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PROJECT COMPLETION REPORT

INDONESIA NUTRITION DEVELOPMENT PROJECT

(LOAN 1373-IND)

June 28, 1985

Population, Health and Nutrition Department

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ACRONYMS

AN	Academy of Nutrition
ANP	Applied Nutrition Program
BPGD	Village Nutrition Improvement Coordinating Committee
BAPPENAS	National Development Planning Agency
BKKBN	National Family Planning Coordinating Board
CRDN	Center for Research and Development in Nutrition
DIP	Development Budget
FNU	Food and Nutrition Unit
FTDC	Food Technology Development Center
GOI	Government of Indonesia
HVG	Home and Village Gardens
MEU	Monitoring and Evaluation Unit
MHA	Ministry of Home Affairs
MOE	Ministry of Education
MOF	Ministry of Finance
MOH	Ministry of Health
NCBC	Nutrition Communication and Behavioral Change
NIPP	Nutrition Intervention Pilot Project
PKK	Voluntary Women's Group
REPELITA	Five-Year National Development Plan
UNICEF	United Nations Children's Fund
UPGK	Family Nutrition Improvement Program
WHC	World Health Organization

FISCAL YEAR OF BORROWER
April 1 - March 31

CURRENCY EXCHANGE RATES

Currency (Abbreviation)	Rupiah (Rp)
Year:	
Appraisal Year Average (1976)	US\$1 = Rp 415
Intervening Years (1977-1982)	US\$1 = Rp 535
Completion Year (1983)	US\$1 = Rp 625

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INDONESIA

NUTRITION DEVELOPMENT PROJECT (LN 1373-IND)

PROJECT COMPLETION REPORT

PREFACE

This is the completion report of the First Nutrition Development Project in Indonesia (LN 1373-IND), which was identified by the Government of Indonesia (GOI) and Bank staff in 1973. Appraisal was conducted in August-September 1975 and its findings were presented in March 1976 to the Bank's Board of Directors for a preliminary review; in accordance with the instructions governing new projects with unique or unusual features. Based on Board comments, several components with direct linkages with agricultural productivity were added, and after a Post-Appraisal Mission in June 1976, Board approval was obtained in March 1977 for a US\$13.0 million loan. The project was originally scheduled for completion by March 1981, but was extended, and the loan account was finally closed in August 1983. A mid-term report was presented to the Board in June 1980, and an external evaluation of the project was conducted by an international team of experts in 1982. The summary and recommendations of this external evaluation report is attached as Annex 4.

This completion report was prepared by the Population, Health and Nutrition Department (PHN) and is based on a review of the Staff Appraisal Report (No. 1318-IND dated February 16, 1977), President's Report (No. P-1998-IND dated February 16, 1977), Loan Agreement (dated March 14, 1977), supervision reports, the mid-term evaluation report of June 1980, the external evaluation report of December 1982, the Government's draft completion report of June 1983, and the findings of a Bank completion mission to Indonesia in July 1983. The mid-term and external evaluation reports are available from PHN.

The Project Completion Report (PCR) was completed on July 13, 1984 and submitted to OED. The project was not selected for audit by OED and the PCR was sent to the Borrower for comments on March 22, 1985. Comments received on May 14, 1985 have been taken into account and are attached to the PCR as Annex 6.

When lending for nutrition first began, the Board felt that the Bank should proceed cautiously and with only a few projects from which it could learn. To date the Bank has financed only four nutrition projects. Projects in Brazil and Indonesia have been completed, and the project in Colombia is expected to be completed soon. These three projects approved in 1976 and 1977 were heavily multisectoral, with agriculture, water supply and sanitation, and food marketing components sometimes added to more direct nutrition actions. The India Tamil Nadu Nutrition Project, approved in 1980 was designed to concentrate on fewer actions: this project is expected to be completed in about two years time.

From the beginning, nutrition projects continued to receive substantial policy level review. As part of the review of the basic needs nutrition paper it was decided that the Bank should improve its nutrition knowledge through country economic and sectoral work. Since then, analyses of varying intensity have been completed for 16 countries. In late 1983, a major internal review of nutrition projects was undertaken within PHN. In summary this review concluded that although there was a need for more systematic and stronger emphasis on nutrition in the Bank's population and health program, the Bank would no longer be involved in complex multi-sectoral nutrition projects and only under appropriate circumstances would it finance more narrowly focused free-standing nutrition projects.

Thus, the Bank has in fact learned major lessons from its involvement in nutrition lending. Audits of these projects would hardly make additional contributions to the lesson-learning process. OED has therefore decided that it would be much more cost-effective to pass-through this nutrition PCR and undertake a special impact-evaluation type study of all four nutrition projects at some future date.

PROJECT COMPLETION REPORT BASIC DATA SHEET

**INDONESIA: NUTRITION DEVELOPMENT PROJECT
(LP-1373-100)**

KEY PROJECT DATA

	Appraisal Expectations	Actual or Current Estimate	Actual as % of Appraisal Estimates
Total Project Cost (US\$ million)	26.0	22.08/	84.6
Loan Amount (US\$ million)	13.0	12.66/	97.4
Date Physical Components Completed	6/79	12/82/	
Economic Rate of Return	N/A	N/A	
Financial Performance	-	Good	
Institutional Performance	-	V. Good	

CUMULATIVE ESTIMATED AND ACTUAL DISBURSEMENTS

	FY78	FY79	FY80	FY81	FY82	FY83	FY84
Appraisal Estimate (US\$ million)	0.3	1.9	5.7	10.2	13.0	-	-
Actual (US\$ million)	0.0	0.1	1.2	2.8	6.0	10.3	12.66/
Actual as % of Appraisal (%)	0.00	0.77	9.23	21.54	46.15	79.23	97.38
Date of Final Disbursement:	August 25, 1983						

PROJECT DATES

	Original Plan	Revisions	Actual
Identification	6/73		6/73
Negotiations	1/17/77		1/17/77
Board Approval	3/23/76/		3/01/77
Loan Signing	3/14/77		3/14/77
Effectiveness	3/31/77		4/01/77
Closing	3/31/81	3/31/82 3/31/83	8/25/83

MISSION DATA

Mission	Month/Year	No. of Persons	Mandays in Field ^{f/}	Specializations Represented ^{g/}	Performance Rating ^{h/}	Trend ^{i/}	Types of Problems
Identification I	6/73	2	60	N, P			
Identification II	7/73	1	2	E			
Preparation I	2/74	2	20	P			
Preparation II	4/74	1	10	N			
Preparation III	5/74	1	30	N			
Preparation IV	6/74	2	8	P, A			
Preparation V	9/74	2	60	N, P			
Subtotal			190				
Pre-Appraisal	3/75	7	105	N, P, F, A, E			
Follow-up	7/75	1	20	E			
Appraisal	9/75	8	260	N, F, A, E, P, T, C			
Post-Appraisal	6/76	1	20	E			
Subtotal			405				
Supervision I	8/77	3	63	N, A	1	2	-
Supervision II	4/78	3	76	N, A	2	2	N/A
Supervision III	8/78	2	56	N, A	2	2	F, M
Supervision IV	2/79	3	72	N, E	2	1	F, M
Supervision V	6/79	5	165	N, E, R	2	1	F, M
Supervision VI	9/79	3	18	N, A, F	2	2	F, M
Supervision VII	2/80	5	120	N, E, R, Fin	2	2	F, M
Supervision VIII	7/80	3	80	N, A, E	2	2	N, F
Supervision IX	11/80	3	60	N, A, E	2	1	N, F
Supervision X	6/81	3	63	N, A, E	2	1	N, F
Supervision XI	1/82	5	50	N, A, E, C	2	1	N
Supervision XII	6/82	3	36	E, F, R	1	1	N
Supervision XIII	12/82	1	2	E	1	1	N
Completion	7/83	3	3	E, F, A	-	-	-
Subtotal			864				
TOTAL			1,439				

OTHER PROJECT DATA

Borrower: Government of Indonesia
 Executing Agency: Ministry of Health (NEM), assisted primarily by Ministries of Education (NOK), Agriculture (MOA), and Home Affairs (NMA)
 Preceding Project: None
 Follow-on project: ^{h/}

Footnotes on following page.

Footnotes

- a/ Current estimate (para. 3.18). The US\$4.0 million decrease in total project cost resulted from savings in civil works, furniture and vehicles, consultants and fellowships, staff salaries and other operating costs. The original project is estimated to have cost US\$9.3 million less than appraisal estimates (para. 3.17)
- b/ The loan was reallocated in 1981, and a number of activities were either extended or added (para. 3.17 and 3.18)
- c/ Including new activities added in January 1981 (para. 3.18).
- d/ Final disbursement, as of August 25, 1983
- e/ Data of preliminary presentation to the Board (para. 2.03)
- f/ From supervision summary sheets.
- g/ N = Nutrition; E = Economics; A = Architecture; H = Horticulture; F = Food Technology; Fin = Finance; C = Communication; P = Population and Policy Planning; R = Rural Development
- h/ 1 = Problem-free or minor problems; 2 = Moderate problems; 3 = major problems.
- i/ I = Improving; 2 = Stationary; 3 = Deteriorating.
- j/ F = Financial; M = Managerial; T = Technical; P = Political; O = Other
- k/ The second nutrition project was appraised in March 1985.

INDONESIA

NUTRITION DEVELOPMENT PROJECT (LN 1373-IND)

PROJECT COMPLETION REPORT

HIGHLIGHTS

1. In the early seventies when the project was conceived, nutrition problems in Indonesia were widespread, with almost two-thirds of the 130 million population malnourished. Children under five years of age, and pregnant and lactating mothers were the most vulnerable group; but nutritional anemia among males was the highest ever recorded in any country during non-famine conditions. Vitamin A and iodine deficiencies were severe and endemic, particularly among children. The project, approved by the Board in March 1977, sought to overcome some of these problems. It was completed in August 1983, and met most of its objectives. An external evaluation conducted in July-August 1982 by an international team of experts credited the project with "strengthening and expanding the infrastructure for a large scale nutrition program in Indonesia" and noted the "quite impressive" impact of its action programs (para. 5.10).^{1/} As a follow-up, the Bank has recently appraised a second nutrition project in Indonesia.

2. The first project was prepared in 1973-1977; and the loan became effective on March 31, 1977, just a fortnight after loan signing. Implementation encountered start-up problems (para. 3.02), with budgetary and management difficulties (paras. 3.03 to 3.07) taking almost two years to resolve. By June 1980, however, when a mid-term report was submitted to the Board, project status and trends had started improving, and by August 1983—although two years behind schedule—the project had met or exceeded most of its appraisal targets.

3. The project objectives (para. 2.06) were to:

- (i) strengthen and expand the existing nucleus of personnel and institutions for the formulation of nutrition programs, operational research, manpower training, monitoring and evaluation;
- (ii) develop nationally replicable measures to improve the nutritional status of malnourished target groups; and
- (iii) assist in the formulation of a more comprehensive food and nutrition program on a national scale.

4. Specific project components (described in para. 2.06) included, among others, activities emphasizing institution-building (paras. 4.02 to 4.05), testing and delivery of an integrated package of nutrition-related interventions in the field (paras. 4.12 to 4.15), anemia prevention and

1. All paragraph numbers refer to this PCR.

control (para. 4.19), nutrition communication and behavioral change (paras. 4.20 to 4.26), and national nutrition policy formulation (paras. 4.30 and 4.31). All these activities have been completed satisfactorily.

5. The project components originally financed from the Bank loan were estimated in 1980 at approximately US\$9.3 million less than the US\$13.0 million appraisal estimate. The loan was therefore reallocated in January 1981, utilizing \$4.9 million savings in loan funds, leaving a net savings of about \$4.4 million in total project cost. No change in objectives was required (paras. 3.17 and 3.18). The extension or addition of several new activities necessitated an 18-month extension in the loan closing date.

6. Bank contributions to the design and implementation of the project have been substantial (para. 6.01), particularly the effective policy dialogue since 1973 (para. 6.04), and the direct action-oriented nutrition interventions suggested for addition by the Board (paras. 2.04 and 6.03). However, the project could have benefited during start-up from greater attention to improving the project staff's knowledge of GOI and Bank procedures, and from more realistic implementation schedules (para. 6.05).

7. The project has demonstrated the feasibility in Indonesia of multi-sectoral (nutrition and health) field interventions whose success depends not only on inputs provided by government agencies but also on resources available locally at the village level (paras. 4.15, 4.20 and 7.02). However, substantial effort over a long period of time was needed, involving experimentation, training, technical assistance, and improvements in management systems of the agencies involved. Simpler procedures for monitoring and evaluation, closer but decentralized supervision of field activities, faster and more flexible approval mechanisms for funds and staff, and better coordination among various agencies would also have been helpful (paras. 7.06 to 7.09). Government is taking steps to improve the performance of its national nutrition program in all these areas; and it is expected that the second project, appraised in March 1985, will help expand and strengthen these efforts.

INDONESIA

NUTRITION DEVELOPMENT PROJECT (LN 1373-IND)

PROJECT COMPLETION REPORT

I. INTRODUCTION

1.01 This completion report for Indonesia's Nutrition Development Project (LN 1373-IND) reviews project experience from June 1973 (the first identification mission by Bank staff) to loan closing in August 1983. The first four years were spent on preparation and appraisal, including a special preliminary presentation to the Bank's Board of Executive Directors in March 1976. After Board approval the following year, project implementation got off to a slow start, with initial budgetary and management problems taking almost two years to get resolved. By June 1980, however, when a mid-term report was submitted to the Board, project status and trends had already begun to show marked improvement; and by August 1983—although two years behind schedule—the project ended with a strong record of achievement, with most appraisal targets met or exceeded. More important, the project appears to have contributed substantially to the level of interest in Indonesia to the nutrition problems and, though an ongoing policy dialogue made possible by the project, to the level and quality of analysis undertaken.

1.02 When the project was first conceived, almost two-thirds of Indonesia's 130 million population were malnourished, with children under five years of age and pregnant and lactating mothers comprising the most vulnerable groups. Nutrition problems were widespread, the incidence of nutritional anemia among males was the highest ever recorded in any country during non-famine conditions, and vitamin A and iodine deficiencies (which cause blindness and goiter, respectively) were severe and endemic, particularly among children. The major reasons were inadequate and maldistributed income, high processing and storage losses, and unbalanced diets due to inappropriate feeding habits, especially of infants and young children.

1.03 Government efforts to overcome these problems were relatively small-scale and ineffective, suffering from lack of policy direction, paucity of baseline data, inadequate institutional capacity for policy formulation and implementation, and poorly trained and insufficient manpower. An evaluation conducted in 1973 found that GOI's Applied Nutrition Program in eight provinces had neither clear objectives nor target groups; the Academy of Nutrition had limited enrollment and was unable to cater to the growing need for trained nutritionists; and the Nutrition Research Institute (under the Ministry of Health) had neither the physical capacity nor the professionals, technicians, and modern equipment needed for investigating the determinants and consequences of malnutrition and suggesting cost-effective solutions. There was no organization charged with improvements in food technology, particularly for village food processing and storage. Furthermore, although the Government was interested in developing and implementing a comprehensive nationwide Family Nutrition Improvement Program (UPGK), its approach thus far to nutritional problems had been fragmented and uncoordinated, with few links between nutrition, health and agriculture. As a result, the poor neither participated in, nor benefited very much from the ongoing programs.

1.04 The project sought to address all these deficiencies. With the overall objective of helping the Government formulate and execute a more comprehensive food and nutrition program on a national scale, project activities emphasized national policy formulation, institution building, and design, testing and delivery of an integrated package of nutrition-related interventions in the field. Most of these activities were very satisfactorily completed. As a result, the project has helped lay the foundation for a much stronger nationwide program, to which the Government is already committed in its next five-year plan.

II. PROJECT IDENTIFICATION, PREPARATION AND APPRAISAL

2.01 The project was the second free-standing nutrition project supported by the Bank. (The first was in Brazil, approved six months before the Indonesian project). Government of Indonesia's (GOI) major interest in nutrition was also of recent origin. However, once the severity of the nutrition problem was recognized, both parties showed a strong commitment and willingness to collaborate on a comprehensive, multisectoral nutrition project addressing the long-term needs of the country.

2.02 A Bank mission visited Indonesia in June 1973 to initiate a dialogue with the Government, and to identify the broad outlines of a possible nutrition project. GOI was very receptive to an indepth, wide-ranging review of major nutritional issues facing the country. A Presidential Instruction (No. 14, dated 13 September 1974) directed a committee of 10 ministers, chaired by the Minister of State for People's Welfare, to "execute activities for the improvement of the people's menu on a national scale." In February 1975 an inter-departmental Technical Commission was established, headed by the Deputy Chairman of BAPPENAS (the National Development Planning Agency), to undertake detailed planning and coordination of program implementation. Six sub-committees were formed to address the following areas: policy, nutrition research, food technology, nutrition demonstration, food fortification, and training.

2.03 Project components were designed by these government committees, assisted periodically by Bank staff and experts from UNICEF and WHO. Appraisal was conducted in August-September 1975, and finalized details for the following major components: (a) strengthening and expanding the Center for Research and Development in Nutrition (CRDN, previously called the Nutrition Research Institute); (b) establishing a new Food Technology Development Center (FTDC); (c) initiating a Nutrition Intervention Pilot Project (NIPP) to test approaches for direct delivery of nutrition services in eight selected regencies; (d) developing a nutrition education (later termed the communication and behavioral change) program; (e) manpower training; (f) preparing a national food and nutrition program; and (g) setting up

a project monitoring and evaluation system. The project was presented in March 1976 to the Bank's Board of Executive Directors for a preliminary review, in accordance with instructions governing "new projects with unique or unusual features."

2.04 The Bank's Board, while generally agreeing with the broad thrust of the project -- including its emphasis on institutional development, research, and experimental activities -- emphasized the need for strengthening the project's direct and indirect linkages with agricultural productivity and production. The following activities were therefore added to the project: (a) designing and testing food storage units in 30 NIPP villages; (b) initiating a program for increasing productivity by controlling nutritional anemia on three publicly owned plantations; (c) technical assistance for the Food and Nutrition Unit (FNU) in the Ministry of Agriculture, for developing a capacity for analysis of food policy as it relates to nutrition; (d) establishing home gardens in NIPP villages, to increase production of vegetables and fruits for home consumption; and (e) training agricultural extension staff in nutrition and horticulture.

2.05 The complex and multisectoral project thus produced was approved by the Board on March 1, 1977. A loan for US\$13.0 million was signed on March 14, and became effective a fortnight later. The scheduled completion date stipulated in the Loan Agreement was March 31, 1981, thus giving a four year implementation period. A mid-term report was scheduled for presentation to the Board in two years; and loan closing was scheduled for March 31, 1982.

2.06 As described in the President's Report dated February 16, 1977, project objectives and description were as noted below:

Objectives

- (i) strengthen and expand the existing nucleus of personnel and institutions for the formulation of nutrition programs, operational research, manpower training, monitoring and evaluation;
- (ii) develop nationally replicable measures to improve the nutritional status of malnourished target groups; and
- (iii) assist in the formulation of a more comprehensive food and nutrition program on a national scale.

Description

- (i) Strengthen institutional capacities:

- (a) Expand the Center for Research and Development in Nutrition (CRDN) under the Ministry of Health through the provision of funds for additional staff, training, technical assistance, necessary equipment, and a modest expansion of physical facilities.
- (b) Strengthen the Food Technology Development Center (FTDC) at the Agricultural University, Bogor, with provision of funds for facilities, equipment, technical assistance and staff.
- (c) Improve the planning, coordination and evaluation of nutrition activities through technical assistance to the Ministries of Health, Education and Agriculture.

(ii) Direct Nutrition Action Programs:

- (d) Initiation of a Nutrition Intervention Pilot Project (NIPP) through the provision of funds for additional staff, training, technical assistance, buildings, equipment and materials. These programs would provide nutrition, education, agricultural, health and food supplementation services to those people most affected by malnourishment in 180 villages of seven districts with a population of approximately 740,000.
- (e) Increase production of nutritious vegetables and fruits in about 18,000 home/village gardens by provision of improved seeds, development of model garden packages and intensification of extension efforts.
- (f) Improve food storage at village level through assistance to the Food Technology Development Center which would, in collaboration with the Ministry of Agriculture, develop an appropriate small-scale storage program.
- (g) Initiate an iron supplementation program under the National Institute for Industrial Hygiene and Occupational Health to tackle nutritional anemia among 3,000 families in a selected number of plantations with a view to developing a national program to cover all government and privately owned plantations.

(iii) Education and Training:

- (h) Develop and test alternative nutrition communication methods to bring about desirable changes in nutrition behavior.

- (i) Upgrade and expand the training of nutritionists in the Academy of Nutrition at Jakarta by provision of equipment, staff and necessary physical facilities.
- (j) Improve the training of agricultural extension staff by introducing nutrition in the curriculum of the basic training centers and the secondary agricultural schools of the Agency for Education, Training and Extension.

(iv) National Food and Nutrition Plan:

- (k) Provide technical services for the formulation of a national food and nutrition program incorporating the most effective elements of the nutrition activities initiated under the proposed project.

2.07 The breakdown of total project cost of US\$26.0 million and Bank loan of US\$13.0 million was as tabulated below:

A. Estimated Project Cost by Component/Activities

Center for Research and Development in Nutrition (CRDN)	\$5.9 m
Food Technology Development Center (FTDC)	\$5.5 m
Direct Nutrition Action Programs	\$3.5 m
Nutrition Education	\$1.0 m
Nutrition Training	\$1.7 m
Organization and Management	\$1.0 m
Formulation of National Food and Nutrition Program	\$0.2 m
Physical Contingencies	\$1.2 m
Price Contingencies	<u>\$6.0 m</u>
 Total Project Cost	 <u><u>\$26.0 m</u></u>

B. Loan Allocation by Expenditure Categories

	<u>Amount</u>	<u>Percentage</u>
Civil Works	\$6.0 m	46%
Vehicles and Equipment	\$3.0 m	23%
Technical Assistance	\$3.0 m	23%
Unallocated	<u>\$1.0 m</u>	<u>8%</u>
 Total Loan	 <u><u>\$13.0 m</u></u>	 <u><u>100%</u></u>

2.08 The management of each component was to be carried out through existing organizational channels of the Government of Indonesia. (See Annex 1 for organizational chart of project arrangements). Briefly, project organization and management was to be as follows: (a) a part-time Project Director in the Ministry of Health responsible for overall coordination and implementation, assisted by a full-time Project Secretariat (with a Project Manager — later called Executive Secretary, a Deputy Project Manager — later Deputy Executive Secretary, a Finance Officer and a Procurement Officer), and further assisted by a full-time management adviser for two years, a procurement adviser, and planning consultants; (b) three Project Co-Directors, one each from the Ministries of Education (MOE), Agriculture (MOA), and Home Affairs (MHA); (c) a separate Monitoring and Evaluation Unit (MEU) reporting directly to the Project Director; (d) the CRDN and FTDC administered by their respective Directors, assisted by special finance and procurement officers; (e) an interagency Research and Coordinating Committee; (f) the NIPP component administered by a national level NIPP Coordinator within MOH, reporting to the Project Director, and assisted by suitable staff; (g) NIPP administration at the provincial and kabupaten levels by the Nutrition Improvement Coordinating Committees, reporting to the Provincial Governors and Bupatis respectively; (h) anemia prevention and control administered in the field by the National Institute for Industrial Hygiene and Occupational Health, through the respective regional institutes under the Ministry of Manpower, Transmigration and Cooperatives, in close collaboration with MOA and MOH, (i) training and nutrition education by the Center for Manpower Education and Training in MOH; (j) civil works by the engineering division of MOH; and (k) preparation of a national food and nutrition program by the Project Director, assisted by the MEU, in close collaboration with CRDN, FTDC, the planning bureaus of MOH and MOA, the FNU, and BAPPENAS.

III. PROJECT IMPLEMENTATION

3.01 Project implementation is discussed below in two parts. Section III gives an overview of the general activities undertaken in support of virtually all components, and discusses the problems faced during 1977-79; and Section IV reviews project accomplishments by component, up to their completion in March 1983.

3.02 Project Start-up. Budgetary and management problems emerged soon after loan effectiveness, primarily because this was the first Bank-assisted project in the Ministry of Health and project staff were inexperienced in managing a large foreign-funded multisectoral project. Time was needed for mastering GOI procedures for budget release, Bank procedures for disbursement

and procurement, and organizational procedures for inter-agency coordination. A devaluation of the rupiah by about 50% in November 1978 added to the burden, by necessitating renegotiation of civil works contracts and retendering for equipment and supplies. Technical assistance from advisers and consultants, which was supposed to fill the experience-gap and to provide the needed professional support, also got delayed. The start-up period was thus stretched to almost two years. By March 31, 1979 -- the mid-point of the expected four year implementation period -- only \$100,000 was disbursed, against an appraisal estimate of \$1.9 million.

3.03 Budgetary Procedures and Disbursements. GOI's budgetary regulations and procedures were a source of many problems. Since the various project components were being implemented through different ministries, each component manager had to become adept at anticipating and overcoming procedural bottlenecks. Three examples are given below. First, the development budget (DIP) for the project had two parts -- DIP Murni (expenditures financed only out of GOI funds), and DIP Supplement (expenditures financed by GOI but reimbursed by the Bank) -- and the percentages of the total allocated to the two DIPs had to exactly match the disbursement percentages detailed in the Loan Agreement. Failure to achieve such matching resulted in time-consuming discussions between BAPPENAS, the Ministry of Finance, Bank of Indonesia, the project management and component heads. The original DIPs for 1977-78 did not match, and the process of revision was not completed until February 1978, reflecting the complexity of procedures and inexperience of project staff. The problem recurred in 1978-79. In addition, the arrangements made by the Ministry of Finance for pre-financing the DIP Supplement were found to be complicated and time consuming. As a result, no major project activity could be financed during the first year of implementation; and no withdrawal applications were submitted to the Bank that year for reimbursement.

3.04 Second, carryover funds could only be used after a specific authorization letter was issued; and this could not be done until after the DIPs for the current financial year -- which themselves were delayed by 3 to 6 months -- had been approved. Third, subsequent to the devaluation of the rupiah, prices rose sharply but contracts could not be renegotiated until BAPPENAS had issued instructions on how cost-escalation was to be worked out, and this took time. When the instructions were finally issued, even though prices of building materials had risen by about 80% and gasoline by 37%, GOI agreed to raise contract values by only 38%; and this was not satisfactory to contractors who either slowed down or stopped work altogether.

3.05 It was only after intensive discussions between Bank staff, project management, and officials of the Ministry of Finance and BAPPENAS that government simplified some budgetary regulations and permitted greater flexibility in others. By 1979, project staff became familiar with Bank

procurement procedures and GOI civil works contracting. BAPPENAS officials chaired regular meetings of the project finance officers and helped reduce the lag in submitting withdrawal applications (in early 1979, for instance, \$1.5 million had been reimbursable but had not been applied for). From 1980 onwards, although procedural delays due to the general budgetary regulations remained, project-specific problems were substantially overcome. Disbursements rose sharply from \$1.5 million in June 1980 to \$3.9 million a year later, and to \$7.0 million by June 1982 (Annex 2). The loan account was finally closed on August 25, 1983, eighteen months behind schedule, with \$12.66 million disbursed and the unspent balance of \$337,500 cancelled.

3.06 Organization and Management. Problems of project administration stemmed from a variety of factors, including the following: project complexity and the need for multi-agency coordination (due partly to board add-on, see paras. 2.04 and 6.02), inexperienced staff, delays in appointing consultants, and the organizational status of the Project Secretariat. Bank missions noted in 1978-79 that "the complexity of the project demanded that the staff of the secretariat function as a team, be fully familiar with all project aspects, devote full time to the project, and work closely with component officers in Jakarta and in the provinces." However, despite repeated recommendations that project officials interact more fully and frequently with component staff and officers of various ministries and BAPPENAS, inter-departmental coordination remained weak throughout project implementation.

3.07 The major problem during the crucial early years was weak leadership: a part-time Project Director loaded with other responsibilities and having limited time, and a relatively junior Executive Secretary who could not provide the forceful leadership essential for a multisectoral project. The Project Secretariat — despite appraisal recommendations to the contrary — was not integrated with the Ministry of Health, could only hire staff on fixed-term contracts, was unable to match the salaries prevalent in the open market, did not attract qualified senior civil servants, and did not receive its own budgetary allocations (DIPS). In addition, the monitoring and evaluation unit, necessary for a project with experimental activities, was not adequately staffed for over two years despite repeated assurances given to visiting Bank missions; and recruitment of advisers was delayed until 1979 due to strong political opposition to hiring highly paid expatriate consultants.

3.08 Most of these problems were resolved just prior to the mid-term review, after considerable follow-up by Bank staff. A number of corrective actions were taken, the most important being the following: the Deputy Executive Secretary replaced the former Executive Secretary who was transferred; an economist was hired for the monitoring and evaluation unit; a local firm of management consultants was hired to conduct a management audit, design the monitoring system, and provide planning advice; a new

Director of Nutrition was appointed in MOH and was given the concurrent responsibility for coordinating the NIPP component; the interagency coordinating committee was re-established by BAPPENAS; the Project Director, who was also assigned the responsibilities of Project Manager, was instructed by the Minister of Health to give higher priority to solving implementation problems; expatriate consultants were appointed for procurement, finance, and overall project management; the Nutrition Directorate was reorganized to absorb the Project Secretariat and MEU; and in the field, component agencies started cooperating actively after regency administrators and provincial governors began taking direct interest in the project. As a result of these changes, project management improved considerably, and implementation progress was relatively rapid after 1980.

3.09 Civil Works and Procurement. As mentioned in para. 2.07, \$6.0 million was allocated for civil works, and \$3.0 million for procurement of vehicles and equipment. Preparation of architectural drawings, design specifications, cost estimates, and invitations to bid were to be completed early in 1977, in the hope that construction could begin by May 1977 and be completed by June 30, 1979. GOI procedures for bidding, construction, contract control, and general and on-site supervision were to be used, following the practices of the Ministry of Works. Procurement was to be undertaken in accordance with standard Bank and GOI regulations, as specified in the loan agreement.

3.10 Contract documentation was in fact prepared according to schedule, but because of budgetary problems already mentioned the contracts for civil works were not awarded until August 1978, and for provision of fittings and utilities a few months later. Furthermore, construction contracts had to be renegotiated after the devaluation of the rupiah, and procurement of equipment had to be retendered. Construction activities fell behind appraisal schedules by about one year, and equipment procurement and provision of services (including gas, electricity, water) by almost two years. By mid-1979, even though construction of CRDN and FTDC buildings had started, no payments had been made to contractors. The payment of \$50,000 towards retroactive financing of consultant architects was also held up for two years after the work was completed, largely due to delays in contract finalization. As a result, virtually all other project components were correspondingly delayed, and sequencing and scheduling of activities had to be revised several times.

3.11 Procurement committees were particularly slow in bid evaluation; and by the time government approval was obtained, price validity periods were generally exceeded, providing suppliers an easy excuse for not maintaining prices. Despite the resultant price increases, however, total costs remained well below the provisions made in the loan agreement, primarily because BAPPENAS had sanctioned expenditures for buildings

constructed to lesser architectural standards than those assumed in the Appraisal report. This, together with the effects of devaluation, resulted in considerable savings, which were then utilized for additional buildings and equipment, including a new Nutrition Assistants Training Center sanctioned in 1981 as part of a general loan reallocation exercise.

3.12 Technical Assistance. Since one of the primary aims of the project was strengthening institutions and personnel capabilities, \$3.0 million out of loan funds was allocated for consultant's services, fellowships and salaries of local experts. Assistance from expatriate and Indonesian consultants was expected to help virtually all project components in setting up systems for planning, monitoring and control. Consultants were also to be hired for technical design and development work, especially for CRDN, FTDC and NIPP. Fellowships of varying durations, both local and foreign, were meant to upgrade the technical competence of staff at all levels. Roughly equal amounts were allocated for consultants and fellowships, but the funds for technical assistance were spread out according to need over the various project components.

3.13 There were initial delays of one to two years in arranging fellowships and long term training, partly due to inappropriate and rigid procedures for obtaining Bank approval (see para. 6.06). However, once satisfactory procedures were established, progress was smooth and appraisal targets were met. Twenty-four of CRDN's staff members received long term training (3 Ph.D, 19 MS, and 2 BS), and only three persons failed to acquire the degree attempted. Twenty-three staff members from FTDC earned their degrees or diplomas (4 Ph.D, 16 MS, 3 BS and 14 diplomas). Personnel from other components such as Nutrition Communication and Behavioral Change (NCBC), NIPP and the Project Secretariat also availed themselves of fellowships, as envisaged in the appraisal report. Most long-term training was undertaken in Indonesia, due to various factors: difficulties in securing admission to foreign universities (because staff lacked proficiency in English, and some degrees earned earlier in Indonesia were not recognized abroad), strict government regulations regarding minimum service requirements prior to such training, and difficulties in obtaining leave of absence from regular jobs. A few fellowships were, however, undertaken abroad -- in the Philippines, England, Holland, and the USA. Short-term training was also received by a number of project staff, both locally and abroad.

3.14 Of the 40 man-years of consultants envisaged under the project, 17 man-years were allotted for foreign experts. The latter were generally difficult to obtain: senior consultants were not available for long duration contracts, and negotiations and approvals took unduly long, partly due to the low fee structure approved by BAPPENAS. As a result, most expatriate consultants, could only be hired during the second half of the project, and a number of consultants visited more than once, for short periods. Local consultants, were also governed by GOI's ceilings on fees, were easier to arrange and were used wherever appropriate.

3.15 At CRDN, 19 consultants (including 2 on long-term contracts) provided over 30 man-months of service, helping to develop technical programs and staff. At FTDC, 14 (mostly junior) consultants were hired for 85 man-months of work; but unexpected delays in the provision of infrastructure and procurement of equipment forced a bunching of consultants during the last years of implementation, thus reducing their overall contribution to related project components. At the Academy of Nutrition, 30 man-months of consultants were used for manpower training, planning, and laboratory research; and at the Project Secretariat, 84 man-months were used for planning, procurement, and management. In addition, short-term local and foreign consultants were used for preparing a background policy paper which served as the primary input for formulating a national food and nutrition program for REPELITA IV.

3.16 Most of the consulting services obtained were found to be relevant and useful: over two-thirds of the expatriate consultants came from developing countries (notably India and the Philippines). Four of every five consultants to the FTDC, Academy of Nutrition, and project secretariat were from developing countries, as were a third of those who aided the CRDN. Indonesian consultants were generally experienced and knowledgeable about local conditions and needs. The scientific and technical calibre of consultants was high, and most of their recommendations have been implemented, subject to limitations of funding. Advice on field-oriented systems improvement, primarily for monitoring and evaluation of NIPP and anemia prevention and control was provided by a local consultant group, and was very pragmatic and useful. Further refinements in the system suggested by consultants are being made on the basis of field experience, and should help improve the overall performance of direct-action programs.

3.17 Loan Reallocation. In 1980 it was estimated that project activities would cost approximately \$9.3 million less than the appraisal expectation. The cost reduction was mainly due to the 50% devaluation of the rupiah, the use of lower construction standards, and the reduced use of technical assistance. GOI officials suggested that the successful project activities be expanded and some money be reallocated between expenditure categories. Accordingly, a loan reallocation was done in January 1981. It utilized the \$4.9 million savings in loan funds, thus leaving a net savings of \$4.4 million in total project cost. No change in objectives or scope of the project was required. Since the total project cost had gone down while the loan amount remained the same, the loan as a percentage of total costs went up from 50% at appraisal to 60%. An 18 month extension in the project completion date was also approved.

3.18 Allocations for some components were increased by the following amounts: nutritional anemia pilot project by \$1.3 million (for expanding operations from 3,100 to 75,000 plantation workers, including workers covered by the Bank-funded transmigration project); manpower training by \$2.0 million (for constructing a new four-story Nutrition Training Center);

nutrition intervention pilot project by \$1.0 million (to cover an additional 372 villages); and nutrition communication and behavioral change by \$0.6 million (for supply of newly designed communication materials). At the same time, allocations for CRDN and FTDC were reduced by \$4.4 million and \$2.2 million respectively, and minor reductions were made in the other remaining components. As a result, the loan allocation for civil works went down from \$6.0 million to \$3.5 million, while funds earmarked for vehicles, equipment, and supplies went up from \$3.0 million to \$6.0 million. No changes were made in the percentages of expenditures financed in each category. The final project cost is estimated to be about US\$22.0 million. Actual figures have not been compiled at any central accounting office in MOH, partly because the various components were implemented by different agencies who maintained their own accounting records.

3.19 Accounts and Audit. Section 4.02(b) of the loan agreement stipulated that all agencies participating in the project maintain separate accounts for it, and that an accounting unit within MOH be responsible for consolidating these accounts. Though such accounts were maintained, the accounting procedure followed did not disaggregate expenditures by source of funds (DIP Murni, DIP Supplement and Direct Payments). After several requests by Bank missions, a uniform reporting format was circulated to all concerned finance officers, and accounting practices were improved.

3.20 Despite this progress, annual audit reports were considerably delayed (see Annex 3 on compliance with loan covenants). Section 3.05(d) of the loan agreement required that these audit reports be furnished to the Bank within 6 months of the close of each fiscal year, but the first certified reports were submitted only in 1981 — after the Bank insisted that the loan allocation be made conditional upon receipt of the pending audits. The delays were apparently traceable to a procedural omission: while DIP Murni accounts were routinely audited by state auditors, special instructions were needed for auditing the DIP Supplement as well. However, even after this oversight was corrected reports for subsequent years were delayed by 1 to 2 years.

IV. PROJECT ACCOMPLISHMENTS

4.01 A mid-term report was submitted to the Board in June 1980 (para. 2.05). The project was also evaluated comprehensively in July 1982 by an independent team of internationally renowned nutrition experts. Their report (see Summary and Recommendations attached as Annex 4), the Government's own analysis of the project, and various other studies and documents have been used for arriving at the assessments given below. Since initial difficulties in construction, procurement, technical assistance, and organization and management were common to all components and have already been reviewed in Section III, these issues are not dealt with again. Instead, the discussion highlights the major objectives and accomplishments of each project component.

A. Institution Building

4.02 Three institutions were supported under the project -- the Center for Research and Development in Nutrition (CRDN), the Food Technology Development Center (FTDC), and the Academy of Nutrition (AN). Funds were provided for civil works, equipment, staff, training, and technical assistance. Most of the physical and quantitative targets set at appraisal have been met or exceeded, though delayed by the administrative constraints discussed earlier. The three institutions have contributed to the project's direct-action programs; and are now helping other government agencies (primarily the Ministries of Health, Education and Agriculture, BAPPENAS, and the central Nutrition Working Group) in planning and evaluating nutrition-related programs at the national level.

4.03 Center for Research and Development in Nutrition. CRDN's research was expected to be applied and interdisciplinary, focusing on evaluation of the integrated nutrition intervention program, investigation of foods with high nutritional value, and studies leading to general recommendations for strategies to improve nutritional status. The Center has undertaken a number of studies on NIPP, including the baseline data survey in 1977, the follow-up three years later, the technical design of data collection procedures for monitoring NIPP, and an assessment of their suitability for nationwide use. Other studies include evaluation of the following: the government's basic model UPGK program in 21 kabupatens of 6 provinces, the nutrition component of primary health care, and the nutrition anemia control pilot project. The quality of these studies has been variable.

4.04 Strengthening the nutrition research center was a slow process, requiring major technical assistance from foreign consultants. The center is now considered the best of Indonesia's five medical research institutes and the work of some of its staff meets international standards. But CRDN is not yet consistently capable of evaluating nutrition work effectively enough to be useful for the planning agency; that is one of the disappointments of the project. In short, the CRDN has made great gains in five years and now has facilities, equipment, and most other prerequisites to meet international standards but has yet to regularly achieve that level.

4.05 Now that project inputs (facilities, equipment, staff) are in place, CRDN's research activities can be expected to expand in the future. However, since staff is already thinly spread over several concurrent investigations, increased selectivity in accepting research requests and in determining the Center's work program is needed, so that scarce professional resources and funds are used only for high-priority nationally significant research. Greater emphasis on socio-economic analysis of alternative nutrition strategies and on monitoring of existing programs -- both of which were key project objectives for CRDN -- is also warranted.

4.06 Food Technology Development Center. FTDC's specific functions under the project were the following: to serve as the main source of information and advice on appropriate village-level food technology; provide training for food technologists and extensionists; identify problems and opportunities associated with food conservation, preservation and processing; advise the government on food and nutrition issues; and support the education and research programs of its parent organization, the Bogor-Agricultural University under the Ministry of Education. Most of these functions have been satisfactorily performed, although after considerable initial delay. Built with project funds, FTDC now has a highly qualified staff of 84 (including 9 Ph.Ds and 10 with Masters degrees), a modern well-equipped laboratory and pilot plant, and good library and documentation facilities. Consultants, both long and short-term, have helped the Center formulate and execute research and development activities, and train staff. Also, senior staff of FTDC have fulfilled their teaching obligations to the Bogor Agricultural University.

4.07 The Center's involvement with the project's direct-action activities has been very useful. Baseline surveys were conducted in NIPP areas to collect information on food production, storage, eating habits and unmet nutritional needs. The data were then used for designing and testing several cereal-legume based recipes (BMC) for supplementary feeding and weaning of malnourished children in the NIPP areas. Equipment for village level formulation and storage of BMC was designed, fabricated and tested; after which a private manufacturing firm was licensed to produce and supply the equipment to NIPP areas. Although the size of BMC units is reported to be too large -- something the Ministry of Agriculture's extension agents should have pointed out at the pilot stage -- and the quality of the equipment is uneven, several hundred units have been installed and are reportedly in use.

4.08 The development of improved food storage structures at the village level was also undertaken, and these were introduced in NIPP villages through two workshops organized in January 1979 and May 1980. In addition, small-scale rural industries have been promoted, keeping in view the infrastructure, logistics, credit, and other facilities available in NIPP areas. Prototype equipment has been designed and tested for improved processing of cassava flour, fruit juices, legumes, and egg and banana products; and the transfer of technology has been carried out through demonstration, training, information booklets and manuals, and village level workshops. At the central level, FTDC has participated in the preparation of a strategy for national and village level food security, has collaborated with BKKBN in developing an integrated package of nutrition and family planning services, and has helped set national standards on foods and beverages.

4.09 As in the case of CRDN, construction and procurement problems were the major constraints, and recruitment and proper use of consultants and staff was difficult until laboratory and pilot equipment was installed and chemicals were available. Inadequate intersectoral coordination with the Ministry of Agriculture's (MOA) extension wing has been the second source of reduced effectiveness, especially in developing and transferring appropriate technology. (This could now improve, since FTDC's Director has concurrently been appointed Special Adviser to MOA). Having invested about US\$5.5 million in setting up the FTDC, the government should provide sufficient funds for staffing (including the hiring of extension workers), maintenance, and other operational requirements of the Center. Also, in order to maintain the FTDC's focus on field operations rather than on academic teaching and research, its autonomy within the Bogor Agricultural University should be safeguarded.

4.10 Nutrition Manpower Training. It was envisaged at appraisal that with the expansion of facilities and staff the Academy of Nutrition would double its student intake to 200 and produce 60 graduates annually (three times the number in 1977). These targets have been met: student enrollment is close to 200 and the Academy should turn out 80 to 100 graduates a year by 1986. Faculty recruitment, provision of scholarships to students, expansion of physical infrastructure, and curricula reform (to emphasize community nutrition and field work in rural areas), have all been undertaken as planned. To upgrade the teaching competence of new faculty (most of whom were recent Academy graduates), staff development was given high priority. As a result, two faculty members earned their Ph.Ds, seven got Masters degrees, 12 more received short-term training, and an average of 12 per year obtained 2 to 3 months in-service training at CRDN and the General Hospital in Jakarta. The Academy's nutrition program relies heavily on field work, is considered one of the best in Asia, and is now attracting students from neighboring countries.

4.11 Efforts have also been made to upgrade the skills of middle level nutrition workers. The government currently plans to cover some 65,000 villages under UPGK during REPELITA IV (see Annex 4 for background information on UPGK), thus creating a much greater demand for nutritionists than was envisaged under the project. To overcome the resultant shortfall of trained graduates, GOI decided in 1980 to use trained assistant nutritionists at the field level. Reallocated project funds have therefore been used to modify the Nutrition High School (which was giving three years training to Junior High School graduates) into a School for Assistant Nutritionists, with one year's training given to Senior High School graduates. The Assistant Nutritionists so produced, plus the graduates of three to four similar schools being planned, and the Health Center workers being given short-term training in nutrition are expected to help meet current manpower needs. In

addition, the Ministry of Health has assessed the total manpower needs for REPELITA IV (1984-89) and beyond (up to the year 2000), so that additional training facilities can be built in advance. The project has also funded programs for upgrading the skills of trainers, and these have apparently been very useful.

B. Direct Nutrition Action Programs

4.12 Nutrition Intervention Pilot Project (NIPP). The largest action program was an intensive version of the UPGK known as NIPP or UPGK-plus; designed to test new ways of delivering nutrition and health services to children under the age of three and pregnant and lactating women. The NIPP was a field test of a range of community nutrition interventions (growth monitoring, oral rehydration, nutrition education with emphasis on breast-feeding and weaning foods, home village gardens designed to increase production of nutritious fruits and vegetables, and small-scale food processing and food storage, along with immunization and, in selected areas, family planning), with the intention that some combination might later be integrated into a national nutrition strategy.

4.13 The initial objective of NIPP was to provide a processed nutritious product made from locally grown foods (BMC) to malnourished children and pregnant and lactating women. Village volunteers (Kaders) would monitor the growth of pre-school children, distribute food to those who were not growing adequately, and provide nutrition education to their mothers. The program was to begin in two kabupatens in the first year (the major subdivision of provinces in Indonesia), expand to two more in the second, and after a mid-project review, add three more by the fourth year. That schedule was followed, but with Bank agreement the program was extended to 43% more villages than the 258 planned. Overall, over 200,000 persons have directly benefited, 800 village level nutrition centers have been established, and more than 2,000 cadres conducted nutrition education and other activities.

4.14 Poor management at all levels and an unwieldy monitoring system considerably hampered early execution of the program. The mid-project evaluation recommended several substantial changes, and by the summer of 1982 significant progress had been made in resolving many of the project's problems. A team of Ministry of Health and UNICEF consultants concluded that NIPP-type short-term rehabilitative feeding, targeted to children who fail to gain weight for three consecutive months and using prepackaged BMC, was preferable to approaches used in other government nutrition programs. In early 1983, the NIPP approach was adopted for the major government programs.

4.15 The NIPP program has demonstrated the operational feasibility of a village-based nutrition rehabilitation effort, managed by the community kaders supervised by health center staff and using locally produced processed food to rehabilitate seriously malnourished children. It has developed a monitoring and reporting system, portions of which are being introduced into the national program. And it has established the value of a field laboratory to test new operational ideas.

4.16 Home and Village Gardens. The HVG component was expected to promote home gardens in 18,000 village homes (100 per NIPP village), and to establish with the help of community efforts on community land, one seed farm and model fruit and vegetable garden in each NIPP village. The component was to use ten agricultural extension workers for assisting 10-15 contact farmers in each village, who in turn were to train 7 to 10 neighbors. A special GOI grant of about \$4.50 per family was provided annually for the first three years (1977-80) for seeds, fertilizers, pesticides and routine agricultural implements.

4.17 The program started in 1977-78 with 1,800 village homes, made steady progress until 1980-81 when it covered 12,000 homes, but then declined to 6,600 homes the following year. The major problems were uncertainties of GOI funding (sanctioned on an ad hoc year-to-year basis), and weak coordination (especially after 1980) between the agricultural extension workers and NIPP field staff. The appraisal report's stipulation that assistance be provided to the 100 poorest farmers in each village also proved infeasible since most poor farmers in this category had little land around their homes. Similarly, since most villages had insufficient community land for starting a village seed farm, and no provision was made at appraisal (or subsequently) for renting private land for this purpose, progress was considerably less than expected. It seems the project's VHG component, was apparently overshadowed by a similar but larger UNICEF-supported program under UPGK, which was apparently better coordinated at the national and local levels.

4.18 An evaluation conducted by a private consulting firm in early 1982 concluded that an objective assessment of the impact and efficiency of HVG was impossible, primarily because no baseline survey had been done and no data on inputs (fertilizer, insecticide, etc.), and outputs (increased production of fruits and vegetables) was available. However, there was subjective evidence that home gardens provided about 20% of the family income in some areas, and participants reported higher yields, adopted improved methods, and had more area under home gardens than did non-participants. However, it was difficult for many farmers to perceive the advantages of the

home gardens since yield increases were small and land devoted to vegetables was limited. In the case of seed gardens, a few of which were created, recurrent costs of maintenance and supervision were excessive. (In contrast, under the UPGK program no special village seed gardens were created; instead, government contracted with farmers in the village to grow seed and then purchased and distributed these to other villagers). The agricultural extension workers who were to have been trained in horticulture and nutrition and seconded to the project's HVG component remained uninvolved in what they perceived as peripheral responsibilities.

4.19 Anemia Prevention and Control Pilot Project. This component had the following objectives: reduce nutritional anemia on three government plantations by providing iron-fortified salt and iron pills to 3,000 workers; reduce hookworm infestation by providing medication, boots and latrines; and assess the overall cost-benefits of a delivery system suitable for large scale application. Based on preliminary results of the pilot project, the practice of iron supplementation has spread spontaneously, and now covers over 300,000 workers and their families in 11 government and 10 private plantations. Productivity and income gains vary from one plantation to another, and might be as high as 7% in some cases. In the absence of strict monitoring of results and of methodologically sound evaluation studies, it is difficult to accurately assess the reduction in iron anemia or hookworm infestation, but some studies indicate that 70-75% of the target population is now free from these ailments. The delivery system for iron-supplementation has proven effective, and its further expansion is definitely feasible.

4.20 Nutrition Communication and Behavioral Change. The nutrition education component, aimed at molding nutritional behavior, initially was to be implemented in 60 villages in five kabupatens, one of them a NIPP area. The first two years of the program were a preparatory phase, devoted to infrastructure-building, selective training of village volunteers (kaders), administrative preparation, and setting up a growth-monitoring program. The next year was used to test concepts -- households, each including a pregnant or lactating woman or a mother of a malnourished child, met individually with interviewers to agree on a set of dietary modifications that the family then tried out. This trial step helped the nutrition education team determine what precisely the program should aim to do -- for example, introduce a home-made weaning food -- and the best media and methods for doing it -- for example, posters for the kaders that mothers were asked to mark every time they performed a prescribed action, or radio spots in dialogue format, using the mothers' own words.

4.21 One year after the communication strategy went into operation, an evaluation of program and comparison areas showed that the target kaders had learned the program messages and had more specific advice to offer than kaders in other nutrition education programs in comparison areas; they were

devoting on average nearly 14 hours per month to nutrition work compared to less than 7 hours by workers in comparison areas. In project villages, 67% of households had been visited by a nutrition kader, in comparison villages 44%; project village mothers averaged 47% correct recall on nutrition messages, comparison mothers 28%.

4.22 After four years of project operation and a year of intense education activity, an evaluation of households confirmed trends of improvement in the nutritional status of mothers and children in the project areas. At all ages mean weights for program children were higher than for comparison children, and at 24 months of age there was a highly significant difference of half a standard deviation between the mean weights. There were half as many moderately and severely malnourished children (those less than 75% of median weight-for-age) in the program group. These differences in nutritional status were seen not only across the entire sample but also in each geographic region.

4.23 Detailed evaluation of the component has indicated that the difference in nutritional status can be attributed to the program rather than to schooling level or other factors. Women applied the knowledge thus gained to feeding their children more of the recommended foods. In program areas 87% of the children consumed more than half of the recommended calorie intake and 82% of the children consumed more than half of the recommended protein intake; for children in the comparison sample, the figures were 62 and 60%, respectively.

4.24 The effectiveness of specific messages was demonstrated, the strongest correlation being between knowing and preparing the weaning food that is important to the nutritional status of five-to-eight month infants at a crucial time in their development.

4.25 The project appears to have overcome one of the largest constraints to improved nutrition, the level of the mother's education. Children's nutritional status was determined less by the level of maternal education for children in the target group than for those in the comparison sample.

4.26 This was the most successful of the field programs, the success attributable to thorough research, a carefully conceptualized media strategy, good implementation of the initial phase, and evaluation from the outset. The program had a demonstrably positive effect on the nutritional status of the target population. It provided only nutrition education, utilizing a combination of personal and mass-media contacts. Technical assistance was vital to the development of this component. The government has announced its intention of using the messages and media strategy in its national program.

C. National Nutrition Policy

4.27 Two small but vital components of the project focused on national nutrition policy issues: the Research Coordinating Committee provided oversight of research conducted primarily by the CRDN and FTDC, and the Food and Nutrition Unit (FNU) examined the larger question of integrating nutritional issues with GOI's agricultural policies.

4.28 Research Coordinating Committee. This Committee was officially established by the Project Director on September 1, 1977, and consisted of senior experts from various national institutes, centers and ministries. The Directors of CRDN and FTDC chaired the Committee by rotation, and the first few meetings were devoted largely to identifying its role and decision making authority with respect to specific research programs undertaken by the two Centers. The smooth functioning of the Committee was easier to achieve when the Center directors were in agreement, and for matters that did not need sanction from their respective ministries (CRDN was under MOH, while FTDC was within the University of Bogor, under MOE.) However, since the research programs and priorities of the two centers were not clearly articulated, and the Committee lacked hierarchical authority over the two Centers to enforce a common research strategy, its effectiveness was severely limited.

4.29 Despite this general problem, some activities were undertaken enthusiastically by Committee members: research reviews were compiled in two successive annual reports (for 1979-81), and members participated actively in national workshops and seminars attended by Indonesian and foreign nutrition experts. These forums, arranged as often as four times during some years, provided regular opportunities to influence and shape the content of a national food and nutrition policy, and have proven very useful.

4.30 Food and Nutrition Unit. A small FNU was set up in 1969 within the Ministry of Agriculture (MOA) to advise GOI on steps needed for increasing food production, improving the quality of diets, studying the effects of economic and social factors on human food consumption, and coordinating MOA's nutritional activities with those of other ministries. In 1975 a 12 member team of MOA officials was made responsible for these tasks on a part-time basis and in 1977 the project proposed strengthening the FNU with technical assistance from a nutrition planner, a food economist and a data analyst, along with in-service training and fellowships for MOA staff.

4.31 Despite these good intentions, the FNU remained a skeletal unit until 1979, primarily due to insufficient interest in the Ministry of Agriculture, lack of leadership and trained staff, and inadequate authority to carry out its assignment. Its "coordination" activities were initially confined to collecting data on food supply. However, following a visit in 1980 to India by officials from the Ministries of Health, Agriculture and Interior, there has been an increased awareness of the benefits of inter-sectoral planning of nutrition policy. Two senior staff members were sent

for training to the International Food Policy Research Institute in Washington, D.C., and are now back at the FNU. An intersectoral Training Workshop on Food and Nutrition Planning was also held in February 1983, with major technical inputs from the Unit. Assisted by consultants, the FNU has recently completed a study of major food production, consumption and nutrition problems in Indonesia, and has proposed strategies to overcome them. This study has formed the basis for recommending food and nutrition policies for REPELITA IV.

V. PROJECT IMPACT

5.01 Most project components, considered separately, have achieved or exceeded appraisal targets; taken together, their benefits are substantial, and extend far beyond the immediate activities of the project. In general, the project had a catalytic effect on sectoral activities; and its greatest benefit has been the considerable interest generated in nutrition related issues, at all levels of society. This sharpening of focus on nutritional problems and on broad-based action needed to overcome them, led the government to include a national food and nutrition chapter in REPELITA III and IV. The policy objectives now being finalized are likely to be implemented through an ongoing nationwide program — an expanded basic UPKG incorporating aspects of NIPP — possibly supplemented by a Bank-funded follow-on nutrition project currently under preparation.

5.02 The support institutions needed for long term research, technology development, and training (namely CRDN, FTDC, and the Academy of Nutrition respectively) have already been established under the project. The work of some of CRDN's staff meets international standards; but the Center has not yet established an economic and social studies unit on the scale envisaged (partly due to its difficulty in attracting economists), thus limiting its role as a bridge between the scientists and government planning groups such as BAPPENAS. The FTDC has performed better: it is perhaps the first major facility in the world devoted largely to village-level food technology, and has well-trained and highly-motivated staff. Similarly, the Nutrition Academy has now developed an international reputation, and most of its training objectives have been met. The main manpower gap at this stage is at the field management and supervision level, for which additional training centers are being planned. In the Ministry of Agriculture, only a small fraction of the technical assistance envisioned for the Food and Nutrition Unit was utilized; a strong analytic unit has yet to be developed.

5.03 The institution-building strategy included a sizable training and technical assistance elements to broaden capacity to plan and operate programs. Training has covered a broad range of skills and sophistication. In Indonesia, for example, the head of nutrition in the national planning agency was completing a Ph.D. in nutrition planning at the same time village kaders were learning about nutrition education. The project also funded 24 long-term fellowships and 180 short-course grants for technical specialists, training of kader supervisors, and training of nutritionists. Indonesia's

Nutrition Academy, whose facilities and staff were improved, has increased its annual number of nutritionist graduates from 60 to 200 and outside evaluators have praised the quality of their preparation. A national staffing plan for nutrition, developed in the project to accompany the fourth National Development Plan, is being implemented on schedule. (The drafting of the food and nutrition chapters of the plan was the responsibility of the officer mentioned above who received his doctorate under the project. Upon receiving his degree, he was given responsibility for both health and nutrition in the national planning agency.)

5.04 Two studies have been undertaken comparing the experience of children in the NIPP villages to those in the basic UP GK program before it was modified to incorporate certain features included in NIPP. In one, NIPP children started lower in nutrition status than those in UP GK but showed marginally greater improvement in growth, reaching the same levels by the end of the study. The study shows that NIPP children participated in the program to a greater extent (for example, attending an average of 23 weighing sessions in 25 months compared to 18 for the basic UP GK group), and that there was greater change in knowledge and behavior. Interestingly, the average education level of the NIPP mothers was lower than basic UP GK mothers.

5.05 The other study showed that the portion of children under three who were judged "well-nourished" (based on weight-for-height standards) rose from 39 to 44 percent in West Lombok (compared to an unchanging 43 percent in basic UP GK comparison villages) and from 36 to 46 percent in Bojonegoro (compared to an increase from 47 to 48 percent in basic UP GK villages). However, as best as can be judged, nutritional impact varied from area to area; in Bojonegoro, the results showed that local leadership had been more committed and active than in West Lombok.

5.06 NIPP has produced several techniques and activities that are being introduced into an expanded national program, e.g., the NIPP monitoring and reporting system, a village-based rehabilitative effort use of locally processed foods. The project's supplementary feeding approach will become the standard for all other programs. Also, the Government has adopted the NIPP concept of "village laboratories" to test new program ideas.

5.07 One of the more impressive outcomes of the project in Indonesia has been the spontaneous response of villages. Communities near NIPP villages have organized themselves and established similar programs with their own resources. (One regency, Bojonegoro, has arranged funding from local sources to permit NIPP to continue there.)

5.08 The nutrition education component was the most effective activity of the type conducted any place and already is being looked to as a model,

worldwide. Impact of component is noted in paras. 4.21 to 4.26. The nutritional status of children up to 24 months old in five areas where nutrition education under the project was offered can be compared with that in five areas that received different programs of nutrition education and other nutrition inputs from three major government programs. One year after the full implementation of the communications strategy, there were significant differences in percentages of malnourished children, as measured by weight for age:

Percent of Standard Weight-for Age	Percent of Children in	
	Nutrition Education Villages	Comparison Villages
Less than 60	0.0	1.2
60 - 74	10.0	18.2
75 - 89	42.4	40.0
90 +	47.6	40.6

Based on cost estimates and the finding that 40% of the children in the nutrition education program were growing more rapidly than those in the comparison group, the cost per child with improved nutrition status was \$9.85 per year during the pilot phase and has been projected at \$5.15 a year for an expanded program.

5.09 Another major objective of the project was to aid the government in the formulation and execution of a national food and nutrition program; and many background papers sponsored by the project and the ongoing policy dialogue between Bank and GOI staff have been geared toward that end. In February 1983, at a Food and Nutrition Planning Workshop funded by the project, the coordinating minister for economy, finance, and industry gave a strong endorsement for assigning nutrition high priority and expanding nutrition activities. This was reiterated six months later in a meeting that discussed recent work on the nutrition section of REPELITA IV. A National Nutrition Improvement Working Conference was opened on April 12, 1984 by President Soeharto who strongly reiterated GOI's continuing interest in nutrition issues, as an integral part of the national five-year plan. This dramatically increased government and public support for nutrition and augers well for the future.

5.10 The 1982 evaluation team of international and Indonesian nutrition experts credited the project with "strengthening and expanding the infrastructure for a larger scale nutrition program in Indonesia" and noted the "quite impressive" impact of its action programs. The report linked the

greatly increased emphasis on nutrition in the national plan -- which now extends nutrition activities to approximately 30,000 villages -- to the project. Other international agencies, particularly UNICEF, have also played a very important role in raising the consciousness of the government concerning nutrition, as well as in funding nutrition activities. The Ministry of Health and BAPPENAS, and to a lesser extent the Ministry of Agriculture, have become more conscious of the importance of nutrition and the possibilities for effective intervention. Interest in component evaluation (clearly one of the project's weak points in the early stages) has not only increased but has spread to nutrition activities beyond the project.

5.11 Finally, the evaluation shortcomings, the institutional strengthening still need, and other (particularly management and coordination) problems should not detract from the fact that the government has established a strong base in a remarkably short period. Nutrition now plays so large a role in Indonesia (including as an entry point for family planning and women's development activities) that it frequently is referred to as a movement, with few parallels elsewhere. The Bank project is widely credited in Indonesia with having contributed, directly and indirectly, to this. The government has now asked the Bank for a loan for a second nutrition project.

VI. BANK PERFORMANCE

6.01 Bank contribution to project design and implementation has been substantial. Until the early 1970s, the GOI's Applied Nutrition Program had remained confined to a few activities in a limited geographical area, and did not attract high level political attention. The project sought to change this. As originally designed by GOI, its major components (institution-building, field delivery and national policy analysis) were designed to serve as initial building blocks for a gradually expanding national program, and sought long-term impact rather than immediate results.

6.02 On reviewing this strategy in March 1976, the Bank's Board suggested the addition of directly productive and/or productivity-oriented field-action programs, so that the project could contribute more directly to improvements in agricultural output (para. 2.04). These various "add-ons" though small in dollar value, introduced a sharper field-intervention orientation, though still on a pilot basis (the components added included anemia control, food storage, home and village gardens, and nutritional training to agricultural extension workers). Most of these components, though not multisectoral in nature, had to be implemented with the assistance of or through other government agencies. The Board's suggestions therefore increased both the technical and administrative complexity of the project.

6.03 As discussed in earlier sections, the effects of these changes in project design were far reaching. Increased administrative complexity made the project difficult to implement, and magnified the problems caused by weak organizational and managerial capabilities in MOH. However the additional components, when finally implemented, proved very beneficial and contributed greatly to project success and impact. These direct-action components, when combined with the original core components of the project, produced a comprehensive package of inputs that has strengthened Indonesia's national nutrition program in a variety of ways, from the central to the village levels.

6.04 The Bank, has therefore helped to design and implement a project that now serves as a prototype for an expanded national program. The project also made possible a continuous and effective policy dialogue with GOI officials. As a result, the primary gains from the project are its substantial impact on the priority, commitment, policy and program choices, and level of government support for nutrition actions in Indonesia. The close association between nutrition and food policies is now recognized in REPELITA IV; and the connection between food habits and nutritional status has also been made in the minds of the intended beneficiaries, and is reflected in changing attitudes and behavior at the village level. The latter benefit is primarily due to NIPP's supplementary feeding program and the nutritional communication component, both of which have been effectively implemented.

6.05 Of course, these benefits also entailed heavy costs of preparation and supervision. Bank missions from Washington spent over 224 man-weeks (roughly 4.5 man-years) in Indonesia and were assisted by resident staff in the country. Almost equal amounts of Bank staff time were spent before and after project effectiveness in April 1977, averaging about three missions a year between 1973-80. However, despite the long period (four years) of preparation and appraisal, and even though the loan was declared effective a mere fortnight after loan signing, GOI staff were not ready for a quick start-up. Since the project was administratively complex and required the cooperation of a number of government agencies (para. 2.08), the expectations of a four-year implementation period (1977-81) were perhaps unrealistic. Although expatriate consultants were sought to be provided to compensate for the weak managerial capabilities of MOH staff, it is not certain that consultants could have reduced the initial problems caused by inexperienced staff and rigid government systems. Therefore it appears in retrospect that the project might have benefited from additional attention to improving the project staff's knowledge of GOI and Bank procedures, and from more realistic implementation schedules.

6.06 During the early years, management problems and tight schedules put great pressures on Bank and GOI officials to show progress by the time of the

mid-term review in 1980. As discussed earlier, a number of administrative constraints were overcome in 1979 (para. 3.08) and project progress became much easier as a result. Although a two-year learning period was certainly a major factor contributing to this improved pace of implementation, Bank staff's persistent urging must also have helped. In fact, some GOI officials seem to have felt that the pressure was more than needed, and that the appraisal report, which had been translated in all its details into Bahasa Indonesia and widely circulated, was initially used "more as a bible than as a guide." (One of the examples cited is the manner in which individual fellowships were required to be approved by Bank staff during the early years. The procedure was later changed, and broad criteria of eligibility and candidate lists rather than individual applications were submitted for Bank approval). However, the Bank also showed some flexibility during loan reallocation, for appointment of local consultants, and in the implementation procedures used for NIPP. As a result, the concerted and joint efforts of Bank and GOI officials have largely paid off, as is amply documented under project accomplishments.

VII. CONCLUSIONS

7.01 The status of nutrition-related activities in Indonesia is far better today than a decade ago when the project was initiated; and several factors, including substantial non-project inputs provided by GOI and other donor agencies have jointly produced this favorable outcome. A number of project activities have been particularly successful, and have important lessons for similar projects elsewhere. Among the field interventions undertaken, the nutrition education component proved most effective since it was designed to modify specific behavior. Working with intended audiences, allowing them to try different alternatives and to formulate new ones, gave both relevance and specificity to the overall project strategy. (One of the keys to success was the work of a nutrition anthropologist who lived in Javanese villages during most of the 14-month period of program formulation). This component's objectives were based on what people could and would do, addressed a few priorities, were transmitted easily and effectively by village workers in home visits and growth monitoring sessions, and these efforts were reinforced by radio. Thus, the nutrition education component was highly successful because it built on the resources that already existed in the community.

7.02 The potential for linking health and nutrition delivery has also been demonstrated: the weight monitoring and selective feeding approach for screening and servicing nutritional needs required the establishment of a common network of village-based workers, and this has been successfully done. The project has also demonstrated the feasibility of a multisectoral nutrition intervention whose success depended not only on inputs provided by

government agencies but also on the abilities of village families to help themselves. Both these field activities have required intensive and sustained effort over a long period of time, both for generating an awareness of nutritional issues and for guiding and technically backstopping the activities of village-level volunteers and community groups.

7.03 The program to reduce anemia was managed so efficiently on a large scale, with apparently positive effects on worker productivity, as to make it worthwhile for plantation owners to complement the project at their own expense. A nationwide expansion of this component is clearly feasible. The Indonesian experience with village home gardens demonstrated, however, that since such a program only benefits those who have land to devote to gardens, there is little benefit for those most in need of improved nutrition. The project also showed the importance of community seed gardens; although the number of seed gardens under the project fell short of appraisal targets, the concept nonetheless remains worth replicating.

7.04 The project can perhaps be faulted for optimistically assuming a high degree of management and organizational skills, despite its considerable administrative complexity: communications and coordination among agencies remained poor throughout implementation, even after consultants for management, planning and procurement had been provided. However, it appears that the overall project impact would definitely have been reduced if any of these components had been deleted in an effort to make the project "simpler" to implement.

7.05 This is because most project components have been mutually reinforcing. The CRDN has taken a role in the evaluation of both NIPP and the anemia prevention and control programs, and it formulated the food used in NIPP's supplementary feeding program. The village-level technology for production of the food was designed and produced by FTDC. In addition, the gardening and storage programs were implemented in the same villages as NIPP. The institution-building strategy included sizable training and technical assistance elements to broaden the capacity to plan and operate programs. This turned out to be one of the most effective and important elements in the project in that it helped put Indonesia in the position today to substantially enlarge its program and to improve it as local authorities plan to do. Simultaneously, attention was given to developing a monitoring and evaluation capability, and for undertaking national policy analysis. Each of these project components has contributed to strengthening the national program; together their impact has been very substantial.

7.06 Therefore, rather than reduce the number of components, perhaps greater attention should have been given to selection of competent project management and staff, upgrading their skills and knowledge of Bank and GOI procedures, and improving the coordination between activities such as budgeting, contracting, procurement and technical assistance.

It appears that greater administrative preparation (as against technical preparation of components) would have helped, perhaps through something like the "project launch workshops" used for some urban projects. In addition, and perhaps more important for project effectiveness than organizational form, the support and involvement of politically powerful decisionmakers was also needed. Perhaps recognizing this, BAPPENAS pushed ahead without knowing all the answers to technical and administrative uncertainties, because it believed its program was moving in the right direction and that (in the words of the assistant director) "seizing the opportunity while there is interest and resources" would pay the greatest dividends ten years later. Project experience has clearly demonstrated the merits of this pragmatic approach.

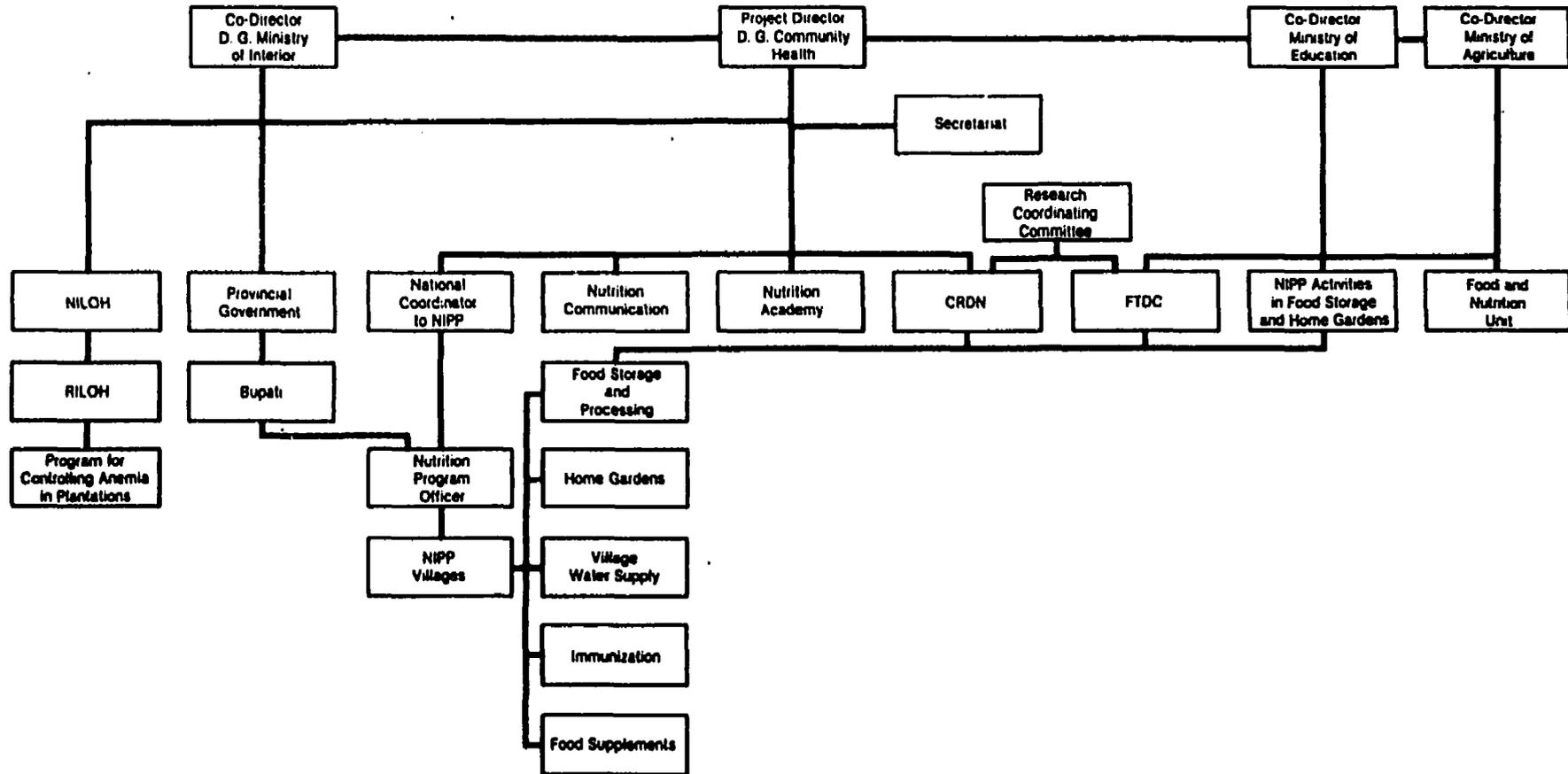
7.07 Nevertheless, delays in implementation and the heavy supervision required in early years provide evidence that the development of managerial capability required more time than project circumstances and tight schedules permitted. Inappropriate and inflexible approval mechanisms (such as those used initially for budget and fellowship approvals), and unfamiliarity with Bank and GOI procedures caused avoidable delays. Close supervision by Washington-based Bank staff, though initially necessary for putting pressure on government officials to remove administrative constraints, was obviously unable to compensate for weak local leadership. However, closer involvement of the Bank's resident staff in Indonesia in routine follow-up of project progress might have provided the additional technical and "political" support needed by the newly appointed project management, especially since this was the first Bank-funded nutrition project in Indonesia.

7.08 The monitoring and evaluation component also proved particularly difficult. Generally, although the plans and funding for evaluation were there, the value of assessing performance as a management tool was not appreciated (except for the nutrition communication and behavioral change component); and neither the recording and analysis of routine data for monitoring operations nor special studies to evaluate impact were viewed initially as integral parts of project implementation. The situation improved in later years, after a local consulting firm helped simplify and revise the monitoring system (for NIPP especially), making it possible for relatively untrained field staff to generate meaningful data and undertake timely analysis. Unfortunately, however, despite some noticeable progress in research and evaluation capability, firm conclusions regarding replicability, cost effectiveness, and impact must await more accurate data and analysis. The few studies that are available use different assumptions and bases for allocating costs and assessing benefits, and do not lend themselves to objective comparisons and generalizations. Greater attention to these aspects of the project was clearly needed.

7.09 Despite these obvious shortcomings, the project has definitely been worthwhile. All three major objectives -- concerning institution building,

testing of field level interventions, and policy formulation -- have been largely met. Some of the lessons learnt from the project have already been incorporated into the national UPGK program, and the basic research facilities, equipment, manpower, and infrastructure for nutrition delivery are now in place. An expanded and more intensive national program will require a well-coordinated but flexible decentralized management, highly motivated staff and volunteers, and accurate monitoring and evaluation, all of which are yet to be fully developed. Fortunately, however, in recent years, there has clearly been a general improvement in Indonesia's administrative and institutional capabilities; and the government is strongly committed to improving the nutritional status of its vast population. This high level political support must now be supplemented with government funds for operational requirements (of staff, training, vehicles, equipment, maintenance) which tend to become scarce once capital investments are in place. Unless these are provided in adequate amounts, future success can hardly be assured, and even though the project has helped lay a strong foundation for an expanded program, it is only an important first step. Consequently, the proposed second nutrition project, which has recently been appraised, is timely and appropriate, and will help improve Indonesia's nutritional status even further.

**INDONESIA NUTRITION DEVELOPMENT PROJECT
PROJECT ORGANIZATION**



SCHEDULE OF DISBURSEMENTS

Fiscal Year and Quarter Ending	Cumulative Disbursements (US\$ Million)		
	Appraisal Estimate	Actual Total	Actual or Latest Estimated Dis- bursement as Percent of Total
FY78			
March 31, 1978	0.3	0.0	0.00
FY79			
March 31, 1979	1.9	0.1	0.77
FY80			
March 31, 1980	5.7	1.2	9.23
June 30, 1980	6.6	1.5	11.54
FY81			
September 30, 1980	7.8	1.8	13.85
December 31, 1980	9.0	2.3	17.69
March 31, 1981	10.2	2.8	21.54
June 30, 1981	10.8	3.9	30.00
FY82			
September 30, 1981	11.6	4.5	34.61
December 31, 1981	12.7	4.9	37.69
March 31, 1982	13.0	6.0	46.15
June 30, 1982		7.0	53.85
FY83			
September 30, 1982		8.5	65.38
December 31, 1982		9.5	73.08
March 31, 1983		10.3	79.23
June 30, 1983		11.4	87.69
FY84			
September 30, 1983		12.66	97.38

COMPLIANCE WITH LOAN CONDITIONS

Conditions	Remarks
1. <u>Section 3.02</u>	
The Borrower shall employ consultants whose qualifications, experience and terms and conditions of employment shall be satisfactory to the Bank.	Consultants satisfactory to the Bank were employed.
2. <u>Section 3.03</u>	
The Borrower shall afford the Bank a reasonable opportunity to comment on the qualification and experience of any person proposed to be appointed to the positions of Project Director, Project Co-Director and Project Manager and NIPP Coordinator prior to the making of such appointment.	The Bank's approval was sought prior to the appointment of staff to these positions.
3. <u>Section 3.04 (c)</u>	
The Project Director shall be required to prepare and furnish to the Bank semi-annual reports on project progress.	Semi-annual reports were submitted regularly to the Bank.
4. <u>Section 3.05 (d)</u>	
The accounts of all project audited each fiscal year, not later than six months after the end of each such year. The Bank shall be furnished with certified copies.	Reports delayed, but submitted.
5. <u>Section 3.07 (i)</u>	
The Borrower shall maintain a Research Coordinating Committee to facilitate coordination of the nutrition-related research programs.	The Research Coordinating Committee met frequently.

COMPLIANCE WITH LOAN CONDITIONS

Conditions	Remarks
6. <u>Section 3.07 (11)</u>	
The Borrower shall submit to the Bank annual progress reports on research programs.	The research program was submitted to the national food and nutrition workshop held in February 1983.
7. <u>Section 3.08</u>	
The Borrower shall carry out a review of the NIPP program at the end of the second year.	Completed.
8. <u>Section 3.09</u>	
The Borrower shall carry out a review of the home/village garden component at the end of the third year of the NIPP program.	Completed and report available.

EXTERNAL EVALUATION REPORT: SUMMARY AND RECOMMENDATIONS

(i) The Indonesia Nutrition Development Project (INDP) commenced in 1977 with three main objectives. As stated in the Appraisal of a Nutrition Development Project (World Bank Report No. 1373-IND), these were:

- a. To strengthen and expand the existing nucleus of personnel and institutions in Indonesia to develop more effective capacity for: formulation, execution and evaluation of nutrition programs, operational research, and manpower training in nutrition;
- b. To develop nationally replicable and cost-effective measures to improve the nutritional status of mal-nourished target groups through field level action programs and their evaluation; and
- c. To aid the Government of Indonesia in the formulation and execution of more comprehensive food and nutrition program on a national scale based on the combination of the above actions.

(ii) The team believes that the primary objective of strengthening and expanding the infrastructure for a larger scale nutrition program in Indonesia has been achieved in good measure. The various components: Center for Research and Development in Nutrition, Food Technology Development Center (FTDC), Nutrition Manpower Training (NMPT), Nutrition Intervention Pilot Project (NIPP), Home and Village Gardens (HVG), Anemia Prevention and Control Pilot Project (APC), Nutrition Communication and Behavior Change (NCBC), and Food and Nutrition Unit (FNU) have enabled the development of a better basis for the formulation and implementation of food and nutrition policy and programs in the coming Fourth Five Year Development Plan (REPELITA IV).

The project is highly successful in reaching rural populations with pragmatic nutrition education measures that sensitize the population to the importance of paying attention to nutrition. In particular, the field level action program NIPP and NCBC, in 258 villages, 55 provincial sub-district levels (kecamatan) in Java, Nusa Tenggara Barat (NFB) and South Sumatra have had a catalytic influence on the initiation of the Family Health and Nutrition Program (UPGK) and other related activities in the surrounding areas utilizing local resources.

While the Project has provided for elaborate monitoring and evaluation systems, the team notes that the result of evaluation are not yet available in an appropriate form to assess the impact of the action components of this project on the nutritional status of target groups. However, the overall impact of the programs in different areas has been quite impressive, leading to a demonstration cum spread effect.

In addition, the lessons learned from NIPP are being and will continue to be applied to upgrade the management of the extended UPGK programs.

(iii) The team believes that despite the overall successful impact of INDP, there are major problems which merit immediate attention. These are:

- a. Failures of monitoring and evaluation systems for almost all activities of the Project, specifically in operating a reliable system for collecting information on the impact of the various components;
- b. Inadequate arrangements for sustaining the infrastructure, especially the institutions built up at considerable cost such as CRDN, FTDC, Nutrition Academy (Akademi Gizi), and School for Assistant Nutritionists (SPAG). There is a need, in particular, of funds for maintenance, staff, upkeep of equipment and training;
- c. Serious gaps in trained nutrition manpower at the village level to supervise, coordinate, and monitor nutrition activities in the field; and
- d. Weakness of arrangements for intersectoral coordination for planning and execution of nutrition programs especially at operational levels.

(iv) Based on the above findings, the team recommends that:

- a. With a view to maintaining the institutions that have been set up under the INDP, on which substantial national resources have been spent, adequate funds and continued policy support be provided by the Government of Indonesia. In particular, CRDN, FTDC, Akademi Gizi and SPAG should be allowed to retain their identity, and be given support to maintain and expand their activities as national focal points in the field;

- b. Efforts be devoted to expand the UPGK progressively to cover more villages, utilizing the experience and the lessons derived from NIPP and other programs which have been part of INDP;
- c. A more effective monitoring and evaluation system, especially for programs similar to NIPP and UPGK, be established;
- d. The Health Center (PUSKESMAS) at the kecamatan level should be strengthened by the addition of an assistant nutritionist to coordinate, supervise, monitor and evaluate the expanded nutrition program at village level.
- e. The coordinating arrangements be improved under a structure with the explicit authority for determining its own policies, the means and personnel for the implementation of its programs, and its own budget.
- f. The team recommends that a Task Force of experts be set up early to draw up an outline of the programs for the future, particularly REPELITA IV in the field of nutrition activities, with a proper assessment of costs, manpower requirements and feasibility.

National Family Nutrition Improvement Program (UPGK)*

Background and Focus of the Family Nutrition Improvement Programme (UPGK)

1. The Indonesian Family Nutrition Improvement Programme herein referred to as UPGK (Usana Perbaikan Gizi Keluarga), is a national inter-sectoral programme which integrates activities and messages in nutrition, health, birth-spacing, home food production and religion in an effort to promote improvements in family nutrition and child survival. Four sectors work together to provide an integrated package of activities including the Ministry of Health (MOH), National Family Planning Coordinating Board (BKKBN), Ministry of Agriculture (MOA) and the Ministry of Religion (MOR). The first three of these sectors are directly involved in UPGK service delivery, while MOR stimulates awareness and community participation in the programme.
2. UPGK is targeted to under-five children and their mothers, and pregnant and lactating women. It is focused on the village and the home and aims at an effective utilization of resources available within the community and the household. UPGK is based on the premise that the mother is the critical agent to maintain the health of her child, and the focal point for bringing about behavioral changes to improve child survival. Hence, all aspects of the programme are designed around assisting the mother in identifying when her child is "at risk" of becoming malnourished and helping her to modify her behaviour to prevent more serious problems from occurring.
3. The major activity of UPGK, nutrition education through growth monitoring is based on the assumption that monthly weighing of children together with advice and education of mothers and referral of children "at risk" is sufficient to prevent most cases of severe malnutrition. For most children household resources are presumed to be adequate to prevent severe malnutrition if mobilized properly. This assumption was based on an earlier study which found that the incidence of childhood PEM was as widespread in "food adequate" households as in "food deficient" households. Other studies concur that the problem is largely one of existing food distribution practices among household members and child feeding habits, and emphasize the need for nutrition policies and interventions directed at changing behavioural practices of mothers.
4. The major UPGK theme "a growing child is a healthy child," is easily understood down to the level of individual mothers and is supported by their day to day experience. The scale used to weigh children, and the chart used to monitor growth and identify those not gaining weight, are easily used by mothers and village volunteers with minimal training.

* Terrel M. Hill, Rodolfo Florentino, and Leona D'Agnes, "The Indonesian National Family Nutrition Improvement Programme (UPGK); Analysis of Programme Experience," Report submitted to UNICEF Executive Board, December 1983 (mimeographed).

UPGK Service Packages

5. UPGK consists of comprehensive nutrition and child survival activities encompassed in two service delivery packages: a "basic" package and a "complete" package. The "basic" package includes child weighing, education in nutrition and home food production, distribution of nutritional first aids, promotion of birth-spacing, breastfeeding and oral rehydration, and referral to local health facilities for immunization and other health services. The "complete" package includes the basic package plus a subsidy for rehabilitative feeding of malnourished children - which is provided by the government and administered in the community. Seeds for home gardens, and special "coaching" by agriculture extension workers are also provided in the complete package to promote local food production in "food deficit" programme areas.

6. The centre of UPGK activity is the sub-village nutrition weighing post where mothers bring their babies and young children for growth monitoring and other preventive health services offered simultaneously with monthly weighing sessions. The weighing post is equipped with a scale, growth charts, nutrition education materials, reporting and recording forms, facilities for preparation of foods for group demonstrations and "educational" feeding activities, and nutritional first aids (vitamin A capsules for prevention of childhood blindness, iron folate tablets for prevention of anemia in pregnant women, and oral rehydration salts for management of children with diarrhoea).

7. All activities are conducted by village volunteers (cadres) who are unpaid workers selected from the community on the basis of their ability to read and write, and their interest in participating in the programme. Mothers themselves are often selected as village cadres, as well as members of the local women's social affairs organization (PKK) which includes all women of the village in its membership. Cadres are trained to implement the programme in a preliminary three to five day training session, and work under the supervision of the local village leader (lurah) and his wife. Technical backstopping and supervision are provided to village leaders and cadres by trained midwives of the MCH and paid extension workers of the MOA and BKKBN.

8. The UPGK package includes elements of GOBI-FF, a check-list of low-cost highly effective measures to enhance child survival recently advocated by the Executive Director of UNICEF in the 1982-83 State of the World's Children. The GOBI-FF measures of Oral rehydration and Food supplements are included in the nutritional first aids component of UPGK (oral rehydration salts, vitamin A capsules and iron supplements). Growth monitoring and Breastfeeding promotion are provided through UPGK, together

with referral to health facilities and village family planning posts for assistance in Family-spacing of children. The UPGK weighing posts are also beginning to be used as a forum for Immunization activities.

9. The UPGK programme is now estimated to operate in over 30,000 villages where 70% (14.9 million) of the nation's under-fives live. Millions of mothers throughout the country are taking their babies and young children to "weighing posts" in their villages to learn if their children are healthy, to prevent malnutrition, and to protect them against blindness caused by vitamin A deficiency and dehydration resulting from diarrhoea. More than 400 thousand village volunteers (cadres) record monthly weight changes on growth charts which are kept at home and serve as a constant reminder to mothers of the health status of their children. Severely malnourished children are referred to health centres for rehabilitative feeding and other health services.

10. Although a nationwide impact study of UPGK has yet to be undertaken by the GOI, limited case studies and site visits have indicated a high potential for positive change both on nutritional status of children and knowledge and behaviour of mothers brought about by UPGK implementation. (It should be recognized, however, that it would be extremely difficult to demonstrate impact in a programme of this size because of the presence of numerous intervening factors unrelated to the programme itself).

11. A number of spin-off and multiplier effects have been generated by the UPGK experience. It is estimated that UPGK provided an impetus for more than 2,000 villages throughout the country to start their own programme without recourse to outside resources. In a number of UPGK programme areas, cadres have developed independent village support for "educational" feeding activities through innovative income generating and credit-savings schemes. In still other villages, mothers contribute excess produce from home gardens to support monthly "educational" feeding of needy children in the village.

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MINISTRY OF HEALTH REPUBLIC OF INDONESIA
DIRECTORATE GENERAL OF COMMUNITY HEALTH
JAKARTA

Jalan Prapatan No. 10

Phone:

Number : 562/BGM/TU/V85
Reference: IBRD Loan No. 1373-IND
Subject : Cable INTBAFRAD

Jakarta: May 1985

IBRD - RSI Jakarta
Jl. Rasuna Said

JALAN PRAPATAN

Dear Sir,

We would appreciate it very much if you could convey the following message to Mr. Jukinari Watanabe, IBRD, Washington, D.C., USA.

Cable Address: INTBAFRAD
For : Mr. Yukinori Watanabe, Director Operations
Evaluation Dept.
Re : IBRD Loan No. 1373-IND

REVIEWED DRAFT PCR INDP (LOAN 1373-IND). NO OTHER COMPONENT FROM US. ITEM ANNEX 3 NO. 4 REGARDING AUDIT REPORT FOR FISCAL YEAR 1981-82 ALREADY SENT FEBRUARY 1983 AND FOR FISCAL YEAR 1982-83 SENT JULY 1984.

REGARDS, SUYONO YAHYA, M.D.

Thank you for your kind assistance.

(Signed)

cc:

1. The Secretary Directorate General of Community Health
2. File

