

13. Summary

The "Science and Technology" loan/grant project consist of several activities, related in that they all concern the application of science and technology to Indonesia's development problems and are coordinated through the Minister of State for Research and Technology (Dr. B.J. Habibie).

They are as follows:

General Activities:

"A" : Science, Technology and Research Policy

"B" : Manpower Development in R&D Management

Specific Activities:

"2" : Alternative Energy Sources for Rural Areas

"3" : Aquatic Resources Development

"4-5": Land-Use and Geological Mapping, Geological Hazards (Natural Disaster) Mitigation, and Remote Sensing

Note: Activities "1" on Standardization, and "6" on Weather Forecasting for Farmers and Fisherman were dropped because of lack of funding. (The PP purposely developed more activities than necessary, in case unforeseen difficulties caused an activity dropout).

The Grant Project Agreement was signed February 3, 1978, for the initial \$600,000 FY78 allotment (out of \$1,500,000 projected), but the Loan Agreement of \$5,000,000 for a five year project was not signed until April 12, 1978. Ninety days later, the general conditions precedent for the Project were met (July 10, 1978) primarily the establishment by Ministerial Decree of a Management and Evaluation Committee. Work on

specific conditions precedent, scopes-of-work and PIO/Ts commenced soon afterwards. Conditions precedent were completed for Activities "A" and "B", and Activities "3" and "4-5", the latter being a combined activity, under one PASA with the U.S. Geological Survey. The PIO/Ts had been sent to the primary GOI counterpart, Dr. S.B. Joedono in late October and early November. Because of imminent departure for travel abroad with Minister Habibie, Dr. Joedono did sign them November 29, 1978. Littlewood also left (on TDY) with Minister Habibie. Meanwhile other AID clearing offices withheld final concurrence on the PIO/T's until several issues or questions were cleared up; e.g. apparent insufficient housing allowance for Activity 4-5; how accounts are to be kept straight when an activity is jointly funded by both grant and loan funds, the need for a raise in the MODE ceiling for the PASA personnel, and the fact that insufficient grant funds were available for the proposed grant funding. (Note: the FY79 grant allotment had not been received at the time. It is now received, but only \$250,000, compared to the original request of \$900,000 and a "fall-back" request for a minimal \$500,000).

When Littlewood returned just before Christmas, these questions were cleared up, final USAID concurrences obtained, and three of the PIO/T's were signed December 29, 1978. The PIO/T's for Activity "B" and Activity 3-4 were sent by pouch January 2, 1979. The Activity "A" PIO/T was retained at USAID/Indonesia for contracting. Mr. Doucette is presently drafting the contract. The PIO/T for Aquatic Resources Development (Activity 3) is now being sent to AID/W for Request for Proposal. The scope-of-work ("terms of reference") and the rest of the PIO/T for the remaining

Activity "2" on alternative energy, had been delayed at GOI request until energy jurisdictions and program priorities had settled within the GOI. At a meeting January 15, 1979 between Minister Habibie, Ambassador Masters, and Mr. Littlewood, it was confirmed that this Activity would focus on using alternative energies--particularly solar-related energies--to reduce village consumption of firewood and kerosene, in an experimental-demonstration solar energy village in Java. Development of the scope of work and PIO/T is to go forward in late January and February with completion before Feb. 28, 1979.

While awaiting the Loan Agreement "conditions precedent" to be met last spring (1978), two subactivities which could not wait were arranged through separate PIO/Ts and contracts, using grant funds. These were three R&D Management workshops under Activity "B", and a National Food and Nutrition Workshop held in July, as part of Activity "A". President Suharto opened the latter workshop at the Istana in Bogor. U.S. inputs were participation of a National Academy of Sciences (NAS) team of 11 persons.

A NAS staff member is visiting Indonesia the end of January 1979 to arrange details of future subactivities under Activity "A", including a workshop in late March or April 1979, to define more sharply the program and priorities for Activity "A". The Management and Evaluation Committee meets monthly. Membership includes the primary project counterpart, Dr. Joedono, as Chairman, the various GOI project activity leaders, a USAID representative (Mr. Littlewood), and a BAPPENAS representative (Dr. Astrid) as members. Other members may be added as required.

A organizational diagram of the Science and Technology project is attached (Attachment #1).

14. Evaluation Methodology

This is a regularly scheduled evaluation as part of a package of evaluations, twelve months after grant agreement signature and nine months after loan signature. Because the project is just starting the implementation phase, the evaluation is more a status report and explanation, and therefore GOI participation is limited. More substantive evaluations will be held in future years, with leadership by the Project Management and Evaluation Committee.

15. External Factors

There are no major changes in the project, now or foreseen in the near future. See Section 18 for description of GOI support to this sector.

16. Inputs

Inputs to date are as planned, with only the general problem of bureaucratic delays in getting the project started, as explained above. Activities "A" and "B" did get started on time (June - July, 1978) through the use of grant funding before it was possible to get the overall contracts signed.

17. Outputs

Since the main parts of the project are not yet underway, the only significant output measurement at this early phase would be the results of the two grant-funded activities in June and July. The three R&D Management workshops were held, one at Hasanuddin University in Ujung Pandang, and two in Jakarta, with a total of 70 administrators trained in research management. Indonesian participation in the teaching of the workshops greater than the earlier, PDS-funded forerunner teaching workshops. The

National Food and Nutrition Workshop was held, and the main recommendations are, we understand, being integrated into the Repelita III (Third Five-Year Plan). An analysis of the results of the Workshop is attached (Attachment #2). The Log-Frame Matrix for the Project is attached as Attachment #3.

18. Purpose

"To provide a strong indigenous capacity in selected GOI scientific and technological institutions to plan and conduct Research and Development (R&D) activities in ways that will benefit Indonesia's majority, and offer opportunities for increased productivity, employment, income, and improvements in quality of life."

Science, technology and research project priority with the GOI is high, as manifested by the appointment of the dynamic, new Minister of State for Research and Technology, Dr. B.J. Habibie, the establishment of a new operational agency under the chairmanship of Dr. Habibie ("BPPT", Agency for Development and Application of Technology), construction of ten-unit technical laboratory center (PUSPIPTEK), and the establishment of five national R&D priority committees known as "PEPUNAS", four of which directly relate to the Congressional Mandate (I. Basic Human Needs, II. Energy and Natural Resources, III. Industrialization for Employment Generation, and V. Socio-Economic and Cultural Aspects. Only Committee IV, Defense and Security, falls outside AID priorities).

The third five-year development plan, Repelita III, has "science, technology and research" as one of its 18 major budgetary categories. In the first year of Repelita III (FY1979-80) the GOI has budgeted \$21.6 million in the Routine Budget and \$93.0 million in the Development Budget, for a total of \$114.6 million. This represents about 1.7% of

the development budget, and 1.0% of the total budget for the GOI fiscal year 1979/80. Due to changes in subsector attributions, it is not possible to make direct comparisons with previous budgetary years.

It should also be noted that many other of the major budgetary categories, such as agriculture, health and industry, include science, technology and research as major components.

The progress toward EOPS condition is described in Sections 13 and 17. It is too early in the project to discuss achievement, or changes in EOPS.

19. Goal/Subgoal

The broader objective to which this Project contributes is; "Establish an indigenous, self-reliant scientific and technological community that is able to manage and exploit rationally Indonesian natural and human resources for optimum contribution to the country's development and the welfare of the majority of its citizens."

It is too early in the project to discuss achievement levels. Delays have been for bureaucratic reasons, exacerbated by insufficient qualified staff on both the GOI and the USAID side.

20. Beneficiaries

There is no change in beneficiaries from those described in the Project Paper Part III, Section C (pg. 54). It is too early in the project to measure achievement levels.

21. Unplanned Effects

It is too early in the project to measure either planned or unplanned effects other than the delay in execution means that there will be, on the average, closer to four years actual span of work, rather than five.

22. Lessons Learned

The actual time to implement a project in the field is greater than the theoretical time.

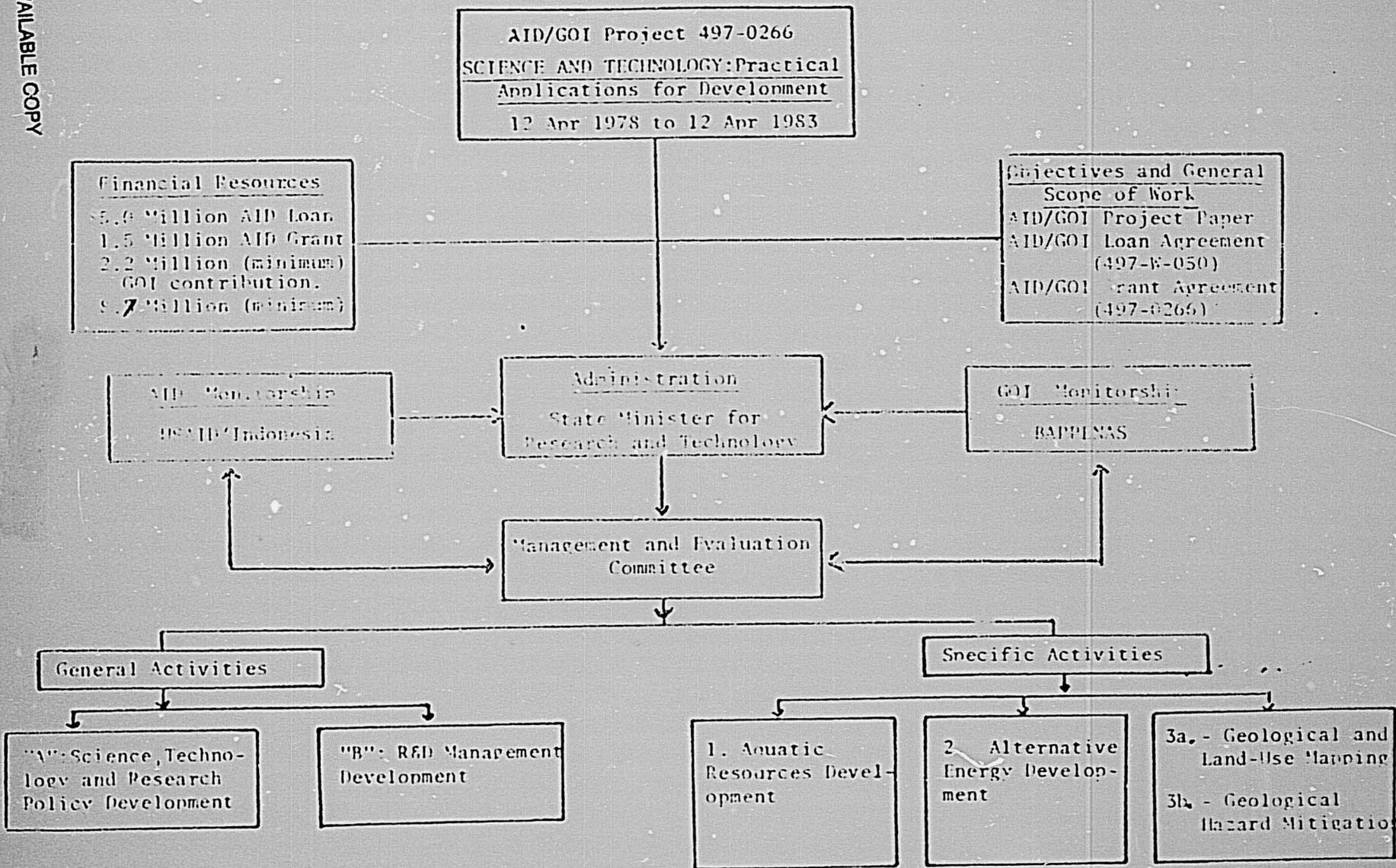
23. Special Comments or Remarks

None.

Attachment #1: Flow chart for Project 497-0266, "Science and Technology: Practical Application for Development."

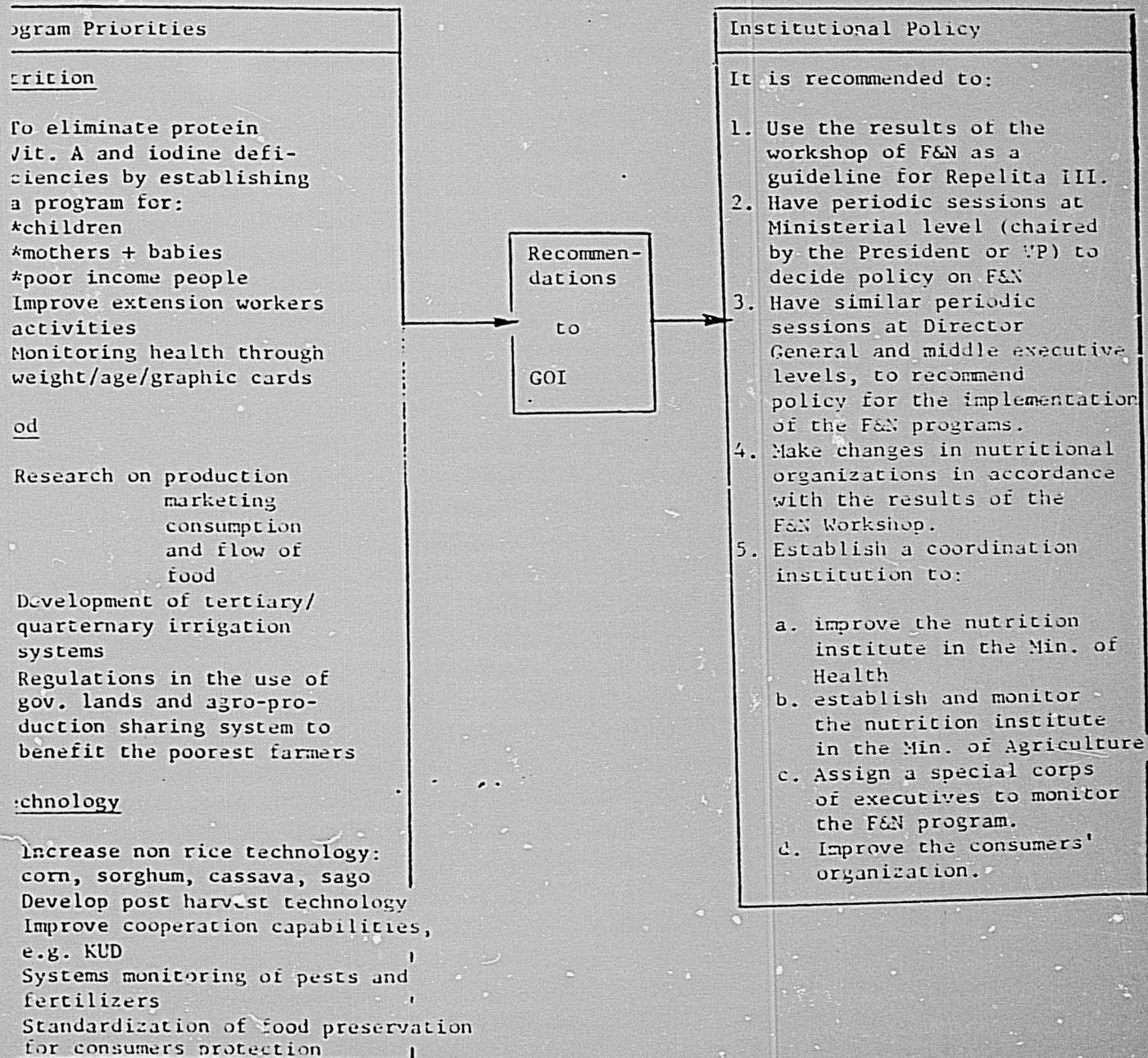
Attachment #2: Analysis of Result of National Food and Nutrition Workshop, July, 1978.

Attachment #3: Project Log-Frame Matrix.



VI. FOOD & NUTRITION WORKSHOP

ance from NAS (U.S. National Academy of Sciences) and various GOI G&N (Food and



FOOD & NUTRITION COORDINATION BODIES

