNP VI), there is a need to employ expertise in financial planning, control and management, which are now the main constraints to efficient development. This estate group is undertaking action in this respect. The closing date has been postponed by one year to allow payment for remaining equipment, civil works and consultants' contracts.

Cr. No. 195: Second Irrigation Rehabilitation: US\$18.5 Million Credit
of June 15, 1970; Effective Date: December 31, 1970;
Closing Date: November 30, 1976.

Problems of quality and progress of construction still exist, but the project entity assisted by the consultants are tackling these vigorously, and the situation is improving, although not sufficiently to make up for earlier delays. Costs are likely to be double the overall appraisal estimate, due to inflation, but the Government will provide any additional funds required. Completion of disbursements will be about two years behind the original schedule.

Cr. No. 210: Telecommunications Expansion: US\$12.8 Million Credit of July 13, 1970; Effective Date: February 18 1971; Closing Date: June 30, 1976.

Contracts for all equipment have been awarded. The physical work has been substantially completed. The troposcatter system and the telex installation, which had been delayed, will be completed by December 1975. Although Government has increased tariffs, PERUMTEL's financial results are not satisfactory and a review of its financial position is required. The closing date, which had been postponed by 18 months due to delays in the delivery of goods, has been postponed by another six months to allow for payments of outstanding contracts.

Cr. No. 211: Fisheries: US\$3.5 Million Credit of July 13, 1970; Effective Date: January 15, 1971; Closing Date: June 30, 1976.

The credit helps finance the construction of 30 fully equipped skipjack boats, auxiliary facilities and technical assistance. The project is about 18 months behind the original schedule due to delays in making satisfactory arrangements for the consultants and in executing the contracts for the shore facilities. No further delay is anticipated. There has been very substantial project cost increases. Because of the greatly increased skipjack prices, however, the project is still expected to be financially viable. Strengthening of project management and additional local fund allocations are presently under discussion with Government.

Cr. No. 219: Education: US\$4.6 Million Credit of November 6, 1970; Effective Date: January 29, 1971; Closing Date: December 31, 1976.

Project implementation in the Department of Education is satisfactory. Civil works for the five Technical Training Centers (TTCs) have been completed. About 90 percent of the equipment has been purchased and about 60 percent delivered and installed. All TTCs will operate at full capacity by January 1976 when the new academic year begins. Over 500 technical teachers have completed or are about to complete their training. Technical assistance financed by the U.K. for the project is also satisfactory. Disbursement has improved considerably. Revised total project cost is now about 40 percent above appraisal estimate. The Government will finance the cost overrun. The project is expected to be completed about three months ahead of schedule.

Cr. No. 220: Third Irrigation Rehabilitation: US\$14.5 Million Credit of November , 1970; Effective Date: May 28, 1971; Closing Date: June 30, 1977.

Construction remains about two to three years behind schedule partly because of problems with preparation of contract documents and subsequently due to inflation. These problems have now been mostly overcome and no further delays are expected. It is unlikely, however,

that the time lost could be regained. The closing date has been postponed by 18 months as a result of the project delay. There has been a considerable increase in overall project costs, which is being met by the Government.

Cr. No. 246: Seeds: US\$7.5 Million Credit of May 19, 1971;
Effective Date: December 7, 1971; Closing Date:
September 30, 1977.

The project is very much behind schedule as a result of delays in completing irrigation infrastructure and land development needed for mechanized rice cultivation. Construction of the seed processing plant is also behind schedule and serious cost overruns have occurred. Closely associated with the delays are technical and managerial problems. The last supervision mission undertook in December 1975, a project review and will shortly make recommendations to improve project performance.

Cr. No. 259: Tea: US\$15 Million Credit of June 24, 1971; Effective
Date: September 17, 1971; Closing Date: June 30, 1978.

Agricultural achievements to date have far exceeded appraisal expectations necessitating construction and rehabilitation of three additional factories. Project completion, estimated for December 1977, can probably be advanced by up to one year. Rising costs are creating pressure on available funds and the main challenge for the two PTP's will be to reduce working capital requirements, as well as overhead and indirect costs, and improve labor productivity.

Cr. No. 260: Second Highway: US\$34 Million Credit of June 24, 1971;
Effective Date: August 10, 1971; Closing Date:
December 31, 1976.

All construction work is now satisfactorily under way. However, the delay caused initially by slow progress in mobilizing contractors, difficulties in equipment delivery, heavy rains and landslides will result in the project being completed about one year behind schedule. The closing date has therefore been postponed to December 31, 1976. Design standards for the road sections have been slightly lowered and some savings will be achieved, which, together with other savings are expected to partly offset construction cost increases.

Cr. No. 275: Third Technical Assistance: US\$4.0 Million Credit of
December 29, 1971; Effective Date: February 25,
1972; Closing Date: December 31, 1976.

Progress on this project is satisfactory. The closing date has been postponed by another year to complete disbursements for ongoing studies.

Cr. No. 288: Second Education: US\$6.3 Million Credit of March 9, 1972; Effective Date: June 7, 1972; Closing Date: December 31, 1976.

This agricultural training project, being implemented by the Department of Agriculture, is about 16 months delayed because of late appointment of consultant architects, lack of counterpart funds, delays in bid analysis and in awarding contracts. As a result, civil works, which were to be completed already, have not commenced. Furniture and equipment procurement have therefore been deferred. Unlike the physical aspects of the project, the educational aspects are generally on schedule. Total project costs are now estimated to be 90 percent higher than the original estimate. Government has budgeted for the cost overrun. Disbursement, which has been slow, should improve since civil works contracts have now been awarded.

Cr. No. 289: Fourth Irrigation Rehabilitation: US\$12.5 Million Credit of March 9, 1972; Effective Date: May 5, 1972; Closing Date: June 30, 1977.

Civil Works and equipment purchases for the main project, Pekalen-Sampean, are proceeding but completion of civil works will be about two years behind schedule. Due to inflation, project costs are likely to be substantially higher than appraisal estimates. Consultants for the various studies are at work with their counterparts. Groundwater investigations have been delayed due to procurement difficulties. The rehabilitation and storage feasibility studies are on schedule. Disbursements are also on schedule.

Cr. No. 300: Population: US\$13.2 Million Credit of April 20, 1972; Effective Date: November 2, 1972; Closing Date: June 30, 1978.

Progress of this project is generally satisfactory. Steps are being taken to improve preparation and implementation of project components concerned with communications, research and evaluation. All vehicles have been procured and good progress is being made with equipment procurement. The civil works section of the Project Implementation Unit functions well but is underutilized because of delays in making policy decisions. Construction costs will exceed appraisal estimates by 135 percent. Population Education is now being introduced into school curricula after a successful trial. Despite its limitations, the national family planning program, of which the project is an integral part, is expanding annually.

Cr. No. 310: Development Finance Co. (BAPINDO I): US\$10 Million Credit of June 7, 1972; Effective Date: August 10, 1972; Closing Date: December 31, 1976.

This credit is fully committed.

Cr. No. 318: Inter-Island Fleet Rehabilitation: US\$8.5 Million Credit of June 28, 1972; Effective Date: October 19, 1972; Closing Date: September 30, 1976.

Progress on this project is generally satisfactory.

Cr. No. 319: Fourth Agricultural Estates: US\$11 Million Credit of June 28, 1972; Effective date: January 30, 1973; Closing Date: June 30, 1981.

The physical progress of the project is ahead of the appraisal schedule. The financial position of the estate group is difficult due to unsatisfactory debt/equity ratios. Measures to improve the situation are under review.

Cr. No. 334: Second Electricity Distribution: US\$40 Million Credit of September 29, 1972; Effective Date: March 12, 1973; Closing Date: December 31, 1976.

The Jakarta distribution program financed from Credits 165-IND and 334-IND (together \$55 million) has encountered substantial foreign cost increases (\$7.0 million) and implementation delays due to procurement problems and cumbersome management procedures. As a result the project is two years behind the original schedule. Many of these difficulties have been resolved and recent progress is encouraging. No further delays are therefore expected.

Cr. No 355: Beef Cattle Development: US\$3.6 Million Credit of January 31, 1973; Effective Date: May 30, 1973; Closing Date: March 31, 1980.

Several problems have seriously delayed project implementation. Land acquisition and procurement of cattle and goods have been problematic, Government's budget allocation has been insufficient and financial management and coordination have been weak. The last supervision mission undertook a thorough project review and its recommendations, which include major changes in project scope and objectives, are presently under discussion with Government.

Cr. No. 358: North Sumatera Smallholder Development: US\$5 Million Credit of February 14, 1973; Effective Date: August 13, 1973; Closing Date, December 31, 1981.

Project performance, which had suffered from severe financial and organizational difficulties, has improved greatly. Physical progress is encouraging; rubber planting and rice intercropping are now on schedule. There is some room for improvement in financial management, in which consultants are assisting. Total project costs are now estimated at about three times the original estimate of US\$10 million. Disbursements are expected to be completed ahead of schedule.

Cr. No. 387: Third Education: US\$13.5 Million Credit of June 1, 1973; Effective Date: August 29, 1973; Closing Date: December 31, 1981.

The project is about 10 months behind schedule, mainly due to insufficient top management staff and paper shortages last year. The paper shortage has been overcome and about 32 million text books will be printed by January 1976, about four months behind schedule. Steps are being taken to strengthen project management and to improve arrangements for expert services. Measures to improve project implementation have been discussed and agreed with the Government. The book testing and teacher training programs are on schedule, but their results have not yet been evaluated. Procurement of instructional equipment will be completed by early 1976.

Cr. No. 388: Third Highways: US\$14 Million Credit of June 1, 1973; Effective Date: June 25, 1973; Closing Date: June 30, 1977.

Construction bidding and consultant selection have been completed and construction is underway. Some cost increases, due to inflation, are expected.

Cr. No. 399: West Java Thermal Power: US\$46 Million Credit of June 22, 1973; Effective Date: August 28, 1973; Closing Date: June 30, 1978.

Bids received for the first two 100 mw units at Muara Karang were about 65 percent higher than estimated at the time of appraisal. This, together with construction cost increases, has resulted in an increase in the total project cost of more than 100 percent. Arrangements to finance these cost overruns are presently being worked out. PLN has satisfactorily met the initial targets in its financial recovery plan provided for under the terms of the Credit Agreement.

Cr. No. 400: Smallholder and Private Estate Tea: US\$7.8 Million Credit of June 22, 1973; Effective Date: November 30, 1973; Closing Date: March 31, 1982.

Planting is presently slightly behind schedule but it is expected that targets will be achieved or even exceeded by the end of the 1975/76 planting season. Project nurseries are well organized and field work is proceeding well. Also non-participating farmers have benefitted from the project. Total project costs are estimated to be double the amount originally envisaged and project management is attempting to achieve cost reductions. Due to the high prices for tea (about twice the level expected at the time of appraisal), the economic rate of return is still satisfactory.

Cr. No. 405: Sugar Industry Rehabilitation: US\$50 Million Credit of June 26, 1973; Effective Date: April 22, 1974; Closing Date: June 30, 1979.

Most equipment contracts for the major factory re-habilitation have now been let. In light of the substantial cost overruns the Government has proposed that the scope of the project be reduced. This proposal is presently being considered.

Cr. No. 428: Pulo Gadung Industrial Estate: US\$16.5 Million Credit of September 14, 1973; Effective Date: November 13, 1973; Closing Date: December 31, 1978.

Despite an increase in construction costs, the project remains financially viable because revenues from the sale of plots has risen proportionately. Construction has fallen behind schedule due to land acquisition problems, but developed land is being occupied as fast as it is made available. While there is still a backlog of applications for industrial plots, the rate of new applications has fallen off during recent months and the estate is intensifying its promotional efforts.

Cr. No. 436: Private Development Finance Company of Indonesia (PDFCI): US\$10 Million Credit of November 2, 1973; Effective Date: March 6, 1974; Closing Date: December 31, 1978.

After a long start-up period and difficulties in finding and recruiting qualified local staff, PDFCI has now reached the operating stage. Commitments have started and are expected to increase rapidly as PDFCI's own operational capability improves.

Cr. No. 451: Fourth Technical Assistance: US\$5 Million Credit of January 2, 1974; Effective Date: February 15, 1974; Closing Date: December 31, 1976.

Progress under the project is satisfactory.

Cr. No. 479: Bali Tourism: US\$16.0 Million Credit of June 14, 1974; Effective Date: December 4, 1974; Closing Date: August 31, 1979.

Project implementation has improved after initial difficulties. Designs for various project components have been completed and construction will start in April 1976. Negotiations with hotel investors will be finalized soon. Project organization and management envisaged in the Credit Agreement have been modified and design changes aimed at achieving cost reductions have been made in the roads component.

Cr. No. 480: Fisheries Credit: US\$6.5 Million Credit of June 14, 1974; Effective Date: January 8, 1975; Closing Date: June 30, 1979.

After initial delays in project organization and preparation by Bank Rakyat Indonesia (BRI), the project is progressing well. Physical progress is encouraging and lending has started in October. Disbursements are therefore expected to be on schedule soon.

Cr. No. 514: Jatiluhur Irrigation Extension: US\$30 Million Credit of October 3, 1974; Effective Date: January 10, 1975; Closing Date: December 31, 1980.

The consultants are designing works and preparing contract documents. The first civil works contract is expected to be let in May 1976, about nine months behind the original schedule.

Loan No. 1005: Railway: US\$48.0 Million Loan of June 14, 1974; Effective Date: August 16, 1974; Closing Date: December 31, 1978.

Procurement of material and equipment, which had been slow due to poor organization and inadequate budget allocation, has now improved. Bids have been received for most items and the bulk of the contracts should be signed soon. Passenger traffic in 1975 is slightly lower than in 1974, but still higher than forecast; freight traffic has continued to decline due mainly to poor maintenance and inadequate motive power, which should improve towards the end of 1976. Although tariffs were raised in May 1975, increasing passenger revenues by about 25 percent and freight revenues by about 10 percent, the operating ratio is likely to deteriorate further, as operating costs have continued to rise at a faster rate.

Loan No. 1040: Jakarta Urban Development: US\$25 Million Loan of September 27, 1974; Effective Date: January 15, 1975; Closing Date: December 31, 1977.

Progress on the Kampung Improvement Program has been very encouraging and costs are less than estimated, allowing additional work to be undertaken. The designs for the Klender Sites and Services Scheme have been completed. Implementation of most technical assistance components of the project will commence early in 1976. The Bank and the Government are discussing possibilities to finance the shortfall in funds for technical assistance, which was caused by the unavailability of expected bilateral aid.

Loan No. 1049: Five Cities Water Supply: US\$14.5 Million Loan of October 31, 1974; Effective Date: May 21, 1975; Closing Date: June 30, 1980.

The project is about 8-10 months behind schedule due to administrative and managerial problems. Project costs are expected to exceed the appraisal estimates by 20-25 percent. Water Enterprises have now been established in each of the five cities and good progress has been made in their staffing. The legal steps necessary to clarify the relationship between these enterprises and the Department concerned of the central government are being taken.

Loan No. 1054: Development Finance Co. (BAPINDO II): US\$50 Million
Loan of November 20, 1974; Effective Date: January 14,
1975; Closing Date: December 31, 1976.

Commitments and disbursements initially were slower than expected, but they should increase in the second half of FY76. The progress of this project is satisfactory.

Loan No. 1089: Second Fertilizer Expansion: US\$115 Million Loan of
February 28, 1975; Effective Date: April 29, 1975;
Closing Date: August 31, 1978.

Work on the project is proceeding satisfactorily. A potential problem is the availability of gas supplies when the plant comes into full operation.

Loan No. 1100: Sixth Irrigation: US\$65 Million Loan of April 10,
1975; Effective Date: June 20, 1975; Closing Date:
June 30, 1982.

Due to delays in preparation, consultants will commence work in January 1976, about four months behind schedule.

Loan No. 1127: Fourth Power: US\$41 Million Loan of June 17, 1975;
Effective Date: October 23, 1975; Closing Date:
June 30, 1980.

This loan became effective October 23, 1975.

Loan No. 1139: Fertilizer Distribution: US\$68 Million Loan of
July 10, 1975; Effective Date: August 28, 1975;
Closing Date: December 31, 1978.

Progress of design and tendering is satisfactory.

Loan No. 1179: Agricultural Research and Extension: US\$21.5 Million
Loan of December 19, 1975; Closing Date:
December 31, 1981.

This loan is expected to become effective by March 18, 1976.

INDONESIA: NATIONAL RESOURCE
SURVEY AND MAPPING PROJECT
LOAN AND PROJECT SUMMARY

Borrower: Republic of Indonesia.

Beneficiary: BAKOSURTANAL, the National Coordinating Agency for Resource Survey and Mapping.

Amount: US\$13 million equivalent in various currencies.

Terms: Twenty years, including six years of grace, at an interest rate of 8-1/2 percent per annum.

Project Description: Main project components are the following; Part I of the Project being items (a) through (g) and Part II items (h) through (j):

- (a) Construction of headquarters for BAKOSURTANAL at Cibineng, including suitable facilities for printing and cartographic shops and photographic laboratories;
- (b) Procurement of cartographic, printing, imagery interpretation, and other equipment required for both map production and reconnaissance resource evaluation;
- (c) Procurement of remote sensor imagery, including earth satellite output;
- (d) Aerial photography at scales of 1:50,000 and above, of approximately 300,000 km² to support detailed mapping of specific areas for project planning and chartering purposes;
- (e) Technical services to be executed by survey firms, including geodetic control, photo processing and reproduction, and contract map production for delimited areas;
- (f) Engagement of individual experts to provide technical assistance to BAKOSURTANAL in geodesy, aerial photography, cartography, printing processes and resource evaluation.
- (g) Training in the country and overseas of BAKOSURTANAL's senior technical professional staff, and training in the country of staff technicians;

- (h) Aerial photography at a scale of 1:100,000 of approximately 950,000 km²;
- (i) Extension throughout Indonesia of the primary, secondary and tertiary geodetic control network to density required for 1:50,000 scale mapping; and
- (j) Aerial triangulation of all areas flown.

Project Costs:

A breakdown of project costs is summarized below:

	<u>Local</u>	<u>Foreign</u>	<u>Total</u>
	-----US\$ million-----		
A) Part I Components:			
Building and Facilities	0.9	0.7	1.6
Equipment and Materials	1.0	2.7	3.7
Remote Sensor Imagery	-	0.3	0.3
Large-Scale Aerial Photography	1.4	1.7	3.1
Technical Services	1.1	1.1	2.2
Technical Assistance	0.1	0.9	1.0
Training	0.2	0.6	0.8
Regional Resource Surveys	2.2	0.4	2.6
Administration and Overheads	<u>1.2</u>	<u>0.2</u>	<u>1.4</u>
Base Cost Estimate	8.1	8.6	16.7
Physical Contingencies	1.2	1.1	2.3
Expected Price Increases	<u>3.7</u>	<u>3.3</u>	<u>7.0</u>
Sub-Total	13.0	13.0	26.0
B) Part II Components:			
Small Scale Aerial Photography	0.2	7.1	7.3
Geodetic Control	0.2	4.0	4.2
Aerial Triangulation	-	0.3	0.3
Technical Assistance	0.1	0.3	0.4
Training	<u>-</u>	<u>0.5</u>	<u>0.5</u>
Base Cost Estimate	0.5	12.2	12.7
Physical Contingencies	0.1	1.9	2.0
Expected Price Increases	<u>0.2</u>	<u>5.1</u>	<u>5.3</u>
Sub-Total	0.8	19.2	20.0
Total Project Cost	<u>13.8</u>	<u>32.2</u>	<u>46.0</u>

Financing Plan: Financing of the project will be as follows:

	(US\$ Million)		
	<u>Local Costs</u>	<u>Foreign Exchange</u>	<u>Total</u>
Bank	-	13.0	13.0
Government	<u>13.7</u>	<u>19.2</u>	<u>32.9</u>
Total	13.7	32.2	45.9

Estimated Disbursements:

	(US\$ Million)						
	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>Total</u>
Bank FY							
Annual	0.3	2.9	4.7	2.9	2.1	0.1	13.0
Cumulative	0.3	3.2	7.9	10.8	12.9	13.0	

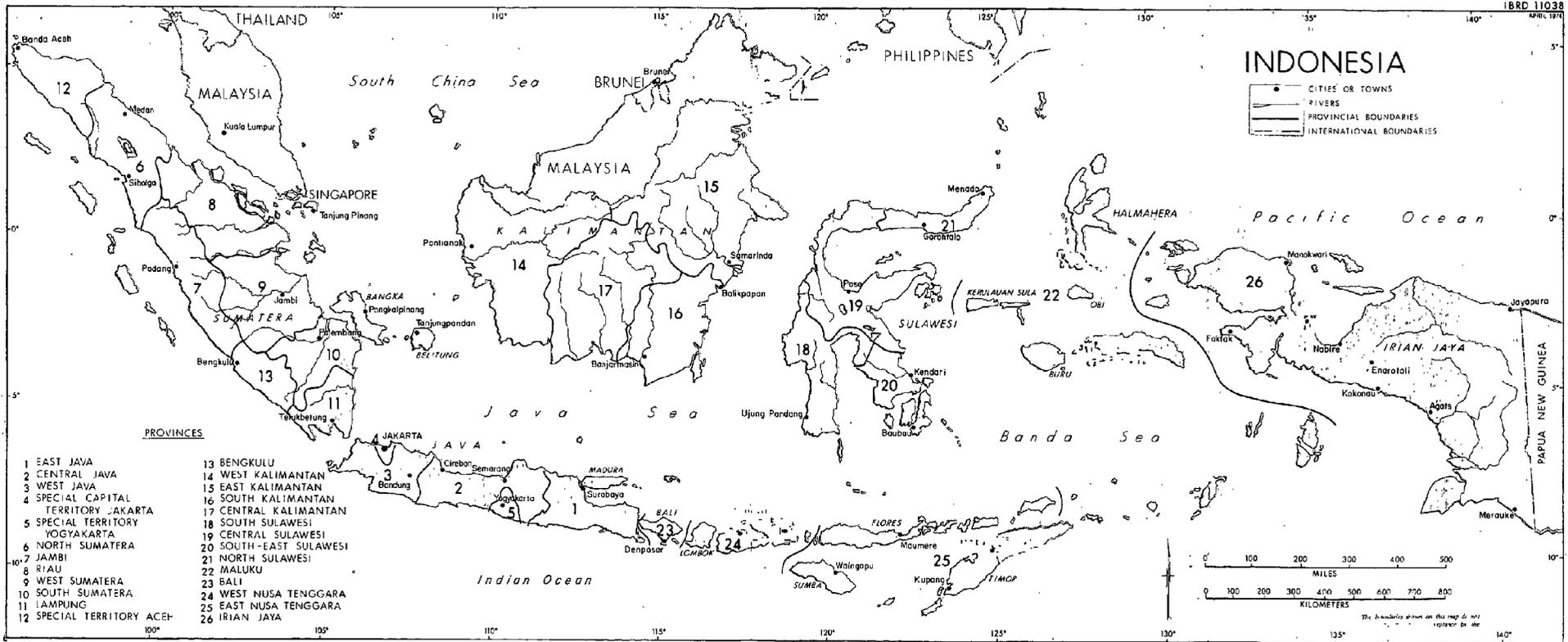
Procurement: Except as noted below, all components of the project to be financed by the Bank loan, including large-scale aerial photography (US\$4.0 million) would be procured after international competitive bidding in accordance with Bank Group Guidelines. For equipment and materials a preference of 15 percent or the level of custom duties, whichever is less, would be provided to qualified local manufacturers. Small off-the-shelf items, costing less than \$10,000 each, and limited to a total of \$200 would be purchased through normal Government procedures, which are satisfactory. In addition, some of the required equipment and materials (\$400,000) are high specialized, patented or compatible with larger equipment systems, and thus unsuitable for international competitive bidding. Such equipment, after the prior approval of the Bank, would be procured on the basis of prudent shopping procedures. The civil works contracts for headquarters building and facilities (US\$1.4 million) of BAKOSURTANAL would be given a 7-1/2 percent preference in bid comparison. There are a number of local firms who could compete successfully for this contract.

For the provision of technical services, valued at US\$2.2 million, including the extension of geodetic control in Kalimantan, photographic processing and base-map production for Sumatera and Irian Jaya, qualified individual firms or consortia of firms would be selected, following procedures acceptable to the Bank.

Technical Assistance: BAKOSURTANAL would engage internationally recruited experts in the fields of imagery analysis, orthophoto production, aeronautical charting, cartographic reproduction, data handling and resource survey (ten man-years). In addition, specialist services for two man-years to meet short-term needs of BAKOSURTANAL would also be financed by the proposed Bank Loan.

Rate of Return: Not applicable.

Appraisal Report: Report No. 689a-IND, dated January 15, 1976.
East Asia and Pacific Projects Department



INDONESIA

- CITIES OR TOWNS
- RIVERS
- PROVINCIAL BOUNDARIES
- INTERNATIONAL BOUNDARIES

PROVINCES

- | | |
|-------------------------------------|------------------------|
| 1 EAST JAVA | 13 BENGKULU |
| 2 CENTRAL JAVA | 14 WEST KALIMANTAN |
| 3 WEST JAVA | 15 EAST KALIMANTAN |
| 4 SPECIAL CAPITAL TERRITORY JAKARTA | 16 SOUTH KALIMANTAN |
| 5 SPECIAL TERRITORY YOGYAKARTA | 17 CENTRAL KALIMANTAN |
| 6 NORTH SUMATERA | 18 SOUTH SULAWESI |
| 7 JAMBI | 19 CENTRAL SULAWESI |
| 8 RIAU | 20 SOUTH-EAST SULAWESI |
| 9 WEST SUMATERA | 21 NORTH SULAWESI |
| 10 SOUTH SUMATERA | 22 MALUKU |
| 11 LAMPUNG | 23 BALI |
| 12 SPECIAL TERRITORY ACEH | 24 WEST NUSA TENGGARA |
| | 25 EAST NUSA TENGGARA |
| | 26 IRIAN JAYA |