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DEPARTMENT OF STATE
AGENCY FOR INTERNATIONAL DEVELOPMENT
Washington, D.C. 20523

CAPITAL ASSISTANCE PAPER

Proposal and Recommendations
For the Review of the
Development Loan Committee

INDONESIA - Sederhana (Simple) Irrigation and Land Development Project

ANNEXES

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SEDERHANA (SIMPLE) IRRIGATION AND LAND DEVELOPMENT PROGRAM

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STATUTORY CHECKLIST

I. FULFILLMENT OF STATUTORY OBJECTIVES

A. Needs Which the Loan is Addressing

1. FAA Section 103. Discuss the extent to which the loan will alleviate starvation, hunger and malnutrition, and will provide basic services to poor people enhancing their capacity for self-help.	Two of the three interrelated purposes of the Project are increased rice production and increased well-being of the rural poor. The well-being of the rural poor will be increased through increasing farmer incomes and employment opportunities in sub-project areas. Achievement of these objectives will decrease hunger and malnutrition enhancing the capacity of the rural poor for self-help.
2. FAA Section 104. Discuss the extent to which the loan will increase the opportunities and motivation for family planning; will reduce the rate of population growth; will prevent and combat disease; and will help provide health services for the great majority of the population.	Not applicable.
3. FAA Section 105. Discuss the extent to which the loan will reduce illiteracy, extend basic education, and increase manpower training in skills related to development.	Not applicable.
4. FAA Section 106. Discuss the extent to which the loan will help solve economic and social development problems in fields such as transportation, power, industry, urban development, and export development.	Not applicable.

5. FAA Section 107. Discuss the extent to which the loan will support the general economy of the recipient country; or will support development programs conducted by private or international organizations.	Not applicable.

B. Use of Loan Funds

1. FAA Section 110. What assurances have been made or will be made that the recipient country will provide at least 25% of the costs of the entire program, project or activity with respect to which such assistance is to be furnished under Sections 103-107 of the FAA?	The GOI will give its assurance by signing a loan agreement with such a provision therein. The GOI will contribute $31.7 million of the estimated $59.2 million total cost of the Project which constitutes more than 25%.
2. FAA Section 111. Discuss the extent to which the loan will strengthen the participation of the urban and rural poor in their country's development, and will assist in the development of cooperatives which will enable and encourage greater numbers of poor people to help themselves toward a better life.	The Project will provide assistance in the development of water user associations in subproject areas, local institutions in which small farmers participate in development.
3. FAA Section 112. Will any part of the loan be used to conduct any police training or related program (other than assistance rendered under Section 515(c) of the Omnibus Crime Control and Safe Streets Act of 1968 or with respect to any authority of the Drug Enforcement Administration or the FBI) in a foreign country?	No.
4. FAA Section 113. Describe the extent to which the programs, projects or activities to be financed under the loan give particular attention to the integration of women into the national economy of the recipient country.	As an important part of farm families, women will share in Project benefits. Since women do a larger percentage of the work involved in dependably irrigated rice production than in rainfed rice production, agricultural employment opportunities for women will increase more than proportionately.

5. FAA Section 114. Will any part of the loan be used to pay for the performance of abortions as a method of family planning or to motivate or coerce any person to practice abortions? — No.

II. COUNTRY PERFORMANCE

A. Progress Towards Country Goals

1. FAA §§ 201(b)(5), 201(b)(7), 201(b)(8), 208. Discuss the extent to which the country is:

(a) Making appropriate efforts to increase food production and improve means for food storage and distribution.	Indonesia is giving priority attention to projects which aim at increasing food production, particularly rice. There are currently 100-110 donor-supported technical and capital assistance projects in support of food production. The majority of the above projects are directly concerned with increasing food production, and improved food storage, distribution and marketing.
(b) Creating a favorable climate for foreign and domestic private enterprise and investment.	The GOI enacted a comprehensive law with built-in incentives for encouraging foreign capital investment and has concluded an Investment Guaranty Agreement with the US. Under the foreign investment law tax credits of up to 5 years may be obtained for new investment in plant and facilities, subject to negotiation.
(c) Increasing the people's role in the development process.	Although the Government owns a majority of the large enterprises in the country, it is actively encouraging private domestic investment, Officials of State Enterprises are receiving more freedom in management and some State Enterprises are being converted to semi-private corporations. National elections were carried out in July 1971 and Parliament has a part in the budgetary process inasmuch as the annual budget must be authorized by Parliament and expenditures reported in the "Annual Report of Budgetary Accounts".

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(d) Allocating expenditures to development rather than to unnecessary military purposes or to intervention in other free countries' affairs.	With the ending of confrontation with Malaysia in 1966, the Soeharto Administration reversed the foreign intervention policy of the Sukarno regime. Military expenditures have been sharply reduced as the Government has concentrated the nation's domestic resources - and foreign aid receipts - on achieving economic stability and pursuing an ambitious development program.
(e) Willing to contribute funds to the project or program.	The GOI will contribute up to $31.7 million (equivalent) in local currency to meet a major part of the local expenditure requirements of the Project.
(f) Making economic, social, and political reforms such as tax collection improvements and changes in land tenure arrangements; and making progress toward respect for the rule of law, freedom of expression and of the press, and recognizing the importance of individual freedom, initiative, and private enterprise.	Major economic reforms have been instituted with IMF/IBRD assistance including incentives to growth of individual initiative and private enterprise. Effective December 9, 1970 the GOI established one uniform exchange rate for all types of foreign exchange. On August 9, 1971, to reduce the trade gap, the Rupiah was devalued by about 10% to Rp.415/US $1. Further devaluations in December 1971 and early 1973 were pegged to devaluations of the dollar; the Rupiah has remained stable since then. The rate of inflation was reduced from 636.8 percent per annum in CY 1966 to about 10% in CY 1971. Inflation was about 26% in 1972, largely due to rice price increases; and continued at a level of about 30% during 1973 and 1974, although due principally to general price increases, not just rice alone. GOI revenues from the oil sector have grown rapidly since 1967 - equalling Rp.48 billion in 1969/70, Rp.345 billion in 1973/74, and a projected Rp.1.5 billion in 1975/76 (2/3 of projected government revenues). Non-oil revenues have grown with the economy during the same period.
(g) Responding to the vital economic, political, and social concerns of its people, and demonstrating a clear determination to take effective self-help measures.	

Approximately 12 percent of the development budget is devoted to the social field which includes education, health, family planning, housing, manpower, social welfare, drinking water supply, culture and religion. The cooperating Government has encouraged self-help projects such as Food for Work and other irrigation and road building projects carried out through its Department of Manpower. A substantial low cost housing program will be implemented in the Second Five Year Plan which began in April 1974.

B. Relations with the United States

1. FAA §§ 620(c). If assistance is to a government, is the Government indebted to any U.S. citizen for goods or services furnished or ordered where: (a) such citizen has exhausted available legal remedies, including arbitration, or (b) the debt is not denied or contested by the government, or (c) the indebtedness arises under such government's or a predecessor's unconditional guarantee?

We are not aware of any cases that make Indonesia ineligible under this Section.

2. FAA § 620(d). If the loan is intended for construction or operation of any productive enterprise that will compete with U.S. enterprise, has the country agreed that it will establish appropriate procedures to prevent export to the U.S. of more than 20% of its enterprise's annual production during the life of the loan?

Not applicable.

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3. FAA § 620(e)(1). If assistance is to a government, has the country's government, or any agency or subdivision thereof, (a) nationalized or expropriated property owned by U.S. citizens or by any business entity not less than 50% beneficially owned by U.S. citizens, (b) taken steps to repudiate or nullify existing contracts or agreements with such citizens or entity, or (c) imposed or enforced discriminatory taxes or other exactions, or operation conditions? If so, and more than six months has elapsed since such occurrence, identify the document indicating that the government, or appropriate agency or subdivision thereof, has taken appropriate steps to discharge its obligations under international law toward such citizen or entity? If less than six months has elapsed, what steps if any has it taken to discharge its obligations?	The majority of business and property owned by U.S. citizens which was nationalized during the Sukarno regime (principally in 1964 and early 1965) has been returned to U.S. owners or mutually acceptable settlement negotiated. The Government of Indonesia in a Presidential Decree dated December 14, 1966 indicated its willingness to return nationalized assets.
4. FAA § 620(i). Has the country permitted, or failed to take adequate measures to prevent the damage or destruction by mob action of U.S. property, and failed to take appropriate measures to prevent a recurrence and to provide adequate compensation for such damage or destruction?	The country has not so permitted nor has it failed to take adequate measures.
5. FAA § 620(1). Has the government instituted an investment guaranty program under FAA § 234 (a)(1) for the specific risks of inconvertibility and expropriation or confiscation?	Yes.

6. FAA § 620(o). Fisherman's Protective Act of 1954, as amended, Section 5. Has the country seized, or imposed any penalty or sanction against, any U.S. fishing activities in international waters? If, as a result of a seizure, the USG has made reimbursement under the provisions of the Fisherman's Protective Act and such amount has not been paid in full by the seizing country, identify the documentation which describes how the withholding of assistance under the FAA has been or will be accomplished.	No. Remainder of question therefore not applicable.
7. FAA § 620(q). Has the country been in default, during a period in excess of six months, in payment to the U.S. on any FAA loan?	No; however, repayment of one FAA loan has been rescheduled by bilateral agreement dated March 16, 1971 in accordance with terms of the Paris Agreed Minutes of April 24, 1970.
8. FAA § 620(t). Have diplomatic relations between the country and the U.S. been severed? If so, have they been renewed?	No. Remainder of question therefore not applicable.

C. Relations with Other Nations and the U.N.

1. FAA § 620(i). Has the country been officially represented at any international conference when that representation included planning activities involving insurrection, or subversion directed against the U.S. or countries receiving U.S. assistance?	We have no information as to any such representational activity.
2. FAA § 620(a), 620(n). Has the country sold, furnished or permitted ships or aircraft under its registry to carry to Cuba or North Viet-Nam items of economic, military, or other assistance?	We have no information of any such action by Indonesia.

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3. FAA § 620(u); App. § 107. What is the status of the country's U.N. dues, assessments, or other obligations? Does the loan agreement bar any use of funds to pay U.N. assessments, dues, or arrearages?	Indonesia is not delinquent with respect to U.N. obligations. The loan agreement limits the use of loan proceeds to procurement of goods and services from A.I.D. Geographic Code 941 (Selected Free World) countries plus Indonesia.

D. Military Situation

1. FAA § 620(i). Has the country engaged in or prepared for aggressive military efforts directed against the U.S. or countries receiving U.S. assistance?	No.
2. FAA § 620(s). (1) What is (a) the percentage of the country's budget devoted to military purposes, and (b) the amount of the country's foreign exchange resources used to acquire military equipment, and (c) has the country spent money for sophisticated weapons systems purchased since the statutory limitations became effective? (2) Is the country diverting U.S. development assistance or PL-480 sales to military expenditures? (3) Is the country directing its own resources to unnecessary military expenditures? (Findings on these questions are to be made for each country at least once each fiscal year and, in addition, as often as may be required by a material change in relevant information).	(1)(a) The Department of Defense portion of the Operating and Development State Budget has ranged from a high of 33% in CY 1967 to a low of 22% in the FY 1973/74 budget. Defense and national security expenditures equal 4.8% of the 1974/75 development budget. (b) We have no knowledge of any significant expenditures of foreign exchange for the military. Less than 10% of the military budget is allocated for foreign exchange purchases. Moreover, the Department of Defense budget includes substantial amounts for construction of roads, bridges and other civil worksprojects. (c) No, the Government is placing primary emphasis on economic development and not diverting its own resources for unnecessary military expenditures. (2) No. (3) No.

III. CONDITIONS OF THE LOAN

A. General Soundness

Interest and Repayment

1. FAA §§ 201(d), 201(b)(2). Is the rate of interest excessive or unreasonable for the borrower?	Although Indonesia's debt burden was heavy in the past, there has been very rapid growth in real

Are there reasonable prospects for repayment? What is the grace period interest rate? Is the rate of interest higher than the country's applicable legal rate of interest?	Government revenues and favorable economic performance. With the high current level of foreign exchange export earnings, it is considered that future debt payments will be easily managable. The various donors agree Indonesia has a debt burden for which the prospects of repayment are reasonable. Country terms of a 40-year loan, 10-year grace period, 2% interest during the grace period, 3% thereafter, pertain. The rate of interest is not higher than the country's applicable legal rate of interest.
Financing	
1. FAA § 201(b)(1). To what extent can financing on reasonable terms be obtained from other freeworld sources, including private sources within the U.S.?	Loan assistance to Indonesia is provided within the framework of the Inter-Governmental Group on Indonesia (IGGI), advised by the IBRD and the IMF. This loan has been selected by AID as part of the U.S. Government contribution to the IGGI consortium and as such is supported by the IBRD resident mission. The GOI has been negotiating for Exim Bank financing of heavy equipment for Provincial Public Works office equipment pools. A small portion of this equipment may be used in constructing Sederhana subprojects. The Exim Bank has expressed no interest in financing any other portion of this Project.
Economic and Technical Soundness	
1. FAA §§ 201(b)(2), 201(e). The activity's economic and technical soundness to undertake loan; does the loan application, together with information and assurances, indicate that funds will be used in an economically and technically sound manner?	Yes. See the Technical Analysis (page 16) and Socio-economic Analysis (page 21) sections of the Project Paper.

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2. FAA § 611(a)(1). Have engineering, financial, and other plans necessary to carry out assistance, and a reasonably firm estimate of the cost of assistance to the U.S., been completed?	Necessary planning and a reasonably firm cost estimate for the Project have been completed. A detailed summary of the cost estimate is contained in the Cost Estimate section (page 19) of the Project Paper. See Annex B.2. Tables 21 and 22 for a detailed breakdown of the cost estimate.
3. FAA § 611(b): App. § 101. If the loan or grant is for a water or related land-resource construction project or program, do plans include a cost-benefit computation? Does the project or program meet the relevant U.S. construction standards and criteria used in determining feasibility?	Yes. The GOI uses a simplified cost-benefit analysis in selecting subprojects for inclusion in the Sederhana Program. USAID will verify that individual subprojects meet the AID-approved selection criteria for the Project. U.S. construction standards will probably not be applicable in view of the labor-intensive nature of the work.
4. FAA § 611(e). If this is a Capital Assistance Project with U.S. financing in excess of $1 million, has the principal AID officer in the country certified as to the country's capability effectively to maintain and utilize the project?	Yes, the Mission Director has so certified. See Annex E.

B. Relation to Achievement of Country and Regional Goals

Country Goals

1. FAA §§ 207, 281(a). Describe this loan's relation to: (a) Institutions needed for a democratic society and to assure maximum participation on the part of the people in the task of economic development.	One of the three interrelated purposes of the Project is to increase the institutional capability of GOI implementing agencies. In addition, the Project will provide assistance in the development of water user associations in subproject areas, local institutions in which small farmers participate in development.

(b) Enabling the country to meet its food needs, both from its own resources and through development, with U.S. help, of infrastructure to support increased agricultural productivity.	One of the three interrelated purposes of the Project is increased rice production. The Project will increase agricultural productivity through the provision of needed small-and medium-scale irrigation systems and assistance in farm level implementation activities.
(c) Meeting increasing need for trained manpower.	The Project includes on-the-job, in country and overseas training for GOI implementing agency staff. Farmer training is also included.
(d) Developing programs to meet public health needs.	The increased rural income and improved income distribution resulting from the Project should increase the access of rural people to health services.
(e) Assisting other important economic, political, and social development activities, including industrial development; growth of free labor unions; cooperatives and voluntary agencies; improvement of transportation and communication systems; capabilities for planning and public administration; urban development and modernization of existing laws.	Since increased rural income and improved income distribution will increase the ability of the rural people to play a greater role in the activities in the country, the Project will contribute appreciably to economic, social and political development.
2. FAA § 201(b)(4). Describe the activity's consistency with and relationship to other development activities, and its contribution to realizable long-range objectives.	The Project is consistent with other development activities and will make a substantial contribution to the long-range objectives of (1) decreasing Indonesia's dependence on food imports, particularly rice, needed to feed its growing population and (2) expanding and broadening Indonesia's production base.
3. FAA § 201(b)(9). How will the activity to be financed contribute to the achievement of self-sustaining growth?	The Project will increase agricultural productivity which is essential to the achievement of self-sustaining growth.

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4. FAA § 201(f). If this is a project loan, describe how such project will promote the country's economic development, taking into account the country's human and material resource requirements and the relationship between ultimate objectives of the project and overall economic development.	The Project will promote the country's economic development through improving rural infrastructure, increasing agricultural productivity, increasing rural incomes, improving income distribution and generating employment opportunities.
5. FAA § 201(b)(3). In what ways does the activity give reasonable promise of contributing to development of economic resources, or to increase of productive capacities?	The Project will contribute to the development and increase the productive capacity of Indonesia's land resources through opening up new land for production and improving rural infrastructure.
6. FAA § 281(b). How does the program under which assistance is provided recognize the particular needs, desires, and capacities of the country's people; utilize the country's intellectual resources to encourage institutional development; and support civic education and training in skills required for effective participation in political processes?	The Project will meet the needs and desires of Indonesia's rural people for increased incomes, better income distribution and expanded employment opportunities. Membership in the water user associations assisted by the Project will provide farmers with skills required for effective participation in political processes.
7. FAA § 601(a). How will this loan encourage the country's efforts to: (a) increase the flow of international trade; (b) foster private initiative and competition; (c) encourage development and use of cooperatives, credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry, agriculture, and commerce; and (f) strengthen free labor unions?	(a) Some of the increased secondary crop production resulting from the Project may be exported. (b) The Project will foster the development of small, privately-owned farms. (c) Increased rural incomes, improved income distribution, greater employment opportunities and the existence of viable water user associations will improve the climate for the development of cooperatives, credit unions and savings and loan associations. (d) Not applicable. (e) The Project will increase the technical efficiency of agricultural production in subproject areas. (f) Increased rural incomes, improved income distribution and greater employment opportunities may have the effect of strengthening free labor unions.

8. FAA § 202(a). Indicate the amount of money under the loan which is: going directly to private enterprise; going to intermediate credit institutions or other borrowers for use by private enterprise; being used to finance imports from private sources; or otherwise being used to finance procurements from private sources.	Commodities to be procured for the Project using foreign exchange will be purchased from private enterprise. Commodities to be procured for the Project using local currency will be purchased from Indonesian suppliers, most of them privately-owned. Indonesian engineering firms, many of them privately-owned, will carry out the survey, planning and design of major works for most Sederhana subprojects. The construction of major works will be contracted to Indonesian firms, many of them privately-owned, wherever possible. The small-and medium-scale irrigation systems built by the Project will benefit small, privately-owned farms directly and the economy indirectly.
9. FAA § 611(a)(2). What legislative action is required within the recipient country? What is the basis for a reasonable anticipation that such action will be completed in time to permit orderly accomplishment of purposes of loan?	None.
Regional Goals	
1. FAA § 619. If this loan is assisting a newly independent country, to what extent do the circumstances permit such assistance to be furnished through multilateral organizations or plans?	Not applicable.
2. FAA § 209. If this loan is directed at a problem or an opportunity that is regional in nature, how does assistance under this loan encourage a regional development program? What multilateral assistance is presently being furnished to the country?	The Project is directed at a problem and opportunity which is national in scope, not regional. The loan is being furnished in the context of multilateral aid to Indonesia by a consortium of donor countries (IGGI). The assistance is being coordinated with the advice of the IBRD.

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C. Relation to U.S. Economy

Employment, Balance of Payments, Private Enterprises.

1. FAA § § 201(b)(6); 102, Fifth. What are the possible effects of this loan on U.S. economy, with special reference to areas of substantial labor surplus? Describe the extent to which assistance is constituted of U.S. commodities and services, furnished in a manner consistent with improving the U.S. balance of payments position.	Since traditional direct procurement financed by the Loan will be limited to AID Geographic Code 941 (Selected Free World) countries plus Indonesia and reimbursement to the GOI for Fixed Amount Reimbursement (FAR) items will be made via a Direct Reimbursement Authority (DRA) against evidence of the recent import of goods and services from the U.S., there will be no adverse effect on the U.S. balance of payments.
2. FAA § § 612(b), 636(h). What steps have been taken to assure that, to the maximum extent possible, foreign currencies contributed by the country are utilized to meet the cost of contractual and other services, and that U.S. foreign-owned currencies are utilized in lieu of dollars?	Services requiring foreign exchange financing will be procured from AID Geographic Code 941 countries plus Indonesia. U.S. owned local currency is not available in Indonesia.
3. FAA § 601(d); App. § 108. If this loan is for a capital project, to what extent has the Agency encouraged utilization of engineering and professional services of U.S. firms and their affiliates? If the loan is to be used to finance direct costs for construction, will any of the contractors be persons other than qualified nationals of the country or qualified citizens of the U.S.? If so, has the required waiver been obtained?	Advisory services required to implement the Project will be procured from AID Geographic Code 941 countries plus Indonesia. All construction contractors will be qualified Indonesian nationals or firms.
4. FAA § 608(a). Provide information on measures to be taken to utilize U.S. Government excess personal property in lieu of the procurement of new items.	U.S. Government excess property will not be used for this Project.

5. FAA § 602. What efforts have been made to assist U.S. small business to participate equitably in the furnishing of commodities and services financed by this loan?	The loan agreement will contain a provision to ensure that opportunity for such participation will be provided and appropriate notices published.
6. FAA § 621. If the loan provides technical assistance, how is private enterprise on a contract basis utilized? If the facilities of other Federal agencies will be utilized, in what ways are they competitive with private enterprise (if so, explain); and how can they be made available without undue interference with domestic programs?	It is anticipated that the advisory services required to implement the Project will be provided through a contract with the Bureau of Reclamation (BUREC). The required farm irrigation specialists would probably come from the Soil Conservation Services (SCS). Such contract assistance would employ specific experience and expertise and would not interfere with domestic programs.
7. FAA § 611(c). If this loan involves a contract for construction that obligates in excess of $ 100,000, will it be on a competitive basis? If not, are there factors which make it impracticable?	The loan agreement will cover this requirement.
8. FAA s 601(b). Describe the efforts made in connection with this loan to encourage and facilitate participation of private enterprise in achieving the purposes of the Act.	Commodities to be procured for the Project using foreign exchange will be purchased from private enterprise. Commodities to be procured for the Project using local currency will be purchased from Indonesian suppliers, most of them privately-owned. Indonesian engineering firms, many of them privately-owned, will carry out the survey, planning and design of major works for most Sederhana subprojects. The construction of major works will be contracted to Indonesian firms, many of them privately-owned, wherever possible.

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Procurement

1. FAA § 604(a). Will commodity procurement be restricted to U.S. except as otherwise determined by the President?	Yes, procurement is limited to AID Geographic Code 941 countries plus Indonesia.
2. FAA § 604(b). Will any part of this loan be used for bulk commodity procurement at adjusted prices higher than the market price prevailing in the U.S. at time of purchase?	No.
3. FAA § 604(e). Will any part of this loan be used for procurement of any agricultural commodity or product thereof outside the U.S. when the domestic price of such commodity is less than parity?	No.
4. FAA § 604(f). Will the agency receive the necessary pre-payment certifications from suppliers under a commodity import program agreement as to description and condition of commodities, and on the basis of such, determine eligibility and suitability for financing?	Not applicable. This is a project loan and not a commodity import program assistance loan.

D. Other Requirements

1. FAA § 201(b). Is the country among those countries in which development loan funds may be used to make loans in this fiscal year?	Yes.
2. App. § 105. Does the loan agreement provide, with respect to capital projects, for U.S. approval of contract terms and firms?	The loan agreement will cover this requirement.
3. FAA § 620(k). If the loan is for construction of a production enterprise, with respect to which the aggregate value of assistance to be furnished will exceed $100 million, what preparation has been made to obtain the express approval of the Congress?	Not applicable.

4. FAA § 620(b), 620(f). Has the President determined that the country is not dominated or controlled by the International Communist movement? If the Country is a Communist country (including, but not limited to, the countries listed in FAA § 620(f)) and the loan is intended for economic assistance, have the findings required by FAA § 620(f) been made and reported to the Congress?	Yes, the required determination has been made. Remainder of question is, therefore, not applicable.
5. FAA § 620(h). What steps have been taken to insure that the loan will not be used in a manner which, contrary to the best interest of the United States, promotes or assists the foreign aid projects of the Communist-bloc countries?	The loan agreement will cover this requirement.
6. App. § 109. Will any funds be used to finance procurement of iron and steel products for use in Viet-Nam other than as contemplated by § 109?	No.
7. FAA § 636(i). Will any part of this loan be used in financing non-U.S. manufactured automobiles? If so, has the required waiver been obtained?	No, The remainder of the question is therefore not applicable.
8. FAA § 620(a) (1) and (2), 620(p). Will any assistance be furnished or funds made available to the government of Cuba or the United Arab Republic?	No.
9. FAA § 620(g). Will any part of this loan be used to compensate owners for expropriated or nationalized property? If any assistance has been used for such purpose in the past, has appropriate reimbursement been made to the U.S. for sums diverted?	No. No assistance has been used for such purposes in the past.

10. FAA § 201(f). If this is a project loan, what provisions have been made for appropriate participation by the recipient country's private enterprise?	Commodities to be procured for the Project using local currency will be purchased from Indonesian suppliers, most of them privately-owned. Indonesian engineering firms, many of them privately-owned, will carry out the survey, planning and design of major works for most Sederhana sub-projects. The construction of major works will be contracted to Indonesian firms, many of them privately-owned, wherever possible.
11. App. § 103. Will any funds under the loan be used to pay pensions, etc., for persons who are serving or who have served in the recipient country's armed forces?	No.
12. MMA § 901.b. Does the loan agreement provide, for compliance with U.S. shipping requirements, that at least 50% of the gross tonnage of all commodities financed with funds made available under this loan (computed separately by geographic area for dry bulk carriers, dry cargo liners, and tankers) be transported on privately owned U.S.-flag commercial vessels to the extent such vessels are available at fair and reasonable rates for U.S. flag vessels. Does the loan agreement also provide for compliance with U.S. shipping requirements, that at least 50% of the gross freight revenues of goods shipped under this loan must be earned by privately owned U.S. flag commercial vessels to the extent such vessels are available at fair and reasonable rates for U.S. vessels?	Yes to both questions. These requirements will be applicable only to traditional direct procurement financed by the Loan. The loan agreement will contain a provision covering these requirements.
13. FAA § 481. Has the President determined that the recipient country has failed to take adequate steps to prevent narcotic drugs produced or procured in, or transported through, such country from being sold illegally within the jurisdiction of such country to U.S. Government personnel or their dependents or from entering the United States unlawfully?	No.

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14. App. § 110. Is the loan being used to transfer funds to world lending institutions under FAA §§ 209(d) and 251(h)?	No.
15. App. § 601. Are any of these funds being used for publicity or propaganda within the United States?	No.
16. FAA § 612(d) and Section 40 of PL 93-189 (FAA of 1973). Does the United States own excess foreign currency and, if so, what arrangements have been made for its release in compliance with Section 40 (FAA of 1973)?	U.S. owned excess local currency is not available in Indonesia.
17. FAA § 604(d). Will provision be made for placing marine insurance in the U.S. if the recipient country discriminates against any marine insurance company authorized to do business in the U.S.?	Yes. This requirement will be applicable only to traditional direct procurement financed by the Loan. The loan agreement will contain a provision covering this requirement.
18. FAA § 659. If the country has a military base constructed or operated with U.S. funds, from which U.S. carries out military operations, has President determined that government has granted access to U.S. news correspondence?	There is no such military base in Indonesia.
19. Sections 30 and 31 of PL 93-189 (FAA of 1973). Will any part of the loan be used to finance directly or indirectly military or paramilitary operations by the U.S. or by foreign forces in or over Laos, Cambodia, North Vietnam, South Vietnam, or Thailand?	No.

20. Section 37 of PL 93-189 (FAA of 1973); App. § 111. Will any part of this loan be used to aid or assist generally or in the reconstruction of North Vietnam?	No.
21. FAA Section 640(c). Will a grant be made to the recipient country to pay all or part of such shipping differential as is determined by the Secretary of Commerce to exist between U.S. and foreign flag vessel charter or freight rates?	No.
22. App. § 112. Will any of the funds appropriated or local currencies generated as a result of AID assistance be used for support of police or prison construction and administration in South Vietnam or for support of police training of South Vietnamese?	No.
23. App. § 113. Will any of the loan funds be used to acquire currency of recipient country from non-U.S. Treasury sources when excess currency of that country is on deposit in the U.S. Treasury?	No.
24. App. § 114. Have the House and Senate Committees on Appropriations been notified five days in advance of the availability of funds for the purposes of this project?	Yes.
25. App. § 604. Will any of the funds appropriated for this project be used to furnish petroleum fuels produced in the continental United States to Southeast Asia for use by non- U.S. nationals?	No.

E. Requirements Added by FAA of 1974.

1. FAA § 901. Has the country denied its citizens the right or opportunity to emigrate?	No.
2. FAA § 115. Will country be furnished, in same fiscal year, either security supporting assistance, Indochina Postwar Reconstruction, or Middle East peace funds? If so, is assistance for population programs, humanitarian aid through international organizations, or regional programs?	No, therefore the rest of the question is not applicable.
3. FAA § 653(b). Is assistance within country or international organization allocation for fiscal year reported to Congress (or not more than $1 million over that figure plus 10%)?	Yes.
4. FAA § 660. Will arrangements preclude use of funds for police training or other law enforcement assistance?	Yes
5. FAA § 602. Will arrangements preclude use of funds for CIA activities?	Yes

Annex B.1.a.

Sederhana Irrigation Development

Selection Criteria and Design Standards

1. Selection of Sederhana Irrigation Projects.

In the selection of Sederhana Irrigation projects, the following policy of the Directorate General for Irrigation with respect to new projects must be observed;

1.1. The land is suitable and fertile for cultivation (based on a soil test or the land has been actually cultivated as rainfed paddy with adequate yield).

1.2. Water quality and quantity are suitable and sufficient for irrigation purposes (water testing).

1.3. Land tillers (farmers) are available ,expected to arrive or an organized transmigration program will be executed.

1.4. Facilities for marketing products to consuming areas are adequate (availability of marketing areas).

1.5. Communication facilities for transportation to and from the area are not too difficult.

1.6. There is no potential problem with respect to land status which might delay implementation.

1.7. The area is not always flooded with water difficult to control and, if it is, it can be drained at low cost.

1.8. Other pertinent data supporting the possibility of developing the area as an agricultural production center or transmigration area (local or national) through the construction of irrigation networks.

2. Area of Sederhana Irrigation Project.

The area of Sederhana project should be limited to a maximum of about 2.000 ha in view of the following considerations:

2.1. Easy management of water distribution because division structures will be of simple construction

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and will not function perfectly in water distribution.

2.2. Easy maintenance since the structures are relatively small in size with much easier maintenance than large structures.

2.3. Canal construction which must be performed by the farmers will be completed in a shorter period.

2.4. Generally, the irrigation scheme can be completed in a shorter period.

3. Land Survey and Topographical Mapping.

Sederhana Irrigation project development should provide for the possibility of improvement in the future from a simple irrigation system into a technically planned irrigation system. For this purpose, the following actions should be performed beforehand.

3.1. For the planning of an irrigation scheme, a map must be prepared properly so that the location of the weirs, structures and canal traces can be determined properly and in a technically adequate manner.

3.2. Before preparing the irrigation scheme map, a land survey for the irrigation plan should be carried out which includes:

(i) Situation map with a scale of 1 : 5000, a contour interval of 0,5 m for flat area and of 1,0 for hilly topography.

(2i) Situation mapping for the planned weir location using the following scales:

(a) Scale 1 : 1000 for the river area where the weir location is planned, 1 km. upstream and 1 km. downstream and the axis of the weir.

(b) Scale 1 : 500 for the weir location.

(c) Diagonal and longitudinal profile of the river site for the planned axis of the weir 1 km. each up and downstream.

3.3. It is well known that irrigation scheme mapping establishes the pattern for an irrigation system.. If the preparation of the basic pattern is in compliance with technical requirements, then an upgrading program in the future will not cause significant changes in the irrigation system.

4. River Diversion Weir.

A simple diversion weir on the river can be constructed in the form of a gabion weir (rocks wrapped with net wire).

4.1. Gabion weir construction does not need a survey for the foundation beforehand because it can be constructed on various land structures.

4.2. Location of the weir should be selected in such a way so that the height of the gabion weir is limited to a maximum of 2.50 m. so that construction and maintenance will not be too difficult.

5. Intake Structure.

The intake structure should be the only structure meeting technical requirements, being provided with either gates or a skimming wall based on the following considerations:

5.1. During flood times, water entering into the main canal can be controlled or regulated by using the gates.

5.2. As has been mentioned before, it is suggested that the weir be built using gabion construction because it is not necessary to build a gate structure for the weir. To avoid coarse materials entering the main canal, particularly during flood times, the construction of an intake structure equipped with gates is absolutely necessary.

6. Division Structures.

It is suggested that the construction of division structures be permanent but the form does not have to be streamlined, as simple construction will be sufficient. Gates are not necessary, but stop logs should be provided.

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7. Water conveying flume structures.

Flume structures can be built of gabion while syphon structures should be avioded because they need a relatively high technology in planning and construction compared with other structures and, should a bridge be needed to support the flume structures, wooden construction is adequate.

7.1. Gabion construction should be permanent but it does not have to be streamlined because simple construction will be adequate.

7.2. Flume construction, if needed, can be made of wood or inexpensive metal/steel structures.

8. Sliding structures.

Sliding structures of the canal should be built in simple permanent construction not necessarily in streamlined form.

Annex B.1.b.

DGWRD First Questionnaire

QUESTIONNAIRE ON SMALL IRRIGATION/RECLAMATION PROJECTS

I. General:

1. Province :

2. Name of irrigation/reclamation project :

3. Location: a) Kecamatan (Subdistrict) :

b) Kabupaten (District) :

3.1. Distance to the nearest town : Km.

name of the town :

3.2. Distance to the nearest road : Km.

3.3. Location map attached :

4. Expected land area : Ha.

5. Topography : plain/mountainous/hilly coastal/swamp

6. Present vegetation : grassy/forest/alang-alang plain/etc.

7. Status of irrigation/reclamation area : new/extensification/rain irrigated/drainage system ricefield/ebb tide/swamps (non-ebb tide) etc.

7.1. Area of extensification (Additional to the existing area)

7.1 1. Size : Ha.

7.1.2. Yield (paddy) : Ton/ha.

7.1.3. Secondary crops :

QUESTIONNAIRE ....

7.2. Area of existing rain irrigated ricefield

7.2.1. Size : Ha.

7.2.2. Yield (paddy) : Ton/ha.

7.2.3. Other :

8. Wet season : (mention the name of the month)

9. Nearest rainfall station 9.1. :
9.2. :

10. Soil quality :

10 1. soil type : clay/lime/sandy

10.2 soil colour : red/black/brown/white/etc.

11. Population

11.1. Density : dense/rare/uninhabited ... persons/Km2, 1971 census

11.2. Source of income : farmers/fishermen/traders/ laborers etc.

12. Land status : private/state/ kin ownership etc.

13. Transmigration : Manpower (farmer/peasants) already in existence and sufficient/already in existence but not sufficient /non-existant/immigrants required/not required.

14. Communications : easy/difficult/non-existant dependent on season

15. Suitable crops :

16. Activities already/not yet undertaken :

QUESTIONNAIRE . . . . .

16.1. Recconnaissance survey : done/not yet done by .....
report available at .....

16.2. Situation mapping : done/not yet done by ....,
scale.....,reports
available at .....

16.3. Survey on land cultivation : done/not yet done by .....
reports available
at .....

16.4. Design : done/not yet done by .....
reports available at .....
.....

17. Implerentation Plan

17.1. Difficult technical aspects encountered :

17.2. Duration of implementation : yrs.

17.3. Estimated budget until completion: Rp.....
(Including feeder road)

17.4. Requirement for seasonal laborers/farmers

17.5. Requirement for equipment/special tools
(materials) : bulldozer/shovel/dredger/
dynamits/etc.

18. Definite budget in REPELITA II : Included in project INPRES/
APBD (Dev. Budget)/excluded
continuation INPRES.

II. IRRIGATION

19. Water resource : river/lake/drainage/
water source etc.

QUESTIONNAIRE ..

20. Quantity of water resource : sufficient for ....times planting with .....%

21. Water quality : good/bad/undetermined

22. Structure and canals

22.1. Water tapping : dam using the existing river stone/iron-netted stone /freely flowing in/ pumping/permanent dam/ dam upgrading/etc.

22.2. Canal : partially not/in existence/ length.....km/etc.

22.3. Canal digging required : Yes/no/only the main canal/etc.

III. RECLAMATION

23. Drainage from : swamp/floods

24. Is the project categorized as swamp area which:

24.1. Is totally flooded during the rainy season and partially during the dry season? (Yes/No)

24.2. Is totally flooded during the rainy season and dry during the dry season (Yes/No)

24.3. Causes of flood/swamps : regular flood/tidewater/ lowland/small lake/ natural swamp area/etc.

25. Depth of swamp water during:

25.1. the rainy season .....m;

25.2. the dry season .....m.

26. The highest point of the tide water difference: .....m.

QUESTIONNAIRE . .....

27. Local paddy variety.

27.1. Life of local variety:.....months or.....days

27.2. Planting season of local variety: from the month of.....

through the month of .....

Annex B.1.c.

DGWRD Second Questionnaire

APPRAISAL TEAM

As has been outlined in the previous chapters, the implementation of small irrigation/reclamation projects faces various problems and difficulties. In order to achieve good results according to the goals that have already been planned and targeted an Appraisal Team will be sent to the regions which is extensively familiar with existing problems facing the project and assigned with the following tasks:

1. Making on the spot observation for each project proposed by the Provincial Public Works Agency.

2. To make direct evaluation as to whether the projects proposed are in compliance with the data submitted by filling out the questionnaire in the proposals.

3. To make inventory:

   3.1. of Provincial Public Works Agency personnel up to section.

   3.2. of Provincial Public Works Agency equipment up to section.

   3.3. Local participation as has been mentioned above..

   3.4. Local coordination.

   3.5. Private sector contractors that might assist in surveying, planning and implementation 1 of local activities.

4. To find out Institutes/Universities/Academies that might assist in surveying, planning, research of small irrigation/reclamation projects in the region.

5. Compiling data not completely provided in the project proposals, particularly that which will determine which project can be included in the first year, second, third, etc.

6. To reevaluate existing manpower, the number of farmers as well as laborers, whether new workers should be brought in, their number, when they should come and the location of the village where they will live.

   The Team should consists of officials having expertise in the problems of surveying, planning and practical solution (practical problem solving) on small irrigation/reclamation projects.

ANNEX I

To be filled in by Provincial Public Works Agency

1. Personnel in Irrigation Department, Provincial DPU

   1.1. Make a list of personnel and their highest education.

   1.2. Indicate where manpower shortages exist particularly in handling the implementation of small irrigation/reclamation projects.

   1.3. Is personnel training required either for those already on the payroll or for additional planned personnel.

   1.4. Is there any/sufficient STM (High School for Technology) or Academy of Technology/Faculty of Technology in the Province.

2. Mention the Institute/Academies/Universities which can assist in:

   2.1. Surveying/Measuring/Planning:.....
   Equipment possessed: - .....
   - .....
   - .....

   2.2. Implementation : .....

   3.1. Private sector contractors available which can assist in measuring and planning:

   3.1.1. .....

   3.1.2. .....

   3.1.3. .....

   3.1.4. .....

   3.1.5. .....

3.2. **Equipment at the disposal of private sector contractors in 3.1. and the Irrigation Section of the Public Works Agency:**

3.2.1. .....

3.2.2. .....

3.2.3. .....

.....,date.....

Confirmed:

Chief, Provincial Public Works Agency .....

(.....)

Chief, Irrigation Section

Provincial Public Works Agency

(.....)

ANNEX II

To be filled in

1. Name of the project : .....

2. Area : 2.1. Existing ± .....Ha

   2.2. Rain irrigated ± .....Ha

   2.3. New extension ± .....Ha

   2.4. Size of second planting ± .....Ha

3. Source of water : .....

   3.1. Max debit (volume) m3/sec

   3.2. Average volume ..... "

   3.3. Minimum volume ..... "

   3.4. Area of rivulet Km2

   3.5. Catchment area situation .....

   3.6. Need for reforestation .....

   3.7. Other .....

4. Climate : 4.1. Climate type.....

   (based on Schmidt and Ferguson)

   4.2. Average rainfall .....mm/yr

   4.3. Average rainy days .....days/yr

   4.4. Other .....

5. Soil situation :

   5.1. Fertility .....

   5.2. Based on research/experience .....

   5.3. Soil problems .....

   5.4. Existing vegetation .....

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ANNEX II

5.5. Bimas/Inmas .....

5.6. Existing estates .....

5.7. Existing foreign concessions .....

6. Population :

6.1. Density ± Km2

6.2. Farmers ± .....%

6.3. Laborers ±.....%

6.4. Traders ± .....%

6.5. Fishermen ± .....%

6.6. Existing transmigrants .....families

6.7. Transmigrants needed .....families

7. Land/sea communication:

7.1. Roads .....

7.2. Bridges .....

7.3. Land transportation facilities .....

7.4. Sea transportation facilities .....

8. Project data : 8.1. Survey .....

8.2. Measurement .....

8.3. Design .....

8.4. Implementation preparation .....

8.5. Implementation completed .....

8.6. Works to be performed by DPU .....

8.7. Works to be performed by local government/community .....

ANNEX II

8.8. Special equipment required .....

8.9. Special material required .....

Appraisal Team	Provincial Public Works Agency
Directorate General of Irrigation	Chief of Section
(.....)	(.....)

Confirmed

Chief, Public Works Agency
Province

(.....)

ANNEX III

1. Region capacity: Section .....

1.1. DPU Personnel, section: .....

1.1.1. Technician: Univ. graduates .....men

Bachelors .....men

S.T.M. .....men

Surveyors .....men

Secondary Tech. School .....men

1.1.2. Gen. Admin. staff:

Univ. graduates .....men

Bachelors .....men

High school .....men

Secondary school .....men

Elementary school .....men

1.2. DPU equipment, Section .....

1.2.1. Instruments for surveying: .....
.....

1.2.2. Transportation equipment: .....
.....

1.2.3. Other equipment: .....
.....

1.3. Available private contractors: .....

1.3.1. Survey/Design : .....

1.3.2. Implementation: .....

1.4. Possible assistance from local government:

1.4.1. Land problem

1.4.2. Mobilizing the people to dig irrigation canal/ open up new ricefields

ANNEX III

1.4.3. Communication.....

1.4.4. Simple equipment .....

1.5. High School of Technology majoring in:

1.5.1. .....since year .....

1.5.2. .....since year .....

1.5.3. .....since year .....

2. Simple and expeditious method but well controlled financial administration in sections:

.....
.....

Confirmed

Chief of Public Works Agency
Province.....

Provincial Public Works Agency
Section Chief

(.....)

(.....)

Annex B.1.d.

DGWRD Third Questionnaire

1. NAME OF PROJECT: . . . . . .

2. PROGRAM : 2.1. New Irrigation Network Construction Program (Simple Irrigation).

   2.2. River Basin and Swamp Rehabilitation and Reclamation Program. (Simple Reclamation).

3. LOCATION AND SIZE OF PLANNED PROJECT:

   3.1. Project Location:

      3.1.1. Province : . . . . . .
      3.1.2. District : . . . . . .
      3.1.3. Sub-district : . . . . . .
      3.1.4. Village : . . . . . .
      3.1.5. Name of nearest town: . . . .
             Distance from project site ; . . . . . .km
      3.1.6. Geographic location: .....latitude
                : .....longitude

   3.2. Area of planned project: .....Ha.

4. SITUATION IN PROJECT AREA.

   4.1. Topographic Situation:

      4.1.1. Altitude from sea level: . . . . . m.
      4.1.2. Topography: - flat
                - mountainous
                - hilly
                - . . . . . .
                - . . . . . .

      4.1.3. Is there a topographic problem? (Yes/No).

4.2. **Climate:**

4.2.1. Type of climate (based on Schmidt and Ferguson):
.....

4.2.2. Rainny season from the month of .....
.....through month of .....

4.2.3. Name of rain station .....
distance from project site: .....km.
(Inside/outside catchment area).

4.2.4. Temperature - Daily average temperature .....°C
- Maximum temperature .....°C
- Minimum temperature .....°C

4.2.5. Wind:
- Wind direction during rainny season from .....
.....to.....
with speed .....km/hour.
Wind character: warm/dry/moist.
- Wind direction during dry season from .....
.....to.....
with speed .....km/hour.
Wind character warm/dry/moist.

4.2.6. **Rainfall statistics for the last ten years.**

Month	19..	19..	19..	19..	19..	19..	19..	19..	19..	19..
January February March April May June July August September October November December										
Total										
Total rainy days										
Maximum average daily rainfall - mm.										
Minimum average daily rainfall - mm										

4.3. Land Situation:

4.3.1. Land use in catchment area/subdistrict:

- Forest : .....Ha.
- Grass/alang alang plain : .....Ha.
- Lake/swamp : .....Ha.
- Paddy:
  - technical irrigation : .....Ha.
  - semi-technical irrigation : .....Ha.
  - village irrigation : .....Ha.

- rainfed : .....Ha.
- pond : .....Ha.
- Upland/dry land : .....Ha.
- Village area : .....Ha.
- Estates : .....Ha.
- Fish ponds : .....Ha.

4.3.2. Soil type in catchment area/subdistrict:
.....
.....
.....

4.3.3. Soil characteristics in catchment area/subdistrict:
- Cultivatable land is generally:
  - hard to work
  - moderate to work
  - easy to work
- Chemical characteristics of soil:
  - test date : . . . . . .
  - laboratory : . . . . . .
  - pH : . . . . . .
  - organic content:
    - high
    - medium
    - low
  - $CaCO_3$ content
    - high
    - medium
    - low
  - Physical characteristics of soil:
    - top soil layer:
      - depth : . . . . . cm
      - structure: .....
        .....
      - texture: .....
        .....
    - sub-soil layer:
      - structure: .....
        .....
  - Is there any substance in the soil harmful to plant growth? (Yes/No).

4.3.4. Soil color: black/grey/yellow/brown/red.

4.3.5. List in sequence the most suitable crops for catchment area/subdistrict:
.....

.....

4.4. Agriculture:

4.4.1. Pattern of paddy cultivation:
.....
.....
.....
.....
.....
.....

4.4.2. Pattern of upland cultivation:
.....
.....
.....
.....
.....
.....

4.4.3. Farmers average land holdings:

Total	:	.....Ha.
Paddy	:	.....Ha.
Upland	:	.....Ha.
Home yard/garden	:	.....Ha.

4.4.4. Average production (Quintal/ha.) and harvested area for the last three years.

YEAR : 19 . .

	technically irrigated paddy		semi-technically irrigated paddy		village irrigation paddy	
	yield qt/ha.	harvested area ha.	yield qt/ha.	harvested area ha.	yield qt/ha.	harvested area ha.
Rainy season						
1. paddy						
2. ground nuts						
3. corn						
4. soybeans						
5. sweet potatoes						
6. cassava						
7. tobacco						
8.						
9.						
10.						
Dry season						
1. paddy						
2. ground nuts						
3. corn						
4. soybeans						
5. sweet potatoes						
6. cassava						
7. tobacco						
8.						
9.						
10.						

Rainfed paddy		pond paddy		upland	
yield qt/ha	harvested area ha.	yield qt/ha	harvested area ha.	yield qt/ha	harvested area ha.

4.4.5. **Application of fertilizers and pesticides/ rodenticides.**

	Easy/difficult to obtain	% of farmers using	Price per kg/liter	Application kg/liter/ha
Fertilizer:				
Organic				
Urea				
T.S.P.				
Pesticides:				
.....				
.....				
.....				
Rodenticides:				
.....				
.....				
.....				

4.4.6. **Seed.**

Name of paddy variety	Maturity days	Usual planting season (from month to month)
<u>Local high-yielding variety</u>		
1.		
2.		
3.		
4.		
5.		
<u>National high-yielding variety</u>		
1.		
2.		
3.		
4.		
5.		

4.4.7. BIMAS / INMAS

	BIMAS				INMAS			
	Rainy season		Dry season		Rainy season		Dry season	
Year	Area	% of irrigated paddy	Area	% of irrigated paddy	Area	% of irrigated paddy	Area	% of irrigated paddy
19../..								
19../..								
19../..								
19../..								
19../..								

4.4.8. Agriculture extension service:

- distance to Agriculture Extension Service Office: .....km.
- frequency of service: irregular/regular
- farmers' response to extension service: receptive/doubtful/reluctant

4.4.9. Land tilling:
- human being
- human being plus animal
- machinery

4.4.10. Use of laborers:
- outside laborers used by farmers: .....%
- outside laborers used in: land preparation/planting/harvesting/pest-rodent control .....
- average hours worked per day: .....hours/day
- total man-days of laborers per ha. used by farmers: .....man-days

4.5. **Marketing of Agricultural Produce.**

4.5.1. Market place:
- number of market places in catchment area: .....units
- distance of nearest market place to project: .....km.
- market day: - every day
  - on a certain day only.

4.5.2. Disposal of agricultural produce.

	Consumed by farmers (%)	Sold in the local market (%)	Sold outside (%)
Rice			
Ground nuts			
Soybeans			
Sweet potatoes			
Cassava			
.....			
.....			
.....			

4.5.3. Price of agricultural products per kg. for the last three years.

Kind of product	19..	19..	19..
Paddy			
Ground nuts			
Corn			
Soybeans			
Sweet potatoes			
Cassava			
.....			
.....			
.....			
.....			

4.5.4. Roads.

- road network: - low frequency.
  - medium frequency.
  - high frequency.

- accessible road to project site: exists/non-existant.

- distance of project to public road: .....km.
- road condition:
  - accessible by car during all seasons.
  - accessible by car during dry season only.

4.5.5. Means of transportation:
- carrying pole
- bicycle
- dogcart/wagon
- vehicle
- train
- water/small boats

4.6. Population:

4.6.1. Total of population by age category in catchment area/subdistrict based on the latest census.

Age	Sex		Total
	Male	Female	
0 - 15 years 16 - 45 years 45 and above			
Total			

4.6.2. **Average annual rate of population growth: . . . .%**

Population increase due to:
- **birth**
- **transmigration**
- **birth and transmigration**

4.6.3. **Population density:**
- **geographic. . . . . persons/km^2**
- **arable land. . . . . persons/km^2.**

4.6.4. **Population grouping based on source of income:**
- **farmers: . . . . . persons (. . . .%)**
- **traders: . . . . . persons (. . . .%)**
- **laborers: . . . . . persons (. . . .%)**
- **government officials:. . . . .persons (. . . .%)**
- **fishermen:. . . . . persons (. . . .%)**
- **others:. . . . . persons (. . . .%)**

4.6.5. **Number of farmers as:**
- **land owners : . . . . . .persons (. . . .%)**
- **owner plus tillers: . . . . . persons (. . . .%)**
- **farm laborers: . . . . . persons (. . . .%)**

4.6.6. **Transmigration situation in project area:**
- **total :: . . . . . .persons.**
- **residing more than 10 years:. . . . . .persons.**
- **residing 3-10 years :. . . . . .persons.**
- **residing less than 3 years : . . . . . persons.**

5. PROJECT STATUS DURING PELITA I.

	Status			Executed by		
	Done	Being Done	Not Done	Prov. pub. works	Con-trac-tor	Local Gov't
5.1. Reconnaissance Survey.						
5.2. Special surveys:						
5.2.1. Soil survey						
5.2.2. Geological survey						
5.2.3. Hydrological survey						
5.2.4. Water quality survey						
5.2.5. Land use survey						
5.2.6.						
5.2.7.						
5.3. Situation surveying & mapping. (1 : 5.000)						
5.4. Topographical mapping (1 : 5.000) and canal trace measurement.						
5.5. Design:						
5.5.1. Dam						
5.5.2. Main gate						
5.5.3 Diversion gates						
5.5.4. Diversion boxes						
5.5.5. Drop structures						
5.5.6. Primary canal						
5.5.7. Secondary canal						
5.5.8. Drainage canal						

6. IMPLEMENTATION PLAN.

6.1. Projected project utility:

. . . . . .
. . . . . .
. . . . . .
. . . . . .
. . . . . .
. . . . . .

6.2. Area of planned project:

- Total project area: . . . . . .Ha.
- Existing paddy: . . . . . .Ha.
- Extension area (already in existence) . . . . . .Ha.
- New area: . . . . . .Ha.

6.3. Land use in project area at present:

- Forest : . . . . . .Ha.
- Grass/alang alang plain : . . . . . .Ha.
- Upland : . . . . . .Ha.
- Paddy : . . . . . .Ha.
- Swamp : . . . . . .Ha.
- Pond : . . . . . .Ha.
- Estate : . . . . . .Ha.
- Other : . . . . . .Ha.

6.4. Cultivated land in project area (Ha).

	Technically irrigated paddy	Semi-technically irrigated paddy	Village irrigated paddy	Rainfed paddy	Upland
Rainy season:					
Paddy					
Ground nuts					
Corn					
Soybeans					
Sweet potatoes					
Cassava					
. . . . .					

Dry season:

Paddy
Ground nuts
Corn
Soybeans
Sweet potatoes
Cassava
. . . . . .
. . . . . .
. . . . . .

6.5. **Expected yield after project completion.**

	Rainy season Quintal/Ha.	Dry season Quintal/Ha
- Paddy (Bimas)		
-- Paddy (Non-Bimas)		
- Ground nuts		
- Corn		
- Soybeans		
- Sweet potatoes		
- Cassava		
- Legumes		
-		
-		
-		

6.6. Land status of project:

- privately owned.
- traditional/clan ownership.
- state ownership.

6.7. Water Source:

6.7.1. River:
- Name of river/lake/water source: . . . . . .
  . . . . . .
- river length: . . . . . .km.
- maximum volume: . . . . . .m3/sec.
- minimum volume: . . . . . .m3/sec.
- average volume: . . . . . .m3/sec.
- maximum surface height: . . . . . .m.
- minimum surface height: . . . . . .m.

6.7.2. Forest situation in catchment area:
- destruction/deforestration: high/moderate/low.
- sediment content: high/moderate/low.
- reforestration (necessary/not necessary).

6.7.3. Swamp:
- Name: . . . . . .
- Size: . . . . . .km^2.
- Depth in dry season: . . . . . m.
- Depth in rainy season: . . . . . m.
- Size during dry season: . . . . .km^2
- Tide difference: . . . . . m.
- Basis of calculation: . . . . . .
  . . . . . .

6.8. Water Quality:

- Test performed (Yes/No)
- Date: . . . . . .
- Laboratory: . . . . . .
- pH: . . . . . .
- Is there any substance in the water harmful to plant growth?: (Yes/No)

6.9. Water distribution:

- rainy season : . . . . . .m^3/sec.
- dry season : . . . . . .m^3/sec.
- paddy that can be irrigated:
  - rainy season : . . . . . .ha.
  - dry season : . . . . . .ha.

Basis of calculation: . . . . . .
. . . . . .

6.10. Clasification of swamp area:

6.10.1. Totally flooded in rainy season and partially in dry season (Yes/No).

6.10.2. Totally flooded in rainy season and dry in dry season (Yes/No).

6.10.3. Caused by regular floods/tide/low land/ponds/ actually swamp areas.

6.11. Project Organization:

6.11.1. Is there any farmer organization managing water distribution in the project area?

6.11.2 Such organization is willing to undertake the operation and maintenance of the tertiary canals (Yes/No).

6.11.3. Project planning is coordinated with:
- Agric. Extension Service (Yes/No).
- Local government (Yes/No).
- Farmers (Yes/No).

6.12. Materials, manpower and special construction equipment:

6.12.1. Local construction materials:
- difficult/easy to obtain.
- distance for procurement: . . . . . .km.

6.12.2. Industrial construction materials:
- difficult/easy to obtain.
- distance for procurement: . . . . . .km.

6.12.3. Farmers:
- Number of farmers needed in irrigation area during rainy season: . . . . . .persons.
- Number of farmers available: . . . . . .persons.

6.12.4. Construction workers:
- number of workers needed through project completion (man/day basis): . . . . .man/days.
- number of workers needed during peak period of work: . . . . . .man/days.
- number of workers available: . . . . .persons.
- number of transmigrant workers needed: . . . . . .persons.
- average digging capacity per person per day.
- average salary of unskilled workers per day: Rp. . . . . .

6.12.5. Special construction equipment:
- water pump
- concrete mixer
- generator
- . . . . . .
- . . . . . .
- . . . . . .

6.13. <u>Difficulties in construction techniques</u>:

. . . . . .
. . . . . .
. . . . . .
. . . . . .
. . . . . .
. . . . . .

6.14. Construction budget.

S Y S T E M	TYPE OF CONSTRUCTION	C O S T	REMARKS
Simple Irrigation	- Weir - Main gate - Diversion gates - Diversion boxes - Drop structures - Primary canal - Secondary canals - Drainage canals - . . . . . . - . . . . . . - . . . . . . - Other costs/administration	Rp. . . . . . Rp. . . . . . Rp. . . . . . Rp. . . . . . Rp. . . . . . Rp. . . . . . Rp. . . . . . Rp. . . . . . Rp. . . . . . Rp. . . . . . Rp. . . . . . Rp.	
	T O T A L	Rp.	
Simple Reclamation	- Entrance canal - Drainage canals - Control gate - Drop structures - Embankment - . . . . . . - . . . . . . - Other costs/administration	Rp. . . . . . Rp. . . . . . Rp. . . . . . Rp. . . . . . Rp. . . . . . Rp. . . . . . Rp. . . . . . Rp.	
	T O T A L	Rp.	

6.15. Estimated budget until completion:

6.15.1. Fiscal year 1974/75 Rp. . . . . .
1975/76 Rp. . . . . .
1976/77 Rp. . . . . .
1977/78 Rp. . . . . .
1978/79 Rp. . . . . .

6.15.2. Duration of implementation: . . . . .years.

6.15.3. Estimated budget:
- budget approved for 1974/75:
. . . . . .
- proposed budget for 1975/76:
. . . . . .

6.15.4. Estimated cost for construction and maintenance as well as management of tertiary units per hectare.

- Construction cost of dam, main gate, primary canal, secondary canal, drainage canal, road Rp. . . . . /ha.

- Construction and maintenance cost of tertiary canal: Rp. . . . . ./ha.

- Management of each tertiary unit Rp. . . . . ./ha.

- Describe expected source of funding for operation and maintenance of tertiary canals:
. . . . . .
. . . . . .
. . . . . .

7. TIME SCHEDULE.

	1974/75	1975/76	1976/77	1977/78	1978/79
7.1. Preparation:					
7.1.1. Survey and Measurement.					
7.1.2. Planning/ Design.					
7.2. Physical Implementation:					
7.2.1. Dam					
7.2.2. Irrigation structures.					
7.2.3. Canals.					
7.2.4. Embankment					

8. SPECIAL NOTES.

. . . . . .

. . . . . .

. . . . . .

. . . . . .

Annex B.1.e.

DGWRD Grading Sheet for Selection

SELECTION RESULTS

SIMPLE IRRIGATION/RECLAMATION PROJECT

C O D E : . . . . . .

NUMBER : . . . . . .

PROJECT NAME : . . . . . .

PROVINCE : . . . . . .

DISTRICT : . . . . . .

SUBDISTRICT : . . . . . .

EVALUATION OF SIMPLE IRRIGATION/RECLAMATION PROJECT CATEGORY

	CATEGORY		
	A	B	C
1	2	3	4
1. SOIL FERTILITY			
1.1. pH.	5.00 - 6.25	6.25 - 7.50	more than 7.50 less than 5.00
1.2. Organic content.	adequate	medium	inadequate
1.3. Cation content.	adequate	medium	high/low
1.4. Soil structure.	crumb	other than hard or crumb	hard/massive
1.5. Soil texture.	clay, silty clay, very fine sandy silt and clay	sandy clay, fine sandy clay, loamy clay, sandy clay loam and silty clay loam	sandy clay sand, sandy loam, silty loam and loam
1.6. Paddy yield using fertilizers.	more than 4.5 tons/ha.	3.0 - 4.5 tons/ha.	less than 3.0 tons/ha.
1.7. Paddy yield without fertilizers.	more than 3 tons/ha.	2.0 - 3.0 tons/ha.	less than 2.0 tons/ha.
2. WATER			
2.1. Discharge - rainy season.	more than 1.2 liters/sec.	1.0 - 1.2 ltr/sec.	less than 1.0 ltr/sec.
- dry season.	more than 50%	less than 50%	----------
2.2. Quality: - pH	neutral	quite acid	acid
- Boron content.	less than 0.5 ppm	0.5 - 1.5 ppm	more than 1.5 ppm

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1	2	3	4
3. **MANPOWER**			
3.1. Manpower for project.	adequate	less (less than 100 men)	very inadequate
3.2. Land tiller (farmer).	adequate (250 men/ km^2)	less (100 - 250 men/km^2)	immigrant needed. (less than 100/ km^2)
4. **FLOOD SITUATION**			
4.1. Flood/natural disaster.	free	not free	----------
4.2. Flood/natural disaster frequency.	more than 10 yrs.	5 - 10 yrs.	1 - 5 yrs.
5. **LAND STATUS**			
5.1. Existence of land dispute.	none	yes	----------
5.2. Obstacle/not obstacle to implementation.	not obstacle	obstacle	----------
6. **MARKETING**			
6.1. Market place.	available	not available	----------
6.2. Distance from project.	less than/5.0 km.	5.0 - 7.5 km	more than 7.5 km.
6.3. B.U.U.D. and K.U.D.	available	not available	----------
6.4. Other credit institutions.	available	not available	----------

1	2	3	4
7. COMMUNICATIONS			
7.1. Access road to project site.	exists	does not exist	----------
7.2. Distance from production center to marketing center.	less than 5.0 km.	5.0 - 7.5 km.	more than 7.5 km.
7.3. Road condition.	good	fair	bad
7.4. Transport equipment.	adequate	medium	inadequate
7.5. Waterways.	well maintained	less maintained	not maintained
7.6. Water transport equipment.	adequate	medium	inadequate
8. OTHER			
8.1. Project cost	Rp. 100,000/ha.	Rp. 100,000 - Rp. 150,000/ha.	more than Rp, 150,000 per ha.
8.2. Duration of implementation	1 - 2 years	2 - 3 years	more than 3 years
8.3. Number of qualified contractors	more than 5	less than 5	----------

SPECIAL NOTES: . . . . . .

. . . . . .

Note: Original has the following additional columns.

5. SELECTION RESULT.
6. EVALUATION OF APPRAISAL TEAM.
7. REMARKS.

ANNEX B.2. Table 1
Sederhana (Simple) Irrigation and Land Development Program
GOI Targets for IFY's 1975-76 and 1976-77

	IFY 1975-76			IFY 1976-77			Total		
	#	Ha.	Cost Rp. Mil.	#	Ha.	Cost Rp. Mil.	#	Ha.	Cost Rp. Mil.
S. Sulawesi	32	11667	472.6	45	24570	1465.9	77	36237	1938.5
SE. Sulawesi	2	2600	427.8	3	6100	610.0	5	8700	1037.8
N. Sulawesi	4	1570	195.7	7	2770	150.0	11	4340	345.7
C. Sulawesi	6	3860	426.1	5	2300	210.0	11	6160	636.1
Tot. Sulawesi	44	19697	1522.2	60	35740	2435.9	104	55437	3958.1
Aceh	9	6500	240.6	8	4875	137.0	17	11375	377.6
N. Sumatra	12	5740	374.7	16	7165	365.0	28	12905	739.7
W. Sumatra	8	4460	350.8	11	7550	324.7	19	12010	675.5
Riau	8	2053	183.7	7	600	58.0	15	2653	241.7
Tot. N. Sumatra	37	18753	1149.8	42	20190	884.7	79	38943	2034.5
S. Sumatra	6	2000	244.4	23	7685	855.0	29	9685	1099.4
Jambi	26	5535	421.1	13	7430	410.0	39	12965	831.1
Bengkulu	13	4395	287.1	11	10150	681.7	24	14545	968.8
Lampung	11	3738	299.6	18	10225	578.1	29	13963	877.7
Tot. S. Sumatra	56	15668	1252.2	65	35490	2524.8	121	51158	3777.0
W. Kalimantan	1	100	10.3	-	-	-	1	100	10.3
S. Kalimantan	10	2325	165.5	43	5980	271.0	53	8305	436.5
E. Kalimantan	-	-	-	-	-	-	-	-	-
W. Java	14	3827	382.8	6	1869	143.8	20	5696	526.6
C. Java	7	1171	96.3	1	900	8.5	8	2071	104.8
D.I. Yogya	2	250	32.2	-	-	-	2	250	32.2
E. Java	5	868	42.6	-	-	-	5	868	42.6
Bali	6	910	79.7	-	-	-	6	910	79.7
W. Nusatenggara	4	1400	134.2	-	-	-	4	1400	134.2
E. Nusatenggara	4	500	50.7	-	-	-	4	500	50.7
Maluku	-	-	-	-	-	-	-	-	-
Tot. Java, Kalimantan and Other	53	11351	994.3	50	8749	423.3	103	20100	1417.6
Grand Total	190	65469	4918.5	217	100169	6268.7	407	165638	11187.2

ANNEX B.2. Table 1

Notes:

1. Cost estimates include Director General Water Resources Development (DGWRD) costs only.
2. Cost estimates include survey, design and construction costs including services of heavy construction equipment where applicable, but exclude cost of gabion wire and light equipment such as surveying equipment, water pumps, light trucks, jeeps and motor-bikes as well as central administrative costs.
3. Cost estimates do not include provisions for contingencies and price escalation.
4. IFY 1975-76 data from revised project lists compiled in last half CY 1974.
5. IFY 1976-77 data from preliminary project lists compiled in last half CY 1973.

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S. Kalimantan	10	2325	165.5	43	5980	271.0	53	8305	436.5
E. Kalimantan	-	-	-	-	-	-	-	-	-
W. Java	14	3827	382.8	6	1869	143.8	20	5696	526.6
C. Java	7	1171	96.3	1	900	8.5	8	2071	104.8
D.I. Yogya	2	250	32.2	-	-	-	2	250	32.2
E. Java	5	868	42.6	-	-	-	5	868	42.6
Bali	6	910	79.7	-	-	-	6	910	79.7
W. Nusatenggara	4	1400	134.2	-	-	-	4	1400	134.2
E. Nusatenggara	4	500	50.7	-	-	-	4	500	50.7
Maluku	-	-	-	-	-	-	-	-	-
Tot. Java, Kalimantan and Other	53	11351	994.3	50	8749	423.3	103	20100	1417.6
Grand Total	190	65469	4918.5	217	100169	6268.7	407	165638	11187.2

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1. Cost estimates include Director General Water Resources Development (DGWRD) costs only.
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3. Cost estimates do not include provisions for contingencies and price escalation.
4. IFY 1975-76 data from revised project lists compiled in last half CY 1974.
5. IFY 1976-77 data from preliminary project lists compiled in last half CY 1973.

ANNEX B.2. Table 2
Sederhana (Simple) Irrigation and Land Development Program
Breakdown Between Irrigation and Reclamation Projects
GOI Targets for IFY's 1975-76 and 1976-77

	IFY 1975-76						IFY 1976-77						Total IFY's 1975-76 and 1976-77					
	Irrigation		Reclamation		Total		Irrigation		Reclamation		Total		Irrigation		Reclamation		Total	
	#	Ha	#	Ha	#	Ha	#	Ha	#	Ha	#	Ha	#	Ha	#	Ha	#	Ha
S. Sulawesi	32	11667	-	-	32	11667	45	24570	-	-	45	24570	77	36237	-	-	77	36237
SE. Sulawesi	2	2600	-	-	2	2600	3	6100	-	-	3	6100	5	8700	-	-	5	8700
N. Sulawesi	4	1570	-	-	4	1570	7	2770	-	-	7	2770	11	4340	-	-	11	4340
C. Sulawesi	6	3860	-	-	6	3860	5	2300	-	-	5	2300	11	6160	-	-	11	6160
Tot. Sulawesi	44	19697	-	-	44	19697	60	35740	-	-	60	35740	104	55437	-	-	104	55437
Aceh	9	6500	-	-	9	6500	8	4875	-	-	8	4875	17	11375	-	-	17	11375
N. Sumatra	11	5490	1	250	12	5740	14	5805	2	1360	16	7165	25	11295	3	1610	28	12905
W. Sumatra	8	4460	-	-	8	4460	11	7550	-	-	11	7550	19	12010	-	-	19	12010
Riau	8	2053	-	-	8	2053	7	600	-	-	7	600	15	2653	-	-	15	2653
Tot. N. Sumatra	36	18503	1	250	37	18753	40	18830	2	1360	42	20190	76	37333	3	1610	79	38943
S. Sumatra	5	1300	1	700	6	2000	14	2785	9	4900	23	7685	19	4085	10	5600	29	9685
Jambi	22	4305	4	1230	26	5535	13	7430	-	-	13	7430	35	11735	4	1230	39	12965
Bengkulu	13	4395	-	-	13	4395	10	7650	1	2500	11	10150	23	12045	1	2500	24	14545
Lampung	11	3738	-	-	11	3738	18	10225	-	-	18	10225	29	13963	-	-	29	13963
Tot. S. Sumatra	51	13738	5	1930	56	15668	55	28090	10	7400	65	35490	106	41828	15	9330	121	51158
W. Kalimantan	1	100	-	-	1	100	-	-	-	-	-	-	1	100	-	-	1	100
S. and C. Kalimantan	7	1225	3	1100	10	2325	43	5980	-	-	43	5980	50	7205	3	1100	53	8305
E. Kalimantan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W. Java	14	3827	-	-	14	3827	6	1869	-	-	6	1869	20	5696	-	-	20	5696
C. Java	7	1171	-	-	7	1171	1	900	-	-	1	900	8	2071	-	-	8	2071
D. I. Yogya	2	250	-	-	2	250	-	-	-	-	-	-	2	250	-	-	2	250
E. Java	5	868	-	-	5	868	-	-	-	-	-	-	5	868	-	-	5	868
Bali	6	910	-	-	6	910	-	-	-	-	-	-	6	910	-	-	5	910
W. Nusatenggara	4	1400	-	-	4	1400	-	-	-	-	-	-	4	1400	-	-	4	1400
E. Nusatenggara	4	500	-	-	4	500	-	-	-	-	-	-	4	500	-	-	4	500
Maluku	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Java, Kalimantan and Other	50	10251	3	1100	53	11351	50	8749	-	-	50	8749	100	19000	3	1100	103	20100
Grand Total	181	62189	9	3280	190	65469	205	91409	12	8760	217	100169	386	153598	21	12040	407	165638
Percent Grand Total	95%	95%	5%	5%	-	-	94%	91%	6%	9%	-	-	95%	93%	5%	7%	-	-

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ANNEX B.2. Table 3
Sederhana (Simple) Irrigation and Land Development Program
Breakdown Between Existing and Extension/New Area -
GOI Targets for IFY's 1974-75 and 1975-76

	IFY 1974-75					IFY 1975-76					Total IFY's 1974-75 and 1975-76					
	Existing	Extension/New			Total	Existing	Extension/New			Total	Existing	Extension/New			Total	Percent Project Extension/ New Only
	Ha.	# Only	Ha.	#	Ha.	Ha.	# Only	Ha.	#	Ha.	Ha.	# Only	Ha.	#	Ha.	
S. Sulawesi	800	4	1250	8	2050	9142	0	2525	32	11667	9942	4	3775	40	13717	10%
SE. Sulawesi	-	2	3000	2	3000	400	0	2200	2	2600	400	2	5200	4	5600	50%
N. Sulawesi	486 1/	4	390 1/	11	1766 1/	50	3	1520	4	1570	536 1/	7	1910 1/	15	3336	47%
C. Sulawesi	446	1	2378	4	2824	2010	1	1850	6	3860	2456	2	4228	10	6684	20%
Tot. Sulawesi	1732	11	7018	25	9640	11602	4	8095	44	19697	13334	15	15113	69	29337	22%
Aceh	3365	0	710	7	4075	4000	0	2500	9	6500	7365	0	3210	16	10575	0%
N. Sumatra	2190	0	915	7	3105	3140	3	2600	12	5740	5330	3	3515	19	8845	16%
W. Sumatra	3518	2	212	14	3730	1200	4	3260	8	4460	4718	6	3472	22	8190	27%
Riau	372	0	-	4	372	1789	0	264	8	2053	2161	0	264	12	2425	0%
Tot. N. Sumatra	9445	2	1837	32	11282	10129	7	8624	37	18753	19574	9	10461	69	30035	13%
S. Sumatra	357	1	1066	8	1423	235	1	1765	6	2000	592	2	2831	14	3423	14%
Jambi	701	21	2787	25	3488	2300	6	3235	26	5535	3001	27	6022	51	9023	53%
Bengkulu	-	7	1004	7	1004	2335	6	2060	13	4395	2335	13	3064	20	5399	65%
Lampung	800	0	440	6	1240	1038	8	2700	11	3738	1838	8	3140	17	4978	47%
Tot. S. Sumatra	1858	29	5297	46	7155	5908	21	9760	56	15668	7766	50	15057	102	22873	49%
W. Kalimantan	-	-	-	-	-	15	0	85	1	100	15	0	85	1	100	0%
S. Kalimantan	520 2/	2	335 2/	8	1555 2/	580	2	1745	10	2325	1100 2/	4	2080 2/	18	3880 2/	22%
E. Kalimantan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W. Java	2327	8	2496	29	4823	3080	0	747	14	3827	5407	8	3243	43	8650	19%
C. Java	4784	1	228	31	5012	412	0	759	7	1171	5196	1	987	38	6183	3%
D. I. Yogya	-	2	100	2	100	103	0	147	2	250	103	2	247	4	350	50%
E. Java	1588	0	-	3	1588	416	1	452	5	868	2004	1	452	8	2456	13%
Bali	-	-	-	-	-	585	3	325	6	910	585	3	325	6	910	50%
W. Nusatenggara	-	-	-	-	-	1100	0	300	4	1400	1100	0	300	4	1400	0%
E. Nusatenggara	-	-	-	-	-	430	1	70	4	500	430	1	70	4	500	25%
Maluku	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Java, Kalimantan and Other	9219	13	3159	73	13078	6721	7	4630	53	11351	15940	20	7789	126	74429	16%
Grand Total	22254	55	17311	176	41155	34360	393	31109	190	65469	56614	94	48420	366	106624	26%
Percent Grand Total	54%	31%	42%	-	-	52%	21%	48%	-	-	53%	76%	45%	-	-	-

1/ 890 Ha. unspecified 2/ 700 Ha. unspecified.

ANNEX B.2. Table 4
Sederhana (Simple) Irrigation and Land Development Program
Size Distribution of Projects -
GOI Targets for IFY's 1975-76 and 1976-77 (Ha.)

	Less than 100	100-199	200-299	300-399	400-499	500-599	600-799	800-999	1000-1499	1500 and More	Total
S. Sulawesi	-	16	14	11	5	11	5	4	9	2	77
SE. Sulawesi	-	-	-	-	-	-	1	-	-	4	5
N. Sulawesi	-	1	4	1	3	-	-	2	-	-	11
C. Sulawesi	-	-	-	2	4	1	1	3	-	-	11
Tot. Sulawesi	-	17	18	14	12	12	7	9	9	6	104
Aceh	-	-	-	3	-	3	7	1	3	-	17
N. Sumatra	-	4	5	4	1	5	4	5	-	-	28
W. Sumatra	-	5	-	2	1	3	1	1	5	1	19
Riau	5	5	3	-	1	-	1	-	-	-	15
Tot. N. Sumatra	5	14	8	9	3	11	13	7	8	1	79
S. Sumatra	-	13	4	3	1	2	4	1	1	-	29
Jambi	5	8	7	6	4	2	4	2	1	-	39
Bengkulu	-	4	6	2	-	1	5	1	3	2	24
Lampung	1	6	6	2	4	6	1	-	-	3	29
Tot. S. Sumatra	6	31	23	13	9	11	14	4	5	5	121
W. Kalimantan	-	1	-	-	-	-	-	-	-	-	1
S. Kalimantan	11	28	10	1	-	1	2	-	-	-	53
E. Kalimantan	-	-	-	-	-	-	-	-	-	-	-
W. Java	2	7	5	-	1	4	1	-	-	-	20
C. Java	5	-	1	-	-	-	1	1	-	-	8
D. I. Yogya	1	-	1	-	-	-	-	-	-	-	2
E. Java	1	1	3	-	-	-	-	-	-	-	5
Bali	2	2	1	1	-	-	-	-	-	-	6
W. Nusatenggara	-	-	1	1	1	1	-	-	-	-	4
E. Nusatenggara	1	3	-	-	-	-	-	-	-	-	4
Maluku	-	-	-	-	-	-	-	-	-	-	-
Tot. Java, Kalimantan and Other	23	42	22	3	2	6	4	1	-	-	103
Grand Total	34	104	71	39	26	40	38	21	22	12	407
Percent Total	8.4%	25.6%	17.4%	9.6%	6.4%	9.8%	9.3%	5.2%	5.4%	2.9%	100.0%
Cumulative Percent	8.4%	33.9%	51.4%	60.9%	67.3%	77.1%	86.5%	91.6%	97.1%	100.0%	100.0%

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ANNEX B.2. Table 5
Sederhana (Simple) Irrigation and Land Development Program
Repelita II 689 Thousand Ha. Program (Ha.)

	IFY 1974-75	IFY 1975-76	IFY 1976-77	IFY 1977-78	IFY 1978-79	Total Repelita II
S. Sulawesi	2050	11667	24570	40155	82880	161322
SE. Sulawesi	3000	2600	6100	-	22700	34400
N. Sulawesi	1766	1570	2770	100	-	6206
C. Sulawesi	2824	3860	2300	11250	200	20434
Tot. Sulawesi	9640	19697	35740	51505	105780	222362
Aceh	4075	6500	4875	4300	7500	27250
N. Sumatra	3105	5740	7165	31350	35930	83290
W. Sumatra	3730	4460	7550	10055	23625	49420
Riau	372	2053	600	3800	-	6825
Tot. N. Sumatra	11282	18753	20190	49505	67055	166785
S. Sumatra	1423	2000	7685	21277	34750	67135
Jambi	3488	5535	7430	29075	25995	71523
Bengkulu	1004	4395	10150	15014	29364	59927
Lampung	1240	3738	10225	10490	22025	47718
Tot. S. Sumatra	7155	15668	35490	75856	112134	246303
W. Kalimantan	-	100	-	-	-	100
S. Kalimantan	1555	2325	5980	-	-	9860
E. Kalimantan	-	-	-	-	-	-
W. Java	4823	3827	1869	6885	1480	18884
C. Java	5012	1171	900	4537	3207	14827
D. I. Yogya	100	250	-	3833	605	4788
E. Java	1588	868	-	-	-	2456
Bali	-	910	-	-	-	910
W. Nusatenggara	-	1400	-	-	-	1400
E. Nusatenggara	-	500	-	-	-	500
Maluku	-	-	-	-	-	-
Total Java, Kalimantan and Other	13078	11351	8749	15255	5292	53725
Grand Total	41155	65469	100169	192121	290261	689175

ANNEX B.2. Table 6
Sederhana (Simple) Irrigation and Land Development Program
GOI Targets for Repelita II

	#	Ha.	Percent Ha.	Cumulative Percent Ha.	Cost Rp. Mil.	Cost $ Thou.
Indonesian Fiscal Year						
1974-75	176	41155	7.4%	7.4%	2552.3	6150.1
1975-76	190	65469	11.8%	19.1%	4918.6	11852.0
1976-77	217	100169	18.0%	37.1%	6268.7	15105.3
1977-78	369	150000	26.9%	64.1%	10131.2	24412.5
1978-79	491	200000	35.9%	100.0%	13508.2	32550.0
	1443	556793	100.0%		37379.0	90069.9

Notes:
1. Cost estimates include Director General Water Resource Development (DGWRD) costs only.
2. Cost estimates include survey, design and construction costs including services of heavy construction equipment where applicable, but exclude cost of gabion wire and light equipment such as surveying equipment, water pumps, light trucks, jeeps and motor bikes as well as central administrative costs.
3. Cost estimates do not include provisions for contingencies and price escalation.
4. IFY 1974-75 and 1975-76 data from revised project lists compiled in last half CY 1974.
5. IFY 1976-77 data from preliminary project lists compiled in last half CY 1973.
6. Project lists for IFY's 1977-78 and 1978-79 not available. Number of projects and cost for these IFY's estimated using grand total average cost per hectare and area per project for IFY's 1975-76 and 1976-77 combined.

ANNEX B. 2 Table 7
Sederhana (Simple) Irrigation and Land Development Program
Repelita II 689 Thousand Ha. Program and GOI Targets
for IFY's 1975-76 and 1976-77 - Summary by Region and Province

		Repelita II					FY's 1975-76 and 1976-77		
		Thou. Ha.	% Ha.	Cumulative % Ha.			Thou. Ha.	% Ha.	Cumulative % Ha.
Region					**Region**				
A. S. Sumatra		246.3	35.7%	35.7%	B. Sulawesi		55.4	33.5%	33.5%
B. Sulawesi		222.4	32.3%	68.0%	A. S. Sumatra		51.2	30.9%	64.4%
C. N. Sumatra		166.8	24.2%	92.2%	C. N. Sumatra		38.9	23.5%	87.9%
D. Java, Kalimantan and Other		53.7	7.8%	100.0%	D. Java, Kalimantan & Other		20.1	12.1%	100.0%
Total		689.2	100.0%	-	Total		165.6	100.0%	-
Provinces					**Provinces**				
1. S. Sulawesi	B	161.3	23.4%	23.4%	1. S. Sulawesi	B	36.2	21.9%	21.9%
2. N. Sumatra	C	83.3	12.1%	35.5%	5. Bengkulu	A	14.5	8.8%	30.7%
3. Jambi	A	71.5	10.4%	45.9%	7. Lampung	A	14.0	8.4%	39.1%
4. S. Sumatra	A	67.1	9.7%	55.6%	3. Jambi	A	13.0	7.8%	46.9%
5. Bengkulu	A	59.9	8.7%	64.3%	2. N. Sumatra	C	12.9	7.8%	54.7%
6. W. Sumatra	C	49.4	7.2%	71.5%	6. W. Sumatra	C	12.0	7.3%	62.0%
7. Lampung	A	47.7	6.9%	78.4%	9. Aceh	C	11.4	6.9%	68.8%
8. SE. Sulawesi	B	34.4	5.0%	83.4%	4. S. Sumatra	A	9.7	5.8%	74.7%
9. Aceh	C	27.3	4.0%	87.3%	8. SE. Sulawesi	B	8.7	5.3%	79.9%
10. C. Sulawesi	B	20.4	3.0%	90.3%	13. S. Kalimantan	D	8.3	5.0%	84.9%
11. W. Java	D	18.9	2.7%	93.1%	10. C. Sulawesi	B	6.2	3.7%	88.7%
12. C. Java	D	14.8	2.2%	95.2%	11. W. Java	D	5.7	3.4%	92.1%
13. S. Kalimantan	D	9.9	1.4%	96.6%	15. N. Sulawesi	B	4.3	2.6%	94.7%
14. Riau	C	6.8	1.0%	97.6%	14. Riau	C	2.7	1.6%	96.3%
15. N. Sulawesi	B	6.2	0.9%	98.5%	12. C. Java	D	2.1	1.3%	97.6%
16. D. I. Yogya	D	4.8	0.7%	99.2%	18. W. Nusatenggara	D	1.4	0.8%	98.4%
17. E. Java	D	2.5	0.4%	99.6%	19. Bali	D	0.9	0.5%	99.0%
18. W. Nusatenggara	D	1.4	0.2%	99.8%	17. E. Java	D	0.9	0.5%	99.5%
19. Bali	D	0.9	0.1%	99.9%	20. E. Nusatenggara	D	0.5	0.3%	99.8%
20. E. Nusatenggara	D	0.5	0.1%	100.0%	16. D. I. Yogya	D	0.3	0.2%	99.9%
21. W. Kalimantan	D	0.1	0.0%	100.0%	21. W. Kalimantan	D	0.1	0.1%	100.0%
22. Maluku	D	0.0	0.0%	100.0%	22. Maluku	D	0.0	0.0%	100.0%
23. E. Kalimantan	D	0.0	0.0%	100.0%	23. E. Kalimantan	D	0.0	0.0%	100.0%
Total		689.2	100.0%	-			165.6	100.0%	-

ANNEX B.2. Table 8
Sederhana (Simple) Irrigation and Land Development Program
DGWRD Approved Budget IFY 1974-75 (Rp. Mil.)

	Construction	Survey & Design	Gabion Wire	Surveying Equipment	Water Pumps	Light Trucks	Motor Bikes	Cent. Admin.	Total
S. Sulawesi	160.0	57.5	4.0	1.6	5.0	8.0	1.5	2.4	240.0
SE. Sulawesi	224.8	33.0	3.0	3.2	4.0	8.0	1.2	2.8	280.0
N. Sulawesi	71.5	17.4	3.0	3.2	4.0	8.0	1.2	1.1	109.4
C. Sulawesi	176.9	36.9	2.0	1.6	2.0	12.0	0.9	2.3	234.6
Tot. Sulawesi	633.2	144.8	12.0	9.6	15.0	36.0	4.8	8.6	864.0
Aceh	110.1	36.2	9.8	3.2	3.0	8.0	0.9	1.7	172.9
N. Sumatra	120.8	33.3	1.4	3.2	4.0	8.0	0.9	1.7	173.3
W. Sumatra	178.4	49.7	15.8	4.0	5.0	16.0	1.5	2.7	273.1
Riau	32.3	7.0	-	1.6	2.0	4.0	0.6	0.5	48.0
Tot. N. Sumatra	441.6	126.2	27.0	12.0	14.0	36.0	3.9	6.6	667.3
S. Sumatra	80.1	37.6	2.9	3.2	5.0	8.0	0.9	1.4	139.1
Jambi	291.1	43.2	0.7	4.0	5.0	16.0	1.2	3.7	364.9
Bengkulu	87.9	30.3	0.6	3.2	4.0	8.0	1.2	1.4	136.6
Lampung	69.4	37.6	2.8	3.2	4.0	12.0	1.2	1.3	131.5
Tot. S. Sumatra	528.5	148.7	7.0	13.6	18.0	44.0	4.5	7.8	772.1
W. Kalimantan	-	-	-	-	-	-	-	-	-
S. Kalimantan	60.9	23.8	6.0	3.2	5.0	4.0	4.2	1.1	108.2
E. Kalimantan	-	-	-	-	-	-	-	-	-
W. Java	392.6	37.6	13.2	4.0	3.0	12.0	1.5	4.7	468.6
C. Java	283.2	38.4	1.0	4.0	4.0	12.0	1.5	3.5	347.6
D. I. Yogya	7.8	6.3	0.6	1.6	1.0	-	0.6	0.2	18.1
E. Java	81.0	14.2	0.8	0.8	2.0	4.0	0.6	1.0	104.4
Bali	-	-	-	-	-	-	-	-	-
W. Nusatenggara	-	-	-	-	-	-	-	-	-
E. Nusatenggara	-	-	-	-	-	-	-	-	-
Maluku	-	-	-	-	-	-	-	-	-
Tot. Java, Kalimantan and Other	825.5	120.3	21.6	13.6	15.0	32.0	8.4	10.5	1046.9
Grand Total	2428.8	540.0	67.6	48.8	62.0	148.0	21.6	33.5	3350.3

ANNEX B.2. Table 9
Sederhana (Simple) Irrigation and Land Development Program
DGWRD Budget Request for IFY 1975-76 (Rp. Mil.)

	Construction	Survey and Design	Gabion Wire	Surveying Equipment	Water Pumps	Jeeps	Motor Bikes	Central Administration	Total
S. Sulawesi	437.6	18.6	17.8	4.0	5.0	8.0	2.0	24.7	517.7
SE. Sulawesi	420.0	10.7	4.0	4.0	3.0	8.0	1.0	23.7	474.4
N. Sulawesi	191.0	5.7	2.2	2.0	2.0	4.0	1.0	10.8	218.7
C. Sulawesi	414.5	12.0	5.9	2.0	3.0	4.0	1.5	23.4	466.3
Tot. Sulawesi	1463.1	47.0	29.9	12.0	13.0	24.0	5.5	82.6	1677.1
Aceh	221.1	11.8	9.9	4.0	4.0	8.0	1.5	12.5	272.8
N. Sumatra	357.5	10.8	8.4	4.0	3.0	8.0	1.0	20.2	412.9
W. Sumatra	337.4	16.1	6.8	4.0	3.0	8.0	1.0	19.1	395.4
Riau	177.5	2.3	6.9	2.0	2.0	4.0	1.0	10.0	205.7
Tot. N. Sumatra	1093.5	41.0	32.0	14.0	12.0	28.0	4.5	61.8	1286.8
S. Sumatra	238.4	12.2	2.0	2.0	2.0	8.0	2.0	13.5	280.1
Jambi	404.5	14.0	6.6	4.0	4.0	4.0	1.0	22.9	461.0
Bengkulu	273.9	9.8	6.7	4.0	3.0	8.0	1.5	15.5	322.4
Lampung	288.4	12.2	5.7	4.0	3.0	8.0	1.0	16.3	338.6
Tot. S. Sumatra	1205.2	48.2	21.0	14.0	12.0	28.0	5.5	68.2	1402.1
W. Kalimantan	10.0	2/	0.1	4.0	-	-	1.5	0.6	16.2 3/
S. Kalimantan	158.5	7.7	1.9	2.0	2.0	4.0	-	9.0	185.1
E. Kalimantan	-	15.0	-	2.0	2.0	-	2.0	-	21.0
W. Java	371.3	12.2	5.8	2.0	3.0	8.0	1.0	21.0	424.3
C. Java	92.8	12.4	1.8	4.0	3.0	8.0	1.0	5.2	128.2
D. I. Yogya	31.5	2.1	0.2	2.0	1.0	4.0	1.0	1.8	43.6
E. Java	40.0	4.6	1.3	2.0	2.0	8.0	1.0	2.3	61.2
Bali	77.0	2/	1.4	2.0	2.0	4.0	1.0	4.4	91.8 3/
W. Nusatenggara	130.0	2/	0.8	2.0	2.0	8.0	2.0	7.3	152.1 3/
E. Nusatenggara	49.2	2/	2.1	2.0	2.0	8.0	1.5	2.8	67.6 3/
Maluku	-	25.0	-	4.0	-	-	1.5	-	30.5
Tot. Java, Kalimantan and Other	960.3	103.8	15.4	28.0	19.0	52.0	13.5	54.4	1246.4
Grand Total	4722.1	240.0	98.3	68.0	56.0	132.0	29.0	267.0 1/	5612.4

1/ Includes 4 jeeps and 2 motor bikes.
2/ Breakdown not available.
3/ Excluding survey and design.

ANNEX B.2. Table 10
Sederhana (Simple) Irrigation and Land Development Program - DGWRD Budget
Allocations for IFY's 1974-75 and 1975-76 - Survey and
Design (Ha.) and Gabion Wire (tons)

	IFY 1974-75 Budget				IFY 1975-76	Gabion Wire	
	IFY 1974-75	IFY 1975-76	IFY 1976-77	Total	Budget	IFY 1974-75	IFY 1975-76
S. Sulawesi	3150	8000	8000	19150	5745	10.0	46.7
SE. Sulawesi	3000	4000	4000	11000	3300	7.5	10.4
N. Sulawesi	1813	2000	2000	5813	1744	7.5	5.8
C. Sulawesi	3300	4000	5000	12300	3690	5.0	15.4
Tot. Sulawesi	11263	18000	19000	48263	14479	20.0	78.3
Aceh	4075	4000	4000	12075	3623	24.5	26.0
N. Sumatra	3105	3000	5000	11105	3332	3.5	22.0
W. Sumatra	6576	5000	5000	16576	4973	39.6	17.9
Riau	330	1000	1000	2330	699	-	18.1
Tot. N. Sumatra	14086	13000	15000	42086	12627	67.6	84.0
S. Sumatra	2525	5000	5000	12525	3758	7.2	5.2
Jambi	5410	5000	4000	14410	4323	1.8	17.2
Bengkulu	2080	4000	4000	10080	3024	1.6	17.5
Lampung	4525	4000	4000	12525	3758	6.9	15.0
Tot. S. Sumatra	14540	18000	17000	49540	14863	17.5	54.9
W. Kalimantan	-	-	-	-	1/	-	0.4
S. Kalimantan	1945	3200	3000	7945	2384	15.0	4.9
E. Kalimantan	-	-	-	-	2610	-	-
W. Java	6523	4000	2000	12523	3757	33.0	15.3
C. Java	8782	2000	2000	12782	3835	2.5	4.7
D. I. Yogya	105	1000	1000	2105	632	1.5	0.6
E. Java	2748	1000	1000	4748	1424	2.0	3.5
Bali	-	-	-	-	1/	-	3.6
W. Nusatenggara	-	-	-	-	1/	-	2.0
E. Nusatenggara	-	-	-	-	1/	-	5.6
Maluku	-	-	-	-	1000	-	-
Tot. Java, Kalimantan and Other	20103	11000	9000	40103	23262	54.0	40.6
Grand Total	59992	60000	60000	179992	65231	169.1	257.8

1/ Breakdown not available.

ANNEX B.2. Table 11
Sederhana (Simple) Irrigation and Land Development Program -
DGWRD Budget Allocations for IFY's 1974-75 and 1975-76 -
Light Equipment (number)

	Surveying Equipment		Water Pumps		Light Trucks	Jeeps	Motor Bikes	
	IFY 1974-75	IFY 1975-76	IFY 1974-75	IFY 1975-76	IFY 1974-75	IFY 1975-76	IFY 1974-75	IFY 1975-76
S. Sulawesi	2	4	5	5	2	2	5	4
SE. Sulawesi	4	4	4	3	2	2	4	2
N. Sulawesi	4	2	4	2	2	1	4	2
C. Sulawesi	2	2	2	3	3	1	3	3
Tot. Sulawesi	12	12	15	13	9	6	16	11
Aceh	4	4	3	4	2	2	3	3
N. Sumatra	4	4	4	3	2	2	3	2
W. Sumatra	5	4	5	3	4	2	5	2
Riau	2	2	2	2	1	1	2	2
Tot. N. Sumatra	15	14	14	12	9	7	13	9
S. Sumatra	4	2	5	2	2	2	3	4
Jambi	5	4	5	4	4	1	4	2
Bengkulu	4	4	4	3	2	2	4	3
Lampung	4	4	4	3	3	2	4	2
Tot. S. Sumatra	17	14	18	12	11	7	15	11
W. Kalimantan	-	4	-	-	-	-	-	3
S. Kalimantan	4	2	5	2	1	1	14	-
E. Kalimantan	-	2	-	2	-	-	-	4
W. Java	5	2	3	3	3	2	5	2
C. Java	5	4	4	3	3	2	5	2
D. I. Yogya	2	2	1	1	-	1	2	2
E. Java	1	2	2	2	1	2	2	2
Bali	-	2	-	2	-	1	-	2
W. Nusatenggara	-	2	-	2	-	2	-	4
E. Nusatenggara	-	2	-	2	-	2	-	3
Maluku	-	4	-	-	-	-	-	3
Tot. Java, Kalimantan and Other	17	28	15	19	8	13	28	27
Grand Total	61	68	62	56	37	33	72	58

ANNEX B.2. Table 12
Sederhana (Simple) Irrigation and Land Development Program -
Implementation Capability of Provincial Public Works Offices
Existing Personnel and New Technical High School Graduates (STM)

	Technical Personnel					Administrative Personnel			
	Univ. Grad. (IR)	Bachelors (BIE, BE)	Univ. Grad/ Bachelors	Technical H.S. (STM)	Other	Univ. Grad/ Bachelors	High School	Other	New STM Graduates
S. Sulawesi	-	7	7	61	60	-	36	525	393
SE. Sulawesi	-	1	1	5	2	1	4	63	-
N. Sulawesi	2	11	13	24	41	-	29	351	16
C. Sulawesi	2	7	9	11	13	-	10	52	-
Tot. Sulawesi	4	26	30	101	116	1	79	991	409
Aceh	1	9	10	50	32	2	39	647	16
N. Sumatra	2	7	9	21	57	5	17	90	236
W. Sumatra	2	15	17	60	35	6	12	110	303
Riau	-	3	3	8	13	-	9	53	57
Tot. N. Sumatra	5	34	39	139	137	13	77	900	612
S. Sumatra	2	13	15	105	61	2	35	305	185
Jambi	3	8	11	50	11	4	8	50	17
Bengkulu	-	7	7	28	9	4	6	-	30
Lampung	2	8	10	20	23	-	12	10	-
Tot. S. Sumatra	7	36	43	203	104	10	61	365	232
W. Kalimantan	na	na	na	na	na	na	na	na	14
S. Kalimantan	-	8	8	10	11	-	-	1	32
E. Kalimantan	na	na	na	na	na	na	na	na	-
W. Java	7	29	36	184	106	5	64	385	783
C. Java	13	38	51	10	2	-	1	4	1988
D. I. Yogya	3	2	5	5	10	1	8	342	173
E. Java	15	27	42	77	8	-	-	1	1352
Bali	na	na	na	na	na	na	na	na	15
W. Nusatenggara	na	na	na	na	na	na	na	na	29
E. Nusatenggara	-	3	3	39	9	-	4	11	26
Maluku	na	na	na	na	na	na	na	na	29
Tot. Java, Kalimantan and Other	38	107	145	325	146	6	77	744	4441
Grand Total	54	203	257	768	503	30	294	3000	6029 1/
Grand Total Less Java	16	107	123	492	377	24	221	2268	1398

1/ Includes DKI Jakarta 323 and Irian Jaya 12.

Notes: 1. Existing personnel as of beginning of IFY 1974-75.
2. New technical high school graduates (STM) in construction (bangunan) in 1971.
3. na - not available.

ANNEX B.2. Table 13
Sederhana (Simple) Irrigation and Land Development Program - Implementation
Capability of Provincial Public Works Offices - Existing Equipment

	Heavy Equipment				Light Equipment				
	Earth Moving Equip.	Dump Trucks	Soil Compactors	Lg. Concrete Mixers	Surveying Equipment	Water Pumps	Light Trucks	Jeeps	Motor Bikes
S. Sulawesi	3	18	8	-	10	30	11	28	40
SE. Sulawesi	-	3	2	-	4	4	3	3	4
N. Sulawesi	11	13	2	-	7	9	2	6	15
C. Sulawesi	-	14	6	-	2	2	2	8	5
Tot. Sulawesi	14	48	18	-	23	45	18	45	64
Aceh	-	-	-	-	8	3	-	2	2
N. Sumatra	-	2	-	-	19	-	11	25	18
W. Sumatra	-	6	2	3	20	20	-	5	18
Riau	-	-	-	-	4	2	-	3	2
Tot. N. Sumatra	-	8	2	3	51	25	11	35	40
S. Sumatra	-	7	2	-	34	21	11	8	14
Jambi	-	-	2	-	9	4	1	2	6
Bengkulu	3	3	2	2	6	16	1	6	16
Lampung	-	1	-	2	10	3	3	5	4
Tot. S. Sumatra	3	11	6	4	59	44	16	21	40
W. Kalimantan	na	na	na	na	na	na	na	na	na
S. Kalimantan	7	-	3	-	-	5	4	4	4
E. Kalimantan	na	na	na	na	na	na	na	na	na
W. Java	6	63	37	1	15	86	17	42	133
C. Java	11	21	22	-	11	32	8	51	83
D. I. Yogya	4	11	-	-	4	12	13	14	4
E. Java	22	21	23	4	14	226	51	75	105
Bali	na	na	na	na	na	na	na	na	na
W. Nusatenggara	na	na	na	na	na	na	na	na	na
E. Nusatenggara	-	1	4	-	7	10	2	9	9
Maluku	na	na	na	na	na	na	na	na	na
Tot. Java, Kalimantan and Other	50	117	89	5	51	371	95	195	338
Grand Total	67	184	115	12	184	485	140	296	482
Grand Total less Java	24	68	33	7	140	129	51	114	157

Notes:
1. Existing equipment as of beginning of IFY 1974-75.
2. na - not available.

ANNEX B.2. Table 14
Sederhana (Simple) Irrigation and Land Development Program
Implementation Capability of Provincial Public Works Offices
Availability of Survey and Design and Construction Contractors

	Survey and Design	Construction
S. Sulawesi	1	28
SE. Sulawesi	1	6
N. Sulawesi	1	Some
C. Sulawesi	1	40
Tot. Sulawesi	4	74 +
Aceh	-	163
N. Sumatra	5	36
W. Sumatra	-	34
Riau	-	Some
Tot. N. Sumatra	5	233 +
S. Sumatra	1	17
Jambi	Some	Some
Bengkulu	2	41
Lampung	-	30
Tot. S. Sumatra	3 +	88 +
W. Kalimantan	na	na
S. Kalimantan	-	8
E. Kalimantan	na	na
W. Java	10	414
C. Java	6	94
D. I. Yogya	4	13
E. Java	5	227
Bali	na	na
W. Nusatenggara	na	na
E. Nusatenggara	na	na
Maluku	na	na
Tot. Java, Kalimantan and Other	25	756
Grand Total	37 +	1151 +
Grand Total Less Java	12 +	403 +

Note: na - not available.

ANNEX B.2. Table 15
Sederhana (Simple) Irrigation and Land Development Program
Implementation Capability of Provincial Public Works Offices
Designated Survey and Design Contractors with Directorate of
Irrigation Prequalification Classification - IFY 1974-75

	#	Name of Contractor	Domicile	Prequalification Classification: Survey and Mapping	Reconnaissance and Design	Soil and Geological Investigation	Total Provinces
S. Sulawesi	1	P.T. Pancabawana	Bandung	A	B	-	4
	2	C.V. AMP	Ujung Pandang	na	na	na	1
SE. Sulawesi	1	P.T. Tricon	Bandung	A	B	A	3
	2	C.V. ACE	Bandung	-	-	A	1
N. Sulawesi	1	P.T. Tricon	Bandung	A	B	A	3
	2	C.V. AMP	Menado	na	na	na	1
C. Sulawesi	1	P.T. Pancabawana	Bandung	A	B	-	4
	2	P.T. Tricon	Bandung	A	B	A	3
	3	BIEC	Bandung	-	-	A	1
	4	C.V. Hydro	Bandung	na	na	na	1
Tot. Sulawesi	6						
Aceh	1	B.P. Tritunggal	Bandung	A	-	-	4
N. Sumatra	1	Waskita Karya	Medan	na	na	na	1
	2	Karya Sakti	Medan	na	na	na	1
W. Sumatra	1	P.T. Dwi Delta Corp.	Jakarta	B	B	B	2
	2	B.P. Tritunggal	Bandung	A	-	-	4
Riau	1	C.V. Trijaya	Bandung/ Pakanbaru	A	-	B	5
Tot. N. Sumatra	5						
S. Sumatra	1	P.T. Tirtajaya	Bandung	B	B	B	3
Jambi	1	P.T. Indah Karya	Bandung	A	A	B	1
	2	C.V. Trijaya	Bandung/Jambi	A	-	B	5
Bengkulu	1	C.V. Trijaya	Bandung/ Bengkulu	A	-	B	5
Lampung	1	P.T. Pancabawana	Bandung	A	B	-	4
	2	C.V. Trijaya	Bandung	A	-	B	5
Tot. S. Sumatra	4						
W. Kalimantan		None designated					
S. Kalimantan	1	B.P. Tritunggal	Bandung	A	-	-	4
E. Kalimantan		None designated					
W. Java	1	P.T. Karpa	Bandung	A	B	-	1

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ANNEX B.2. Table 15 (con't)
Sederhana (Simple) Irrigation and Land Development Program
Implementation Capability of Provincial Public Works Offices
Designated Survey and Design Contractors with Directorate of
Irrigation Prequalification Classification - IFY 1974-75

	#	Name of Contractor	Domicile	Prequalification Classification: Survey and Mapping	Reconnaissance and Design	Soil and Geological Investigation	Total Provinces
	2	P.T. Pancabawana	Bandung	A	B	-	4
	3	P.T. Tirtajaya	Bandung	B	B	B	3
	4	C.V. Trijaya	Bandung	A	-	B	5
C. Java	1	P.T. Dwi Delta Corp.	Jakarta	B	B	B	2
	2	P.T. Tirtajaya	Bandung	B	B	B	3
	3	B.P. Tritunggal	Bandung	A	-	-	4
	4	P.T. Indah Karya	Semarang	na	na	na	1
	5	P.T. Virama Karya	Surakarta	na	na	na	1
D. I. Yogya		None designated					
E. Java	1	Fateks - ITS	Surabaya	na	na	na	1
Bali		None designated					
W. Nusatenggara		None designated					
E. Nusatenggara		None designated					
Maluku		None designated					
Tot. Java, Kalimantan and Other	9						
Grand Total	18						

Directorate of Irrigation Prequalification Classification for Other Survey and Design Contractors Domiciled in Jakarta/Bandung.

1	C.V. Kuta Mas	Bandung	A	B	B
2	B.P. Mezan	Bandung	-	B	-
3	P.T. Propelat	Bandung	B	B	A
4	P.T. Exsa International Co. Ltd	Jakarta	-	B	-
5	P.T. Intechno Pertamina Consultant	Jakarta	B	B	B
6	P.T. Sangkuriang	Bandung	B	A	A
7	P.T. Ices Contractors	Bandung	-	A	-
8	Biro Teknik "Subur"	Bandung	-	B	B
9	P.T. Virama Karya	Jakarta	B	B	B
10	Water Engineering Consultants, Ltd.	Bandung	-	B	-
11	P.T. Nusantara Survey	Bandung	B	-	-

ANNEX B.2. Table 15 (con't)
Sederhana (Simple) Irrigation and Land Development Program
Implementation Capability of Provincial Public Works Office
Designated Survey and Design Contractors with Directorate of
Irrigation Prequalification Classification - IFY 1974-75

#	Name of Contractor	Domicile	Prequalification Classification		
			Survey and Mapping	Reconnaissance and Design	Soil and Geological Investigation
Directorate of Irrigation Prequalification Classification for Other Survey and Design Contractors Domiciled in Jakarta/Bandung.					
12	P.T. KLM Aerocarto	Jakarta	A	-	-
13	P.T. Nacco	Bandung	A	-	-
14	Biro Teknik Soil Art	Bandung	-	-	B
15	C.V. Geoteknik	Bandung	-	-	B

* Note: na - not available.

ANNEX B. Z. Table 16
Sederhana (Simple) Irrigation and Land Development Program
Implementation Capability of Rural Irrigation Service in the
Provinces - Personnel and Light Equipment

	Technical Personnel				Light Equipment	
	University Graduates	High School	Field Extension Agents (PPL)	Administrative Personnel	Jeeps	Motor Bikes
S. Sulawesi	2	1	7	4	1	3
SE. Sulawesi	-	1	12	-	-	-
N. Sulawesi	-	1	9	-	-	-
C. Sulawesi	1	1	9	3	1	2
Tot. Sulawesi	3	4	37	7	2	5
Aceh	1	1	3	2	1	3
N. Sumatra	2	-	9	3	1	3
W. Sumatra	1	1	6	3	-	2
Riau	-	1	2	-	-	-
Tot. N. Sumatra	4	3	20	8	2	8
S. Sumatra	-	1	8	-	-	-
Jambi	1	1	17	-	-	-
Bengkulu	-	1	8	-	-	-
Lampung	1	1	39	2	-	-
Tot. S. Sumatra	2	4	72	2	-	-
W. Kalimantan	-	1	1	-	-	-
S. Kalimantan	1	1	17	4	-	-
E. Kalimantan	-	1	-	-	-	-
W. Java	2	2	17	2	1	3
C. Java	3	1	15	4	1	2
D. I. Yogya	2	1	2	3	-	-
E. Java	-	3	8	4	1	2
Bali	1	1	2	3	-	-
W. Nusatenggara	1	2	1	3	-	-
E. Nusatenggara	1	2	1	2	-	-
Maluku	-	1	-	-	-	-
Tot. Java, Kalimantan and Other	11	16	64	25	3	7
Grand Total	20	27	193	42	7	20
Grand Total Less Java	13	20	151	29	4	13

ANNEX B.2. Table 17

Sederhana (Simple) Irrigation and Land Development Program

Provincial Public Works Office Personnel Requirements to Meet GOI Targets - University Graduates/Bachelors (IR/BE/BIE)

	Existing	Surplus (-) Deficit (+) IFY 1973-74 Tot. Program	Sederhana Program Requirement IFY 1974-75 Gross	IFY 1974-75 Net	IFY 197 -76 Gross	IFY 197 -76 Net	IFY 1976-77 Gross	IFY 1976-77 Net
S. Sulawesi	7	-2	6	4	33	27*	70	37*
SE. Sulawesi	1	+2	9	11*	7	-	17	4**
N. Sulawesi	13	-11	5	-	4	-	8	-
C. Sulawesi	9	-7	8	1	11	3	7	-
Total Sulawesi	30	-18	28	16	55	30	102	41
Aceh	10	-6	12	6*	19	7*	14	-
N. Sumatra	9	-4	9	5	16	7*	20	4**
W. Sumatra	17	-8	11	3	13	2	22	9*
Riau	3	-2	1	-	6	4	2	-
Total N. Sumatra	39	-20	33	14	54	20	58	13
S. Sumatra	15	-7	4	-	6	-	22	15*
Jambi	11	-6	10	4	16	6*	21	5**
Bengkulu	7	-6	3	-	13	7*	29	16*
Lampung	10	-4	4	-	11	7*	29	18*
Total S. Sumatra	43	-23	21	4	46	20	101	54
W. Kalimantan	-	-	-	-	0	-	-	-
S. Kalimantan	8	+4	4	8*	7	3**	17	10*
E. Kalimantan	-	-	-	-	-	-	-	-
W. Java	36	0	14	14	11	-	5	-
C. Java	51	0	14	14	3	-	3	-
D. I. Yogya	5	0	0	0	1	1	-	-
E. Java	42	0	5	5	2	-	-	-
Bali	-	-	-	-	8	3	-	-
W. Nusatenggara	-	-	-	-	4	4	-	-
E. Nusatenggara	3	0	-	-	1	1	-	-
Maluku	-	-	-	-	-		-	-
Total Java, Kalimantan and Other	145	+4	37	41	32	12	25	10
Grand Total	257	57	119	75	187	82	286	118
Grand Total Less Java	123	57	86	42	170	81	278	118

* Implementation constraint if assume province outside Java in single year can hire maximum of 5 IR/BIE for Sederhana Program.

** Implementation constraint if net requirement not met in previous year(s).

ANNEX B.2. Table 17

Notes:

1. 350 ha. per IR/BE/BIE standard derived from data on existing IR/BE/BIE and area completed for all programs in IFY 1973-74.
2. Rp. 17.0 million per IR/BE/BIE standard derived from data on existing IR/BE/BIE and budget expenditures for all programs in IFY 1973-74.
3. Lowest of requirements obtained by using two standards used as surplus/deficit in IFY 1973-74. Surplus/deficit in IFY 1973-74 for provinces on Java assumed to be zero because of large size of total program in these provinces.
4. 350 ha. per IR/BE/BIE standard used to determine gross requirements for IFY's 1974-75 through 1976-77.

ANNEX B.2. Table 18
Sederhana (Simple) Irrigation and Land Development Program
Provincial Public Works Office Personnel Requirements to Meet GOI Target - Technical High School (STM)

	Existing	Surplus (-) Deficit (+) IFY 1973-74 Tot. Program	Sederhana Program Requirements IFY 1974-75 Gross	IFY 1974-75 Net	IFY 1975-76 Gross	IFY 1975-76 Net	IFY 1976-77 Gross	IFY 1976-77 Net
S. Sulawesi	61	-43	20	-	111	68	234	123
SE. Sulawesi	5	+4	29	33*	25	-**	58	29
N. Sulawesi	24	-16	17	1	15	-	26	9
C. Sulawesi	11	-5	27	22*	37	10**	22	-
Total Sulawesi	101	-60	93	56	188	78	340	161
Aceh	50	-36	39	3	62	23	46	-
N. Sumatra	21	-4	30	26*	55	25	68	13
W. Sumatra	60	-30	36	6	42	6	72	30
Riau	8	-4	4	-	20	16*	6	-
Total N. Sumatra	139	-74	109	35	179	70	192	43
S. Sumatra	105	-80	14	-	19	-	73	-
Jambi	50	-32	33	1	53	20	71	18
Bengkulu	28	-24	10	-	42	18	97	55*
Lampung	20	+1	12	13	36	24*	97	61*
Total S. Sumatra	203	-135	69	14	150	62	338	134
W. Kalimantan	-	-	-	-	1	1	-	-
S. Kalimantan	10	+32	15	47*	22	7**	57	35*
E. Kalimantan	-	-	-	-	-	-	-	-
W. Java	184	0	46	46	36	-	18	-
C. Java	10	0	48	48	11	-	9	-
D. I. Yogya	5	0	1	1	2	1	-	-
E. Java	77	0	15	15	8	-	-	-
Bali	-	-	-	-	9	9	-	-
W. Nusatenggara	-	-	-	-	13	13	-	-
E. Nusatenggara	39	-29	-	-	5	-	-	-
Maluku	-	-	-	-	-	-	-	-
Total Java, Kalimantan and Other	325	+10	125	157	107	31	84	35
Grand Total	768	-225	396	262	624	241	954	373
Grand Total Less Java	492	-225	286	152	567	240	977	373

* Implementation constraint if assume province outside Java in single year (1) can hire maximum of 1/3 of STM graduates from within province for Sederhana Program, (2) can hire maximum of 20 STM graduates from outside province for Sederhana Program and (3) can increase total STM employees by maximum of 100%.

** Implementation constraint if net requirement not met in previous year(s).

ANNEX B.2. Table 18

Notes:

1. 105 ha. per STM standard derived from data on existing STM and area completed for all programs in IFY 1973-74.
2. Rp. 5.1 million per STM standard derived from data on existing STM and budget expenditures for all programs in IFY 1973-74.
3. Lowest of requirements obtained by using two standards used as surplus/deficit in IFY 1973-74. Surplus/deficit in IFY 1973-74 for provinces on Java assumed to be zero because of large size of total program in these provinces.
4. 105 ha. per STM standard used to determine gross requirements for IFY's 1974-75 through 1976-77.

ANNEX B.2. Table 19
Sederhana (Simple) Irrigation and Land Development Program
GOI and Constrained Targets for IFYs 1974-75 through 1976-77 (Ha.)

	IFY 1974-75			IFY 1975-76			IFY 1976-77		
	GOI Target	Constrained Target	Binding Constraint	GOI Target	Constrained Target	Binding Constraint	GOI Target	Constrained Target	Binding Constraint
S. Sulawesi	2050	2050	None	11667	3850	IR/BE/BIE	24750	5600	IR/BE/BIE
SE. Sulawesi	3000	105	STM	2600	1155	STM	6100	3255	STM
N. Sulawesi	1766	1766	None	1570	1570	None	2770	2770	None
C. Sulawesi	2824	1680	STM	3860	3780	STM	2300	2300	None
Total Sulawesi	9640	5601	-	19697	10355		35740	13925	
Aceh	4075	3850	IR/BE/BIE	6500	5600	IR/BE/BIE	4875	4875	None
N. Sumatra	3105	2625	STM	5740	4900	IR/BE/BIE	7165	6650	IR/BE/BIE
W. Sumatra	3730	3730	None	4460	4460	None	7550	6300	IR/BE/BIE
Riau	372	372	None	2053	1260	STM	600	600	None
Total N. Sumatra	11282	10577	-	18753	16220		20190	18425	
S. Sumatra	1423	1423	None	2000	2000	None	7685	4200	IR/BE/BIE
Jambi	3488	3488	None	5535	5250	IR/BE/BIE	7430	7000	IR/BE/BIE
Bengkulu	1004	1004	None	4395	3850	IR/BE/BIE	10150	5600	IR/BE/BIE
Lampung	1240	1240	None	3738	3150	IR/BE/BIE	10225	4900	IR/BE/BIE
Tot. S. Sumatra	7155	7155	-	15668	14250		35490	21700	
W. Kalimantan	-	-	-	100	100	None	-	-	-
S. Kalimantan	1555	0	STM	2325	0	STM	5980	3045	STM
E. Kalimantan	-	-	-	-	-	-	-	-	-
W. Java	4823	4823	None	3827	3827	None	1869	1869	None
C. Java	5012	5012	None	1171	1171	None	900	900	None
D. I. Yogya	100	100	None	250	250	None	-	-	-
E. Java	1588	1588	None	868	868	None	-	-	-
Bali	-	-	-	910	910	None	-	-	-
W. Nusatenggara	-	-	-	1400	1400	None	-	-	-
E. Nusatenggara	-	-	-	500	500	None	-	-	-
Maluku	-	-	-	-	-	-	-	-	-
Total Java, Kalimantan and Other	13078	11523	-	11351	9026	-	8749	5814	-
Grand Total	41155	34856	-	65469	49851	-	100169	59864	-
Percent	-	84.7%	-	-	76.1%	-	-	59.8%	-

Note: Binding constraint calculation based on implementation constraint assumptions used in Tables 17 and 18.

ANNEX B.2. Table 20
Sederhana (Simple) Irrigation and Land Development Program -
Light Equipment Needs for Constrained Targets

	DGWRD		Rural Irrigation Service			
	Area Standard (Ha.)	IFY 1976-77 Needs	Area Standard (Ha.)	Needs IFY 1975-76	Needs IFY 1976-77	Total
Surveying Equipment	300	60	2400	27	11	38
Drawing Equipment	-	-	2400	27	11	38
Planimeters	-	-	1/	23	-	23
4" Water Pumps	300	71	-	-	-	-
2" Water Pumps	-	-	1200	43	26	69
One Bag Cement Mixers	-	-	1200	43	26	69
3/4 Ton Pickup Trucks	1000	19	2000	30	15	45
Jeeps (CJ6)	600	43	2400	24	7	31
Motor Bikes	300	64	600	57	53	110

1/ One per province

Notes:
1. DGWRD
   a. Area standards derived from data on existing light equipment and area completed for all programs in IFY 1973-74.
   b. IFY 1976-77 needs obtained by using similar analysis to that used to determine IR/BE/BIE and STM requirements (See Tables 17 and 18 including notes) with exception that budget allocations for light equipment in IFY's 1974-75 and 1975-76 taken into account.
2. Rural Irrigation Service.
   a. Area standards derived by considering corresponding DGWRD standards and the difference between the functions of the Rural Irrigation Service and the DGWRD.
   b. Needs take existing light equipment into account.

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ANNEX B.2. Table 21

AID Sederhana (Simple) Irrigation and Land Development Project - Detailed Cost Estimate

	Foreign Exchange			Local Currency					Total	
	$ Thou.			Rp. Mil.			$ Thou.		$ Thou.	
	Prelim. Calc.	Amount	Total Amount	Prelim. Calc.	Amount	Total Amount	Amount	Total Amount	Amount	Total Amount
I. DGWRD										
A. Fixed Amount Reimbursement (FAR)										
1.IFY 1975-76 Expenditures										
a.Construction				4722.1						
76.1% Constrained Target	-	-	-	3593.5	3593.5	4959.1	8659.0	11949.6	8659.0	11949.6
b.Gabion Wire				98.3						
76.1% Constrained Target	-	-	-	74.8	74.8	103.2	180.2	248.7	180.2	248.7
c.Light Equipment										
1). 4" Water Pumps (56)	-	-	-	-	56.0	77.3	134.9	186.3	134.9	186.3
2). Motor Bikes (60)	-	-	-	-	30.0	41.4	72.3	99.8	72.3	99.8
2.IFY 1976-77 Expenditures										
a.Construction				5968.2						
59.8% Constrained Target				3569.0						
42% Inc. fm. Prelim. Est.	-	-	-	5068.0	5068.0	8392.5	12212.0	20222.9	12212.0	20222.9
b.Gabion Wire				160.3						
59.8% Constrained Target	-	-	-	95.9	95.9	158.7	231.1	382.4	231.1	382.4
c.Light Equipment										
1). 4" Water Pumps (71)	-	-	-	-	71.0	117.6	171.1	283.4	171.1	283.4
2). Motor Bikes (64)	-	-	-	-	32.0	53.0	77.1	127.7	77.1	127.7
3.Survey and Design	-	-	-	-	329.1	378.5	793.0	912.0	793.0	912.0
4.In-Country Training	-	-	-	-	105.8	121.7	254.9	293.2	254.9	293.2
Subtotal FAR	-	-	-	-	9456.1	14403.0	22785.6	34706.0	22785.6	34706.0
B. Traditional Direct Procurement										
1.Long-term Consultants (8)	-	886.9	1019.9	-	122.7	141.1	295.6	340.0	1182.5	1359.9
2.Short-term Consultants	-	292.5	336.4	-	40.5	46.5	97.5	112.1	390.0	448.5
3.Light Equipment										
a.3/4 Ton Pickup Trucks (19)	-	153.9	177.0	-	7.1	8.2	17.1	19.7	171.0	196.7
b.Jeeps (CJ6)										
1).IFY 1975-76 (37)	-	240.5	276.6	-	11.5	13.3	27.8	32.0	268.3	308.6
2).IFY 1976-77 (43)	-	279.5	321.4	-	13.4	15.4	32.3	37.1	311.8	358.5
4.Overseas Training	-	45.0	51.8	-	-	-	-	-	45.0	51.8
5.Hydrology Equipment	-	90.0	103.5	-	4.2	4.8	10.0	11.5	100.0	115.0
6.Maintenance Support										
Light Equipment and Hand Tools	-	900.0	1035.0	-	41.5	47.7	100.0	115.0	1000.0	1150.0
Subtotal Direct Procurement	-	2888.3	3321.6	-	240.9	277.0	580.3	667.4	3468.6	3989.0

ANNEX B.2. Table 21 (con't)
AID Sederhana (Simple) Irrigation and Land Development Project - Detailed Cost Estimate

	Foreign Exchange			Local Currency					Total	
	$ Thou.			Rp. Mil.			$ Thou.		$ Thou.	
	Prelim. Calc.	Amount	Total Amount	Prelim. Calc.	Amount	Total Amount	Amount	Total Amount	Amount	Total Amount
C. GOI Contribution										
1.IFY 1975-76 Expenditures										
a.Light Equipment										
-Surveying Equipment (68)	-	-	-	-	68.0	93.8	163.9	226.0	163.9	226.0
b.Central Administration	-	-	-	-	250.0	345.0	602.4	831.3	602.4	831.3
2.IFY 1976-77 Expenditures										
a.Light Equipment										
-Surveying Equipment (60)	-	-	-	-	60.0	99.4	144.6	239.5	144.6	239.5
b.Central Administration	-	-	-	-	266.2	440.8	641.4	1062.2	641.4	1062.2
Subtotal GOI Contribution	-	-	-	-	644.2	979.0	1552.3	2359.0	1552.3	2359.0
Total DGWRD	-	2888.3	3321.6		10341.2	15659.0	24918.2	37732.4	27806.5	41054.0
II. Dept. (Min.) of Agriculture										
A.Fixed Amount Reimbursement (FAR)										
1.IFY 1975-76 Expenditures										
a.Light Equipment										
1). 2" Water Pumps (43)	-	-	-	-	18.1	25.0	43.6	60.2	43.6	60.2
2). Motor Bikes (57)	-	-	-	-	28.5	39.3	68.7	94.7	68.7	94.7
b.Hand Tools	-	-	-	-	35.0	48.3	84.3	116.4	84.3	116.4
2.IFY 1976-77 Expenditures										
a.Light Equipment										
1). 2" Water Pumps (26)	-	-	-	-	10.9	18.1	26.3	43.6	26.3	43.6
2). Motor Bikes (53)	-	-	-	-	26.5	43.9	63.9	105.8	63.9	105.8
b.Hand Tools	-	-	-	-	35.0	58.0	84.3	139.8	84.3	139.8
3.Formation of Water User Associations and Extension	-	-	-	-	150.3	172.9	362.2	416.6	362.2	416.6
4.Construction of Water User Association Offices	-	-	-	-	164.6	189.3	396.6	456.1	396.6	456.1
5.Construction of Farm Service Ditches (40%)	-	-	-	-	438.9	504.7	1057.6	1216.1	1057.6	1216.1
6.In-Country Training	-	-	-	-	165.0	189.8	397.6	457.3	397.6	457.3
Subtotal FAR	-	-	-	-	1072.8	1289.3	2585.1	3106.6	2585.1	3106.6

ANNEX B.2. Table 21 (con't)

AID Sederhana (Simple) Irrigation and Land Development Project - Detailed Cost Estimates

	Foreign Exchange			Local Currency					Total	
	$ Thou.			Rp. Mil.			$ Thou.		$ Thou.	
	Prelim. Calc.	Amount	Total Amount	Prelim. Calc.	Amount	Total Amount	Amount	Total Amount	Amount	Total Amount
B. Traditional Direct Procurement										
1. Long-term consultants (4)	-	495.0	569.3	-	68.5	78.8	165.0	189.8	660.0	759.1
2. Short-term consultants	-	58.5	67.3	-	8.1	9.3	19.5	22.4	78.0	89.7
3. Light Equipment										
a. One Bag Cement Mixers										
1). IFY 1975-76 (43)	-	38.7	44.5	-	1.8	2.0	4.3	4.9	43.0	49.4
2). IFY 1976-77 (26)	-	23.4	26.9	-	1.1	1.2	2.6	3.0	26.0	29.9
b. 3/4 Ton Pickup Trucks										
1). IFY 1975-76 (30)	-	243.0	279.5	-	11.2	12.9	27.0	31.1	270.0	310.6
2). IFY 1976-77 (15)	-	121.5	139.7	-	5.6	6.4	13.5	15.5	135.0	155.2
c. Jeeps (CJ 6)										
1). IFY 1975-76 (24)	-	156.0	179.4	-	7.5	8.6	18.0	20.7	174.0	200.1
2). IFY 1976-77 (7)	-	45.5	52.3	-	2.2	2.5	5.3	6.1	50.8	58.4
4. Overseas Training	-	45.0	51.8	-	-	-	-	-	45.0	51.8
Subtotal Direct Procurement	-	1226.6	1410.7	-	106.0	121.7	255.2	293.5	1481.8	1704.2
C. GOI Contribution										
1. IFY 1975-76 Expenditures										
a. Light Equipment										
1). Surveying Equipment (27)	-	-	-	-	27.0	37.3	65.1	89.9	65.1	89.9
2). Drawing Equipment (27)	-	-	-	-	27.0	37.3	65.1	89.9	65.1	89.9
3). Planimeters (23)	-	-	-	-	11.5	15.9	27.7	38.3	27.7	38.3
b. Office Facilities (23)	-	-	-	-	34.5	47.6	83.1	114.7	83.1	114.7
c. Administration (Exploitation and Control)	-	-	-	-	373.9	516.0	901.0	1243.4	901.0	1243.4
2. IFY 1976-77 Expenditures										
a. Light Equipment										
1). Surveying Equipment (11)	-	-	-	-	11.0	18.2	26.5	43.9	26.5	43.9
2). Drawing Equipment (11)	-	-	-	-	11.0	18.2	26.5	43.9	26.5	43.9
b. Administration (Exploitation and Control)	-	-	-	-	449.0	743.5	1081.9	1791.6	1081.9	1791.6
3. Construction of Farm Service Ditches (50%)										
a. IFY 1975-76 Projects	-	-	-	-	249.3	286.7	600.7	690.8	600.7	690.8
b. IFY 1976-77 Projects	-	-	-	-	299.3	344.2	721.2	829.4	721.2	829.4
Subtotal GOI Contribution	-	-	-	-	1493.5	2064.9	3598.8	4975.8	3598.8	4975.8
Total Dept. Agriculture	-	1226.6	1410.7	-	2672.3	3475.9	6439.1	8375.9	7665.7	9786.6

ANNEX B.2. Table 21 (con't)
AID Sederhana (Simple) Irrigation and Land Development Project - Detailed Cost Estimate

	$ Thou.			Rp. Mil.			$ Thou.		$ Thou.	
	Prelim. Calc.	Amount	Total Amount	Prelim. Calc.	Amount	Total Amount	Amount	Total Amount	Amount	Total Amount
III. Ministry of Interior										
C. GOI Contribution										
1. Land Certificates	-	-	-	-	438.9	504.7	1057.6	1216.1	1057.6	1216.1
IV. Bank Rakyat Indonesia (BRI)										
C. GOI Contribution										
1. Credit for Land Clearing (60%)										
a. IFY 1975-76 Projects	-	-	-	-	32.5	37.4	78.3	90.1	78.3	90.1
b. IFY 1976-77 Projects	-	-	-	-	39.0	44.9	94.0	108.2	94.0	108.2
2. Credit for Leveling and Paddy Shaping (60%)										
a. IFY 1975-76 Projects	-	-	-	-	510.8	587.4	1230.8	1415.4	1230.8	1415.4
b. IFY 1976-77 Projects	-	-	-	-	613.4	705.4	1478.1	1699.8	1478.1	1699.8
Total BRI	-	-	-	-	1195.7	1375.1	2881.2	3313.5	2881.2	3313.5
V. Farmers										
D. Farmer Contribution										
1. Land Clearing (40%)										
a. IFY 1975-76 Projects	-	-	-	-	21.6	24.8	52.0	59.8	52.0	59.8
b. IFY 1976-77 Projects	-	-	-	-	26.0	29.9	62.7	72.0	62.7	72.0
2. Leveling and Paddy Shaping (40%)										
a. IFY 1975-76 Projects	-	-	-	-	340.5	391.6	820.5	943.6	820.5	943.6
b. IFY 1976-77 Projects	-	-	-	-	408.9	470.2	985.3	1133.0	985.3	1133.0
3. Labor for Construction of Tertiary Canals and Farm Service Ditches										
a. IFY 1975-76 Projects	-	-	-	-	269.2	309.6	648.7	746.0	648.7	746.0
b. IFY 1976-77 Projects	-	-	-	-	323.3	371.8	779.0	895.9	779.0	895.9
Total Farmers	-	-	-	-	1389.5	1597.9	3348.2	3850.3	3348.2	3850.3
Grand Total	-	4114.9	4732.3	-	16037.6	22612.6	38644.3	54488.2	42759.2	59220.5

Note: Total Amount column includes provisions for contingencies (15%) and price escalation (20% per year) where appropriate.

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ANNEX B.2. Table 22
AID Sederhana (Simple) Irrigation and Land Development Project -
Summary of Cost Estimate by Input

	Foreign Exchange		Local Currency				Total		
	$ Thou.		Rp. Mil.		$ Thou.		$ Thou.		Percent of
	Amount	Total Amount	Amount	Total Amount	Amount	Total Amount	Amount	Total Amount	Total
I. DGWRD									
A. Long-term Consultants(8)	886.9	1019.9	122.7	141.1	295.6	340.0	1182.5	1359.9	3.3
B. Short-term Consultants	292.5	336.4	40.5	46.5	97.5	112.1	390.0	448.5	1.1
C. Training									
1. In-Country	-	-	105.8	121.7	254.9	293.2	254.9	293.2	0.7
2. Overseas	45.0	51.8	-	-	-	-	45.0	51.8	0.1
Subtotal	45.0	51.8	105.8	121.7	254.9	293.2	299.9	345.0	0.8
D. Gabion Wire	-	-	170.7	261.9	411.3	631.1	411.3	631.1	1.5
E. Light Equipment									
1. Surveying Equipment(128)	-	-	128.0	193.2	308.5	465.5	308.5	465.5	1.1
2. 4" Water Pumps (127)	-	-	127.0	194.9	306.0	469.7	306.0	469.7	1.2
3. 3/4 ton Pickup Trucks(19)	153.9	117.0	7.1	8.2	17.1	19.7	171.0	196.7	0.5
4. Jeeps (CJ6) (80)	520.0	598.0	24.9	28.7	60.1	69.1	580.1	667.1	1.6
5. Motor Bikes (124)	-	-	62.0	94.4	149.4	227.5	149.4	227.5	0.6
Subtotal	673.9	775.0	349.0	519.4	841.1	1251.5	1515.0	2026.5	5.0
F. Hydrology Equipment	90.0	103.5	4.2	4.8	10.0	11.5	100.0	115.0	0.3
G. Maintenance Support Light Equipment and Hand Tools	900.0	1035.0	41.5	47.7	100.0	115.0	1000.0	1150.0	2.8
H. Survey and Design	-	-	329.1	378.5	793.0	912.0	793.0	912.0	2.2
I. Construction	-	-	8661.5	13351.6	20871.0	32172.5	20871.0	32172.5	78.4
J. Central Administration	-	-	516.2	785.8	1243.8	1893.5	1243.8	1893.5	4.6
Total DGWRD	2888.3	3321.6	10341.2	15659.0	24918.2	37732.4	27806.5	41054.0	69.3/100.0
II. Dept. (Min. of Agriculture)									
A. Long-term Consultants(4)	495.0	569.3	68.5	78.8	165.0	189.8	660.0	759.1	7.7
B. Short-term Consultants	58.5	67.3	8.1	9.3	19.5	22.4	78.0	89.7	0.9
C. Training									
1. In-Country	-	-	165.0	189.8	397.6	457.3	397.6	457.3	4.7
2. Overseas	45.0	51.8	-	-	-	-	45.0	51.8	0.5
Subtotal	45.0	51.8	165.0	189.8	397.6	457.3	442.6	509.1	5.2

ANNEX B.2. Table 22 (con't)
AID Sederhana (Simple) Irrigation and Land Development Project -
Summary of Cost Estimate by Input

	Foreign Exchange		Local Currency				Total		
	$ Thou.		Rp. Mil.		$ Thou.		$ Thou.		Percent of
	Amount	Total Amount	Amount	Total Amount	Amount	Total Amount	Amount	Total Amount	Amount
D. Light Equipment									
1. Surveying Equipment (38)	-	-	38.0	55.5	91.6	133.8	91.6	133.8	1.4
2. Drawing Equipment (38)	-	-	38.0	55.5	91.6	133.8	91.6	133.8	1.4
3. Planimeters (23)	-	-	11.5	15.9	27.7	38.3	27.7	38.3	0.4
4. 2" Water Pumps (69)	-	-	29.0	43.1	69.9	103.8	69.9	103.8	1.1
5. One Bag Cement Mixers (69)	62.1	71.4	2.9	3.2	6.9	7.9	69.0	79.3	0.8
6. 3/4 Ton Pickup Trucks (45)	364.5	419.2	16.8	19.3	40.5	46.6	405.0	465.8	4.8
7. Jeeps (CJ6) (31)	201.5	231.7	9.7	11.1	23.3	26.8	224.8	258.5	2.6
8. Motor Bikes (110)	-	-	55.0	83.2	132.6	200.5	132.6	200.5	2.0
Subtotal	628.1	722.3	200.9	286.8	484.1	691.5	1112.2	1413.8	14.5
E. Hand Tools	-	-	70.0	106.3	168.6	256.2	168.6	256.2	2.6
F. Formation of Water User Associations and Extension	-	-	150.3	172.9	362.2	416.6	362.2	416.6	4.2
G. Construction of Water User Association Offices	-	-	164.6	189.3	396.6	456.1	396.6	456.1	4.7
H. Construction of Farm Service Ditches	-	-	987.5	1135.6	2379.5	2736.3	2379.5	2736.3	28.0
I. Office Facilities (23)	-	-	34.5	47.6	83.1	114.7	83.1	114.7	1.2
J. Administration (Exploitation and Control)	-	-	822.9	1259.5	1982.9	3035.0	1982.9	3035.0	31.0
Total Dept. Agriculture	1226.6	1410.7	2672.3	3475.9	6439.1	8375.9	7665.7	9786.6	16.5/100.0
III. Ministry of Interior									
A. Land Certificates	-	-	438.9	504.7	1057.6	1216.1	1057.6	1216.1	2.1
IV. Bank Rakyat Indonesia (BRI)									
A. Credit for Land Clearing, Leveling and Paddy Shaping	-	-	1195.7	1375.1	2881.2	3313.5	2881.2	3313.5	5.6
V. Farmers									
A. Land Clearing, Leveling and Paddy Shaping	-	-	797.0	916.5	1920.5	2208.4	1920.5	2208.4	57.4
B. Labor for Construction of Tertiary Canals and Farm Service Ditches	-	-	592.5	681.4	1427.7	1641.9	1427.7	1641.9	42.6
Total Farmers	-	-	1389.5	1597.9	3348.2	3850.3	3348.2	3850.3	6.5/100.0

ANNEX B.2. Table 22 (con't)
AID Sederhana (Simple) Irrigation and Land Development Project -
Summary of Cost Estimate by Input

	Foreign Exhange		Local Currency				Total		
	$ Thou.		Rp. Mil.		$ Thou.		$ Thou.		Percent of
	Amount	Total Amount	Amount	Total Amount	Amount	Total Amount	Amount	Total Amount	Amount
VI. Grand Total									
A. Long-term Consultants(12)	1381.9	1589.2	191.2	219.9	460.6	529.8	1842.5	2119.0	3.6
B. Short-term Consultants	351.0	403.7	48.6	55.8	117.0	134.5	468.0	538.2	0.9
C. Training									
1. In-Country	-	-	270.8	311.5	652.5	750.5	652.5	750.5	1.3
2. Overseas	90.0	103.6	-	-	-	-	90.0	103.6	0.2
Subtotal	90.0	103.6	270.8	311.5	652.5	750.5	742.5	854.1	1.5
D. Gabion Wire	-	-	170.7	261.9	411.3	631.1	411.3	631.1	1.1
E. Light Equipment									
1. Surveying Equipment (166)	-	-	166.0	248.7	400.1	599.3	400.1	599.3	1.0
2. Drawing Equipment (38)	-	-	38.0	55.5	91.6	133.8	91.6	133.8	0.2
3. Planimeters (23)	-	-	11.5	15.9	27.7	38.3	27.7	38.3	0.1
4. 4" Water Pumps (127)	-	-	127.0	194.9	306.0	469.7	306.0	469.7	0.8
5. 2" Water Pumps (69)	-	-	29.0	43.1	69.9	103.8	69.9	103.8	0.2
6. One Bag Cement Mixers (69)	62.1	71.4	2.9	3.2	6.9	7.9	69.0	79.3	0.1
7. 3/4 Ton Pickup Trucks (64)	518.4	596.2	23.9	27.5	57.6	66.3	576.0	662.5	1.1
8. Jeeps (CJ6) (111)	721.5	829.7	34.6	39.8	83.4	95.9	804.9	925.6	1.6
9. Motor Bikes (234)	-	-	117.0	177.6	282.0	428.0	282.0	428.0	0.7
Subtotal	1302.0	1497.3	549.9	806.2	1325.2	1943.0	2627.2	3440.3	5.8
F. Hand Tools	-	-	70.0	106.3	168.6	256.2	168.6	256.2	0.4
G. Hydrology Equipment	90.0	103.5	4.2	4.8	10.0	11.5	100.0	115.0	0.2
H. Maintenance Support Light Equipment and Hand Tools	900.0	1035.0	41.5	47.7	100.0	115.0	1000.0	1150.0	1.9
I. Survey and Design	-	-	329.1	378.5	793.0	912.0	793.0	912.0	1.5
J. Construction	-	-	8661.5	13351.6	20871.0	32172.5	20871.0	32172.5	54.3
K. Formation of Water User Associations and Extension	-	-	150.3	172.9	362.2	416.6	362.2	416.6	0.7
L. Construction of Water User Association Offices	-	-	164.6	189.3	396.6	456.1	396.6	456.1	0.8
M. Land Certificates	-	-	438.9	504.7	1057.6	1216.1	1057.6	1216.1	2.1
N. Land Clearing, Leveling and Paddy Shaping	-	-	1992.7	2291.6	4801.7	5521.9	4801.7	5521.9	9.3
O. Construction of Farm Service Ditches	-	-	1580.0	1817.0	3807.2	4378.2	3807.2	4378.2	7.4
P. Administration	-	-	1373.6	2092.9	3309.8	5043.2	3309.8	5043.2	8.5
Grand Total	4114.9	4732.3	16037.6	22612.6	38644.3	54488.2	42759.2	59220.5	100.0

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ANNEX B.2. Table 23
AID Sederhana (Simple) Irrigation and Land Development Project -
Summary of Cost Estimate by AID Financing Category

	Foreign Exchange		Local Currency				Total		
	$ Thou.		Rp. Mil.		$ Thou.		$ Thou.		Percent of
	Amount	Total Amount	Amount	Total Amount	Amount	Total Amount	Amount	Total Amount	Total
I. DGWRD									
A. Fixed Amount Reimbursement (FAR)	-	-	9456.1	14403.0	22785.6	34706.0	22785.6	34706.0	84.5
B. Traditional Direct Procurement	2888.3	3321.6	240.9	277.0	580.3	667.4	3468.6	3989.0	9.7
C. GOI Contribution	-	-	644.2	979.0	1552.3	2359.0	1552.3	2359.0	5.7
Total DGWRD	2888.3	3321.6	10341.2	15659.0	24918.2	37732.4	27806.5	41054.0	69.3/100.0
II. Dept. (Min.) of Agriculture									
A. Fixed Amount Reimbursement (FAR)	-	-	1072.8	1289.3	2585.1	3106.6	2585.1	3106.6	31.7
B. Traditional Direct Procurement	1226.6	1410.7	106.0	121.7	255.2	293.5	1481.8	1704.2	17.4
C. GOI Contribution	-	-	1493.5	2064.9	3598.8	4975.8	3598.8	4975.8	50.8
Total Dept. Agriculture	1226.6	1410.7	2672.3	3475.9	6439.1	8375.9	7665.7	9786.6	16.5/100.0
III. Ministry of Interior									
C. GOI Contribution	-	-	438.9	504.7	1057.6	1216.1	1057.6	1216.1	2.1
IV. Bank Rakyat Indonesia (BRI)									
C. GOI Contribution	-	-	1195.7	1375.1	2881.5	3313.5	2881.2	3313.5	5.6
V. Farmers									
D. Farmer Contribution	-	-	1389.5	1597.9	3348.2	3850.3	3348.2	3850.3	6.5
VI. Grand Total									
A. Fixed Amount Reimbursement (FAR)	-	-	10528.9	15692.3	25370.7	37812.6	25370.7	37812.6	63.9
B. Traditional Direct Procurement	4114.9	4732.3	346.9	398.7	835.5	960.9	4950.4	5693.2	9.6
C. GOI Contribution	-	-	3772.3	4923.7	9089.9	11864.4	9089.9	11864.4	20.0
D. Farmer Contribution	-	-	1389.5	1597.9	3348.2	3850.3	3348.2	3850.3	6.5
Grand Total	4114.9	4732.3	16037.6	22612.6	38644.3	54488.2	42759.2	59220.5	100.0

ANNEX B.2. Table 24
AID Sederhana (Simple) Irrigation and Land Development Project -
Summary of Cost Estimate by Source of Financing ($ Thou.)

	Total	AID Financing			GOI Contribution		Farmer Contribution	
		Category	Amount	Percent	Amount	Percent	Amount	Percent
I. DGWRD								
A. Long-term consultants (8)	1359.9	DIR	1019.9	75.0	340.0	25.0	-	-
B. Short-term consultants	448.5	DIR	336.4	75.0	112.1	25.0	-	-
C. Training								
1. In-country	293.2	FAR	146.6	50.0	146.6	50.0	-	-
2. Overseas	51.8	DIR	51.8	100.0	-	-	-	-
Subtotal	345.0		198.4	57.5	146.6	42.5	-	-
D. Gabion Wire	631.1	FAR	315.6	50.0	315.5	50.0	-	-
E. Light Equipment								
1. Surveying Equipment (128)	465.5	GOI	-	-	465.5	100.0	-	-
2. 4" Water Pumps (127)	469.7	FAR	234.8	50.0	234.9	50.0	-	-
3. 3/4 ton Pickup Trucks (19)	196.7	DIR	177.0	90.0	19.7	10.0	-	-
4. Jeeps (CJ6) (80)	667.1	DIR	598.0	89.6	69.1	10.4	-	-
5. Motor Bikes (124)	227.5	FAR	113.7	50.0	113.8	50.0	-	-
Subtotal	2026.5		1123.5	55.4	903.0	44.6	-	-
F. Hydrology Equipment	115.0	DIR	103.5	90.0	11.5	10.0	-	-
G. Maintenance Support Light Equipment and Hand Tools	1150.0	DIR	1035.0	90.0	115.0	10.0	-	-
H. Survey and Design	912.0	FAR	456.0	50.0	456.0	50.0	-	-
I. Construction	32172.5	FAR	16086.3	50.0	16086.2	50.0	-	-
J. Central Administration	1893.5	GOI	-	-	1893.5	100.0	-	-
Total DGWRD	41054.0		20674.6	50.4	20379.4	49.6	-	-
II. Dept. (Min.) of Agriculture								
A. Long-term consultants (4)	759.1	DIR	569.3	75.0	189.8	25.0	-	-
B. Short-term consultants	89.7	DIR	67.3	75.0	22.4	25.0	-	-
C. Training								
1. In-country	457.3	FAR	228.6	50.0	228.7	50.0	-	-
2. Overseas	51.8	DIR	51.8	100.0	-	-	-	-
Subtotal	509.1		280.4	55.1	228.7	44.9	-	-

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ANNEX B.2. Table 24 (con't)
AID Sederhana (Simple) Irrigation and Land Development Project -
Summary of Cost Estimate by Source of Financing ($ Thou.)

	Total	AID Financing			GOI Contribution		Farmer Contribution	
		Category	Amount	Percent	Amount	Percent	Amount	Percent
D. Light Equipment								
1. Surveying Equipment (38)	133.8	GOI	-	-	133.8	100.0	-	-
2. Drawing Equipment (38)	133.8	GOI	-	-	133.8	100.0	-	-
3. Planimeters (23)	38.3	GOI	-	-	38.3	100.0	-	-
4. 2" Water Pumps (69)	103.8	FAR	51.9	50.0	51.9	50.0	-	-
5. One Bag Cement Mixers (69)	79.3	DIR	71.4	90.0	7.9	10.0	-	-
6. 3/4 Ton Pickup Trucks (45)	465.8	DIR	419.2	90.0	46.6	10.0	-	-
7. Jeeps (CJ6) (31)	258.5	DIR	231.7	89.6	26.8	10.4	-	-
8. Motor Bikes (110)	200.5	FAR	100.3	50.0	100.2	50.0	-	-
Subtotal	1413.8		874.5	61.9	539.3	38.1	-	-
E. Hand Tools	256.2	FAR	128.1	50.0	128.1	50.0	-	-
F. Formation of Water User Associations and Extension	416.6	FAR	208.3	50.0	208.3	50.0	-	-
G. Construction of Water User Association Offices	456.1	FAR	228.0	50.0	228.1	50.0	-	-
H. Construction of Farm Service Ditches	2736.3	FAR/GOI	608.1	22.2	2128.2	77.8	-	-
I. Office Facilities (23)	114.7	GOI	-	-	114.7	100.0	-	-
J. Administration (Exploitation and Control)	3035.0	GOI	-	-	3035.0	100.0	-	-
Total Dept. Agriculture	9786.6		2964.0	30.3	6822.6	69.7	-	-
III. Ministry of Interior								
A. Land Certificates	1216.1	GOI	-	-	1216.1	100.0	-	-
IV. Bank Rakyat Indonesia (BRI)								
A. Credit for Land Clearing, Leveling and Paddy Shaping	3313.5	GOI	-	-	3313.5	100.0	-	-
V. Farmers								
A. Land Clearing, Leveling and Paddy Shaping	2208.4	FRM	-	-	-	-	2208.4	100.0
B. Labor for Construction of Tertiary Canals and Farm Service Ditches	1641.9	FRM	-	-	-	-	1641.9	100.0
Total Farmers	3850.3		-	-	-	-	3850.3	100.0

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ANNEX B.2. Table 24 (con't)
AID Sederhana (Simple) Irrigation and Land Development Project -
Summary of Cost Estimate by Source of Financing ($ Thou.)

	Total	AID Financing Category	AID Financing Amount	AID Financing Percent	GOI Contribution Amount	GOI Contribution Percent	Farmer Contribution Amount	Farmer Contribution Percent
VI. Grand Total								
A. Long-term Consultants (12)	2119.0	DIR	1589.2	75.0	529.8	25.0	-	-
B. Short-term Consultants	538.2	DIR	403.7	75.0	134.5	25.0	-	-
C. Training								
1. In-Country	750.5	FAR	375.2	50.0	375.3	50.0	-	-
2. Overseas	103.6	DIR	103.6	100.0	-	-	-	-
Subtotal	854.1		478.8	56.1	375.3	43.9	-	-
D. Gabion Wire	631.1	FAR	315.6	50.0	315.5	50.0	-	-
E. Light Equipment								
1. Surveying Equipment (166)	599.3	GOI	-	-	599.3	100.0	-	-
2. Drawing Equipment (38)	133.8	GOI	-	-	133.8	100.0	-	-
3. Planimeters (23)	38.3	GOI	-	-	38.3	100.0	-	-
4. 4"Water Pumps (127)	469.7	FAR	234.8	50.0	234.9	50.0	-	-
5. 2" Water Pumps (69)	103.8	FAR	51.9	50.0	51.9	50.0	-	-
6. One Bag Cement Mixers (69)	79.3	DIR	71.4	90.0	7.9	10.0	-	-
7. 3/4 Ton Pickup Trucks (64)	662.5	DIR	596.2	90.0	66.3	10.0	-	-
8. Jeeps (CJ6) (111)	925.6	DIR	829.7	89.6	95.9	10.4	-	-
9. Motor Bikes (234)	428.0	FAR	214.0	50.0	214.0	50.0	-	-
Subtotal	3440.3		1998.0	58.1	1442.3	41.9	-	-
F. Hand Tools	256.2	FAR	128.1	50.0	128.1	50.0	-	-
G. Hydrology Equipment	115.0	DIR	103.5	90.0	11.5	10.0	-	-
H. Maintenance Support, Light Equipment and Hand Tools	1150.0	DIR	1035.0	90.0	115.0	10.0	-	-
I. Survey and Design	912.0	FAR	456.0	50.0	456.0	50.0	-	-
J. Construction	32172.5	FAR	16086.3	50.0	16086.2	50.0	-	-
K. Formation of Water User Associations and Extension	416.6	FAR	208.3	50.0	208.3	50.0	-	-
L. Construction of Water User Association Offices	456.1	FAR	228.0	50.0	228.1	50.0	-	-
M. Land Certificates	1216.1	GOI	-	-	1216.1	100.0	-	-
N. Land Clearing, Leveling and Paddy Shaping	5521.9	GOI/FRM	-	-	3313.5	60.0	2208.4	40.0
O. Construction of Farm Service Ditches	4378.2	FAR/GOI/FRM	608.1	13.9	2128.2	48.6	1641.9	37.5
P. Administration	5043.2	GOI	-	-	5043.2	100.0	-	-
Grand Total	59220.5		23638.6	39.9	31731.6	53.6	3850.3	6.5

Note:
AID financing category legend:
a. FAR - Fixed Amount Reimbursement.
b. DIR - Traditional Direct Procurement.
c. GOI - Government of Indonesia Contribution.
d. FRM - Farmer Contribution.

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ANNEX B.2; Table 25
AID Sederhana (Simple) Irrigation and Land Development Project -
Loan Disbursements and Economic Expenditures

	AID Loan Disbursements				Economic Expenditures					
	AID Amount	IFY 1975-76	IFY 1976-77	IFY 1977-78	Unescalated Amount	IFY 1975-76	IFY 1976-77	IFY 1977-78	IFY 1978-79	IFY 1979-80
I. DGWRD										
A. Fixed Amount Reimbursement (FAR)										
1. IFY 1975-76 Expenditures										
a. Construction	5974.8	-	5974.8	-	9957.8	9957.8	-	-	-	-
b. Gabion Wire	124.4	-	124.4	-	207.2	207.2	-	-	-	-
c. Light Equipment										
1). 4" Water Pumps (56)	93.1	-	93.1	-	155.2	155.2	-	-	-	--
2). Motor Bikes (60)	49.9	-	49.9	-	83.1	83.1	-	-	-	-
2. IFY 1976-77 Expenditures										
a. Construction	10111.5	-	-	10111.5	14043.9	-	14043.9	-	-	-
b. Gabion Wire	191.2	-	-	191.2	265.5	-	265.5	-	-	-
c. Light Equipment										
1). 4" Water Pumps (71)	141.7	-	-	141.7	196.9	-	196.9	-	-	-
2). Motor Bikes (64)	63.8	-	-	63.8	88.7	-	88.7	-	-	-
3. Survey and Design	456.0	-	-	456.0	912.0	414.4	497.6	-	-	-
4. In-Country Training	146.6	-	73.3	73.3	293.2	73.3	146.6	73.3	-	-
Subtotal FAR	17353.0	-	6315.5	11037.5	26203.5	10891.0	15239.2	73.3	-	-
B. Traditional Direct Procurement										
1. Long-term Consultants (8)	1019.9	355.8	379.5	284.6	1359.9	474.4	506.0	379.5	-	-
2. Short-term Consultants	336.4	67.3	134.6	134.5	448.5	89.7	179.4	179.4	-	-
3. Light Equipment										
a. 3/4 Ton Light Pickup Trucks (19)	177.0	-	177.0		196.7	-	196.7	-	-	-
b. Jeeps (CJ6)										
1). IFY 1975-76 (37)	276.6	-	276.6	-	308.6	-	308.6	-	-	-
2). IFY 1976-77 (43)	321.4	-	321.4	-	358.5	-	358.5	-	-	-
4. Overseas Training	51.8	-	25.9	25.9	51.8	-	25.9	25.9	-	-
5. Hydrology Equipment	103.5	-	103.5	-	115.0	-	115.0	-	-	-
6. Maintenance Support										
Light Equipment and Hand Tools	1035.0	-	-	1035.0	1150.0	-	-	1150.0	-	-
Subtotal Direct Procurement	3321.6	423.1	1418.5	1480.0	3989.0	564.1	1690.1	1734.8	-	-

ANNEX B.2: Table 25 (con't)
AID Sederhana (Simple) Irrigation and Land Development Project -
Loan Disbursements and Economic Expenditures

	AID Loan Disbursements				Economic Expenditures					
	AID Amount	IFY 1975-76	IFY 1976-77	IFY 1977-78	Unescalated Amount	IFY 1975-76	IFY 1976-77	IFY 1977-78	IFY 1978-79	IFY 1979-80
C. GOI Contribution										
1. IFY 1975-76 Expenditures										
a. Light Equipment										
- Surveying Equipment (68)	-	-	-	-	188.4	188.4	-	-	-	-
b. Central Administration	-	-	-	-	692.8	692.8	-	-	-	-
2. IFY 1976-77 Expenditures										
a. Light Equipment										
- Surveying Equipment (60)	-	-	-	-	166.3	-	166.3	-	-	-
b. Central Administration	-	-	-	-	737.6	-	737.6	-	-	-
Subtotal GOI Contribution	-	-	-	-	1785.1	881.2	903.9	-	-	-
Total DGWRD	20674.6	423.1	7734.0	12517.5	31977.6	12336.3	17833.2	1808.1	-	-
II. Dept. (Min.) of Agriculture										
A. Fixed Amount Reimbursement (FAR)										
1. IFY 1975-76 Expenditures										
a. Light Equipment										
1). 2" Water Pumps (43)	30.1	-	30.1	-	50.1	50.1	-	-	-	-
2). Motor Bikes (57)	47.4	-	47.4	-	79.0	79.0	-	-	-	-
b. Hand Tools	58.2	-	58.2	-	97.1	97.1	-	-	-	-
2. IFY 1976-77 Expenditures										
a. Light Equipment										
1). 2" Water Pumps (26)	21.8	-	-	21.8	30.1	-	30.1	-	-	-
2). Motor Bikes (53)	52.9	-	-	52.9	73.5	-	73.5	-	-	-
b. Hand Tools	69.9	-	-	69.9	97.1	-	97.1	-	-	-
3. Formation of Water User Associations and Extension	208.3	-	94.7	113.6	416.6	189.4	227.2	-	-	-
4. Construction of Water User Association Offices	228.0	-	103.6	124.4	456.1	-	207.2	248.9	-	-
5. Construction of Farm Service Ditches (40%)	608.1	-	276.3	331.8	1216.1	-	552.5	663.6	-	-
6. In-Country Training	228.6	-	114.3	114.3	457.3	114.3	228.7	114.3	-	-
Subtotal FAR	1553.3	-	724.6	828.7	2973.0	529.9	1416.3	1026.8	-	-

ANNEX B.2. Table 25 (con't)
AID Sederhana (Simple) Irrigation and Land Development Project -
Loan Disbursements and Economic Expenditures

	AID Loan Disbursements					Economic Expenditures				
	AID Amount	IFY 1975-76	IFY 1976-77	IFY 1977-78	Unescalated Amount	IFY 1975-76	IFY 1976-77	IFY 1977-78	IFY 1978-79	IFY 1979-80
B. Traditional Direct Procurement										
1. Long-term consultants (4)	569.3	189.7	189.8	189.8	759.1	253.0	253.0	253.1	-	-
2. Short-term consultants	67.3	11.2	28.0	28.1	89.7	15.0	37.3	37.4	-	-
3. Light Equipment										
a. One Bag Cement Mixers										
1). IFY 1975-76 (43)	44.5	-	44.5	-	49.4	-	49.4	-	-	-
2). IFY 1976-77 (26)	26.9	-	26.9	-	29.9	-	29.9	-	-	-
b. 3/4 Ton Pickup Trucks										
1). IFY 1975-76 (30)	279.5	-	279.5	-	310.6	-	310.6	-	-	-
2). IFY 1976-77 (15)	139.7	-	139.7	-	155.2	-	155.2	-	-	-
c. Jeeps (CJ6)										
1). IFY 1975-76 (24)	179.4	-	179.4	-	200.1	-	200.1	-	-	-
2). IFY 1976-77 (7)	52.3	-	52.3	-	58.4	-	58.4	-	-	-
4. Overseas Training	51.8	-	25.9	25.9	51.8	-	25.9	25.9	-	-
Subtotal Direct Procurement	1410.7	200.9	966.0	243.8	1704.2	268.0	1119.8	316.4	-	-
C. GOI Contribution										
1. IFY 1975-76 Expenditures										
a. Light Equipment										
1). Surveying Equipment (27)	-	-	-	-	74.9	74.9	-	-	-	-
2). Drawing Equipment (27)	-	-	-	-	74.9	74.9	-	-	-	-
3). Planimeters (23)	-	-	-	-	31.8	31.8	-	-	-	-
b. Office Facilities (23)	-	-	-	-	95.7	95.7	-	-	-	-
c. Administration (Exploitation and Control)	-	-	-	-	1036.1	1036.1	-	-	-	-
2. IFY 1976-77 Expenditures										
a. Light Equipment										
1). Surveying Equipment (11)	-	-	-	-	30.6	-	30.6	-	-	-
2). Drawing Equipment (11)	-	-	-	-	30.6	-	30.6	-	-	-
b. Administration Exploitation and Control)	-	-	-	-	1244.3	-	1244.3	-	-	-
3. Construction of Farm Service Ditches (50%)										
a. IFY 1975-76 Projects	-	-	-	-	690.8	-	-	414.5	276.3	-
b. IFY 1976-77 Projects	-	-	-	-	829.4	-	-	-	497.6	331.8
Subtotal GOI Contribution					4139.1	1313.4	1305.5	414.5	773.9	331.8
Total Dept. Agriculture	2964.0	200.9	1690.6	1072.5	8816.3	2111.3	3841.6	1757.7	773.9	331.8

ANNEX B.2. Table 25 (con't)
AID Sederhana (Simple) Irrigation and Land Development Project
Loan Disbursements and Economic Expenditures

	AID Loan Disbursements					Economic Expenditures				
	AID Amount	IFY 1975-76	IFY 1976-77	IFY 1977-78	Unescalated Amount	IFY 1975-76	IFY 1976-77	IFY 1977-78	IFY 1978-79	IFY 1979-80
III. Ministry of Interior										
C. GOI Contribution										
- Land Certificates	-	-	-	-	1216.1	552.5	663.6	-	-	-
IV. Bank Rakyat Indonesia (BRI)										
C. GOI Contribution										
1. Credit for Land Clearing (60%)										
a. IFY 1975-76 Projects	-	-	-	-	90.1	40.1	30.0	20.0	-	-
b. IFY 1976-77 Projects	-	-	-	-	108.2	-	48.1	36.1	24.0	-
2. Credit for Leveling and Paddy Shaping (60%)										
a. IFY 1975-76 Projects	-	-	-	-	1415.4	629.1	471.8	314.5	-	-
b. IFY 1976-77 Projects	-	-	-	-	1699.8	-	755.5	566.6	377.7	-
Total BRI	-	-	-	-	3313.5	669.2	1305.4	937.2	401.7	-
V. Farmers										
D. Farmer Contribution										
1. Land Clearing (40%)										
a. IFY 1975-76 Projects	-	-	-	-	59.8	26.6	19.9	13.3	-	-
b. IFY 1976-77 Projects	-	-	-	-	72.0	-	32.0	24.0	16.0	-
2. Leveling and Paddy Shaping (40%)										
a. IFY 1975-76 Projects	-	-	-	-	943.6	-	419.4	314.5	209.7	-
b. IFY 1976-77 Projects	-	-	-	-	1133.0	-	-	503.5	377.7	251.8
3. Labor for Construction of Tertiary Canals and Farm Service Ditches										
a. IFY 1975-76 Projects	-	-	-	-	746.0	-	331.5	248.7	165.8	-
b. IFY 1976-77 Projects	-	-	-	-	895.9	-	-	398.2	298.6	199.1
Total Farmers	-	-	-	-	3850.3	26.6	802.8	1502.2	1067.8	450.9
Grand Total	23638.6	624.0	9424.6	13590.0	49173.8	15695.9	24446.6	6005.2	2243.4	782.7

ANNEX B.2. Table 26
Sederhana (Simple) Irrigation and Land Development Project
Summary of Base Internal Rate of Economic Return (IRR)
Analysis ($ Thousand)

Year (IFY)	Capital Cost	Recurrent Costs	Incremental Production (MT)	Net Value of Production	Net Benefits
1 (1975-76)	15696	-	-	-	-15696
2 (1976-77)	24447	108	7899	1815	-22740
3 (1977-78)	6005	463	43579	8823	2355
4 (1978-79)	2243	922	100833	21198	18033
5 (1979-80)	783	1279	148833	30940	28878
6 (1980-81)	-	1495	181122	37398	35903
7 (1981-82)	-	1609	198352	40844	39235
8 (1982-83)	-	1670	207598	42693	41023
9 (1983-84)	-	1690	210600	43301	41611
10 (1984-85)	-	1693	211059	43385	41692
11 (1985-86)	-	1693	211059	43385	41692
12 (1986-87)	-	1693	211059	43385	41692
13 (1987-88)	-	1693	211059	43385	41692
14 (1988-89)	-	1693	211059	43385	41692
15 (1989-90)	-	1693	211059	43385	41692

Note: Net value of production per incremental ton varies throughout 15-year analysis period due to (1) varying proportion of BIMAS and non-BIMAS production technology and (2) varying proportions of land brought into production which were formerly rainfed rice or uncultivated.

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ANNEX B.2. Table 27

Sederhana (Simple) Irrigation and Land Development Project - Production Costs, Farmer's Net Return and Net Value of Production to Economy for Various Crops ($ per hectare).

		Irrigated Rice		
	Dry Land Corn	Rainfed Rice	Traditional Production Tech.	New Production Tech.
A. Production Costs				
1. Seed	3.00	4.20	4.80	5.40
2. Fertilizer	-	-	-	20.40
3. Pesticides	.60	-	-	1.30
4. Animal Power	-	42.80	41.00	41.10
5. Processing	-	12.80	21.20	49.10
Subtotal	3.60	59.80	67.00	117.30
6. Labor	56.00	64.10	108.20	142.80
7. Taxes	1.40	1.65	2.85	6.60
Total Production Costs	61.00	125.55	178.05	266.70
B. Yield (MT/ha.)	0.9	0.8	1.5	2.6
C. Price ($/MT)	125.00	245.00	245.00	245.00
D. Gross Return	112.50	196.00	367.50	637.00
E. Farmer's Net Return	51.50	70.45	189.45	370.30
F. Net Value of Production to Economy	108.90	136.20	300.50	519.70

Notes:

1. Farmer's Net Return is equal to Gross Return less Total Production Costs.
2. Net Value of Production to Economy is equal to Gross Return Less All Production Costs except Labor and Taxes.

ANNEX B.2. Table 28
Sederhana (Simple) Irrigation and Land Development Project -
Summary of Analysis of Sample of Subprojects

	1	2	3	4	5	6	7	8	9	Average
A. Project Area (ha.)	240	200	500	340	450	100	500	25	2000	484
B. Land Use (ha.)										
1. Current										
a. Wet season.										
1). Irrigated rice	200	100	-	-	-	-	-	-	-	33
2). Other	40/R	100/R	50/R	40/R	150/R	60/R	200/R	5/R	100/N	72/R; 14/N;
	-	-	450/G	300/G	300/G	40/G	300/S	20/N	1900/G	332/G; 33/S
b. Dry Season										
1). Irrigated rice	200	100	-	-	-	-	-	-	-	33
2). Other	40/I	100/I	50/R	40/I	150/I	60/I	200/R	5/R	100/I	29/R;2/N;55/I;
	-	-	450/G	300/G	300/G	40/G	300/S	20/N	1900/G	332/G; 33/S
2. Resulting from Project										
a. Wet season										
1). Irrigated rice	240	200	500	340	450	100	500	25	2000	484
b. Dry season										
1). Irrigated rice	240	200	250	200	300	50	300	25	1200	307
2). Other	-	-	250/N	140/N	150/N	50/N	200/N	-	800I	88/N; 89/I
C. Capital Cost ($)										
1. Major works.	33800	35350	83375	88700	69500	30200	82100	4500	587950	112831
2. Land preparation and farm service ditches	51120	42600	106500	72420	95850	21300	106500	5325	426000	103068
Total	84920	77950	189875	161120	165350	51500	188600	9825	1013950	215899
D. Capital Cost ($/ha.)	354	390	380	474	367	515	377	393	507	446
E. Incremental Net Value of Production ($)	7356	20290	72875	65935	39870	10495	46500	1670	396025	73446
F. Internal Rate of Economic Return (IRR) (percent)	16	37	54	58	58	29	48	31	41	41 (median)

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ANNEX B.2 · Table 28 (con't)

Notes:

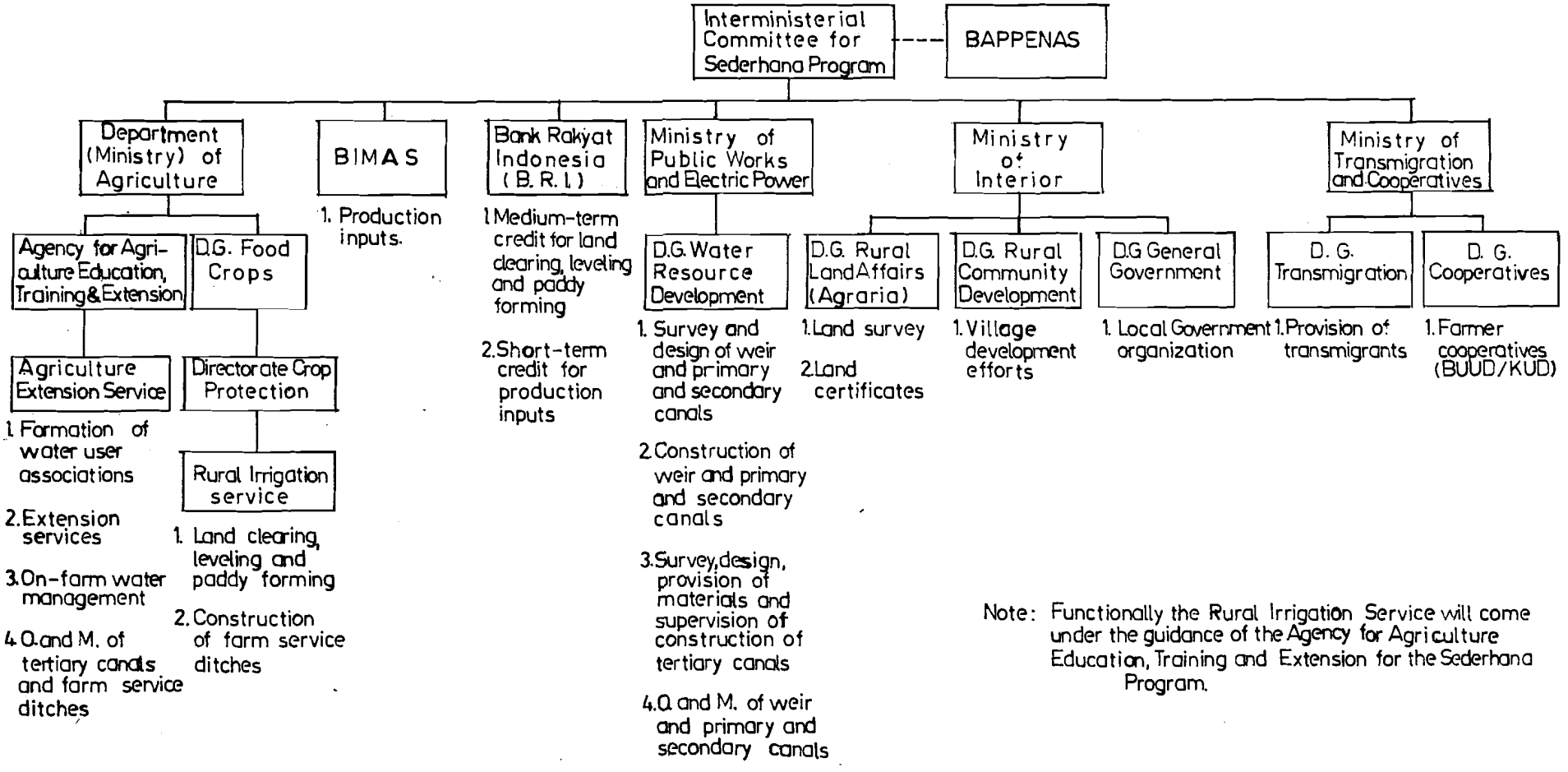
a. Identification of subprojects:
   1. Panaikang, South Sulawesi.
   2. Simemeh, North Sumatra.
   3. Paincong, South Sulawesi.
   4. Rindu Hati, Bengkulu.
   5. Wei Getah, Lampung.
   6. Pilar Ranau, South Sumatra.
   7. Kancil Putih, South Sumatra.
   8. Jatiayu, D.I. Yogyakarta.
   9. Amiroro, Southeast Sulawesi.

b. Land use legend:
   R - Rainfed rice.
   N - Non-rice food crops.
   I - Idle.
   G - Grassland.
   S - Swamp.

Annex B.3 Chart 1

ORGANIZATION and FUNCTION CHART

GOVERNMENT of INDONESIA for SEDERHANA PROGRAM

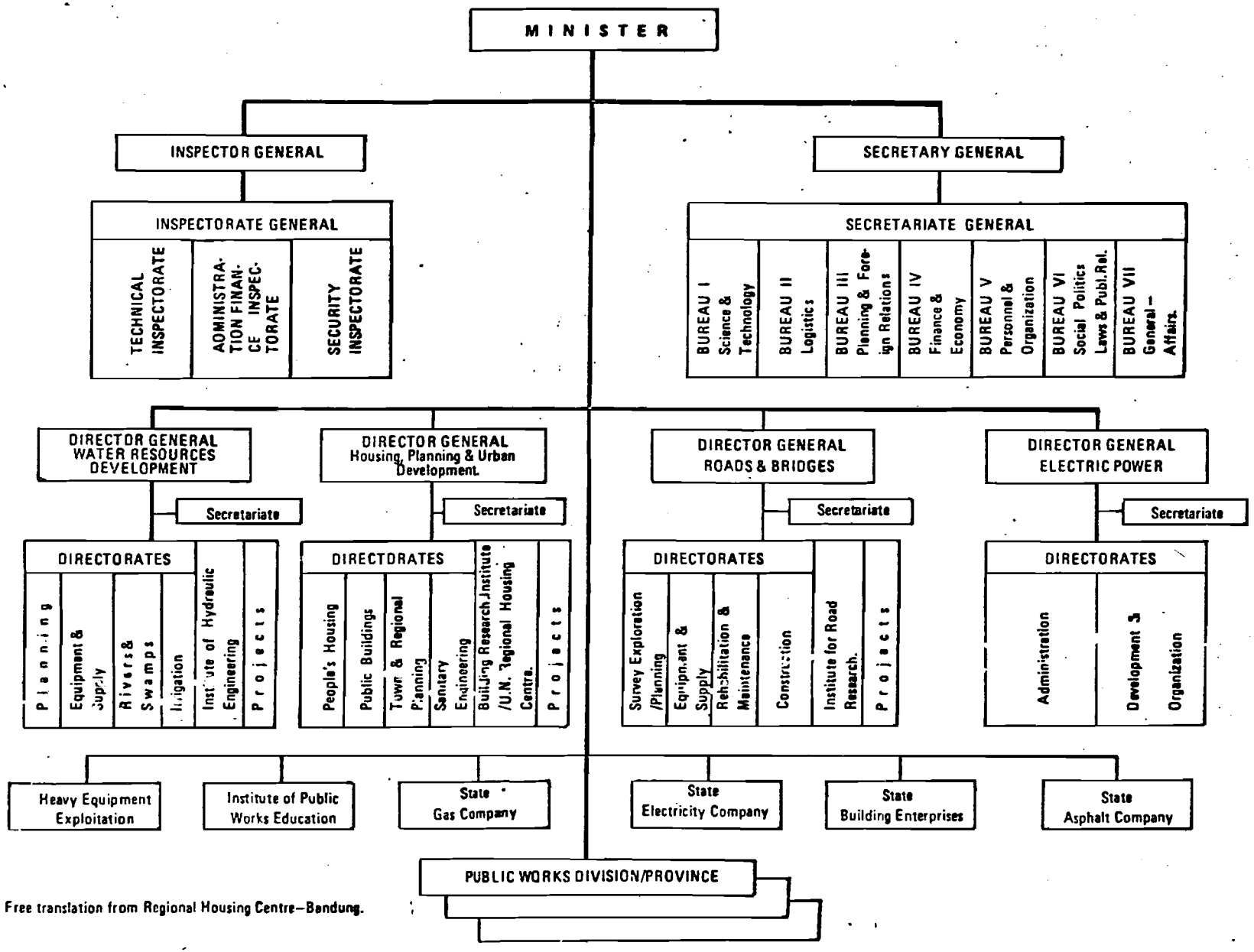


Note: Functionally the Rural Irrigation Service will come under the guidance of the Agency for Agriculture Education, Training and Extension for the Sederhana Program.

Annex B.3 CHART 2

ORGANIZATION CHART

MINISTRY OF PUBLIC WORKS AND ELECTRIC POWER



Free translation from Regional Housing Centre–Bandung.

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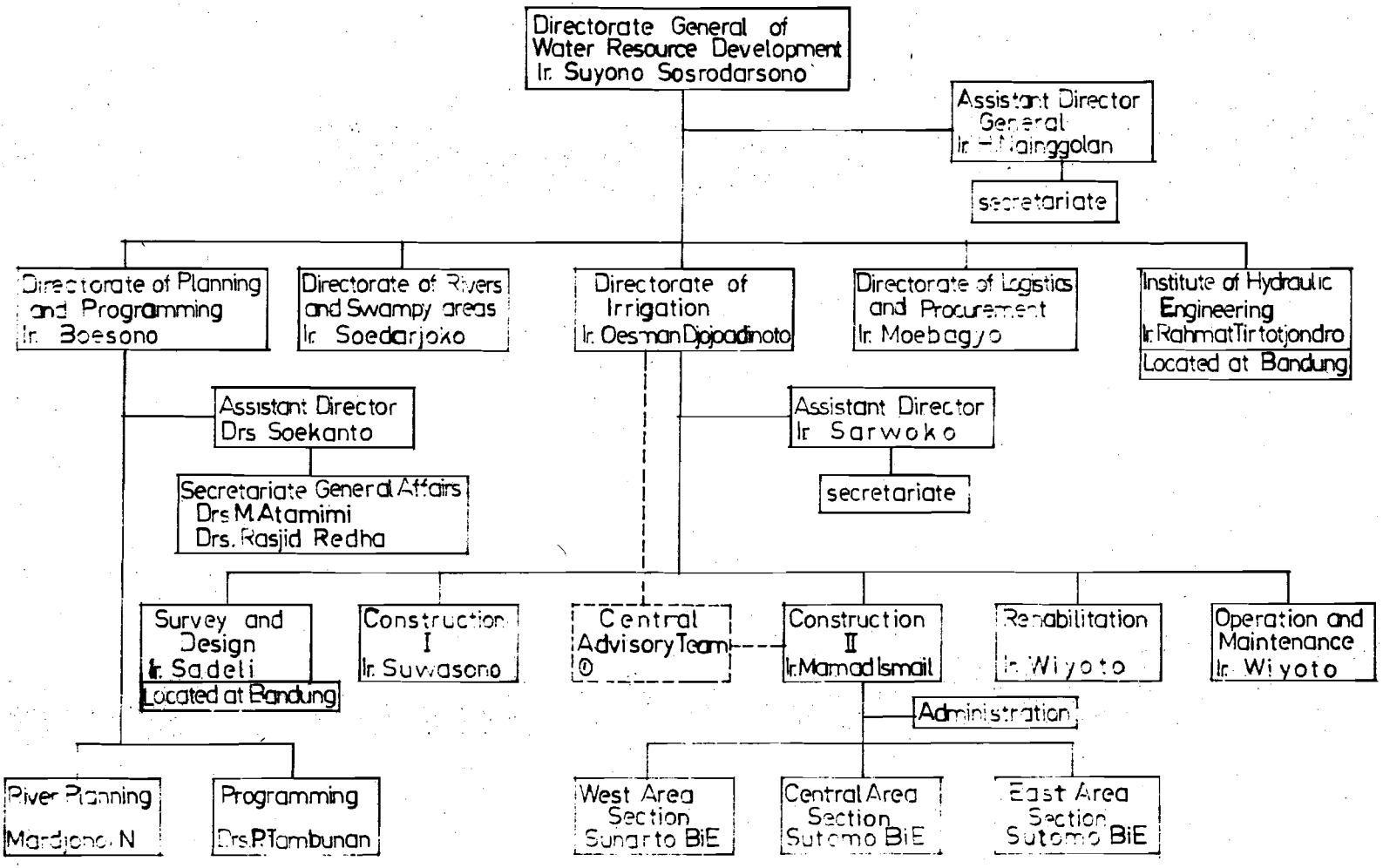
Annex B.3. Chart 3
ORGANIZATION CHART
DIRECTORATE GENERAL of WATER RESOURCE DEVELOPMENT
MINISTRY of PUBLIC WORKS and ELECTRIC POWER



① This block shows working relationship of Central Advisory Team.

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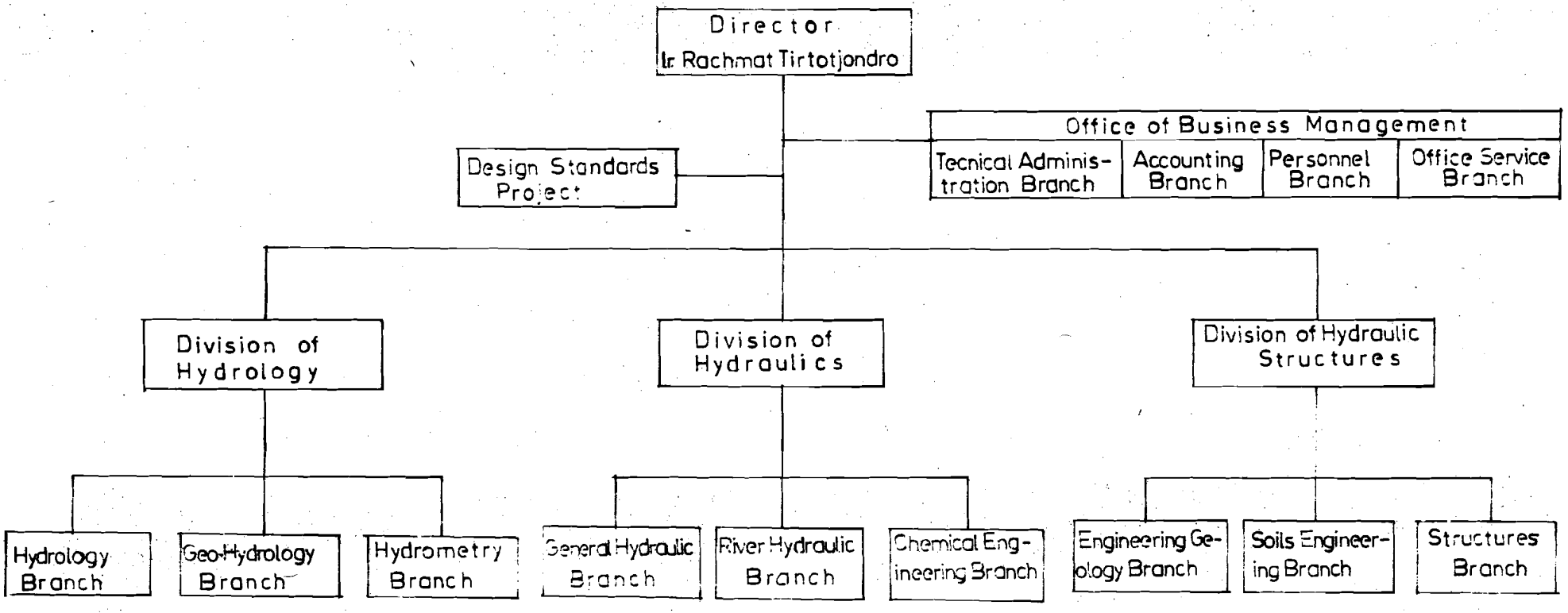
Annex B.3. Chart 4

ORGANIZATION CHART

INSTITUTE of HYDRAULIC ENGINEERING (BANDUNG)

DIRECTORATE GENERAL of WATER RESOURCE DEVELOPMENT

MINISTRY of PUBLIC WORKS and ELECTRIC POWER



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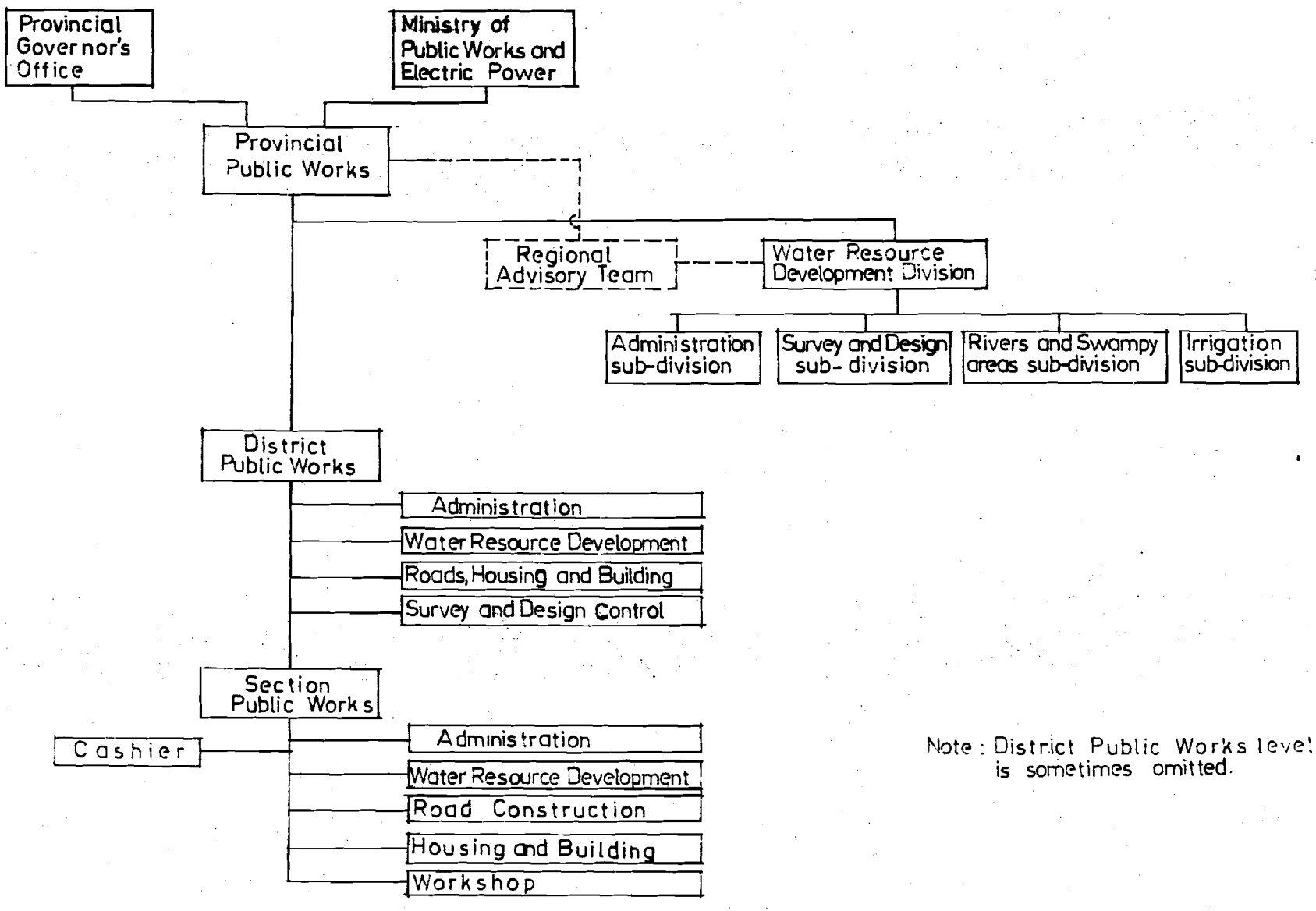
Annex B.3 Chart 5

TYPICAL ORGANIZATION CHART

PROVINCIAL PUBLIC WORKS



Note : District Public Works level is sometimes omitted.

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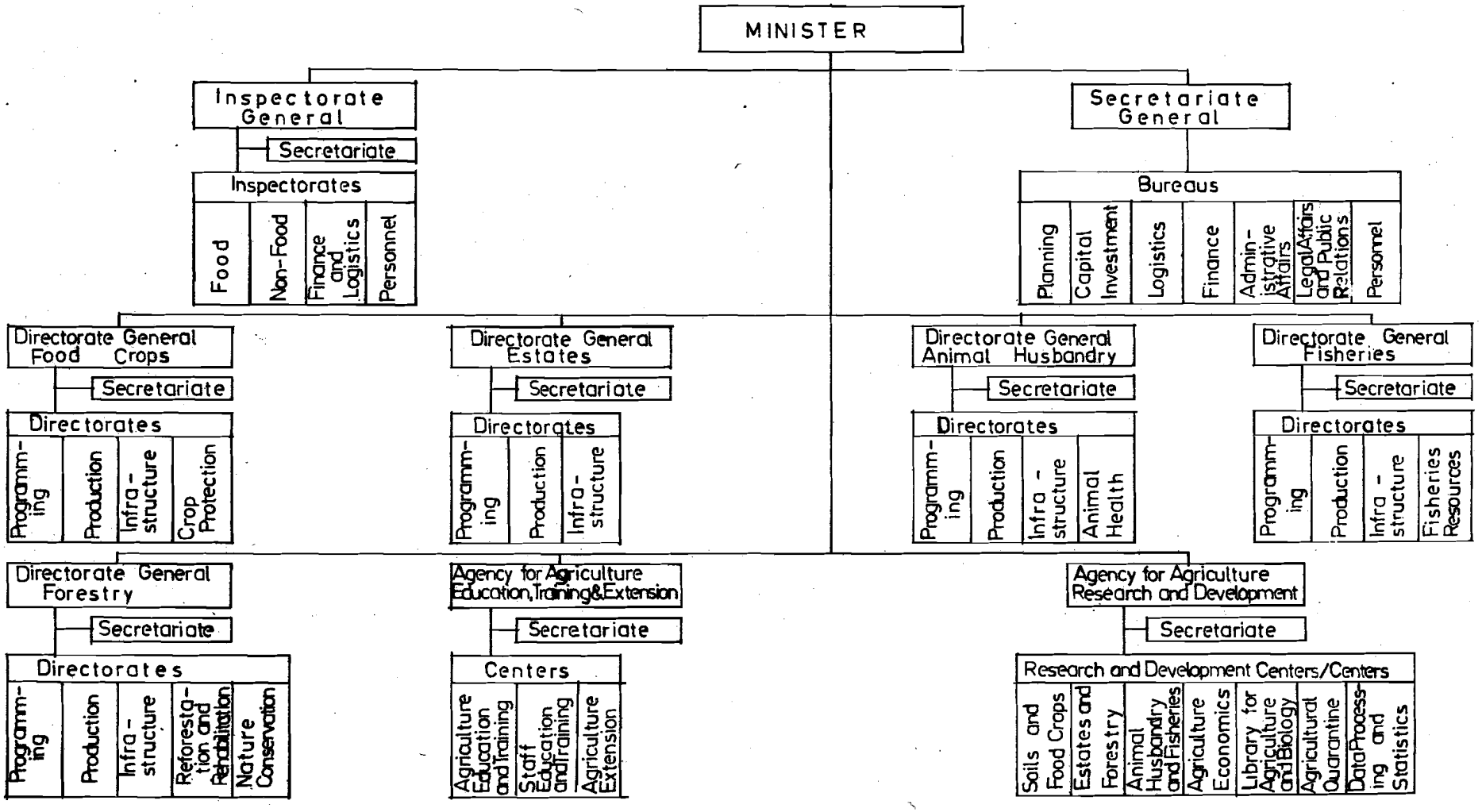
Annex B.3. Chart 6

ORGANIZATION CHART

DEPARTMENT (MINISTRY) of AGRICULTURE

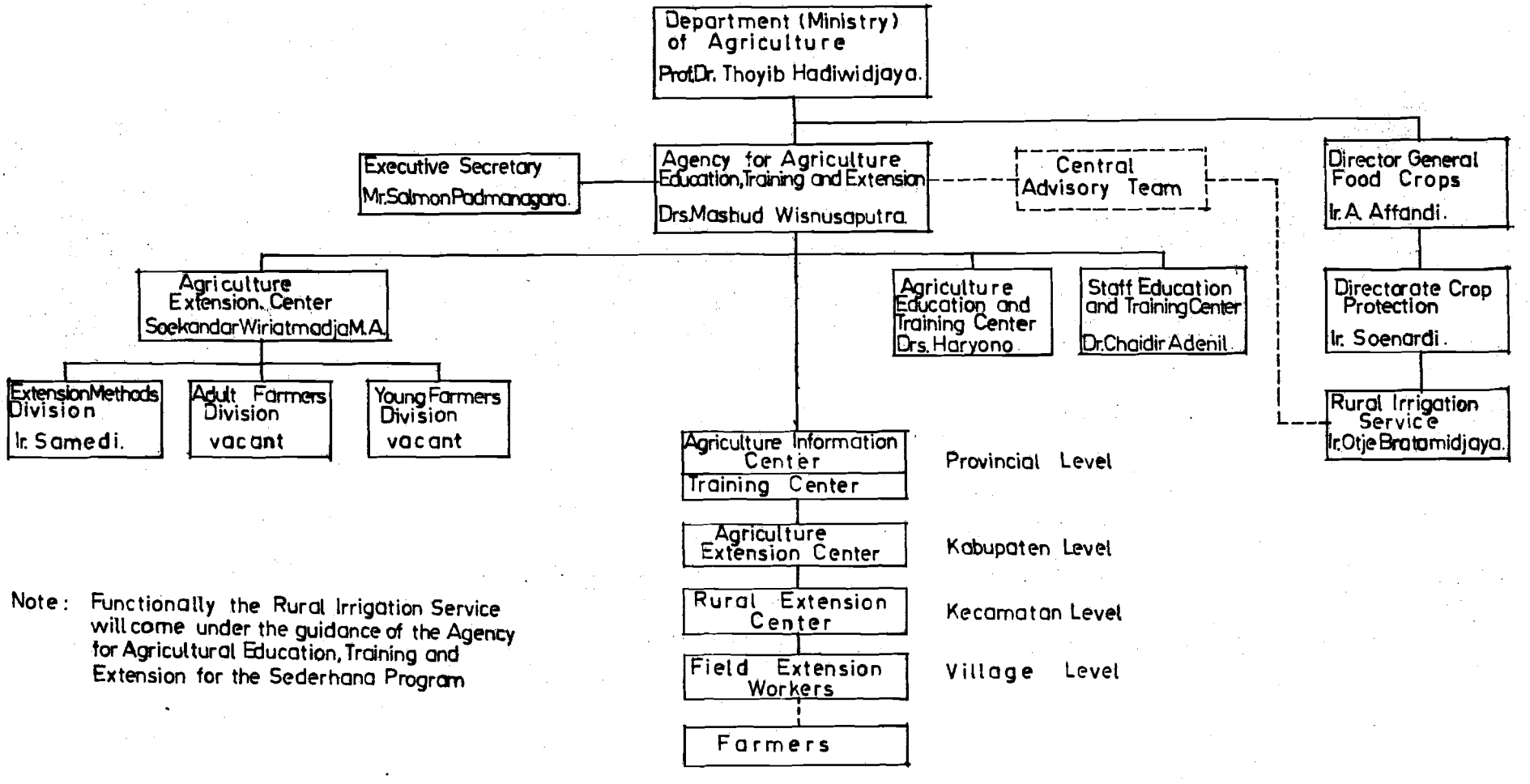


Annex B.3. Chart 7

ORGANIZATION CHART

AGENCY for AGRICULTURAL EDUCATION, TRAINING and EXTENSION

RURAL IRRIGATION SERVICE

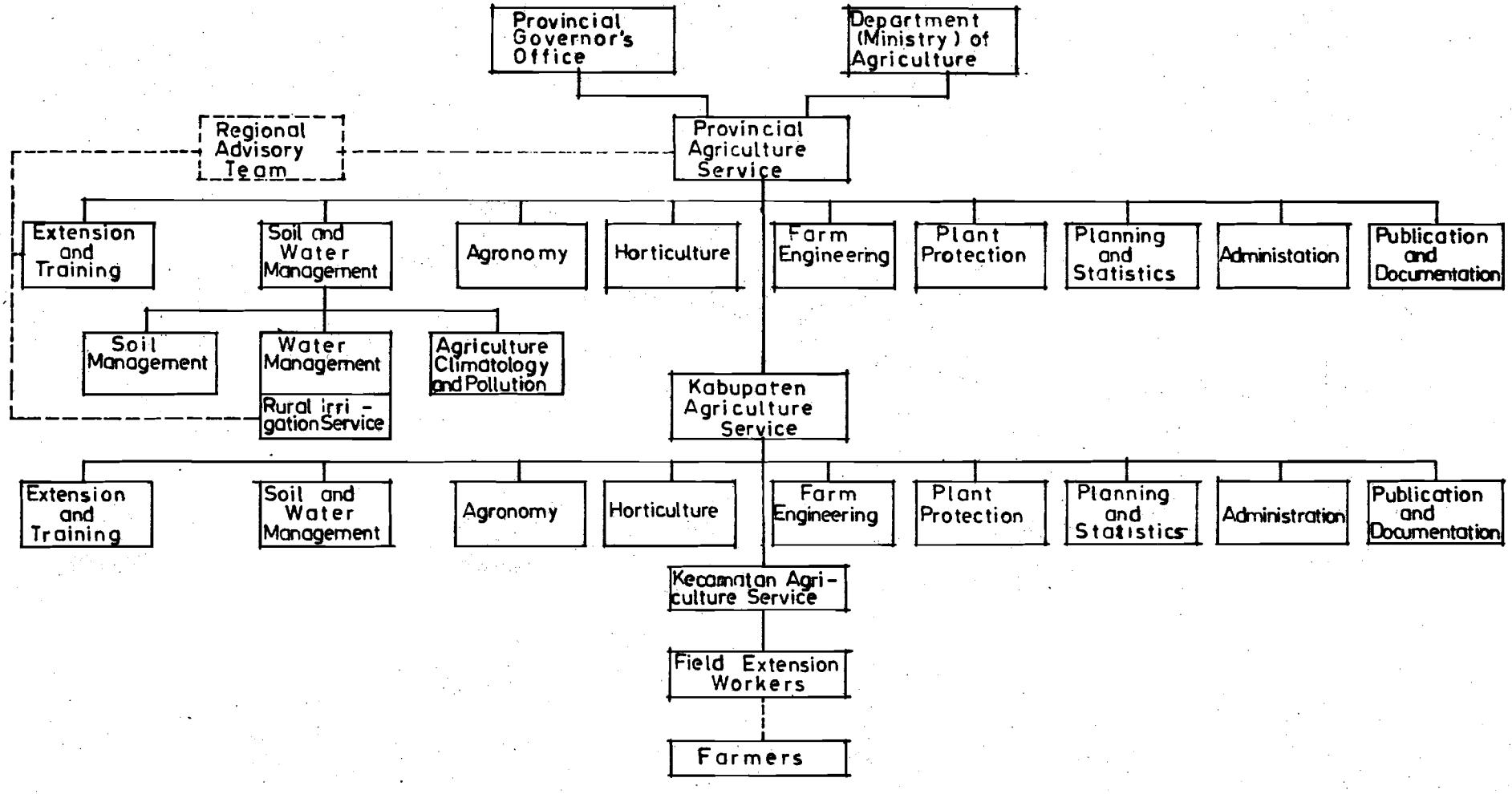


Note: Functionally the Rural Irrigation Service will come under the guidance of the Agency for Agricultural Education, Training and Extension for the Sederhana Program

Annex B.3. Chart 8

TYPICAL ORGANIZATION CHART

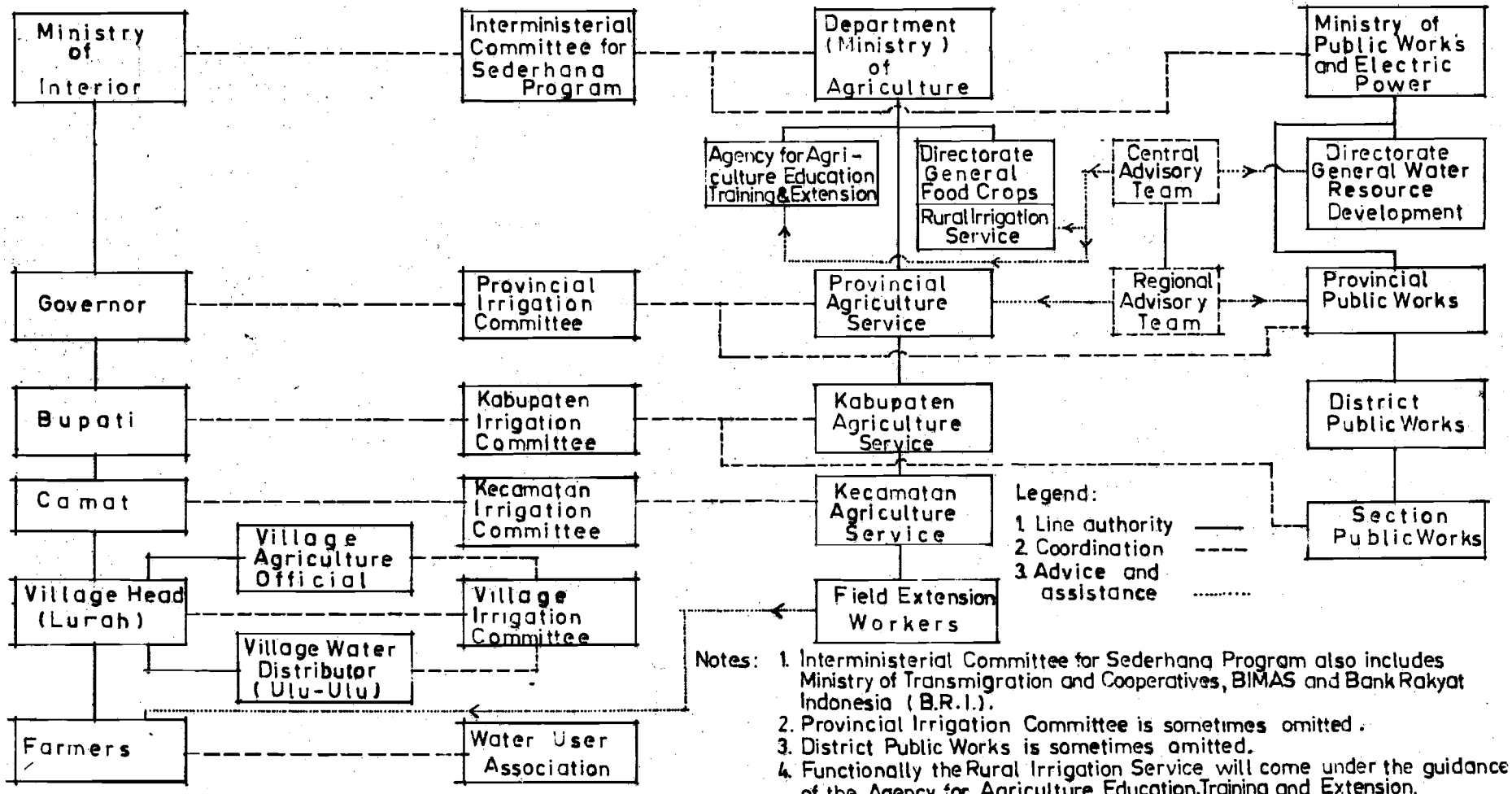
PROVINCIAL AGRICULTURE SERVICE



Annex B.3. Chart 9

ORGANIZATION CHART

PROVINCIAL for SEDERHANA PROGRAM

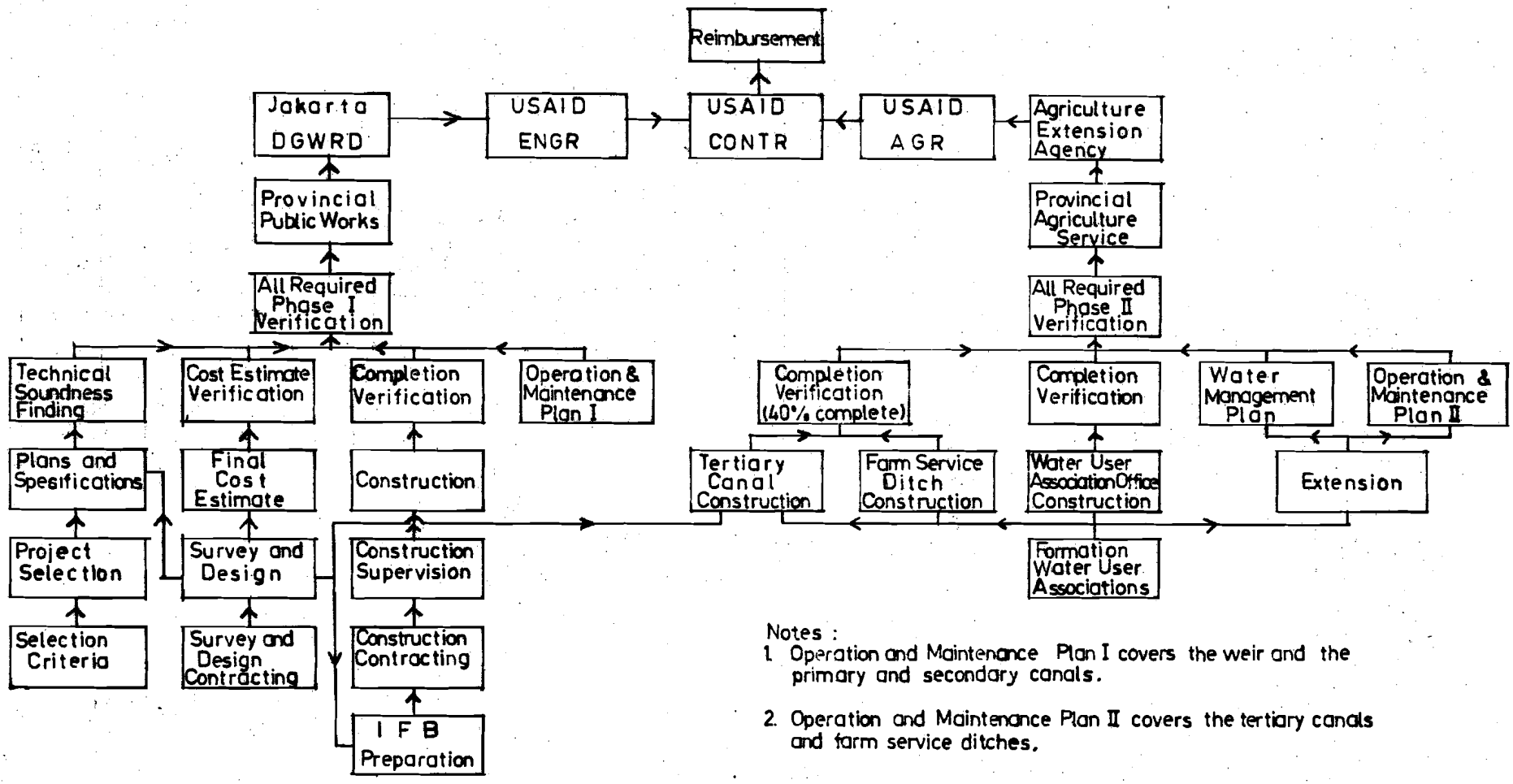


Notes:
1. Interministerial Committee for Sederhana Program also includes Ministry of Transmigration and Cooperatives, BIMAS and Bank Rakyat Indonesia (B.R.I.).
2. Provincial Irrigation Committee is sometimes omitted.
3. District Public Works is sometimes omitted.
4. Functionally the Rural Irrigation Service will come under the guidance of the Agency for Agriculture Education, Training and Extension.

Annex B.3 Chart 10

FLOW CHART

SEDERHANA PROJECT MONITORING



Notes :

1. Operation and Maintenance Plan I covers the weir and the primary and secondary canals.

2. Operation and Maintenance Plan II covers the tertiary canals and farm service ditches.

Annex B.4.a.

Ministry of Public Works and Electric Power

Directorate General Water Resource Development

Directorate of Irrigation

J A K A R T A

MINIMUM CONDITIONS FOR SURVEY AND DESIGN CONTRACTOR CLASSIFICATION

1. Class A Irrigation Design Contractors:

1.1. Personnel.

- University Graduate Civil Engineer 3
- Bachelor of Civil Engineering 4
- Technical High School 18

1.2. Office Equipment.

Minimum office equipment:

- Drawing Board 15
- Calculator 5
- Copying Machine 1
- Pantograph 1

1.3. Office Space.

Minimum Office Space . . . . . 250 m^2

1.4. Experience.

Has performed Irrigation Design for a minimum of two Irrigation Projects.

2. Class A Survey and Mapping Contractors:

2.1. Personnel.

- University Graduate Topographical Surveyors 1
- Permanent Skilled Topographical Surveyor 3
- Permanent Topographical Surveyor 9
- Permanent Draftsmen 9
- Copier 2

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2.2. Office Equipment and Topographical Instruments.

- Transit Instrument:
  - Theodolite T_2 3
  - Theodolite T_0 6
- Leveling Instrument 3
- Drawing Board 9
- Journal Table 9
- Distance Instrument 3
- Pantograph 3
- Planimeter 3
- Copying Machine 2

2.3. Office Space.

Minimum Office Space
6 x 6 meters complete with telephone and adequate water.

2.4. Experience.

Has completed minimum of three Topographical Projects with a good results.

3. Class A Soil Mechanics and Geological Investigation Contractors.

The contractors must have experience in Soil Mechanics and Geological Investigation on Weir Sites, Irrigation Cannals and Irrigation Structures with good results and be responsible.

3.1. Personnel.

- University Graduate Geological Engineering 1
- Bachelor of Geological Engineering/Assistant 1
- University Graduate Civil Engineering Specializing in Soil Mechanics 1
- Bachelor of Civil Engineering/Soil Mechanics/Assistant . 1

3.2. Equipment.

- Core Drilling Machine 1
- Sounding Equipment 2
- Boring and Sampling Equipment 2
- Geoelectrical Equipment 1
- Water Pumps 2

3.3. Laboratory.

The contractor must have his own Laboratory and have good connections with the Bandung Institute of Technology Laboratory (I.T.B.), the Institute of Hydrology Laboratory (LPMA), and the Institute of Highways Laboratory (L.M.J.).

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3.4. Office Space.

The Contractor must have:

- Office with telephone.
- Storage space for soil and rock samples.

4. Class B Contractors.

Contractors would be classified as Class B Contractors if they were not qualified as Class A contractors but were prequalified by the Directorate of Irrigation.

Annex B.4.b.

Public Works Office of Province of South Sulawesi

Directive For The Prequalification/Classification

Of Construction Contractors 1974

A. EVALUATION FOR PREQUALIFICATION

Prequalification is divided into two sets of conditions for would be contractors:

I. GENERAL CONDITIONS.

1. The legal form of the company.
Proven by a copy of the act ratified by the drawer; the original to be shown to the committee during a visit to the contractor's office.

2. Business permit.
Proven by a photocopy, the original to be shown to the comittee during a visit to the contractor's office.

3. Fiscal document.
Proven by a photocopy of the latest calendar year fiscal document from the Tax Office; the original to be shown to the committee during a visit to the contractor's office.

4. Bank reference.
Proven by a photocopy of Government Bank Reference and which is still valid; the original to be shown to the committee during a visit to the contractor's office.

5. Letter of non-involvement with G 30 S.
Proven by a photocopy of the letter non-involvemnnt with G 30 S. for the Business Executive; the original to be shown to the committee during a visit to the contractor's office.

II. CONDITIONS FOR EVALUATION.

1. Personnel.
Proof of personnel can be given in the form of: Appointment Letter, List of Salary/Honorarium, or other documents which constitute valid proof of the existence of personnel. (See table I for minimum number of personnel).

Clarification.
Meaning of:

- Graduates: Civil Engineers, Architects, Mechanical or Bachelors with 5 years of experience in their field.

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- Bachelors	:	Bachelors or equivalent.
- Technical High School	:	Graduate of technical high school (STM) with 1 year of experience in their field or graduate of technical secondary school (ST) with 5 years of experience in their field.
- Foremen	:	Those who can read technical drawings, are able to supervise workmen and know about the work of a foreman, for instance an overseer.
- Surveyors	:	Those who can read drawings, are able to use theodolite and level instruments, are able to lead a team of surveyors, posses several years of experience and produce reliable results.
- Administration/ bookkeeping	:	Those who are able to carry out administrative work (SMP)/can do bookkeeping well (SMEP).

2. Equipment.
   Information regarding the equipment possessed by the Company which is still in good condition and can be used for the project, proven by an inventory list or a proof of ownership/purchase receipt, or the Right of Use/borrowed or rented. (See table II for the minimum equipment possessed).

3. Work Reference.
   Proven by contracts/delivery documents of finished works etc., on behalf of the company.
   (See table III b).

4. Financial
   Proven by the ability to undertake prefinancing at the time the company accepts work.
   What is the limit of the funds available for the work?

   Proven by the bank balance (latest) of 1974 from a Government Bank.

Table I

Minimum Conditions for Classification of Water Resources Development Division Contractors:

Personnel.

	A	B	C	D
- Graduate Engineer:				
- Civil	2	1	-	-
- Mechanical	1	-	-	-
- Bachelor of Engineering:				
- Civil	2	1	1	-
- Mechanical	1	1	-	-
- Technical High School:				
- Irrigation Structures	(5	(3	(2	(-
- Building	(	(	(	(
- Mechanical	2	1	1	-
- Foremen	10	5	3	-
- Surveyor	4	3	2	-
- Administration	6	3	1	-
- Bookkeeper	2	1	1	-

Table II

Minimum Conditions for Classification of Water Resources Development Division Contractors:

Instruments/Equipment.

	A	B	C	D
- Concrete Mixer	2(3)	1(2)	1	-
- Transit/Theodolite	3(6)/2(4)	2(4)/1(2)	1(2)/1	-
- Truck/trailer	4(7)	2(4)	1(2)	-
- Concrete Vibrator	2(4)	1	(1)	-
- Water Pump (6"/4")	2(4)/2(5)	-/2(4)	-/1(2)	-
- Pile Driver	(1)	(1)	-	-
- Roller	(1)	(1)	-	-
- Dragline/Excavator	1(2)	(1)	-	-
- Bulldozer	(2)	(1)	-	-
- Compactor/Stamper	1(2)	(1)	-	-
- Motor Bike	5	3	2	1
- Office Conditio.	Good	Enough	Moderate	Simple
- Warehouse	Good	Enough	Moderate	Simple
- Typewriter	3	2	1	1
- Calculator	2	1	1	-
- Drafting Table	3	2	1	-

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Table III a

Minimum Conditions for Classification of Water Resources Development Division Contractors:

Scope of Work.

A	B	C	D
- Dam, weir and reservoir work. - Special work (main gate, spillway and tunnel). - Construction of main canal. - Excavation of main canal. - Facility work.	- Excavation of secondary canal or small main canal. - Construction of irrigation structures (medium). - Facility work, etc.	- Excavation of small secondary canal. - Construction of small irrigation structures and repair. - Facility work, etc.	----

Table III b

Work Reference

5 years experience in Class B.	5 years experience in Class C.	1 year experience in trial category.	Trial category.

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Public Works Office of Province of South Sulawesi
Prequalification/Classification Committee
Jalan Slamet Riady No. 1 Ujung Pandang

FORM

PREQUALIFICATION/CLASSIFICATION OF CONSTRUCTION CONTRACTORS

GENERAL CONDITIONS

1. Name and legal form of Company: .....

   a. Date of formation: .....

   b. Act of formation; enclose copy: .....

   c. Address/Phone No. of Company: .....

2. Business field of Company: .....

3. Business permit; enclose photocopy: .....

   a. From the Mayor/Bupati:

   b. From the Department of Trade:

   c. From the Department of Industry:

   d. From the Department of Communications:

4. Enclose photocopy of latest calendar year Fiscal document from the Tax Office which states that your Company has fulfilled its Fiscal obligation.

5. Enclose the latest Government Bank reference .....

6. Letter of non-involment with G 30 S for the Management; enclose photocopy . . . . . .

CONDITIONS FOR EVALUATION

I. Personnel.

   1. General Manager/Head of Company: .....
   2. Address of Head of Company: .....
   3. Enclose list of Company's employees: .....

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II. Experience; enclose photocopy of SPK/Contract .....

III. Instruments/equipment possessed; enclose list .....

IV. Financial .

1. Are you able to make prefinancing available .....
2. Enclose photocopy of latest bank balance in 1974 .....

Clarification: .....

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ANNEX B.4.c.
Foreign Assistance to the Directorate General Water Resource Development (DGWRD) during Repelita II

Name of Project	Name of Subproject	Donor	Commitment Year(IFY)	Commitment Amount($ Thou.)
A. Project Aid				
1. Selorajo Dam	-	Japan	1968-69	3044
2. Karangkates Dam	-	Japan	1968-69	11136
3. IDA Irrigation Rehabilitation	a. Way Seputih b. Rentang c. Glapan Sedadi d. Cisadane	IDA	1968-69	5000
4. Tajum Irrigation	-	ADB	1969-70	990
5. Semarang-Kudus (Jratunseluna) Irrigation Rehabilitation	-	Netherlands	1969-70	1250
6. Brantas River Delta Irrigation Rehabilitation	-	Japan	1969-70	1300
7. Flood Control for Greater Jakarta	-	Netherlands	1969-70	1000
8. Rehabilitation of River Dredges	-	Netherlands	1969-70	160
9. Improvement of Porong River	Including Lengkong Baru Dam	Japan	1970-71	2720
10. Gembarsari Pe Irrigation Rehabilitation	-	ADB	1970-71	2700
11. IDA Irrigation Rehabilitation	a. Pemali Comal b. Ciujung c. Sadang	IDA	1970-71	15000
12. Ular River	-	Japan	1971-72	1300
13. Rehabilitation of Dredges	-	Japan	1971-72	200
14. Sempor Irrigation	-	ADB	1971-72	9200
15. IDA Irrigation Rehabilitation	a. Pekalen b. Sampean	IDA	1971-72	10699
16. Madiun and Solo Groundwater Development	-	IDA	1971-72	1082

ANNEX B.4.c (con't)
Foreign Assistance to the Directorate General Water Resource Development (DGWRD) during Repelita II

Name of Project	Name of Subproject	Donor	Commitment Year(IFY)	Commitment Amount ($ Thou.)
17. Wampu River	-	ADB	1971-72	5940
18. Progo River	-	UK	1972-73	1089
Subtotal Project Aid				73810
B. Technical Assistance				
1. Jratunseluna Basin Development	-	Netherlands	1969-70	2350
2. Progo River Basin Study	-	UK	1969-70	250
3. Nganjuk Kediri Groundwater Development	-	UK	1969-70	262
4. Barito River Basin Development	-	Japan	1969-70	473
5. Wampu River Feasibility Study	-	ADB	1970-71	181
6. Institute of Hydraulic Engineering	-	UNDP	1970-71	1780
7. Volcanic Debris Control	-	Japan	1970-71	269
8. Surabaya River Feasibility Study	-	Japan	1970-71	105
9. River Dredging Feasibility Study	-	Japan	1970-71	290
10. Engineering Assistance to Existing Irrigation	-	Japan	1970-71	462
11. Jakarta Drainage and Flood Control	-	Netherlands	1970-71	355
12. Brantas Basin and River Control Study	Including Feasibility Study of Wlingi Dam	Japan	1971-72	126
13. Serayu River Basin Development	-	Australia	1971-72	730
14. Anai Delta Irrigation Project	-	West Germany	1971-72	12
15. Lombok Water Resources Development	-	Canada	1971-72	800 1/
16. Way Jepara Irrigation	(Regional Land Development Program in Lampung Province)	Japan	1971-72	40

ANNEX B.4.c (con't)
Foreign Assistance to the Directorate General Water Resource Development (DGWRD) during Repelita II

	Name of Project	Name of Subproject	Donor	Commitment Year (IFY)	Commitment Amount ($ Thou.)
17.	Solo River Basin Development	-	Japan	1972-73	504
18.	Bali Water Resources Development	-	UK	1972-73	24
19.	Krueng Jreue Irrigation	-	UK	1972-73	24
20.	Krueng Baro Irrigation	-	UK	1972-73	24
21.	Madura Island Water Resources Development	-	UK	1972-73	300
22.	Way Umpu and Way Pangubuan Irrigation	(Regional Land Development Program in Lampung Province)	Japan	1972-73	42
23.	Teluk Lada Irrigation	-	ADB	1972-73	na
24.	Citanduy River Basin Development	-	USA	1972-73	500
25.	Water Resources Planning Consultancy	-	UK	1972-73	250
26.	Cirebon Cimanuk Feasibility Study	-	IDA	1972-73	723
27.	Hydrological and Hydrometeorlogical Network in Lampung	-	UK	1972-73	350
	Subtotal Technical Assistance				11226
	Total				85036

ANNEX B.4.c (con't)
Foreign Assistance to the Directorate General Water Resource Development (DGWRD) during Repelita II

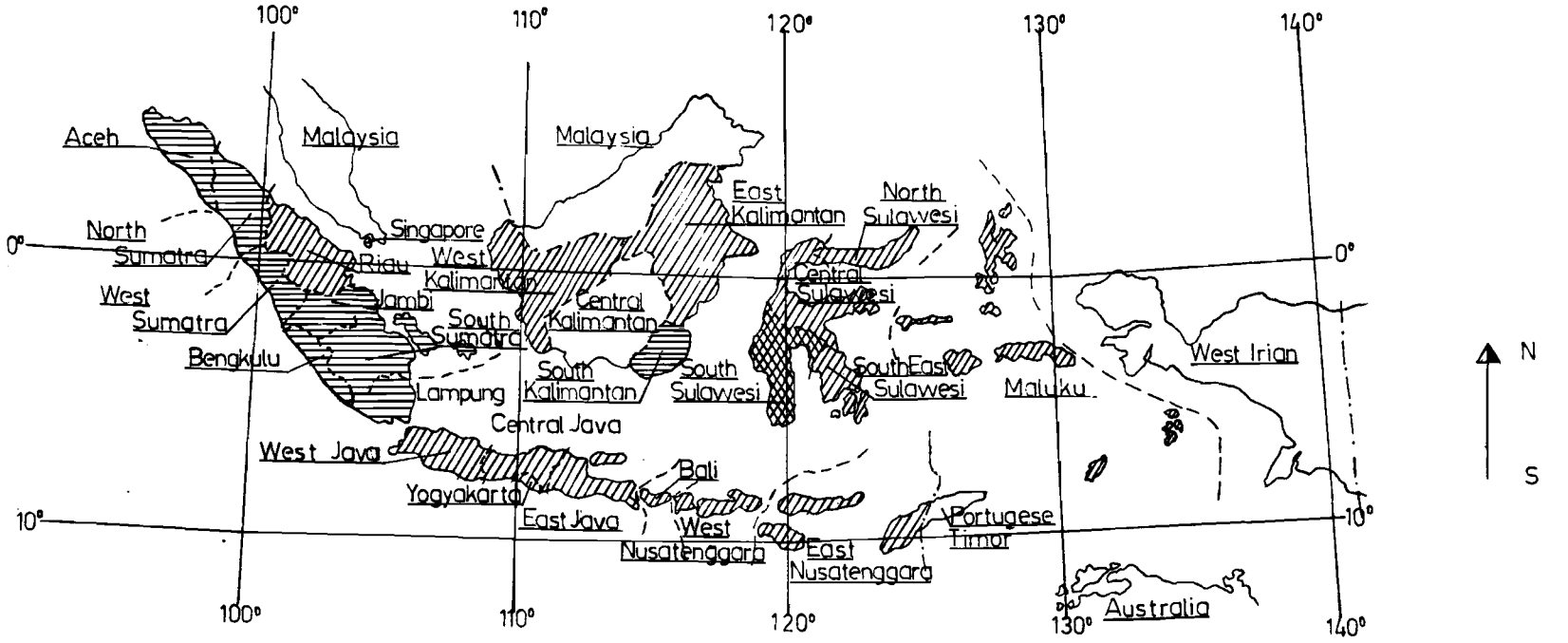
Donor	Project Aid	Percent	Technical Assistance	Percent	Total	Percent
1. IDA	31781	43.0%	723	6.4%	32504	38.2%
2. Japan	19700	26.7%	2311	20.6%	22011	25.9%
3. ADB	18830	25.5%	181	1.6%	19011	22.4%
4. Netherlands	2410	3.3%	2705	24.1%	5115	6.0%
5. UK	1089	1.5%	1484	13.2%	2573	3.0%
6. UNDP	-	-	1780	15.9%	1780	2.1%
7. Canada	-	-	800 1/	7.1%	800 1/	0.9%
8. Australia	-	-	730	6.5%	730	0.9%
9. USA	-	-	500	4.5%	500	0.6%
10. West Germany	-	-	12	0.1%	12	0.0%
Total	73810	100.0%	11226	100.0%	85036	100.0%

1/ Canadian dollars.

Annex B.4.d.

MAP SHOWING SEDERHANA PROGRAM CONCENTRATION in TERMS of AREA (HECTARES) by PROVINCE

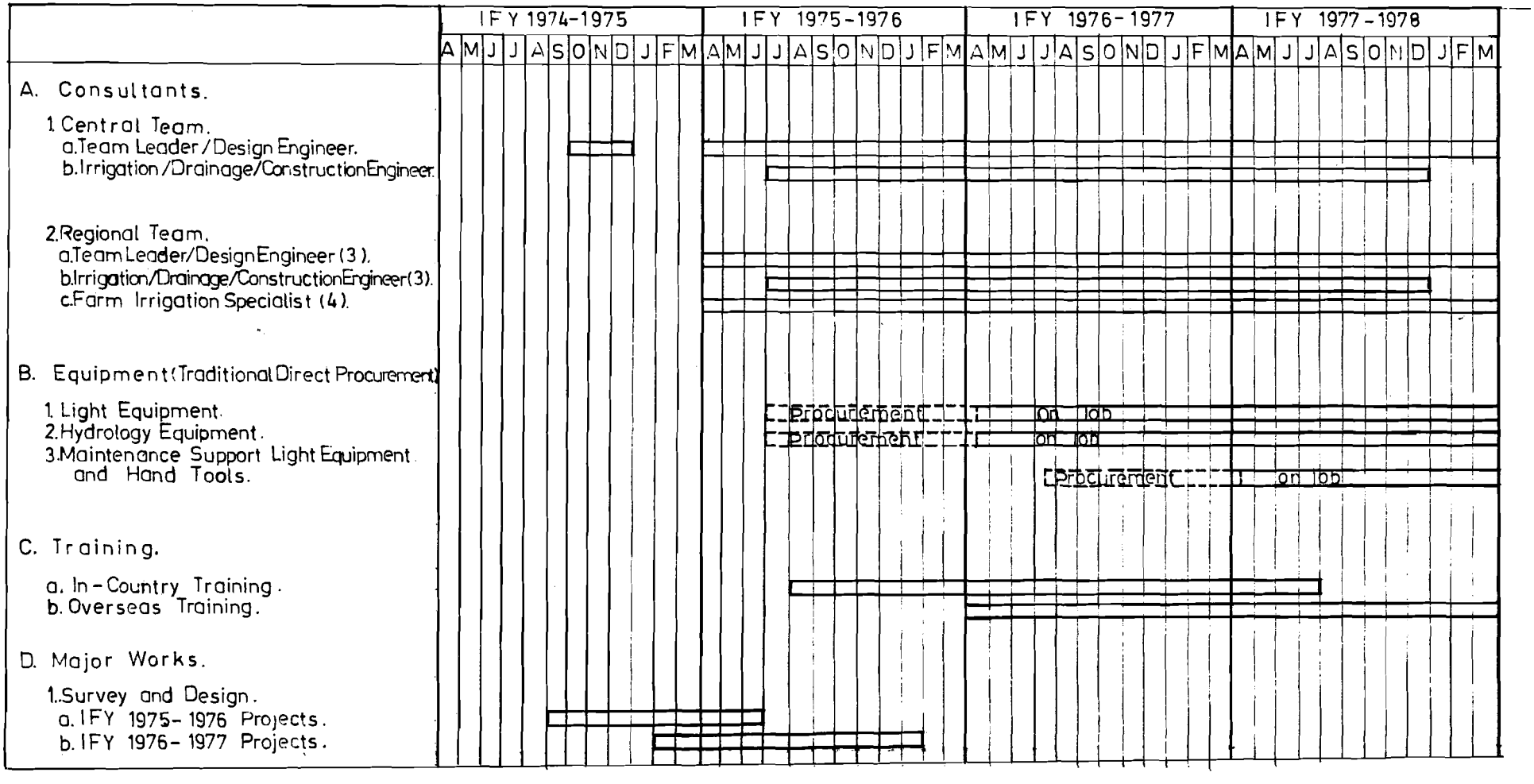
I F Y 'S 1975-1976 and 1976-1977



Annex B.4.e.

SEDERHANA (SIMPLE) IRRIGATION and LAND DEVELOPMENT PROJECT

IMPLEMENTATION SCHEDULE



	IFY 1974-1975												IFY 1975-1976												IFY 1976-1977												IFY 1977-1978											
	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M
2. Construction.																																																
a. IFY 1975-1976 Projects.																																																
b. IFY 1976-1977 Projects.																																																
E. Farm Level Implementation.																																																
1. Formation of Water User Associations and Extension.																																																
a. IFY 1975-1976 Projects.							association formation																		extension																							
b. IFY 1976-1977 Projects.													association formation												extension																							
2. Construction of Water User Association Offices.																																																
a. IFY 1975-1976 Projects.																																																
b. IFY 1976-1977 Projects.																																																
3. Land Clearing, Leveling and Paddy Forming (40%).																																																
a. IFY 1975-1976 Projects.																																																
b. IFY 1976-1977 Projects.																																																
4. Construction of Farm Service Ditches (40%).																																																
a. IFY 1975-1976 Projects.																																																
b. IFY 1976-1977 Projects.																																																

Sederhana (Simple) Irrigation and Land Development Project

ANNEX C

Department of State

AID/W Message Guidance
Re Intensive Review Request

TELEGRAM

Sederhana

USAID ROUTING		
TO	Act.	Info.
DIR		
D/D		
L/A		
PRO		
CONT		
DL/PE		
AGR		
ENGR		
PON		
SND		
EDP		
ENG		
AG		
ECON		
FER		
GEO		
JAO/ADM.		
AGR. ATT.		
M/POOL		
C&F		

CN 7702
28 JU 74
10:35

ACTION AID

UNCLASSIFIED

Classification

INFO CHRON
AMB ECON
DCM POL
XSA XXXXXX

RECEIVED JUN 28 1974

R 262242Z JUN 74 ZDK
FM SECSTATE WASHDC
TO AMEMBASSY JAKARTA 3589
BT
UNCLAS STATE 137954

SUBJECT

AIDAC

E.O. 11652:N/A
SUBJECT:SMALL SCALE (SEDERHANA) IRRIGATION PROJECT
REF: TOAID A-82

1. ASIA ADVISORY MEETING HELD JUNE 13 ON SUBJECT IRR AND APPROVAL GIVEN PROCEED PREPARATION CAP. MAJOR ISSUES RAISED WHICH NEED BE FULLY ADDRESSED IN CAP DISCUSSED BELOW.

2. WE AGREE WITH THE IMPORTANCE OF SMALL SCALE IRRIGATION IN AGRICULTURAL AND RURAL DEVELOPMENT IN INDONESIA. HOWEVER TRAINED MANPOWER AND ORGANIZATION IS CONSIDERED MAJOR CONSTRAINT IN CARRYING OUT SUCH A PROGRAM RATHER THAN ANY BUDGETARY CONSTRAINT. ACCORDINGLY, CAP SHOULD EMPHASIZE INSTITUTIONAL DEVELOPMENT ASPECT AS PRIMARY ELEMENT OF ASSISTANCE REQUIRED WITH ACTUAL CONSTRUCTION ACTIVITIES TO BE CONSIDERED AS ACCOMPANYING ASPECT OF THE PROJECT.

3. (A) EVEN RECOGNIZING RELATIVE SIMPLICITY OF THESE TYPE IRRIGATION PROJECTS, THE PROJECTED NUMBER, SIZE AND GEOGRAPHIC SPREAD APPEARS HIGHLY AMBITIOUS PROGRAM IN TIME FRAME OUTLINED. CAP SHOULD ANALYZE GOI, PROVINCIAL AND LOCAL AUTHORITIES' CAPABILITY TO IMPLEMENT SUCH PROGRAM. THIS ANALYSIS SHOULD COVER ENGINEERING INPUTS, AS WELL AS CONSTRUCTION OF STRUCTURES, PRIMARY, SECONDARY AND TERTIARY CANALS. WITH REGARD TO ALL ASPECTS, SHOULD DESCRIBE WORK ALREADY DONE; WORK IN PROGRESS; AND WORK REMAINING TO BE DONE. WITH RESPECT TO THE LATTER, SHOULD ANALYZE RESOURCES NEEDED AND AVAILABLE (QUALITY AND NUMBER OF SKILLED AND UNSKILLED PERSONNEL; EQUIPMENT; MATERIALS); AVAILABILITY OF LOCAL CONSULTANT FIRMS AND CONSTRUCTION CONTRACTORS; TRAINING NEEDED TO IMPLEMENT PROGRAM ITSELF (AS DISTINGUISHED FROM LONG-TERM TRAINING); AND FOREIGN TECHNICAL ASSISTANCE REQUIRED FOR EACH PHASE.

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Classification

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DATE DUE 7/5
6/28

FORM 4-68 FS-412(H)

(B) ONCE ESTIMATE IS OBTAINED OF REALISTIC RATE AT WHICH PROGRAM CAN BE PHYSICALLY IMPLEMENTED, CORRESPONDING COST ESTIMATE SHOULD BE CALCULATED, INCLUDING PROVISION FOR APPROPRIATE ANNUAL ESCALATION. BASED ON LATTER AND AVAILABLE GOI AND AID FUNDS, PARAMETERS OF JOINT GOI/AID SEDERHANA PROGRAM CAN THEN BE DEFINED. PROGRAM MAY BE IMPLEMENTED IN MORE OR LESS THAN TWO YEARS, BUT SHOULD NOT EXCEED A THREE-YEAR PERIOD. THUS SIZE OF THE PROGRAM SHOULD FLOW FROM DEMONSTRATED ABILITY TO CARRY OUT CERTAIN NUMBER OF PROJECTS WITHIN A SPECIFIC TIME FRAME RATHER THAN ANY PREDETERMINED AMOUNT. THEREAFTER THE AID LOAN AMOUNT WOULD BE SET ACCORDINGLY.

(C) RE COSTS, CAP WILL HAVE TO EXPLECN IN GREATER DETAIL HOW COST ESTIMATES FOR CONSTRUCTION, EQUIPMENT AND TRAINING ARE ARRIVED AT (IRR, P. 13).

4. CAP SHOULD STATE WHETHER GOI HAS ESTABLISHED PRIORITIES AMONG PROJECTS TENTATIVELY LISTED FOR PROGRAM. QUESTION BECOMES PERTINENT IF GOI IS FORCED TO REDUCE SCALE OF PROGRAM DUE TO LIMITATIONS ON IMPLEMENTING CAPACITY OR CONSTRAINTS ON FUNDING OR BOTH. WOULD SUCH REDUCTIONS BE MADE ON THE BASIS OF A MINIMUM IRR OR WOULD OTHER CRITERIA BE UTILIZED ALSO (E.G., CLUSTERING FOR EASE OF IMPLEMENTATION). WOULD MINIMUM IRR BE ESTABLISHED ON A PROVINCE-BY-PROVINCE BASIS TO INSURE GEOGRAPHICAL DISTRIBUTION, WITH AN ABSOLUTE FLOOR IRR FOR THE PROGRAM AS A WHOLE?

5. IRR REFERS TO "TRANSITIONAL" "INTERIM" NATURE OF PROGRAM. THIS TERM MAY BE MISLEADING. IN ANY CASE, CAP SHOULD EXPLAIN CONCEPT IN GREATER DETAIL INCLUDING ADVANTAGES AND DISADVANTAGES OF TEMPORARY STRUCTURES; MORE DETAILED COST RELATIONSHIP OF STRUCTURES TO CANALS; AND EXTENT TO WHICH REMAINDER OF SYSTEMS CAN BE MAINTAINED, AND NEED TO BE ADJUSTED IF AND WHEN TEMPORARY STRUCTURES ARE REPLACED WITH PERMANENT ONES.

6. (A) YIELD ASSUMPTIONS USED IN ECONOMIC ANALYSIS OF IRR APPARENTLY DERIVED FROM IBRD STUDY. CAP SHOULD PROVIDE MORE DETAIL SUPPORTING T~~HESE ASSUM~~PTIONS, PARTICULARLY THE HIGH YIELDS PROJECTED FOR THE "DEPENDABLE WATER SUPPLY" SITUATIONS. IF NOT ALREADY DONE BY IBRD, PERHAPS MISSION CAN DEVELOP ECONOMIC MODELS BASED ON ACTUAL SUB-PROJECTS IN SEVERAL PROVINCES TO SUPPORT THE YIELD ASSUMPTIONS.

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(B) CAP SHOULD STATE ASSUMPTIONS MADE WITH RESPECT TO COMPLEMENTARY INVESTMENTS NEEDED TO REALIZE THE BENEFITS OF THE PROGRAM (E.G., ACCESS OR SERVICE ROADS).

7. RE PROPOSED CHECKLIST APPROACH TO SELECTION AND APPROVAL OF PROJECTS, AID/W NOT PREPARED ACCEPT SAMPLE-CHECKING APPROACH UNTIL IT CLEAR THAT SYSTEM IS WORKING WELL. U. S. ADVISORS OR MISSION PERSONNEL WILL HAVE TO CHECK FIRST 50 OR 100 CHECKLISTS TO INSURE THEY PROPERLY FILLED OUT; COST ESTIMATES RELIABLY COMPUTED; AND COMPLETION CERTIFICATES COMPETENTLY EVALUATED. IF RESULTS FAVORABLE, COULD THEN CONSIDER SAMPLING APPROACH PROPOSED IN IRR. ALSO NOT CLEAR FROM IRR AT WHAT POINT IN TIME AID APPROVES ELIGIBILITY OF A PARTICULAR PROJECT FOR INCLUSION IN AID PROGRAM; THIS SHOULD BE DONE PRIOR TO START OF CONSTRUCTION, SO AS TO AVOID GOI INCURRING CONSTRUCTION COSTS IN CASE OF PROJECTS NOT MEETING AGREED UPON CRITERIA.

8. OPERATION AND MAINTENANCE (O AND M) HAS TRADITIONALLY BEEN A PROBLEM IN INDONESIA. IRR SUGGESTS POSSIBLE APPROACH TO THIS PROBLEM (E.G., FARMER USER GROUPS) AND INCLUSION OF AN O AND M PLAN IN THE CHECKLIST. NEVERTHELESS, FEEL THIS AREA WILL REQUIRE DISCUSSIONS WITH GOI AND SHOULD RECEIVE SPECIAL ATTENTION DURING INTENSIVE REVIEW AND IN CAP.

9. CAP SHOULD ALSO INCLUDE ADDITIONAL ANALYSIS OF FARMER ORGANIZATIONS, THEIR STRENGTHS, WEAKNESSES AND POTENTIAL, AND MORE EXPLICIT STATEMENT ON GOALS OF TECHNICAL ASSISTANCE IN THIS AREA.

10. RE TIMING, ON BASIS MEETING AND DISCUSSION WITH VAN RAALTE, ANTICIPATE CAP IN AID/W IN TIME TO PERMIT SECOND QUARTER FY 75 LOAN. DURING CAP PREPARATION, ENCOURAGE USAID RAISE ANY QUESTIONS OR ISSUES WITH AID/W AS EARLY AS POSSIBLE. SISCO

ANNEX D

SEDERHANA (SIMPLE) IRRIGATION AND LAND DEVELOPMENT PROJECT
LOGICAL FRAMEWORK MATRIX

A. 1. Program or Sector Goal	2. Measures of Goal Achievement	3. Means of Verification	4. Assumption for Achieving Goal (Targets)
Decrease Indonesia's dependence on food imports, particularly rice, needed to feed growing population.	a. Value of food imports per year. b. Tons of rice imported per year.	GOI trade statistics.	a. Present conditions of political stability continue to prevail. b. GOI's Family Planning Program meets its targets. c. Other GOI food production programs meet their targets. d. Transportation and marketing system capable of moving rice from producers in surplus areas to consumers in deficit areas both intra- and inter-island.

B. 1. Project Purpose	2. Conditions that Will Indicate Purpose Has Been Achieved - End of Project Status	3. Means of Verification	4. Assumptions for Achieving
1. Institution Building (Primary Focus) Increase in institutional capability of GOI implementing agencies; particularly the: (a) DGRWD; (b) Provincial Public Works offices	1. Institution Building Successful implementation of Sederhana Program at level about 60,000 hectares in IFY 1976-77.	1. Institution Building GOI computerized program progress control system and AID monitoring of this system.	1. Institution Building a. End-of-project and ultimate purpose. Adequate number of technical personnel available to implement Program at target levels.

(c) Agency for Agriculture Education Training and Extension, (d) Rural Irrigation Service and (e) Provincial Agriculture Services; to implement primarily GOI's Sederhana (Simple) Irrigation Program the amount necessary to achieve a Program level of about 60,000 hectares in IFY 1976-77 and even greater program levels in subsequent years.

b. Ultimate purpose. Momentum generated during implementation of AID Project maintained in subsequent years.

2. Rice Production
Increase rice production from subproject areas by about 101,000 tons in IFY 1978-79 and ultimately by about 211,000 tons in IFY 1984-85.
Note: Secondary crop production may also be increased.

2. Rice Production
a. Increased rice production from subproject areas of about 101,000 tons in IFY 1978-79.
b. All major works serving each subproject area in place and operational.
c. 40% of area of each subproject dependably irrigated and capable of producing paddy rice.

2. Rice Production
a. Department (Ministry) of Agriculture rice crop statistics.
b. GOI computerized program progress control system and AID monitoring of this system.

2. Rice Production
a. End-of-project and ultimate purpose.
1). Rice and input prices kept at level adequate to maintain farmer incentives.
2). BIMAS production input package provided to farmers tilling following percentages of subproject areas in indicated year after completion of major works:

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a). one - 0%
b). two - 15%
c). three-35%
d). four -55%
e). five -60%
f). thereafter-60%

b. Ultimate purpose. Tertiary canals and farm service ditches serving remaining 50% of area of each subproject completed after AID Project completed.

3. Well-being of Rural Poor
a. Increase income of farmers in subproject areas by about $210 per hectare in IFY 1978-79 and utimately by about $270 per hectare in IFY 1984-85.
b. Increase employment opportunities in subproject areas in:
1). Construction by about 84,000 man-years in IFY 1975-76 and 108,000 man-years in IFY 1976-77.
2). Tilling land in:
a). Wet season by about 97,000 jobs in IFY 1978-79 and utimately by about 179,000 jobs in IFY 1984-85.

3. Well-being of Rural Poor
a. Increased income of farmers in subproject areas of about $210 per hectare.
b. Increased employment opportunities as indicated for IFY 1978-79 under project purpose.

3. Well-being of Rural Poor
GOI computerized program progress control system and AID monitoring of this system.

3. Well-being of Rural Poor
End-of-project and ultimate purpose.
1). Rice and input prices maintained at level adequate to generate increases in farmer income indicated under project purpose.
2). Present average size of land-holding in subproject areas of one hectare or less of paddy maintained.
3). Implementation of subprojects carried out in labor-intensive manner.

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b). Dry season by about 29,000 jobs in IFY 1978-1979 and ultimately by 59,000 jobs in IFY 1984-85.

3). Operation and maintenance by 4,400 man-years per year.

Outputs	2. Magnitude of Outputs	3. Means of Verification	4. Assumptions for Acheiving Outputs
1. Institution Building a. GOI implementing agency counterpart personnel assisted and trained by consultants. b. Establishment of internal training programs in GOI implementing agencies. c. GOI implementing agency personnel completing training programs : 1. In-country. 2. Overseas.	1. Institution Building a. Number of GOI implementing agency counterpart personnel assisted and trained by consultants. b. Internal training programs established in GOI implementing agencies. c. Number of GOI implementing agency personnel completing training programs : 1. In-country. 2. Overseas.	1. Institution Building AID monitoring.	1. Institution Building None.
2. Rice Production a. Major works (weir, primary and secondary canals, major structures, etc.). b. Water user associations. c. Extension activities. d. Water user association offices.	2. Rice Production IFY 1975-76 subprojects covering about 50,000 hectares and IFY 1976-77 subprojects covering about 60,000 hectares located in 23 of Indonesia's 26 provinces and special areas.	2. Rice Production GOI computerized program progress control system and AID monitoring of this system.	2. Rice Production a. Ministry of Interior able to provide land certificates to farmers in subproject areas without AID assistance. b. Bank Rakyat Indonesia (BRI) able to provide

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e. Land certificates.
f. Finished rice paddies ready for planting.
g. Tertiary canals and farm service ditches serving 40% of area of each subproject.
h. Effective water management.
i. Adequate operation and maintenance (O and M) of :
   1. Major works
   2. Tertiary canals and farm service ditches.

required medium-term credit for land clearing, leveling and paddy forming to farmers in subproject areas without AID assistance.
c. Ministry of Transmigration and Cooperatives able to provide required transmigrant farmers and construction workers in subproject areas without AID assistance.
d. Adequate financing provided for O and M.

Inputs

1. Institution Building
   a. Long-term consultants
   b. Short-term consultants.
   c. Training :
      1). In-country.
      2). Overseas.

2. Implementing Target (Type and Quantity)

See Annex B.2. Tables 21 to 25 for detailed breakdown of inputs by quantity, cost, implementing agency, AID financing category, source of financing and time phasing.

3. Means of Verification

a. Traditional Direct Procurement. AID monitoring.
b. Fixed Amount Reimbursement, GOI Contribution, and Farmer Contribution. GOI computerized program progress control system and AID monitoring of this system.

4. Assumptions for Providing Inputs

1. Institution Building
GOI makes budget provision for and provides its inputs on timely basis.

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2. Institution Building and Rice Production
   a. Gabion wire.
   b. Light equipment.
   c. Hand tools.
   d. Hydrology equipment.
   e. Maintenance support light equipment and hand tools.

3. Rice Production

   Funds for :
   a. Survey and design of major works and tertiary canals.
   b. Construction of major works and tertiary canals.
   c. Formation of water user associations and extension.
   d. Construction of water user association offices.
   e. Issuance of land certificates.
   f. Land clearing, leveling and paddy shaping.
   g. Construction of farm service ditches.

   Plans for :
   a. Water management.
   b. O and M of :
      1. Major works.
      2. Tertiary canals and farm service ditches.

2. Rice Production
   a. GOI makes budget provision for and provides its inputs on timely basis.
   b. Farmers provide their inputs on timely basis.

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INDONESIA - SEDERHANA (SIMPLE) IRRIGATION AND LAND DEVELOPMENT PROJECT

CERTIFICATION PURSUANT TO SECTION 611(3) OF
THE FOREIGN ASSISTANCE ACT OF 1961, AS AMENDED

I, Richard M. Cashin, the principal officer of the Agency for International Development in Indonesia, having taken into account among other things:

the experience of the Government of Indonesia in association with multilateral and bilateral donors, including AID, in implementing programs directed to irrigation system rehabilitation, construction and maintenance; and

the commitment of the Government of Indonesia to carry out this Project effectively as evidenced by the scale of effort included for the Second Five-Year Plan (1974-79),

do hereby certify that in my judgment Indonesia has the financial and human resources capability to implement, maintain and utilize effectively subject small- and medium-scale irrigation project. This judgment is based on the following:

1. The Government of Indonesia will agree to the obligations to be included in the authorization for subject capital assistance project; and

2. Adequate planning for project implementation and sufficient financial support for timely and effective execution will be provided if the Government of Indonesia complies with the program set forth in the Project Paper.

R. M. Cashin

Richard M. Cashin
Director, USAID Indonesia

January 22, 1974
Date

LOAN AUTHORIZATION

A.I.D. Loan No.:_____

Provided under: Sec. 103: Food and Nutrition

For: Indonesia: Sederhana (Simple) Irrigation and Land Development Project

Pursuant to the authority vested in the Administrator, Agency for International Development ("A.I.D."), by the Foreign Assistance Act of 1961, as amended, ("Act") and the delegations of authority issued thereunder, I hereby authorize the establishment of a Loan pursuant to Section 103 of said Act to the Government of the Republic of Indonesia ("Borrower") of not to exceed Twenty-three Million Seven Hundred Thousand United States dollars ($23,700,000) to assist in financing the United States dollar and local currency costs of a small-and medium-scale irrigation project in Indonesia, the Loan to be subject to the following terms and conditions:

1. Terms of Repayment and Interest Rate

Borrower shall repay the Loan to A.I.D. in United States dollars within forty (40) years from the date of the first disbursement under the Loan, including a grace period of not to exceed ten (10) years. Borrower shall pay to A.I.D. in United States dollars interest at the rate of two percent (2%) per annum during the grace period and three percent (3%)

per annum thereafter on the outstanding disbursed balance of the Loan and on any due and unpaid interest accrued thereon.

2. Other Terms and Conditions

a. Except as A.I.D. may otherwise agree in writing:

(1) Goods and services financed under the Loan shall have their source and origin in Indonesia and countries included in A.I.D. Geographic Code 941;

(2) The Borrower shall agree, by condition precedent, covenant, or both, to provide on a timely basis its portion of project financing at levels, under arrangements and on timing acceptable to A.I.D.

b. The Loan shall be subject to such other terms and conditions as A.I.D. may deem advisable.

_____
Administrator

_____
Date

REPUBLIC OF INDONESIA
NATIONAL DEVELOPMENT PLANNING AGENCY
JAKARTA, INDONESIA

No. 415/D.I/II/1975.- Jakarta, February 14, 1975.-

Mr. Richard M. Cashin,
Director,
U.S. Agency for International Development,
Jl. Merdeka Selatan 3,
Jakarta, Indonesia.

Dear Mr. Cashin,

The Government of Indonesia requests from the Government of the United States of America a loan of up to twenty-three million seven hundred thousand U.S. dollars ($23,700,000) for the purpose and subject to the provisions hereinafter stated.

The primary purpose of the loan is to assist the Government with the implementation of its Sederhana (Simple) Irrigation and Land Development Program. The purpose of this Program is rapidly to increase rice production through the implementation of small-and medium-scale irrigation and reclamation projects which are simple to design and construct, capable of rapid execution and relatively inexpensive. The loan would finance the foreign exchange cost of long-term and short-term consultants, overseas training and certain types of equipment. It would also finance reimbursement to the Government of a mutually agreed percentage of the predetermined cost of in-country training; certain materials; certain other types of equipment, survey, design and construction of subprojects which are to be completed in Indonesian fiscal years 1975/76 and 1976/77, and necessary farm level implementation activities in connection with these subprojects such as formation of water user associations and extension and assistance to farmers in the construction of farm service ditches.

The Government gives very high priority to the objectives of decreasing Indonesia's dependence on imports and eventually becoming self-sufficient in rice production. The Sederhana Irrigation Program is one of the most important means available to achieve this objective. In addition, the Program is expected to make a significant contribution to achievement of the Government's overall objectives in the agriculture and irrigation sector for Repelita II of (a) income growth, (b) employment creation and (c) income redistribution as a result of the small average size of landholding within the labor-intensive nature of the included subprojects.

The Government has set a target of completion of subprojects covering an area of 550,000 hectares in 23 of Indonesia's 26 provinces and

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special areas for Repelita II. Targets for individual Indonesian fiscal years increase from 40,000 hectares in 1974/75 to 200,000 hectares in 1978/79, a compound annual growth rate of almost 50 percent. Although Sederhana subproject are conceptually simple when taken individually, the large number of subprojects, their scattered and isolated locations and the rate of increase of the size of the Program will require a rapid expansion of the capability of the Government's implementing agencies, particularly the Directorate General Water Resouce Development, the Provincial Public Works Office, the Agency for Agriculture Education, Training and Extension, the Rural Irrigation Service and Provincial Agriculture Services. AID support is being sought primarily to assist in this institution-building effort.

The estimated total cost of the Project covering Sederhana subprojects to be completed in Indonesian fiscal years 1975-76 and 1976-77 is $59.2 million. Of this amount about $4.7 million represents foreign exchange cost to be financed by AID.Local currency support for these items, which will be budgeted by the Government of Indonesia, amounts to $1.0 million. Another $37.8 million is local currency cost which will be budgeted by the Government Of Indonesia in the first instance. AID will later reimburse the Government a mutually agreed percentage of the predetermined cost of items included in this category. In addition, the Government will budget and finance $11.9 million in local currency costs of the Project without AID assistance. The remaining $3.8 million of Project costs will be labor services contributed by individual farmers.

Other sources of financing for this project are not available to the Government of Indonesia at present nor anticipated in the future. Funds available from other donor countries have been allocated or are planned to be allocated to other priority projects within the framework of Repelita II.

We hope that this information will be useful and sufficient for you to proceed with the consideration of this loan application as soon as possible.

Sincerely,

BADAN PERENCANAAN PEMBANGUNAN NASIONAL
REPUBLIK INDONESIA

Saleh Afiff
Deputy Chairman

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SEDERHANA (SIMPLE) IRRIGATION AND LAND DEVELOPMENT PROJECT

ENVIRONMENTAL IMPACT

The subprojects will be selected based upon detailed criteria which include technical, economic, social soundness and environmental factors (see DGWRD Grading Sheet for Selection, Annex B. 1.e). The environment factors on this grading sheet as shown include source and quality of water, flood and soil erosion, impact on fish and other wildlife, and health factors, including the possible upgrading of Schistosomiasis. The DGWRD will also submit all Sederhana subprojects to the Provincial Health Offices at the subproject selection stage for his comments and/or recommendations. He will be given a time limit to respond of approximately thirty days in order not to incur unacceptable delays in project selection.

Prior to commencement of construction of any individual subprojects for which reimbursement will be sought under the loan, the DGWRD will submit to AID documentation which will certify: (a) that the agreed upon selection criteria were used, (b) that the subproject has no water linkage to areas which have been designated as affected by Schistosomiasis by the Center for Disease Control of the Ministry of Health, and (c) that the Provincial Health Inspector and the District Health Office have been provided with the name, location, and brief description of the subproject and been given 30 days to comment and make recommendations. The text of the comments of these officers shall be included, if any.

The use of the Grading Sheet for Selection will ensure that important environmental effects are considered during the development of the subproject. Once subproject personnel are aware of possible environmental effects, they can take appropriate action to minimize negative effects and maximize positive ones.

Special Considerations Peculiar to Sulawesi.

Schistosomiasis has been identified in parts of Central Sulawesi in quite significant rates of infection. Snail hosts and eight species of indigenous mammals (domestic and wild) which act as reservoir hosts have been identified in the Lindu Valley. Schistosomiasis has been reported or is suspected in other areas also.

Filariasis, which severely decreases the working capacity of farmers in several areas of Indonesia, is reported to be particularly severe in Sulawesi. Recently Brugia malayi, utilizing Anopheles barbirostris and mansonia species of mosquito as vectors, has been identified as the agent

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responsible for filariasis in transmigration settlements throughout Indonesia. Since filariasis and other diseases dangerous to health associated with poorly drained areas are known to be present on Sulawesi, these dangers should be considered in the development of Sederhana irrigation systems in the province.

Most transmigrants originate from Java and Bali. Although the incidence of malaria has been increasing on these islands, incidence is generally higher on Sulawesi.

GOI implementing agencies will use known measures in project and structural design to prevent and/or minimize the creation of conditions favorable to the spread of disease. These agencies should inform the Center for Disease Control (CDC) of the Ministry of Health of the location of planned Sederhana subprojects and solicit their cooperation in monitoring health conditions within these areas.

Environmental Training

The DGWRD has agreed to send 2 or 3 senior members of the Sederhana program staff to the US for one month of environmental training, as long as this training is funded on a grant basis. Also, eight hours of environmental training will be included in all in-country training courses for DGWRD and Provincial Public Works Office professional staff with a duration of one month planned for reimbursement under the loan and sixteen hours will be included in in-country training courses with a duration of two months. This environmental training will be included in the training plan for the project, which must be approved by AID prior to the commencement of the first in-country training course for which reimbursement will be sought under the loan.

Environmental Consultant

The DGWRD has agreed to the provision of an environmental consultant, as long as he is funded on a grant basis. His primary responsibility will be to develop presentations and instruction materials for the environmental training to be included in in-country training courses. He will also advise and assist in carrying out this environmental training. In addition, upon receipt of a specific request, he will advise and assist the DGWRD in dealing with the environmental problems of individual subprojects. His initial assignment would be for 4 months and he would return for 2 months approximately one year later, for a total of 6 man months of services.

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