

**Document of
The World Bank**

Report No: 17507 MAG

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED CREDIT

IN THE AMOUNT OF SDR 20.4 MILLION EQUIVALENT

TO THE

REPUBLIC OF MADAGASCAR

FOR A

COMMUNITY NUTRITION II PROJECT

MARCH 1998

AFTH2
AFC08
Africa Regional Office

CURRENCY EQUIVALENTS
(Exchange Rate Effective as of December 1997)

Currency Unit = Malagasy Franc (FMG)
US\$1.0 = FMG5000

FISCAL YEAR
January 1 to December 31

ABBREVIATIONS AND ACRONYMS

ACN	Community Nutrition Worker (<i>Agent Communautaire de Nutrition</i>)
CAS	Country Assistance Strategy
CISCO	District Education Office (<i>Circonscription Scolaire</i>)
CRESAN	Health Sector Improvement Project (<i>Crédit Santé</i>)
CRESED	Education Sector Reinforcement Project (<i>Crédit Education</i>)
CRS	Catholic Relief Services
DALY	Disability Adjusted Life Year
DHS	Demographic and Health Survey
EU	European Union
FAO	Food and Agriculture Organization
FID	Regional Development Fund (<i>Fonds d'intervention pour le développement</i>)
IBRD	International Bank for Reconstruction and Development
ICB	International Competitive Bidding
ICR	Implementation Completion Report
IDA	International Development Agency
IEC	Information, Education and Communication
IMCI	Integrated Management of Childhood Illness
MINESEB	Ministry of Secondary and Basic Education
MINAGRI	Ministry of Agriculture
MINSAN	Ministry of Health
MIS	Management Information System
MSF	<i>Médecins sans frontières</i>
NCB	National Competitive Bidding
NGO	Non-Governmental Organization
PCU	Project Coordination Unit
SECALINE	Food Security and Nutrition Project
SIL	Structural Investment Loan
UNDP	United Nations Development Program
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
UNV	United Nations Volunteer
WFP	World Food Program
WHO	World Health Organization
ZAP	Sub-district office for primary education

Vice President	Callisto Madavo
Sector Manager	Nicholas Burnett
Country Director	Michael Sarris
Task Team Leader	Richard Seifman

Madagascar

Community Nutrition II Project

CONTENTS

A. Project Development Objective

1. Project development objective and key performance indicators 2

B. Strategic Context

1. Sector-related CAS goal supported by the project 2
2. Main sector issues and Government strategy 3
3. Sector issues to be addressed by the project and strategic choices 5

C. Project Description Summary

1. Project components 7
2. Key policy and institutional reforms supported by the project 8
3. Benefits and target population 8
4. Institutional and implementation arrangements 8

D. Project Rationale

1. Project alternatives considered and reasons for rejection 10
2. Major related projects financed by the Bank and/or other development agencies 11
3. Lessons learned and reflected in proposed project design 13
4. Indications of borrower commitment and ownership 14
5. Value added of Bank support in this project 14

E. Summary Project Analyses

1. Economic 15
2. Financial 15
3. Technical 16
4. Institutional 16
5. Social 17
6. Environmental assessment 17
7. Participatory approach 17

F. Sustainability and Risks

1. Sustainability 18
2. Critical risks 18
3. Possible controversial aspects 19

G. Main Loan Conditions

1. Effectiveness conditions	19
2. Other	19

H. Readiness for Implementation 19

I. Compliance with Bank Policies 20

Annexes

Annex 1	Project Design Summary	21
Annex 2	Detailed Project Description	24
Annex 3	Estimated Project Costs	30
Annex 4	Project Economic Analysis	31
Annex 4b	Direct, Indirect and Total cost per Beneficiary per Intervention	35
Annex 5	Financial Summary	36
Annex 6	Procurement and Disbursement Arrangements	37
Table A	Project Costs by Procurement Arrangements	41
Table B	Thresholds for Procurement Methods and Prior Review	42
Table C	Allocation of Loan Proceeds	43
Annex 7	Project Processing Budget and Schedule	44
Annex 8	Documents in Project File	45
Annex 9	Statement of Loans and Credits	46
Annex 10	Country at a Glance	48

Map No. : IBRD 20035R1

Madagascar
Community Nutrition II Project

Project Appraisal Document

Africa Regional Office
AFC08

Date: 03/24/98 Country Director: Michael Sarris Project ID: MG-PE-1568 Sector: Nutrition Lending Instrument: Specific Investment Credit	Task Team Leader: Richard Seifman Sector Manager: Nicholas Burnett Program Objective Category: Human Resources Development. Program of Targeted Intervention: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
---	--

Project Financing Data	<input type="checkbox"/> Loan	<input checked="" type="checkbox"/> Credit	<input type="checkbox"/> Guarantee	<input type="checkbox"/> Other [Specify]	
For Loans/Credits/Others:					
Amount (US\$m/SDRm): US\$ 27.6 million/SDR 20.4 million					
Proposed terms:					
Grace period (years): 10	<input checked="" type="checkbox"/> Multicurrency	<input type="checkbox"/> Single currency, specify			
Years to maturity: 40	<input type="checkbox"/> Standard Variable	<input type="checkbox"/> Fixed	<input type="checkbox"/>	LIBOR-based	
Commitment fee: not more than 0.5%					
Service charge: 0.75%					
Financing plan (US\$m): US\$41.88 million					
Source	Local	Foreign	Total		
Government	1.67	-	1.67		
Cofinanciers: WFP	4.48	7.15	11.63		
IDA	19.57	8.03	27.60		
Beneficiaries	0.98	-	0.98		
Total	26.70	15.18	41.88		
Borrower: The Republic of Madagascar					
Guarantor: N/A					
Responsible agency(ies): The Office of the Prime Minister					
Estimated disbursements (Bank FY/US\$m):					
Annual	1999	2000	2001	2002	2003
	3.97	4.75	5.34	5.96	7.58
Cumulative	3.97	8.72	14.06	20.02	27.60
For Guarantees:					
Proposed coverage: N/A					
Project sponsor: N/A					
Nature of underlying financing: N/A					
Terms of financing:					
Principal amount (US\$)					
Final maturity					
Amortization profile					
Financing available without guarantee?:					
	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No			
If yes, estimated cost or maturity:					
Estimated financing cost or maturity with guarantee:					
Project implementation period: 5 years					
Expected effectiveness date: July 31, 1998			Expected closing date: January 31, 2004		

A: Project Development Objective

1. Project development objective and key performance indicators (see Annex 1):

The project aims to improve the nutritional status of children under three, primary school children and pregnant and lactating women in the project target areas. It also aims to ensure long-term sustainability of nutrition outcomes by improving the quality and quantity of food intake by children at home. Progress in achieving these overall development objectives will be measured at midterm review and at project completion through anthropometric and dietary surveys and through data accrued by the project.

The project's specific development objectives are:

- to reduce underweight (weight for age < 2 S.D. NCHS) in children under three by 30%;
to reduce vitamin A deficiency among children under three by 30% and to reduce iron deficiency anemia among enrolled primary school children by 25 %;
- to reduce helminth infections among pre-school and school-aged children by 25 % and;
- to increase communities' awareness of malnutrition and improve their capacity to take appropriate action to address the determinants of malnutrition.

Baseline data and target indicators would be determined in 1998 based on the results of the ongoing nationwide surveys on malnutrition, vitamin A deficiency, iron deficiency anemia and helminth infections among the project target groups. A dietetic survey would be conducted in the project area in 1998 in order to measure the quality and quantity of food intake of children at home. These surveys would be repeated at project midterm review (2000) and project completion (2003) to measure progress in achieving the development objectives.

B: Strategic Context

1. Sector-related Country Assistance Strategy (CAS) goal supported by the project (see Annex 1):

CAS document number: 16249-MAG Date of latest CAS discussion: January 17,1997

Support for the Government's poverty reduction objective is at the center of the Bank's CAS. The key challenge for the Bank is to ensure that the 9.5 million poor people (i.e. 70% of the country's total population, with over 85% of the poor being rural) will indeed be better off and their living conditions improve. One of the key objectives of the CAS is to develop human capital by improving primary education, basic health care, nutrition, and rural infrastructure. The proposed project would directly support this objective by improving the nutritional status of the most vulnerable groups, i.e. children under three, primary school children and pregnant and lactating women. By improving the nutritional status of children and pregnant and lactating women, the project would improve their quality of life, decrease child morbidity and mortality rates, and support primary education. It would also impact positively on children's productivity and capacity in later life as a result of interventions in early age. The project would also aim to achieve tangible and sustainable results in combating malnutrition by improving the capacity of village communities to address its determinants and increasing the quality and quantity of food intake by children at home.

2. Main sector issues and Government strategy:

(a) *High malnutrition rates.* Madagascar has one of the highest rates of chronic and severe malnutrition in Africa: stunting (chronic malnutrition) affects one in two children under five (i.e. 50%, which is above the 42% average for Sub-Saharan Africa), whereas wasting (acute malnutrition) affects

7%¹. Lack of knowledge, poor feeding, health and caring practices, inadequate food production and consumption, and poverty are the main causes of malnutrition. Infectious diseases, especially diarrhea, measles, malaria, and helminth infections also contribute to child growth retardation. A nationwide survey is being conducted to measure the prevalence of severe and moderate malnutrition at more desegregate levels (district level) in order to prioritize project interventions and obtain baseline data to measure project performance.

The government has made progress in recent years in addressing malnutrition issues. The ongoing IDA-supported SECALINE project made a contribution to the reduction of child malnutrition through the development of community-based nutrition interventions in two of the most food insecure provinces of the country (Toliary and Antananarivo). Moderate malnutrition among children under five was reduced from 45% to 38% in Antananarivo province, and from 28% to 18% in Toliary province over the last four years (1992-96). The extent to which this significant reduction can be attributed to the SECALINE project vis-à-vis other contributing factors (such as economic growth, improved food security, etc.) would be determined at project completion. In addition, a few other interesting community-based nutrition projects, supported by donors and NGOs, are currently addressing child malnutrition. These successful initiatives, however, have been too limited in their scope and coverage to impact on the nutrition situation of the country as a whole. The Ministry of Health (MINSAN) is the only institution that is currently responsible for nutrition nationwide. The low quality of public health services and, consequently, their low utilization rates make these services inefficient in delivering the adequate nutrition interventions to women and children. This poor performance is particularly critical in the case of severely malnourished children. The latter are not properly recuperated at district hospitals, which leads to high fatality rates. In addition, even though some hospitals have been strengthened with rehabilitation centers by SECALINE, utilization remains low because of low accessibility. Mothers have to cover long distances and find it difficult to leave their home and work for long periods of time (often a month-stay at the hospital) to attend their malnourished child.

(b) *High prevalence of micronutrient deficiencies and helminth infections.* Micronutrient deficiencies are important issues in Madagascar. Eighty percent of pregnant women suffer from iron deficiency anemia, which is a serious problem among young children as well. The ongoing 1997 Demographic and Health Survey (DHS) will provide updated information on the prevalence of anemia nationwide. Vitamin A deficiency is also likely to be predominant given widespread protein-energy malnutrition, even though there is no reliable nationwide data on vitamin A status. Results of a recent study² in two provinces, however, show that 65% of the population surveyed was at risk of vitamin A deficiency and that 11.5% was vitamin A deficient. A nationwide survey on vitamin A deficiency would be conducted shortly by the MINSAN with support from USAID. Existing data on helminth infections, although limited to two geographical areas, suggest high prevalence rates among school-aged children and women of childbearing age. In the midwest region, prevalence of ascaris infection is at 56.5% among school-aged children, and at 47.4% among women of childbearing age. Hookworm infection rate is estimated at 17.1% among women of childbearing age. Limited surveys also suggest high prevalence of helminth infections among children under five in certain areas. A nationwide survey is being conducted to measure the prevalence, severity and type of helminth infection among children under five, school-aged children as well as pregnant women. Schistosomiasis is estimated to be prevalent in 17% of the population, with urinary schistosomiasis dominating the north west and the west coast regions, and intestinal schistosomiasis the east coast and the central southern region.

The MINSAN and UNICEF have, with financial support from SECALINE, succeeded in reducing iodine

¹ The threshold of 5% for acute malnutrition indicates a problem of national concern, International Conference on Nutrition, 1992.

² Preliminary results of a study on vitamin A deficiency prevalence in two provinces in 1995, MINSAN/BASICS.

deficiency disorders by ensuring proper salt iodization at local production level, encouraging public demand for iodized salt, and supplementing iodized oil capsules. Sentinel site monitoring indicates that nearly 80% of all households are consuming iodized salt today compared to 52% in 1996¹. Goiter rates have dropped among school-aged children from 45% in 1992 to 18.5% in 1996.

(c) *Food insecurity and seasonality.* Based on the estimates from the 1996 Poverty Assessment, around 59% of the total population can be considered as extremely poor, in so far as they consume less than 2,100 calories per day. As rice is the main food crop in Madagascar, the two-three month period preceding the harvesting season is marked by a significant reduction in food consumption, and therefore a sharp increase in malnutrition. Although Madagascar offers a great potential for diversifying food production, farmers still rely on rice as their main staple food. Again, poverty, cultural beliefs, lack of knowledge and appropriate technology are the main reasons for insufficient food production and consumption during the dry season. Some food items are grown at household level, but in limited quantities, and often sold by the roadside. Many families raise animals such as chickens, ducks, geese and pigs, but those are primarily for sale and not for household consumption. Given the widespread poverty in Madagascar, the income thus generated may not be primarily used to increase food consumption at household level.

Several initiatives supported by donors are addressing food insecurity in targeted areas. The SECALINE project has developed a food-for-work program in Antananarivo's poorest areas, targeted mainly at female headed households. It has also established a social fund to finance income generating activities, which was integrated in 1995 into a US\$ 40 million new operation (Social Fund II Project) which covers the entire country. Other food security interventions, including school feeding, are mostly concentrated in the drought-prone southern region of the country. A National Food Security Strategy was elaborated by the government with support from SECALINE and approved by decree on December 4, 1997. Its objective is to improve food consumption through: (i) increased and stabilized food supply; (ii) improved access to basic foodstuffs; (iii) improved efficiency and diversification of the production system; and (iv) development of private rural initiatives. This strategy is to be supported by several donors, including the EU and UNDP.

(d) *Low community awareness and capacity to tackle the determinants of malnutrition, and inadequate food consumption patterns.* The determinants of malnutrition, as well as its implications on maternal and child morbidity and on children's learning capacity, are often not well understood by communities. In addition, many myths, taboos and misconceptions about food and food stuffs exist in Madagascar. Little has been done so far to increase community awareness and promote behavioral changes towards improved consumption patterns and caring practices, except for very limited interventions supported by a few donors.

(e) *Weak intersectoral focus on nutrition.* Until recently, the government had never addressed malnutrition in its multisectoral dimension, and little or no coordination had been developed between the different stakeholders. The Ministry of Education did include nutrition issues in its primary education curriculum, but has not yet implemented strategies to effectively promote good nutrition in the school environment. The Ministry of Agriculture is implementing, with support from UNICEF, one of the interesting community-based nutrition projects in the country, but its geographical scope remains extremely limited. In 1997, a National Plan of Action for Nutrition was elaborated by a multisectoral group made of representatives from the Primature and several line-ministries with support from international agencies (UNICEF, WHO and FAO) and other local and international partners. The 1997 National Plan of Action for Nutrition recommends a multisectoral approach to address the many determinants of malnutrition.

¹ Universal Salt Iodization (USI), Update vol:3, 1997.

3. Sector issues to be addressed by the project and strategic choices:

Drawing on the recommendations from the National Food Security Strategy and the National Plan of Action for Nutrition, the proposed project is a follow up to the successful SECALINE project. It would aim at reducing child malnutrition nationwide and achieving sustainable nutrition outcomes by improving the quality and quantity of food intake by children and pregnant and lactating women. The project design is based on lessons learned from SECALINE and from local and international experience. It reflects the consensus reached among all the stakeholders represented in the committee in charge of project preparation, the Nutrition Technical Committee, and their commitment to implement project interventions. Several *strategic choices* were made:

- *First*, it was decided to continue to support significant investments in combating malnutrition as opposed to not doing anything (waiting for poverty alleviation strategies to impact on malnutrition reduction) because: (i) as stated in the CAS, poverty will not decrease significantly within the next five years and might even increase further in the short term before the benefits of economic growth reach the poor; (ii) given the high prevalence of malnutrition, the reduction of child malnutrition through cost effective strategies will have a significant impact on child survival rates (malnutrition is indeed associated with 54% of under-five deaths), as well as on children's cognitive and learning skills; and (iii) reduction of malnutrition will also impact positively on poverty alleviation, as malnutrition is a cause as well as a result of poverty.
- *Second*, it was decided to expand the successful community-based nutrition program developed by SECALINE to the other provinces of the country, rather than relying only on the health system delivery to address nutrition issues. Although the MINSAN has made significant efforts over the last three years to enhance the quality and coverage of primary care services, it will take some time before these services are capable of providing effective nutrition interventions to children and women. Coverage of primary health care is still very low, especially for poor households, and of poor quality.
- *Third*, it was decided to address low birth weight, micronutrient deficiencies and helminth infections among well targeted groups of women and children, since these interventions are likely to increase the impact of those already implemented under the first project and retained in the proposed project (such as growth and counseling, food supplementation and IEC). The proposed project would therefore include new interventions, such as food supplementation to pregnant women and the provision of micronutrients to children and lactating women. A school nutrition program would also be developed in public and private primary schools. It would address micronutrient deficiencies among enrolled school children, helminth infections among pre-school and school-aged children (enrolled or not) and promote good nutrition and hygiene in the school environment.
- *Fourth*, the project would strongly focus on strategies and pilot initiatives aimed at raising communities' awareness and capacity to address the determinants of malnutrition. Given Madagascar's potential to achieve sustainable food security through increased food production, diversification and conservation, it was decided to promote behavioral changes rather than implement only "short-term relief" strategies such as food-for-work programs, food subsidies to low income groups or temporary food prices control. The project would therefore include a strong IEC and training program which would be implemented in villages through the community nutrition program, and in primary schools through the school nutrition program. The project would also promote community activities aimed at improving nutrition, water and sanitation. It would provide technical support to village communities in developing proposals and mobilizing financing through the ongoing donor-supported projects. The project would also provide small grants to support non-income generating activities of limited scale. These activities would involve beneficiary contribution in terms of provision of resources in cash or kind, free labor and/or locally available construction materials.
- *Fifth*, the project would address seasonal food security during the period preceding the harvest by focusing on the promotion of improved food management, conservation techniques and diversification of

production. Flexibility would, however, be built into the project to address the hunger issue on a short term basis by increasing the food ration for pregnant women and malnourished children during the critical pre-harvesting period. In addition, the provision of snacks in primary schools as part of the community activities would be strongly encouraged, especially during that period.

- Sixth, the project would promote an intersectoral approach to combat malnutrition. Apart from supporting a school nutrition program in the education sector (see above), the project would help develop linkages with the health and agriculture sectors by supporting few interventions in those two sectors. In the health sector, the project would contribute to part of the financing of the national training program on the integrated management of childhood illness (IMCI) and to the strengthening of the management of severely malnourished children at district health services. This contribution would be, however, limited in its scope and would complement other donor's support in the health sector, including IDA. In the agriculture sector, the project would support a few pilot initiatives to develop and disseminate technical guidelines on improved diversification and storage of agriculture and food products.

C: Project Description Summary

1. Project components (see Annex 2 for a detailed description and Annex 3 for a detailed cost breakdown):

<u>Component</u>	<u>Category</u>	<u>Cost Incl. Contingencies (US\$M)</u>	<u>% of Total</u>	<u>Bank- financing (US\$M)</u>	<u>% of Bank- financing</u>
a) A community nutrition program: (i) growth monitoring and promotion for children under three; (ii) food supplementation for malnourished children under three and pregnant women; (iii) vitamin A supplementation for children under three and lactating women; (iv) rehabilitation of severely malnourished children at district health services; (v) information, education and communication (IEC) and community mobilization; (vi) support to community-based activities aimed at improving nutrition, hygiene and sanitation in villages; and (vii) training of community nutrition workers and social workers.	Institution building and physical	28.11	67 %	14.97	54 %
b) A school nutrition program: (i) iron/folate supplementation for enrolled primary school children; (ii) deworming of enrolled and non-enrolled children aged 3-14 years; (iii) IEC as well as nutrition and hygiene promotion in the classroom; (iv) monitoring of the iodization of salt; (v) support to school-based activities aimed at improving nutrition and hygiene in the school environment; and (vi) training of primary school teachers in nutrition and hygiene.	Institution building and physical	5.83	14 %	5.07	19 %
c) Intersectoral activities, including: 1) <i>in the health sector</i> , support to the MOH in order to contribute to the cost of the training program on the Integrated Management of Childhood Illness (IMCI). 2) <i>in the agriculture sector</i> , support to a few pilot projects aimed at disseminating technical guidelines on improved diversification and storage of agricultural and food products.	Institution building and physical	0.68	2 %	0.68	2 %
d) IEC, Training and Project management, including: (i) IEC, training and MIS; and (ii) project coordination and management.	Institution building	7.26	17 %	6.88	25 %
	Total	41.88	100 %	27.60	100 %

2. Key policy and institutional reforms supported by the project:

The project would support key policy and institutional reforms to combat child malnutrition nationwide by: (i) placing communities at the center of all strategies and strengthening their capacity to fight malnutrition and tackle its determinants; (ii) addressing malnutrition at the primary school level and increase parents' awareness of the implications of malnutrition on childrens' learning capacity and cognitive skills; (iii) developing an effective IEC and training program to promote behavioral changes among all stakeholders; (iv) strengthening the capacity of the Ministry of Secondary and Basic Education (MINESEB) to address nutrition issues in the school environment; and (v) developing a management information system (MIS) to effectively monitor outcomes.

3. Benefits and target population:

The project would contribute to the improvement of the well-being of children and women. Social and economic benefits would include:

Social benefits:

- (a) improved health status of children and women due to improved nutritional status;
- (b) improved learning and cognitive skills for children as a result of improved nutritional status;
- (c) improved ability of households to prevent malnutrition;
- (d) improved community organization and empowerment; and
- (e) increased parents' participation in schools.

Economic benefits:

- (a) increased productivity as a result of decreased mortality and morbidity rates for children and women and improved cognitive skills of children;
- (b) significant savings in public and private health care expenditures as a result of reduced morbidity and mortality rates among children and women; and
- (c) reduced poverty through improved food security at the household level and improved access to water and sanitation facilities.

Target population:

The total direct beneficiary population is estimated at 4.1 million, including: 900,000 children under three of which 425,000 malnourished children; 363,000 pregnant and 363,000 lactating women; 1 million enrolled primary school children; and 1.5 million non-enrolled children aged 3-14 years. In addition, it is estimated that around 1.2 million households would be covered by the project and would benefit from the IEC and community mobilization programs as well as the community activities that would be supported by the project in villages and schools. The project would target mostly rural areas (95 % of total beneficiaries).

4. Institutional and implementation arrangements:

Executing agencies: The project would be coordinated by the Office of the Prime Minister through a Project Coordination Unit (PCU) assisted by regional coordination units. The same PCU that has been effective in coordinating the implementation of the ongoing IDA-supported Food Security and Nutrition Project (SECALINE) would be responsible for the coordination of the proposed project. The project components would be directly executed by the following agencies: (1) the regional coordination units of the PCU would be responsible for implementing the community nutrition program at the village levels in collaboration with NGOs; (2) the Ministry of Secondary and Primary Education would implement the school nutrition program; (3) the Ministry of Health would implement project activities in the health sector and the Ministry of Agriculture would implement, with the collaboration of the Food and Agriculture Organization, project activities in the agriculture sector; and (4) the central and regional PCUs would be responsible for developing and monitoring an IEC, training and MIS program for all project components and for managing and coordinating the project. The project would be implemented

gradually in each of the country's six regions, starting with the districts (Fivondronana) with the highest malnutrition rates, where it would cover 100% of the target groups. The project would aim to achieve a 50% coverage of the targeted groups nationwide in the last year of the project (2003).

Project coordination: The Technical Committee that coordinated project preparation would become an Advisory Committee for the project during project implementation. The Advisory Committee would be composed of the same representatives that participated in project preparation, i.e. the representatives from the ministries in charge of project activities (Education, Health and Agriculture), from the PCU, as well as from donors and NGOs involved in the nutrition sector. Project coordination would be undertaken by the PCU, through a unit at national level and six units at the regional level. While many of the project's activities would be coordinated at the regional levels, the PCU at national level would have several key responsibilities: (a) coordination of project activities at national level, including liaison with co-financier WFP; (b) supervision of the regional coordination units; (c) organization of the project's financial management, reporting and auditing system; (d) international procurement as well as large scale domestic procurement; and (e) recruitment and supervision of personnel.

Accounting, financial reporting and auditing arrangements: The project coordination unit would be responsible for project administrative and financial management and reporting, including arrangements for audits, in accordance with systems and procedures acceptable to IDA. The format for the financial management system, including the auditing standards, has been specified in the agreed minutes of negotiations. Under the ongoing SECALINE project, project accounting, financial reporting and auditing arrangements have been satisfactory and would be continued under the proposed project. Audit covenants are up-to-date and auditor opinions have been unqualified. The current computerized financial management system would be upgraded in order to calculate cost of project interventions per beneficiary. Records are and would be kept for all project-related expenditures and financing following normal budgetary procedures. A new special account for the proposed IDA credit would be opened and maintained in a commercial Bank acceptable to IDA. It would be managed by the PCU. Independent auditors, acceptable to IDA, would audit the use of all IDA funds available under the credit, including the IDA special account and statement of expenditures. Audit reports would be submitted to IDA no later than six months after the end of the financial year. As in the ongoing IDA-supported Health Project (CRESAN), a local accountant will be recruited to exclusively assist regional project coordination units in maintaining proper accounts and in facilitating disbursements.

Monitoring and evaluation arrangements: Continuous monitoring and midterm evaluation would be based on predetermined indicators which would measure inputs and process, and outputs and outcomes. Performance and monitoring indicators are defined in Annex 1. Surveys are being conducted at district level on the prevalence of malnutrition, micronutrient deficiencies and helminth infections in order to provide baseline and target data for the project interventions. These surveys would be repeated at project midterm review and at completion for evaluation purposes. Data for routine monitoring would be collected by the regional project coordination units and the regional units under the ministries of education and health for their respective activities. The project regional coordination units would be responsible for ensuring that data is properly collected and aggregated at the regional levels and for preparing progress reports for their respective region. The project monitoring and evaluation system would be guided by the Project Design Summary (Annex 1) and the project implementation manual. Monitoring and evaluation would be conducted through: (a) three-monthly meetings at regional level between the coordination units and the ministries; (b) IDA supervision missions; (c) annual progress report and review during IDA supervision mission before the end of the final quarter of each fiscal year; (d) midterm review of project implementation jointly with IDA and other donors no later than 30 months after credit effectiveness; and (e) specific evaluations and beneficiary assessments at midterm review and at other implementation milestones as shown in the project implementation plan. Twice a year (by January 31 and July 31), the PCU would transmit to IDA progress reports on project implementation and outcomes, using the format described in the implementation manual. An Implementation Completion

Report (ICR) would be prepared within six months after the Credit closing. The MINSAN would contribute to the ICR its own evaluation of the project and an operational plan.

D: Project Rationale

1. Project alternatives considered and reasons for rejection:

(a) *Community nutrition program.* The project would expand the coverage of the community nutrition program implemented by SECALINE while improving the targeting and relying on cost effective interventions. Several alternatives were considered and rejected:

- Three different age-groups of children were considered for targeting all program activities: targeting all children under two years of age, all children under three years of age or all children under five years of age. The alternative of targeting all children under five was rejected because of its lower cost-effectiveness and the heavy burden imposed on the community nutrition workers. The alternative of targeting children under two exclusively was given a lot of consideration since it is the most vulnerable group. It was however rejected for the following reasons. Targeting of all children under two as opposed to under three would increase the cost of the program per child while reducing the impact on malnutrition nationwide, since the age group of 2 to 3 years (in which malnutrition rates remain high, at 45%) would be missed. Increasing the coverage of children under two from 50% to 65% or 75%, in order to increase the impact of the program, would pose significant implementation difficulties, as it would imply covering a larger geographical area as well as significantly raising the number of nutrition sites. It was therefore decided that the community nutrition program would instead target all children under three. The targeting of the age group would however be reviewed at project midterm review based on the evolution of the malnutrition rates of the two different age groups (under two and under three).
- On-site cooking and feeding was rejected because: (i) of its limited coverage, since logistical constraints limit the number of malnourished children that can be fed on-site; and (ii) management of on-site cooking and feeding has proven to be highly time consuming for nutrition workers and mothers, to the detriment of the other activities (such as education and counseling, etc.). In addition, it is recommended, from a pedagogical point of view, that mothers feed their children at home rather than in a feeding center. It is therefore proposed that village women, together with the community nutrition worker, prepare a dry weaning food made of local products and feed their malnourished children at home. The feasibility of this initiative would be tested on a pilot basis through the ongoing SECALINE project. A good communication program targeted at women and the community would ensure that the food prepared is indeed consumed by the malnourished children and is considered only as complementary food.
- Supplementation of iron/folate to pregnant women was rejected in order to avoid duplication with the pre-natal care program provided at health centers. In Madagascar, as in most developing countries, coverage of pre-natal care is very high (around 80%) in comparison to other services, as pregnant women are used to consult a health center at least once or twice during their pregnancy. Iron/folate would therefore continue to be distributed to pregnant women through health centers.
- Provision of anti-helminth treatment to children through the community nutrition program was rejected because the program would target children under three only, whereas anti-helminth treatment should be given, in priority, to children above three years of age. It was considered that the work of the community nutrition worker would be more effective and less complex by targeting one age group of children (the under three) only for all program activities. However, anti-helminth treatment would be provided to all children above three years through the school nutrition program (see below).
- The choice was made to stop providing iodized oil capsules because of the sharp reduction in goiter rates achieved under SECALINE. The project would, however, continue to promote and monitor the production and consumption of iodized salt.

(b) *School nutrition program.* Several alternatives were considered and rejected:

- Provision of school feeding was rejected due to its high cost and low benefit: school feeding has a likely impact on school attendance but a limited impact on nutritional status. Instead, the production of a snack composed of locally produced foods, which could be used as a school breakfast, would be promoted through the development of community-based activities, especially during the period preceding the harvest when malnutrition is at its peak.
- Provision of anti-helminth treatment to enrolled school children only was rejected because of its lower effectiveness. Mass-treatment should be provided to all children aged 3 to 14 years (i.e. the most infected age-group) in order to achieve a sustainable reduction in the prevalence and intensity of helminth infections among children and reduce the transmission among the general population as well. The project would therefore seek to reach, through primary schools, the enrolled children as well as the non-enrolled children aged 3 to 14 years. This is technically feasible as treatments have to be administered once or twice a year only.

(c) *Intersectoral support.* Several alternatives were considered and rejected:

- In the health sector, it was decided that the project would not provide significant support in strengthening nutrition services at the primary care level. Important investments supported by the Bank (through the ongoing and future Health operation) and other donors would focus on the improvement of district health services and address malnutrition through the development of an extensive IMCI program (integrated management of childhood illness). The proposed project would instead focus on enhancing the therapeutic rehabilitation of severely malnourished children at district health facilities, while developing innovative strategies to improve nutritional rehabilitation, both within and outside the public health delivery system. These new strategies would be implemented on a pilot basis and evaluated before expansion within the community nutrition program.
- In the agriculture sector, it was agreed that the project would not support the training of agriculture extension workers on nutrition-related issues since the national agriculture extension program has yet to demonstrate its effectiveness nationwide. The project would instead focus on supporting a few pilot initiatives in selected areas in order to elaborate and disseminate technical guidelines on improved methods for diversification and conservation of agricultural and food products.

2. Major related projects financed by the Bank and/or other development agencies (completed, ongoing and planned):

Sector issue	Project	Latest Supervision (Form 590) Ratings (Bank-financed projects only)	
		Implementation Progress (IP)	Development Objective (DO)
<p><u>Bank-financed</u> Malnutrition in two provinces; Eradication of iodine deficiency disorders; Elaboration of a national food security strategy and IEC campaigns; Rehabilitation of basic infrastructure and income generating activities through a Social Fund (integrated into the FID II Project).</p>	<p>Food Security and Nutrition (SECALINE), Cr. 24740-MG, US\$ 21.3 million, signed in 1993, expected closing date in 1998.</p>	S	S

<p>Poverty alleviation and community development: Social Fund to finance rehabilitation of basic infrastructure and income generating activities; Private sector support programs.</p>	<p>Second Social Fund (FID II), Cr.14489-MG, US\$ 40 million, signed in 1995, expected closing date in 2000.</p>	<p>S</p>	<p>S</p>
<p>Communicable diseases; Drug procurement and distribution; Strengthening of district health services; Cost-sharing mechanisms and community management; Institutional capacity.</p>	<p>Health Sector Improvement Project (CRESAN), Cr. 2251-MG, US\$ 31 million, signed in 1991, restructured in 1995, expected closing date in 1999.</p>	<p>S</p>	<p>S</p>
<p>Rehabilitation of infrastructure; Redeployment of teachers; Provision of text books; Improved management; Community participation.</p>	<p>Education Sector Reinforcement Project (CRESED), Cr. 2094-MG, US\$ 39.4 million, signed in 1990, expected closing date in 1998.</p>	<p>S</p>	<p>S</p>
<p>Communicable diseases; Strengthening of district health services; Cost-sharing mechanisms and community management; Institutional capacity.</p>	<p>Health Sector Improvement Project II (CRESAN II), under preparation, estimated at US\$ 25 million, projected Board date March 1999.</p>	<p>NA</p>	<p>NA</p>
<p>Quality and accessibility of primary and secondary education; Community participation; Reform of higher education.</p>	<p>Education Sector Reinforcement Credit (CRESED II), US\$ 65 million, Board approved on March 10, 1998.</p>	<p>NA</p>	<p>NA</p>
<p>Rural water supply and sanitation; Community participation; Technical assistance to communities.</p>	<p>Rural Water Supply and Sanitation Pilot Project, US\$ 15 million, Board date December 18, 1997.</p>	<p>NA</p>	<p>NA</p>
<p></p>	<p></p>	<p></p>	<p></p>

<u>Other development agencies</u>			
USAID Child survival, including nutrition services in two districts.	Health/Nutrition	NA	NA
WHO/UNICEF Communicable disease control programs; Primary health care; Nutrition; Hygiene and sanitation; Training; Community development; IEC.	Health/Nutrition	NA	NA
EUROPEAN UNION Strengthening of district health services; Private sector development; Institutional capacity; Food security.	Health/Nutrition	NA	NA
WFP Co-financing of SECALINE project (support to food supplementation); School feeding program in the southern region.	Nutrition/Food Security	NA	NA
<u>NGOs</u> CRS, MSF Early child development: Growth monitoring; Food supplementation; IEC; Community-based activities.	Nutrition/Food Security/Health	NA	NA

IP/DO Ratings: HS (Highly Satisfactory), S (Satisfactory), U (Unsatisfactory), HU (Highly Unsatisfactory)

3. Lessons learned and reflected in the project design:

Important lessons were learned through the implementation of the SECALINE project, as well as the ongoing IDA-supported Health (CRESAN) and Education (CRESED) projects, all rated successful. The proposed project has taken these experiences into account and built on their successful strategies. Valuable lessons were also learned from the implementation of nutrition projects in other developing countries, such as those executed with Bank's support in India, Indonesia, Colombia, Bangladesh and Senegal, as well those implemented with other donors' support (such as the Iringa project in Tanzania). These projects have yielded valuable lessons which were reflected in the project design.

- ***Lesson 1:*** Communities should actively participate in the design and implementation of project interventions. This lesson was learned from all nutrition projects, including SECALINE. The evaluation of the Iringa project in Tanzania credited the active participation of communities for the success of the project. The proposed project incorporated this lesson in two ways. First, two beneficiary assessments were conducted during project preparation: one to evaluate the impact of the community nutrition interventions implemented under SECALINE, and the other to identify communities' awareness of malnutrition issues, their desired solutions and their opinion about the proposed project interventions. Second, the project expands on the successful SECALINE strategy and place village communities at the center of all project activities, as primary actors responsible for their execution and as direct beneficiaries.
- ***Lesson 2:*** Project preparation and implementation should be based on strong coordination and consensus-building mechanisms. Reflecting this lesson, the project was designed by a multi-partner

Nutrition Technical Committee, which showed commitment to obtain a consensus on the best possible nutrition interventions in Madagascar. This committee would become the project Advisory Committee during project implementation.

- **Lesson 3:** Projects that are managed outside the traditional government entities tend to be more efficient and flexible in serving the communities. Reflecting this lesson, the proposed project would have a similar management structure as in the SECALINE and the FID projects, with staff recruited on a contractual basis. The project will also rely extensively on NGOs.
- **Lesson 4:** One of the major findings of a World Bank Africa nutrition portfolio review is that nutrition work is most likely to succeed where nutrition is a primary concern of project management. Another finding is that community and household participation are cornerstones for the success of nutrition programs and that the health sector frequently does not have the coverage, capacity or commitment to implement extensive nutrition interventions. The proposed project reflects these findings in that it is dedicated entirely to nutrition interventions, focuses on community participation and delivers the interventions elsewhere than in the health sector, i.e. at schools and in the village community.
- **Lesson 5:** Best practice should be reflected upon when designing a new intervention. A World Bank study¹ based on interviews and in-depth case studies of nutrition projects, identified the following critical elements for successful project design: community participation, program flexibility, institutional capacity, community financial contribution, multi-faceted program activities, training, and infrastructure. All these critical elements are reflected in the proposed project: (i) community participation would be the cornerstone of the project, on which all nutrition activities will be built; (ii) the project would foresee a high level of flexibility in implementing activities according to communities' readiness; (iii) communities would contribute to the cost of the community-based activities; (iv) the nutrition program would be multi-faceted, since it would address the communities at different levels, in the villages, as well as in the education, health and agriculture environments; and (v) significant investment would be made in training community nutrition workers, social workers, school teachers and health staff.

4. Indications of borrower commitment and ownership:

The main indications are: (i) continuous Government support to the implementation of the successful SECALINE Project under the leadership of the Prime Minister; (ii) communities and NGOs became key actors in implementing nutrition interventions at village levels, demonstrating a high degree of commitment and ownership; (iii) the Government elaborated a National Plan of Action for Nutrition and a Food Security Strategy in a participatory way, involving a multiple set of actors in the regions and at national level; and (iv) the Nutrition Technical Committee took the lead in project preparation.

5. Value added of Bank support in this project:

The Bank has been instrumental in helping the Government design and successfully implement community-based interventions aimed at reducing malnutrition and poverty through the SECALINE and the FID Projects. This success induced the Government to replicate these strategies, through the Social Fund II Project and the proposed Community Nutrition II Project. Throughout project preparation, the Bank was instrumental in drawing lessons from the success of SECALINE and other best practices worldwide, both in the technical design and the implementation framework. It has assisted in designing a multisectoral approach to combat malnutrition and promote community-based projects. It has also played a critical role in establishing the Nutrition Technical Committee, in strengthening coordination and building consensus among all stakeholders. The Bank would further help in coordinating and linking the proposed nutrition interventions with other Bank-assisted projects, such as those dealing with education, health, water and sanitation, agriculture, rural development, micro-credit, and decentralization. The Bank would continue to be helpful in transferring international experience and best practice.

¹ Eileen Kennedy: Successful Nutrition Programs in Africa, 1991.

E: Summary Project Analysis

1. Economic (supported by Annex 4):

Cost Effectiveness: The nutrition interventions have been designed in order to achieve the maximum possible outcome at the lowest possible costs. Cost effectiveness considerations have played an important role in the selection of the proposed interventions and their target groups:

- Micronutrient supplementation programs have been selected because they are among the most cost-effective of all health programs, costing less than US\$ 50 per DALY gained.
- Treatment of helminth infections among children 3-14 years of age, who are by far the most heavily infected group, is very effective since it reduces infection rates, not only among those treated, but also among the rest of the population by reducing transmission. Treatments delivered through schools are known to be very cost-effective, at US\$ 8 to US\$ 30 per DALY gained.
- Food supplementation, which is a more costly intervention, is more effective when targeted to children under three and pregnant women than to children under five; it yields higher benefits at lesser cost.

2. Financial (see Annex 5):

Cost recovery and financial sustainability: Project interventions were designed in order to ensure their financial affordability and sustainability in the medium and long term. First, the community nutrition program would focus heavily on promoting behavior changes among communities rather than on supplementing children only. Provided the program reaches its objectives, the feeding program should no longer be necessary after project completion. The recurrent costs would therefore be reduced and would consist only of salaries for community nutrition workers and costs of vitamin A supplementation for children between 6 and 36 months and lactating women (0.034 USD per woman). Village communities should be able to finance these costs either directly or through the local municipal budget. Second, the school nutrition program would be fully integrated within the primary education system in the public and private sectors. It would not generate incremental recurrent costs, except for the micronutrient supplements and anti-helminth treatments that would be fully recovered from parents. Parents of enrolled school children would contribute an amount of USD 0.10 per family per year as of the first year of project implementation. This contribution, which would be paid to the school cooperative, could be progressively increased by the MINESEB in order to recover the full cost of anti-helminth treatments and iron supplementation (USD 0,20/child/year) after project completion. Third, the incremental recurrent costs generated by the project in the health sector would be minimal after project completion. They would be included in the total cost of delivering a package of essential services at district health services, which would be paid partly by the MOH, partly by patients. More details are given in annexes 4 and 5.

Financial controls and accountability: Project central and regional coordination units would be responsible for financial controls and accountability. The central PCU would handle all project disbursements related to international and large scale domestic purchases. It would channel funds to central line ministry offices (MINESEB and MINSAN) for eligible expenditures that occur at the central level, based on agreed annual work programs. A contract would be signed between the PCU and the FAO, who would execute all project activities in the agriculture sector in collaboration with MINAGRI. The 6 regional PCUs would handle disbursements for activities implemented in their respective region. They would also channel funds to regional MINESEBs based on agreed annual work programs (mostly for training and operating costs). This type of decentralized financial management has been successfully implemented under several Bank-assisted projects (such as SECALINE, CRESAN, CRESED).

Financial management would be strengthened at the regional PCUs through the recruitment of qualified staff and extensive training. The project implementation manual would include detailed financial management procedures for national and regional levels. An external auditor would be recruited to audit the project accounts on an annual basis and an internal accountant would be recruited for the sole purpose of assisting the accountants at the regional PCUs and MINESEB. The latter has long experience

in implementing Bank-supported projects and its staff is well versed with Bank's financial procedures.

3. Technical:

The project would seek to address a major public health and equity issue in Madagascar, insofar as malnutrition affects deeply and durably the most vulnerable groups of the population (young children and mothers from poor households). The project would rely on simple, available, reliable and cost effective techniques to address nutrition issues. Its technical design and implementation mechanisms reflect a consensus among all the stakeholders in the nutrition sector in Madagascar. The community nutrition program was designed based on the lessons learned from the successful implementation of SECALINE and other community-based nutrition projects. Program targeting was selected after careful consideration of the technical feasibility, the costs and the impact of each alternative. Adequate baseline information was obtained, when necessary, to identify the scope and targeting for each project activity. For example, treatment protocols for helminth infections among pre-school and school-aged children --type of medication, dosage and frequency-- were defined based on the results of a prevalence survey conducted during project preparation and on internationally accepted protocols. The design of the school nutrition program was discussed during a series of six workshops held with representatives from the public and private primary education system (at the regional, district and ZAP levels), in order to adapt the program to the needs of those who would be in charge of implementing it.

Investments and recurrent cost estimates for the project were based on estimates of prevailing market unit costs, with appropriate allowance for inflation. A reasonable level of physical contingencies was also included in the cost estimates.

4. Institutional:

a. Executing agencies:

The project coordination units of SECALINE and the MINESEB have shown strong capacity to implement projects of significant scale supported by various donors, including IDA. Each one has a good experience in executing activities at decentralized levels. The ministries of health and agriculture would manage project activities of limited scope and no major implementation issues would be envisaged.

The regional PCUs under SECALINE have been successful in implementing community nutrition activities at village level. These units would be replicated under the proposed project to ensure coverage in the six provinces. The contracting of local NGOs, which proved to be very successful under SECALINE, would be retained. While expanding the activities nationwide, the project might, however, face some constraints due to the limited availability of local capable NGOs. As already experienced under SECALINE, the regional PCUs would have to temporarily assume the work on behalf of the NGO, while strengthening the capacities of the existing NGOs.

The offices of the Ministry of Education (MINESEB) at the regional, district and ZAP levels have also shown a strong capacity in developing community-based activities at school levels. Several donor-supported projects, including the ongoing CRESED project, helped promote a community-based development program for primary schools. The proposed school nutrition program would form part of this program.

b. Project management:

As in SECALINE, the central and regional PCUs would manage and coordinate all project activities. They would be significantly strengthened, especially at the regional levels, in order to cope with the increase in the workload and responsibilities. Strengthening would be done through the recruitment of qualified local consultants on a full time basis and international consultants on a part time basis, and through training and study tours. A strong multidisciplinary and qualified technical team would be

recruited at the national and regional PCUs to elaborate and implement the IEC and training program for all project components. They would be assisted by a team of visiting foreign experts. Capacity to manage the MIS would also be developed at national and regional levels for all project activities.

Coordination among the different stakeholders of the project might be difficult as they are not used to working together. The Nutrition Technical Committee, which was set up to help prepare the project, has contributed, however, to the development of a new spirit of collaboration and coordination among them. This Committee, which would become an Advisory Committee for the project, would continue to ensure that good coordination and collaboration are maintained throughout project implementation. Similar committees would be set up at regional levels.

5. Social Assessment:

Communities have demonstrated a strong interest in the nutrition activities developed under SECALINE, as shown by their involvement throughout project implementation, their positive evaluation of the benefits of the program, and their willingness to continue to participate and develop new activities (as expressed in the two beneficiaries assessments carried out during project preparation).

By improving the nutritional status of children and of pregnant and lactating women, the project would have a very clear *gender focus* since it would help improve the well being of women. Furthermore, it would contribute to the self-empowerment of women by helping them in the formulation of activities aimed at improving nutrition and hygiene at community and school levels and by creating employment for 4,000 women.

6. Environmental assessment: Environmental Category A B C

The project would likely have a positive impact on the environment since it would contribute to improve hygiene and sanitation in schools and villages.

7. Participatory approach:

a. *Primary beneficiaries and other affected groups:* Primary beneficiaries would be children under three, pregnant and lactating women, primary school children and children age 3-6 years. Village communities would also be directly affected since the project would help them increase their awareness of malnutrition and develop activities to address its determinants in their own community. By retaining the participatory approach developed under SECALINE, the project would strongly empower the beneficiaries as direct recipients of aid as well as primary actors in the project. Those in charge of implementing project activities on the ground (i.e. community nutrition workers, social workers, teachers and NGOs) would also ensure that communities' voices are heard and that communities are capable of influencing project design and implementation at any time. Furthermore, through the recruitment of social workers, the project would promote a dialogue on nutrition-related issues among village communities and help them develop the activities of their choice to respond to the issues identified.

b. *Other key stakeholders:* Since the proposed nutrition project was meant to be of significant scale, a Nutrition Technical Committee composed of all key stakeholders involved in the nutrition sector in Madagascar, was set up to help prepare the project. The Nutrition Technical Committee included representatives from the ministries of education, health and agriculture, from major donors (WFP, FAO, UNICEF, WHO, USAID), from various international and local NGOs, and staff from SECALINE. Given the commitment and interest of the Committee throughout project preparation, it was decided to continue this participatory process. The Committee would become the project Advisory Committee during project implementation. In addition, many Committee members would be participating in the project, either as co-financier (such as the World Food Program), or as executing agencies (such as the line ministries and the PCUs), or as contractors for the project (this would be the case for local and international NGOs, as well as a few international organizations, such as FAO and UNICEF).

F: Sustainability and Risks

1. Sustainability:

The project would promote long-term sustainability by: (a) empowering communities to deal with malnutrition; (b) promoting positive changes in caring practices related to the preparation of food, hygiene, and feeding at the household level, especially for children and pregnant and lactating women; (c) promoting an intersectoral approach to combat malnutrition through village communities, schools and health centers; and (d) relying on local NGOs to organize communities and assist them in implementing community nutrition interventions, thus creating a local capacity to further develop these interventions. The school nutrition program would also seek to achieve a certain level of financial sustainability by being fully integrated into the primary education system and promoting a financial participation from the parents.

2. Critical Risks (reflecting assumptions in the fourth column of Annex 1):

<u>Risk</u>	<u>Risk Rating</u>	<u>Risk Minimization Measure</u>
Outputs to Objective		
Difficulty to achieve a 50% coverage for both the community and school nutrition programs.	M	Flexibility built in project design to increase local implementation capacity while maintaining project technical management costs under 10 % of total project costs.
Weak implementation capacity of the Ministry of Education.	M	Decentralized project management and strong implementation capacity built at regional levels.
Poor intersectoral collaboration at national and regional levels.	M	Coordination developed through the Advisory Committee and the regional PCUs.
Low effectiveness of the IEC program.	M	Significant investment in the design and monitoring of the IEC program. Extensive use of operational research. Flexibility to adapt messages to local contexts and promote innovative communication tools.
Poor collaboration with the Ministry of Health.	S	Continuous dialogue with the MINSAN through IDA and other donors' involvement in health and nutrition. Project contributing to the MINSAN priority program on IMCI.
Components to outputs		
Lack of availability of local NGOs with capacity to implement the community nutrition program in villages.	M	Capacity building program for local NGOs.

Poor interest from beneficiaries and reluctance to contribute to the cost of the school nutrition program.	L	Strong sensitization campaigns at the project start and gradual phasing in of the project to allow for a snow ball effect.
Poor motivation of school teachers in implementing the school nutrition program.	L	Incentives built in the project.
Poor performance of district health facilities.	M	Synergies developed with the Bank-supported Health II project.
OVERALL RISK RATING	M	

Risk Rating - H (High Risk), S (Substantial Risk), M (Modest Risk), L (Negligible or Low Risk)

3. Possible Controversial Aspects:

An extensive growth monitoring and promotion program would be included in the community nutrition program and would be implemented at village level by the community nutrition workers. A possible controversial aspect could be that the implementation of such a program in the community might discourage health staff to provide adequate growth monitoring and promotion at district health facilities.

G: Main Loan Conditions

1. Effectiveness Conditions:

- Submit a final Project Implementation Manual, satisfactory to IDA;
- Select auditors acceptable to IDA;
- Open a project account in terms and conditions satisfactory to IDA;
- Recruit the national project director, four regional project directors, four administrative and financial directors, and four education, nutrition and communication specialists;
- Initiate the recruitment of consultants for the design of the IEC and training program.

2. Other [classify according to covenant types used in the Legal Agreements]:

As a covenant for project implementation:

- Implementation of the project in conformity with the Project Implementation Manual; and
- Maintenance of the central and regional PCUs with staff and expertise acceptable to IDA.

H. Readiness for Implementation

The engineering design documents for the first year's activities are complete and ready for the start of project implementation. Not applicable.

The procurement documents for the first year's activities are complete and ready for the start of project implementation.

The Project Implementation Plan has been appraised and found realistic and of satisfactory quality.

The following items are lacking and are discussed under loan conditions (Section G):

I. Compliance with Bank Policies

- This project complies with all applicable Bank policies.
 [The following exceptions to Bank policies are recommended for approval: The project complies with all other applicable Bank policies.]


Task Team Leader: Richard Seifman


Sector Manager: Nicholas Burnett


Country Director: Michael Sarris

Annex 1

**Project Design Summary
Community Nutrition II Project**

Narrative Summary	Key Performance Indicators	Monitoring and Supervision	Critical Assumptions and Risks
<p>CAS Objectives</p> <p>Human capital development and poverty reduction</p>	<p>Improved nutritional status of children and pregnant and lactating women</p> <p>Improved quality and quantity of food provided to children under three</p>	<p>DHS (1998 and 2002) and anthropometric surveys (1998, 2000 and 2003)</p> <p>Diet surveys (1998, 2000 and 2003)</p>	<p>(CAS Objectives to Bank Mission)</p> <p>Increased poverty because of Government backtracking on adjustment measures and poor commitment to poverty reduction</p>
<p>Project Development Objectives</p>	<p>Key Performance Indicators</p>		<p>(Development Objectives to CAS Objective)</p>
<p>Improved nutritional status of children and women in the project target areas</p> <p>Increased awareness among households on malnutrition and increased capacity to address it.</p>	<p>Underweight reduced (W/A < 2 S.D.) by 30 % among children under three</p> <p>Vitamin A deficiency reduced by 30 % among children under three</p> <p>Iron deficiency anemia reduced by 25% among enrolled primary school children</p> <p>Helminth infections reduced by 25 % among children age 3-14 years</p> <p>Improved quality and quantity of food provided to children under three</p> <p>Increased number of village communities implementing nutrition-related activities</p>	<p>Anthropometric surveys (1998, 2000, and 2003)</p> <p>Surveys among samples of children (1998 and 2003)</p> <p>Surveys among samples of enrolled children (1998, 2000 and 2003)</p> <p>Surveys among samples of children aged 3-14 (1998, 2000 and 2003)</p> <p>Dietetic surveys (1998, 2000 and 2003)</p> <p>Project data</p>	<ul style="list-style-type: none"> • Deterioration of health status, in particular of women and children • Environmental disasters • Resistance to behavior changes because of strong cultural beliefs

Project Outputs			(Outputs to Development Objectives)
Improved coverage of the community nutrition program in order to effectively impact on malnutrition nationwide	<p>Number and proportion of children enrolled in the growth monitoring and promotion program</p> <p>Number and proportion of malnourished children and pregnant women receiving supplemental feeding</p> <p>Number and proportion of children and lactating women receiving vitamin A supplementation</p> <p>Number and proportion of community nutrition workers and social workers trained in nutrition techniques and IEC</p> <p>Number and proportion of women involved in growth monitoring and promotion and IEC activities</p> <p>Number of nutrition-related activities designed and implemented by village communities</p>	<p>Project data</p> <p>Project data</p> <p>Project data</p> <p>Project data</p> <p>Project data</p> <p>Project data</p>	<ul style="list-style-type: none"> • Difficulty to achieve a 50% coverage • Poor intersectoral collaboration at national and regional levels • Low effectiveness of the IEC program
Improved coverage of the school nutrition program in order to effectively impact on the prevalence of helminth infections and iron deficiency anemia among children	<p>Number of enrolled primary school children receiving anti-helminth treatment and micronutrients</p> <p>Number of enrolled and non-enrolled children aged 3-14 years receiving anti-helminth treatment</p> <p>Number of school teachers trained in nutrition syllabus and IEC</p> <p>Number of enrolled primary school children and parents involved in IEC activities</p> <p>Number of school-based activities designed and implemented to improve nutrition, hygiene and sanitation</p> <p>Number and proportion of parents contributing to the cost of the program</p>	<p>Data from the MINESEB / Project data</p> <p>Data from the MINESEB / Project data</p> <p>MINESEB / Project data</p> <p>MINESEB / Project data</p> <p>MINESEB / Project data</p> <p>MINESEB / Project data</p>	<ul style="list-style-type: none"> • Difficulty to achieve a 50% coverage • Weak implementation capacity of the Ministry of Education • Low effectiveness of the IEC program

Improved management of nutrition at health district services	Number and proportion of health staff trained in IMCI	Data from the Ministry of Health	<ul style="list-style-type: none"> Poor collaboration with the Ministry of Health
	Number of severely malnourished children adequately rehabilitated at hospital and health centers	Data from the Ministry of Health / Project data	
Improved dissemination of technical guidelines on diversification and conservation of food and agriculture products	Number of technical guidelines developed and disseminated	Data from the MINAGRI / FAO and Project data	

Project Components	Inputs		(Components to Outputs)
A. Community Nutrition Program	US\$ 28.11 million	Project financial data	<ul style="list-style-type: none"> Lack of availability of local NGOs with capacity to implement the community nutrition program Poor interest and commitment from the beneficiaries of the project Poor motivation of school teachers in implementing the school nutrition program Poor performance of district health facilities Lack of counterpart funds
B. School Nutrition Program	US\$ 5.83 million	Financial data from the MINESEB / Project financial data	
C. Intersectoral support	US\$ 0.68 million	Financial data from the MOH and MINAGRI / Project financial data	
D. IEC, Training and Project Management	US\$ 7.26 million	Project financial data	

Annex 2

Community Nutrition II Project Project Description

Project Component 1: Community Nutrition Program - US\$28.11 million (total cost of component)

1. Objectives and scope. The objective of the community nutrition program is to improve the nutritional status of children under three and pregnant and lactating women. It also aims at increasing the capacity of village communities to combat the determinants of malnutrition. The program would be implemented first in the districts (Fivondronana) with the highest malnutrition rates, where it would cover 100% of the target groups. The project would be implemented in all six of the provinces of the country, starting with four provinces the first year, and adding the remaining two the second year. The coverage rate of targeted groups nationwide would gradually increase as follows: 5% the first year, 10% the second year, 20% the third year, 35% the fourth year and 50% the fifth year. In the last year of the project (2003), the project would be expected to cover 50% of the targeted groups nationwide, i.e. 913,000 children under three (out of which 411,000 malnourished and 4,000 severely malnourished), 363,000 pregnant and 363,000 lactating women.

2. The community nutrition program would be executed by the six regional project coordination units in collaboration with local NGOs. Nutrition centers would be established in villages where the community has agreed to elect a community nutrition worker (ACN) and provide a location for the center. A center would attend to a maximum of 226 children, covering approximately a population of 2,000 inhabitants within 5 km from the center. The program would be implemented by the elected ACNs and by social workers who would be recruited by local NGOs. The ACN would be directly responsible for all nutrition interventions at the center, whereas the social worker would be in charge of promoting community mobilization and developing community-based activities aimed at improving nutrition, hygiene and sanitation in the village.

3. Description. The community nutrition program would include the following activities:

(a) *Sensitization of local village authorities.* The program objectives and activities would be introduced to the village authorities by a team composed of staff from the regional project coordination unit and the NGO. Communities would be asked to elect a community nutrition worker and provide a location for the nutrition center. The project would provide up to US\$200 to rehabilitate the center and would supply basic weighing and measurement equipment.

(b) *Growth promotion and monitoring.* A census of all children under three would be conducted by the ACN in her target zone within the first two months of the program and once every year thereafter. All children under three would be weighed monthly by the ACN with the assistance of mothers. The weighing session and the cooking demonstration (see below), would be held with small groups of women once a week in order to avoid having all women and children at the same time. The ACN would counsel the mother on the nutritional status of her child, as indicated by the growth chart, and advise her according to the child's needs. Mothers of children who gain weight for more than three consecutive months would be rewarded with small gifts (i.e. photo of the child, soap, iodized salt, etc.). Malnourished children, those who are not gaining weight and those who are in the yellow or red area of the growth chart, would enter the food supplementation program at any time and would be monitored (weighed) every two weeks.

(c) *Rehabilitation of severely malnourished children.* Severely malnourished children (W/H < 3 S.D. NCHS and/or oedema) would be referred to public or private health centers or hospitals for rehabilitation.

The project would supply cooking utensils and small equipment to the health facilities that would treat these children, as well as a one-month food ration for the children and their accompanying mothers. Pilot interventions to provide food supplementation to the malnourished child closer to its home after the first critical period of seven days of treatment (when medical assistance is needed), would be tested. This would help solve the issue of non accessibility of these services.

(d) *Cooking demonstrations.* Cooking demonstrations would be held the same day as the weighing session in order to make more efficient use of the monthly visit to the center by the mothers and children. The ACN would show mothers how to prepare the recipe and teach them the nutritional value of the different food ingredients and the best ways to conserve them. The project would finance the basic food ingredients up to FMG 5000 per demonstration. The mothers would be asked to bring additional food to complement the recipe. Before starting the demonstration, the ACN would counsel the group of mothers on nutrition-related subjects, such as child care and food selection and preparation, in order to share information and stimulate discussion among the group.

(e) *Supplemental feeding.* Children who are not gaining weight or who are plotted in the yellow or red zones of the growth chart, would receive supplemental feeding during a 4-month cycle, which would be repeated if the child has not gained weight after the first 4 months. Pregnant women would also receive supplemental feeding during the last trimester of their pregnancy. The complementary food would consist of a basic enriched flour mix (i.e. maize flour and beans) with added local ingredients such as peanuts, green leaves, oil. The flour mix would be prepared on a weekly basis by the ACN with the assistance of mothers and pregnant women. Children under three would be given a seven-day ration of 500 kcal per day, and pregnant women a seven-day ration of 700 kcal per day. An extensive IEC campaign targeted at women and the community would ensure that the food would be consumed by the malnourished child at home. Flexibility would be built into the program to increase the food ration for women and children during the critical months preceding the harvest, when malnutrition is at its peak.

(f) *Vitamin A supplementation.* Vitamin A capsules would be distributed by the ACN once a year to children under 12 months (100,000 IU) and to children aged 12-24 months (200,000 IU), and twice a year to children aged 24-36 months (200,000 IU). The ACN would also distribute vitamin A capsules to lactating women while visiting them at home within the first 6 weeks after delivery. The ACN would keep record of the women who receive vitamin A in order to avoid an overlap with the supplementation program provided through health services.

(g) *Support to community-based activities.* Every trimester, the ACN and the social worker would discuss with each community the nutrition situation in the village (based on the evolution of the nutritional status of children), and the likely determinants of malnutrition in their community. The social worker would help the community to identify solutions and design feasible and sustainable activities. With the help of the regional coordination unit, the social worker would identify sources of financing for these activities or small projects, especially through the ongoing donor-financed projects that support community-based and/or income generating activities. The proposed project would directly support, through a community fund, community-based and non-income generating activities that would require limited financial support (up to US\$200 maximum per activity). In addition, these activities would have to address nutrition-related issues and benefit the community or a group of at least two households, and not one individual or household. Beneficiaries would be asked to contribute 20 % of the total cost of each activity, by providing free labor and/or locally available construction materials. The list of activities that could be supported by the project under its Community Fund, the eligibility criteria and the financing and implementation arrangements are included in the Implementation Manual.

(h) *Incentives.* During the third and the fifth years of the project, a competition would be organized at the district (Fivondronana) level to reward the ten most dynamic nutrition centers. The winning sites would be those which would have implemented the program successfully and developed activities to improve nutrition, child care, sanitation and/or agriculture.

(i) *Training and IEC.* ACNs and social workers would be intensively trained at the start of the project and throughout the project life in order to ensure a successful implementation of the program. They would be trained in technical matters directly related to their tasks and in communication techniques (face-to-face and group communications). The project would also supply IEC materials. The initial training of the ACNs would take place at the district level during 10 days, and would involve social workers and district health staff during the last 3 days. ACNs would then receive a continuous training once a year for 3 days. The initial training of social workers would take place at the regional level during 5 days and continuous training would be provided once a year during 5 days. NGOs would also receive training in food management and distribution.

(j) *Evaluation.* Several surveys would be conducted twice during the project life (at midterm review and at completion) in order to assess the performance and impact of the program in the target areas. Those would include an anthropometric survey, a socio-anthropologic survey, a prevalence study of vitamin A deficiency, a beneficiary assessment, and a diet survey.

4. Project support. IDA would support: (i) the rehabilitation and equipment of nutrition centers; (ii) the rehabilitation of severely malnourished children at public or private health centers or hospitals; (iii) the cost of vitamin A supplements; (iv) the Community Fund; (v) incentives for best performers; (vi) training; (vii) IEC equipment and materials; (viii) contracting of NGOs, including the emoluments of social workers and ACNs and the management cost of food supplies at district level; (ix) evaluation studies; and (x) the recruitment of 4 United Nations Volunteers (UNV) to help manage and supervise food supply, as well as the supply and operating cost of 4 vehicles; and (xi) 50% of the in-land transportation cost of food supply to nutrition centers. The World Food Program will co-finance in parallel: (i) cooking utensils for each nutrition center; (ii) the total cost of food supply for the supplemental feeding program; (iii) 50% of the in-land transportation cost of food supply to nutrition centers; and (iv) the recruitment of 2 UNVs, as well as the supply and operating cost of 2 vehicles.

Project Component 2: School Nutrition Program - US\$5.83 million (total cost of component)

5. Objectives and scope. The objective of the school nutrition program is to improve the nutritional status of enrolled primary school children (aged 6 to 14 years). Deworming would however benefit also the non-enrolled children of the same age group, as well as the pre-school children aged 3 to 6 years. The program would be implemented in the same districts as those covered by the community nutrition program, reaching 100% of the target groups in those districts. It would also be gradually phased in over the six provinces of the country and would be expected to cover 50% of the targeted groups nationwide in the last year of the project, i.e. around 1,079,000 enrolled primary school children and 1,535,000 non enrolled children aged 3-14 years. Since a school nutrition program has never yet been implemented in Madagascar, the first year of the project would be entirely devoted to the elaboration of pedagogical and communications materials and the training of trainers. The program would start in primary schools at the beginning of the project's second year, with a coverage rate over the project life evolving as follows: 0% the first year, 10% the second year, 20% the third year, 35% the fourth year and 50% the fifth year.

6. The school nutrition program would be executed by the Directorate for Primary Education of the Ministry of Secondary and Basic Education (MINESEB), with the assistance of the project coordination units. It is expected that the program would be implemented in 6,663 public and private primary schools (half of the total number of schools) at the end of the project, involving around 20,000 teachers. The project would provide funding to private schools to execute the program activities. This would be made possible through the signing of a Convention between the Government and private schools. Parents would be asked to pay an annual contribution in cash or in kind of FMG 500 per household to the school cooperative. The resources generated will serve as the beneficiaries contribution to the community fund. This commitment would be materialized in the signing of an agreement between the parents' association,

the school and the project, or would form part of the contract-programs where they exist.

7. Description. The school nutrition program would include the following activities:

(a) *Iron/folate supplementation*. Iron/folate tablets (60 mg iron/250 µg folate) would be distributed by teachers once a week to enrolled primary school children.

(b) *Provision of anti-helminth treatment*. Once or twice a year (depending on the results of the prevalence survey), teachers would distribute tablets of Mebendazole or Albendazole to all children between 3 and 14 years, enrolled or not. The distribution would take place on fixed days, at the beginning of the school year and eventually half way through the school year, during which primary schools would have an "open house", inviting all children and parents to come. It would be preceded by strong information and sensitization campaigns which will be organized at national and regional levels.

(c) *Promotion of nutrition and hygiene*. Primary school teachers would promote good nutrition and hygiene with children during regular classes and with parents during formal meetings and informal sessions. They would communicate few and simple messages that will be related directly to the daily life of the children at school, at home and in the village. The project would provide pedagogical materials to be used by the teachers as well as IEC materials targeted to children and parents.

(d) *Monitoring of the iodization of salt*. Once a year, children would be asked to bring to school a sample of the salt consumed at home in order to test whether the salt is iodized or not. The project would provide each school with test-kits. This activity would help monitor the quality of the salt consumed by households and sensitize children and parents about the importance of consuming iodized salt.

(e) *Support to school-based activities*. With the collaboration of social workers, teachers would help children and parents to identify activities aimed at improving nutrition and hygiene in the school environment. As for the community nutrition program, the social worker would assist in identifying sources of financing for medium scale projects and income generating activities. The project would, through a community fund, directly support non-income generating activities of limited scale (up to US\$200 per activity), such as latrines, school gardens, etc. The list of activities that could be supported by the project under its Community Fund, the eligibility criteria and the financing and implementation arrangements are included in the Implementation Manual.

(f) *Incentives*. During the third and the fifth years of the project, a competition would be organized at district level to reward the ten most dynamic schools. The winning sites would be those which would have implemented the program successfully and developed activities to improve nutrition and hygiene in the school environment.

(g) *Training*. Teachers would be trained on the technical content of the program (the distribution of micronutrients and anti-helminth treatment), on strategies to promote good nutrition and hygiene in and around the school, and on communications techniques (face-to-face, child-to-child and group communications). Training of teachers would be fully integrated into the formal training system of the MINESEB. The project will train trainers of trainers at the regional and district (CISCO) levels who would in turn train the pedagogical advisors of the CISCOs and ZAPs in charge of continuous education for primary school teachers. The project technical staff would actively participate in the elaboration of the pedagogical and teaching materials and in the training sessions. The initial training of primary school teachers would have a duration of 5 days. Continuous training on nutrition and hygiene would be provided once a year during one of the regular training sessions organized every trimester by the MINESEB at the ZAP level.

(h) *Evaluation*. Several surveys would be conducted twice during the project life (at midterm review and at completion) to assess the performance and impact of the program in the target areas. These would include two surveys on the prevalence of helminth infections and anemia and a beneficiary assessment.

8. Project support. IDA would support: (i) small equipment for primary schools; (ii) the cost of iron/folate supplements and anti-helminth treatments; (iii) test-kits to monitor the iodization of salt; (iv) the Community Fund; (v) incentives for best performers; (vi) training; (vii) IEC equipment and materials; and (viii) evaluation studies.

Project Component 3: Intersectoral support - US\$0. 68 million (total cost of component)

9. *In the health sector,* the project would provide two types of support. First, the project would provide a financial contribution of US\$250,000 to the Ministry of Health to finance part of the cost of the training program on the Integrated Management of Childhood Illness (IMCI). The MINSAN is planning to initiate the training of all health staff in 1998. As nutrition and child care form the core of the IMCI approach, the project would facilitate its dissemination by contributing to the cost of the training. The objective is to improve the capacity of health staff to provide quality care to children, including nutrition care, and offer adequate counseling to mothers.

10. *In the agriculture sector,* the project would support a few pilot projects with the objective to increase food diversification and improve the conservation of food and agriculture products. The project would provide funding for the elaboration of technical guidelines on improved agriculture techniques and their dissemination in a few selected districts where the Ministry of Agriculture is implementing a small-scale food security project with the assistance of the Food and Agriculture Organization (FAO). Project support would be entirely sub-contracted to the FAO.

Project Component 4: IEC, Training and Project Management - US\$7. 26 million (total cost of component)

11. IEC, Training and MIS. The project focus, and its main challenge, would be to promote behavior changes. The project would invest significantly in IEC, relying on a multiple set of actors (community nutrition workers, social workers, teachers and health staff) to communicate simple and powerful messages to communities, especially to parents, by using different communication channels (in villages, at schools, in health centers), and promoting different communication techniques and media (face-to-face, child-to-child, group communications, mass media, institutional communications, local radio, theater plays, etc.). A study on the modern and traditional communication methods in use in Madagascar was conducted in three provinces with support from UNICEF. The study would be replicated in the other three provinces. The project would finance operational research and KAP studies in order to better adapt the IEC strategy to local contexts. The project would also invest significantly in the training of the communicators, i.e. the community nutrition workers, the social workers, the teachers, and health staff. They would be trained in technical matters directly related to their respective tasks and in communication techniques. The project would also support the set up and management of a strong MIS system to monitor project process and outcome.

12. Project support would include: (i) the design and implementation of an IEC and training strategy for the community and school nutrition programs, including operational research and KAP studies; (ii) the set up and management of a MIS for all project activities; and (iii) the technical supervision and monitoring of project activities. A team of three local experts in education, nutrition and communications would be recruited at each of the national and regional PCUs in order to assume these responsibilities. They would be supported by a team of visiting foreign experts who would assist in the design and testing of the IEC and training strategy during the first year of the project, and in its monitoring during project implementation. Local and foreign experts would also be recruited to assist in the design of the MIS.

13. Project management. Project management would include: (i) institutional coordination, including reporting to the Prime Minister, the Advisory Committee and the co-financiers (IDA and WFP); (ii) coordinating all project activities; (iii) organizing the project financial management, reporting and auditing system; (iv) handling international and domestic procurement; and (v) recruiting and supervising personnel. The central PCU would delegate responsibilities to the regional PCUs. The project would support the recruitment of national and regional coordinators, administrative and financial directors, accountants, procurement specialists and support staff.

Annex 3

Community Nutrition II Project Estimated Project Costs (US\$ million)

	<u>Local</u>	<u>Foreign</u>	<u>Total</u> (%)
A. COMMUNITY NUTRITION PROGRAM	12.97	10.29	23.26 (67%)
1. Nutrition-related Interventions	9.98	10.07	20.05
2. IEC, Training and Evaluation	1.49	0.22	1.71
3. Community Fund	1.50	-	1.50
B. SCHOOL NUTRITION PROGRAM	3.59	1.21	4.80 (14%)
1. Deworming and Iron Supplements	-	0.88	0.88
2. IEC, Training and Evaluation	1.25	0.33	1.58
3. Community Fund	2.34	-	2.34
C. INTERSECTORAL SUPPORT	0.25	0.32	0.57 (2%)
1. Health	0.25	-	0.25
2. Agriculture	-	0.32	0.32
D. PROJECT COORDINATION AND MANAGEMENT	4.59	1.57	6.16 (17%)
1. IEC, Training and Evaluation	2.54	1.40	3.94
2. Project Management	2.05	0.17	2.22
<u>Total Base Cost</u>	21.40	13.39	34.79 (100%)
Physical Contingencies	0.64	0.40	1.04 (3%)
Price Contingencies	4.66	1.39	6.05 (17%)
<u>Total Project Cost</u>	26.70	15.18	41.88 (120%)

Annex 4

Community Nutrition II Project Economic Analysis Summary

Analysis of project alternatives

- 1. Rationale for public financing of nutrition interventions in Madagascar.** There are two compelling arguments for investing public moneys in nutrition in Madagascar. First, such investment would significantly promote equity and alleviate the consequences of poverty in the country, since malnutrition is essentially confined to the poorest segments of the population and to its more vulnerable groups (children under five, pregnant and lactating women). In a country where 70% of the population is considered poor and 59% extremely poor, it is most likely that the 50% of children under five who are malnourished (i.e. 1.5 million) and the high number of adults who suffer from the consequences of chronic malnutrition, belong to the poorest segments of the population. Malnutrition is indeed an essential attribute of poverty and may define poverty more accurately than any other socio-economic indicator. Public investment targeted to the malnourished in Madagascar is therefore a direct investment in the well-being and in the health status of the poorest. In addition, well targeted nutrition interventions are more likely to reach all the intended beneficiaries than investment in basic social services such as health and education, since the latter also benefits the non-poor (as the result of the demand factor). The malnourished are often unaware of the consequences of their condition on their health status and well being in general, and unable to articulate demand for services. Imperfect information is also another strong argument for justifying public investment in nutrition education, IEC, and research and monitoring.
- 2.** Second, investments in nutrition have multiple payoffs, especially in countries such as Madagascar where malnutrition among children and pregnant women is highly prevalent. Underweight children have a higher risk of dying than normal children. A study by Pelletier et al¹ suggests that 54% of child deaths are attributable to underweight, of which 83% are due to mild to moderate underweight. Mortality is also increased with essential micronutrient deficiencies². Severely anemic women are at considerably greater risk of death during childbirth, and iron deficiency anemia may account for one fifth of maternal deaths². Based on a meta-analysis from Beaton et al³, addressing vitamin A deficiency can result in a 23% reduction in mortality among children between 6 months and 5 years of age. Underweight is also associated with a significant increase in child morbidity, with increased incidence of diarrhea and acute respiratory infections for example.
- 3.** Nutrition and health status are powerful influences on a child's learning capacity and on how well that child performs at school. Children who lack certain nutrients (particularly iron and iodine), or who suffer from malnutrition, hunger and helminth infections, do not have the same capacity for learning as healthy and well-nourished children⁴. Their cognitive development is impaired and their school performance is negatively affected. The relationships between malnutrition and reduced work

¹ D. L. Pelletier, E.A. Frongillo, D. G. Schroeder and J. P. Habicht (1995). The Effects of Malnutrition on Child Mortality in Developing Countries. Bull. WHO 73(4): 443-448.

² Judith McGuire. The Payoff from Improving Nutrition, World Bank Paper, Update January 1996.

³ Beaton, G.H and H. Ghassemi. Supplementary feeding programmes for young children in developing countries in developing countries. Report to UNICEF and ACC Sub-committee on Nutrition of the UN, 1979.

⁴ Joy Miller Del Rosso, Tonia Marek. Class Action. Improving School Performance in the Developing World though Better Health and Nutrition. World Bank, 1996.

performance of adults have also been well documented². Total economic cost associated with reduced productivity due to chronic malnutrition has been estimated at around US\$8.7 billion annually, or about one-fourth of the total health expenditure of developing countries¹.

4. **Cost-effectiveness of nutrition interventions.** Although increasing the incomes of the poor is the most cost effective means of reducing malnutrition, governments can play an effective direct role through nutrition education, measures to increase consumption of micronutrients, and reduction in parasitic infections among children². In addition, measures related to food supply, such as food fortification, food supplementation and certain food price subsidies may also help in reducing malnutrition.

5. According to the 1993 World Development Report, nutrition education, micronutrient supplementation and mass treatment of helminth infections among children fall in the ten least expensive child health interventions. For example, Vitamin A supplementation of children under five is estimated to cost US\$9 per DALY gained, and iron supplementation is estimated to cost US\$19 - US\$37 per DALY gained for all people under 60. School-based interventions focused on deworming and provision of micronutrient supplements are known to be very cost-effective, between US\$8 and US\$30 per DALY gained. Food supplementation is more costly and works best when it is used to motivate and educate mothers to care for their children's health, and when it is targeted to pregnant women. In the latter case, the cost per DALY saved is estimated at US\$24. Data from the Narangwal study suggests that, in general, food supplementation is more cost-effective for prenatal interventions and become progressively more costly as children get older.

Financial and fiscal impact

6. Government's financial contribution to the project would amount to US\$1.67 million in total (i.e. 4% of total project cost net of local taxes and duties). The average annual expenditure for the Government would be between US\$300,000 and US\$400,000 and will be easily financed through the Government Annual Public Expenditure Program.

7. Beneficiaries' financial contribution would amount to US\$0.98 million in total (i.e. 2% of total project cost). Communities benefiting from the community nutrition program would contribute 20% of the total cost of the activities to be financed by the Community Fund by providing free labor and/or local construction materials. Parents of children enrolled in the school nutrition program would contribute annually 500 FMG per household, which would serve as their own contribution to the community fund.

8. The level of recurrent costs generated by the project would be low after project completion. The school nutrition program would not generate additional recurrent costs for the Government since it would be completely integrated into the formal primary education system. In-service training for teachers would be done through the regular training sessions organized by MINESEB without adding extra days to the sessions. The annual contribution of parents (which would be gradually increased by MINESEB to 500 FMG per child and not per household) should be sufficient to cover the full cost of anti-helminth treatment and iron/folate supplementation once the project is completed. The only incremental cost would be the printing, every three or four years, of the training and IEC materials, but this would be minimal.

¹ D. Jamison, H. Mosley, A. Measham, J. L. Bobadilla. Disease Control Priorities in Developing Countries, Oxford Medical Publications, 1993.

² World Development Report, 1993. Investing in Health.

9. The level of recurrent costs generated by the community nutrition program would depend on the results achieved by each nutrition center with regard to the nutritional status of children. The program should generate limited additional recurrent expenditures if it succeeds in reducing underweight and micronutrient deficiencies significantly, and in promoting behavioral changes. In such circumstances, supplemental feeding for children under three and pregnant women at the nutrition center should no longer be necessary. Besides, it would not be cost-effective to continue to pay community nutrition workers to provide growth monitoring and micronutrient supplementation at the village level. It might be more cost-effective for the community to use the nutrition services provided at the health centers. Should some communities decide, however, to continue to have some nutrition interventions at the village level after project completion, the costs would then include: (i) the salary of the community nutrition worker (ACN); (ii) the continuous training of the ACN; and (iii) the cost of micronutrients. The salary of the community nutrition worker would amount to US\$350-400 per year and could be paid in kind (in rice) or in cash. Continuous training of the ACN should be provided by district health services, through regular supervision visits by health agents or through more formal training sessions. Micronutrients would be paid for by the communities.

10. Recurrent costs after project completion would become an issue for the Government and the communities in case underweight remains high in many Fivondronana (districts) after project completion. Several strategies could be envisaged depending on the importance of the problem. If high prevalence of underweight is limited to a few number of districts only, the program should then be maintained in those districts only, without having to maintain a PCU. The recurrent costs would be those mentioned above. The Government may consider financing part of these costs (especially the salary of the ACN) under the local municipal budgets. The other alternative would be, in case underweight remains high in a majority of districts, (for example, in over half of the nutrition centers), to extend the project for a third phase, based on more targeted strategies.

Annex 5 indicates the recurrent costs after project completion. It is estimated that the community nutrition program would need to be maintained in one third of the nutrition sites after project completion without retention of the PCU. The school nutrition program would be maintained in all schools. The communities would pay a total annual contribution of US\$0.41 million, US\$0.38 million for the school nutrition program and US\$0.06 million for the community nutrition program (for vitamin A supplementation). The annual contribution of the Government would be US\$0.46 million for the community nutrition program to finance the salaries of the ACN in one third of the 4040 nutrition sites.

Cost and cost effectiveness of project interventions

11. Project interventions were selected based on their respective cost-effectiveness, as known from international literature, and their implementation feasibility. More details are given in sections 3 and D1 of the Project Appraisal Document. A rough cost and impact analysis was made in order to select the targeting for the community nutrition program. Six alternatives were considered based on three age groups of children and two different coverage areas for each nutrition center. The following data was calculated for each of the six alternatives: number of children covered per nutrition center, total number of centers needed, number of children covered by one center, time spent (in hours) by each community nutrition worker with one child, and cost of the salary of the ACN per child per year.

Target Group	Attraction zone of one center	No. of children covered	No. of centers	No. of children per center per ACN	Hours per child per year	Cost per child per year
Under five	5 km, 2000 pop.	1,472,700	4,035	365	4.4	0.82
Under five	7 km, 3000 pop.	1,472,700	2,689	548	2.9	0.55
Under three	5 km, 2000 pop.	913,000	4,040	226	7.1	1.33
Under three	7 km, 3000 pop.	913,000	2,693	339	4.7	0.88
Under two	5 km, 2000 pop.	627,500	4,075	154	10.4	1.95
Under two	7 km, 3000 pop.	627,500	2,717	231	6.9	1.30

12. Based on these findings, targeting children under two within 5 km from the nutrition center was rejected because of the high cost per child. Targeting children under five was rejected under both coverage scenarios because of the limited time the ACN would spend per child (and mother), thus jeopardizing the impact of the nutrition education program. In a similar way, targeting children under three within 7 km from the center was rejected because of the limited time spent by the ACN with each child and mother. Targeting of all children under two as opposed to under three would increase the cost of the program per child while reducing the impact on malnutrition nationwide, since the age group of 2 to 3 years (in which malnutrition rates remain high, at 45%) would be missed. The Nutrition Technical Committee decided therefore to select the targeting of all children under three within 5 km of the center because: (1) targeting children under three allows coverage of more children and therefore has greater impact, since 45% of children under three are malnourished; and (2) it was felt that the efficacy of the program would be diminished if women were required to cover longer distances (7 km) to come to the center. The targeting of the age group would however be reviewed at project midterm review based on the evolution of the malnutrition rates of the different age groups.

13. A detailed study of the cost per intervention and cost per beneficiary was conducted before appraisal (see table attached to this Annex). Total cost, including project management cost, was calculated for each project intervention, except for the project's intersectoral support activities in the health and agriculture sectors. Joint costs were attributed to each intervention, using different allocation criteria based on the respective US\$ value of one intervention, or the workload of personnel, etc.

14. Project's total cost per direct beneficiary would be US\$6.99. Direct beneficiaries include: 913,048 children under three (of which 424,568 are moderately and severely malnourished), 362,958 pregnant women, 362,958 lactating women, 1,535,015 children aged 3-14 years (of which 1,078,913 are enrolled in primary school), and approximately 600,00 households which would directly benefit from the community nutrition program (i.e., half of the households covered by the project). For the community nutrition program, total costs per intervention and per beneficiary would be the following (see table for more details): US\$19.50 for food supplementation for malnourished children and pregnant women, US\$0.67 for Vitamin A supplementation for children between 6 and 36 months of age and lactating women, US\$5.51 for nutrition education and US\$3.80 for community mobilization (including the Community Fund). For the school nutrition program, the total costs per intervention and per beneficiary would be the following: US\$1.17 for deworming, US\$1.32 for iron/folate supplementation, US\$0.98 for nutrition education and US\$2.65 for community mobilization (including the Community Fund). There is unfortunately little data available to which these costs can be compared, mostly because costs are usually calculated in different manners.

Costs are base costs, without inflation and contingencies. Total project cost does not include project support in the health and agriculture sectors															
	Community Nutrition Program (1)								School Nutrition Program (2)					TOTAL	
	Food Supplementation		Total	Vitamin A Supplementation		Nutrition Education	Community Mobilization	Total (1)	Deworming	Iron/folate Supplem.	Nutrition Education	Community Mobilization	Total (2)		* < 3 years * Preg. wom. * Lact. wom * 1/2 households
DIRECT BENEFICIARIES	Children < 3 years Under weight	Pregnant women		Children >6 < 36 months	Lactating women									Children < 3 years	
Number of beneficiaries	424,568	362,958	787,526	879,206	362,958	1,242,164	913,048	1,200,000	2,238,964	1,535,015	1,078,913	1,078,913	1,200,000	1,678,913	4,852,892
COSTS															
A- Direct Costs															
1. Rehabilitation & Equipment	622,851	622,851	1,245,703	196,544	80,279	276,823	1,245,703	0	2,768,228	103,938	103,938	103,938		311,813	3,080,041
2. Food supplementation															
2.1 Food supplies	4,587,523	3,909,847	8,497,370			0	754,080	0	9,251,450						9,251,450
2.2 Non-Food supplies	1,003,485	1,003,485	2,006,970			0		0	2,006,970						2,006,970
3. Vitamin A				121,365	12,341	133,706		0	133,706						133,706
4. Training and IEC	147,772	147,772	295,544	41,967	17,142	59,109	413,761	413,761	1,182,175	239,927	239,927	479,853		959,706	2,141,881
5. Salary of the ACN			1,131,120	100,387	41,003	141,390	1,413,900	141,390	2,827,800						2,827,800
6. Cost of the social worker	130,645	130,645	-261,291			0	391,936	1,959,679	2,612,905						2,612,905
7. Community Fund			0			0	0	1,496,340	1,496,340		0	0	2,340,320	2,340,320	3,836,660
8. Evaluation			150,000	71,000	29,000	100,000	150,000	20,000	530,000	97,500	227,500	17,500	17,500	360,000	890,000
9. Forfait ONG	13,594	13,594	27,187	9,651	3,942	13,594	20,390	74,765	135,936						135,936
10. Severely malnourished children	280,762		280,762						280,762						
11. Anti-helminth treatments										586,445	0	0		586,445	586,445
12. Iron/folate											239,136			239,136	239,136
Total Direct Costs	6,786,632	5,828,194	13,895,946	540,915	183,706	724,621	4,389,770	4,105,935	23,226,272	1,027,809	810,500	601,291	2,357,820	4,797,420	28,023,692
Direct Cost/Beneficiary	15.98	16.06	17.65	0.62	0.51	0.58	4.81	3.42	10.37	0.67	0.75	0.56		2.86	5.77
B- Indirect Costs															
1. IEC, Training	350,390	350,390	700,779	36,186	14,780	50,966	305,795	216,605	1,274,144	369,502	293,053	216,605	394,985	1,274,144	2,831,432
2. Project Management	379,508	379,508	759,016	39,193	16,008	55,201	331,207	234,605	1,380,029	400,209	317,407	234,605	427,809	1,380,029	3,066,732
Total Indirect Costs	729,898	729,898	1,459,796	75,379	30,788	106,167	637,002	451,210	2,654,174	769,710	610,460	451,210	822,794	2,654,174	5,898,164
C- Total Costs	7,516,530	6,558,092	15,355,742	616,293	214,495	830,788	5,026,772	4,557,144	25,880,446	1,797,520	1,420,960	1,052,500	3,180,614	7,451,594	33,921,856
Total Cost/Beneficiary	17.70	18.07	19.50	0.70	0.59	0.67	5.51	3.80	11.56	1.17	1.32	0.98	2.65	4.44	6.99

Annex 6

Community Nutrition II Project Procurement and Disbursement Arrangements

Procurement

General

1. Goods and works financed by IDA would be procured in accordance with *IDA Guidelines for Procurement under IBRD and IDA Credits published by the Bank in January 1995, and revised in January and August 1996, and September 1997 (the Guidelines)*. Consultancy services financed by IDA would be procured in accordance with *IDA Guidelines for the Selection of Consultants by World Bank Borrowers dated January 1997*. The project coordination unit, which would be the executing agency for the project, would be responsible for procurement. This agency is currently responsible for the execution of the on-going SECALINE Project and is adequately staffed and experienced to manage the procurement arrangements. The national regulations on procurement have been reviewed and no special waivers or exceptions are necessary for national competitive bidding. At negotiations, assurances were obtained from Government that the following procurement arrangements would apply for the implementation of the project. In addition, a General Procurement Notice (GPN) was transmitted to IDA for publication in the *United Nations Development Business* to advertise for ICB goods and major consulting assignments. This notice would be updated every year during the execution of the project until all the contracts and assignments have been procured. Procurement methods and prior review arrangements are indicated in Tables A and B of this Annex.

A. Procurement Methods

2. **Civil Works.** Civil works to be carried out under the project would consist of the rehabilitation or construction of small nutrition centers spread over 4000 localities, involving the participation of communities. In view of the small cost of each contract (average \$250), several sites within the same or neighboring communities would be packaged together in groups of about 5 or 10 sites whenever possible. The contracts would be procured on the basis of three quotations from eligible contractors in accordance with the Manual of Procedures. The aggregate amount would not exceed US\$1.0 million.

3. **Goods.** Most goods and equipment consisting of vehicles, motorbikes, bicycles, office and IEC equipment, which can be packaged into contracts costing US\$100,000 or more per contract, would be procured under ICB in accordance with Bank Guidelines. The aggregate amount would not exceed US\$5.65 million. Other equipment, goods and furniture for nutrition centers, schools and offices which are widely available locally at competitive prices, and local transportation cost for food supplies, costing more than \$30,000 but less than US\$100,000 per contract up to a total aggregate amount of US\$0.5 million, would be procured according to National Competitive Procedures. Other smaller amounts of furniture, goods, equipment, office supplies and local transportation costs for food supplies costing US\$30,000 or less per contract would be procured on the basis of three quotations from eligible suppliers, or through IAPSO or

UNIPAC. The aggregate amount for these contracts would not exceed US\$ 0.6 million.

4. **Drugs.** Drugs consisting of Vitamin A and iron supplements as well as anti-helminth treatments and other similar for an aggregate amount of US\$1.2 million would be procured through the Malagasy Central Procurement Agency or through UNIPAC. The Central Procurement Unit is a non-profit agency that has been established with IDA assistance under the on-going Health Project together with the support of other donors involved in the health sector to procure, sell and distribute generic drugs on the local market. It is a well functioning agency with transparent procurement and managerial procedures (using mostly ICB), regularly audited under IDA and other donors' supervision.

5. **Food.** Food supplies consisting of rice, flour, grains and the like would be financed by the World Food Program (non IDA financed) and procured according to their own procurement procedures.

6. **Community Fund.** Activities financed under the Community Fund would consist of small community works, equipment, goods and services related to the improvement of nutrition, hygiene and sanitation in the village communities. Most of these activities, which would not cost more than US\$200 each, and which may be grouped into contracts not exceeding US\$2,000 per contract for a total aggregated amount of US\$3.92 million (excluding community contributions), would be procured mostly on quotation in accordance with the Implementation Manual. Of this aggregate amount there is a provision for service delivery contractors, each to cost less than \$2,000 equivalent per contract, up to an aggregate amount not to exceed \$500,000 equivalent (see section B. 8 of this Annex). Community contributions, which would account for about 20% of the cost of the activities, would consist of providing either free labor and free locally available materials such as stones, gravel, and thatching materials in the case of the community nutrition program, or providing cash in the case of the school nutrition program. The total community contribution would amount of approximately US\$0.92 million.

7. **Prior Review Arrangements.** There would be no prior review for civil works and Community Fund activities. However, regular technical and financial audits would be carried out under post review procedures. Goods contracts costing more than US\$100,000 per contract (85% of total) and drugs sole source contracts with the Central Procurement Agency or UNIPAC would be subject to prior review by IDA. All other contracts would be subject to post review.

B. Consultancy services and Training

8. **Recruitment of firms.** Consultancy services for studies, technical assistance and training requiring the recruitment of firms would be procured in accordance with Bank Guidelines. Most of these services would be recruited on the basis of the Quality and Cost based Method (QCBS). Exceptions to the QCBS method would be for the following: (i) the Least Cost Selection Method would be used for financial audits (estimated cost per contract - US\$30,000, aggregate amount US\$150,000); and (ii) the Sole Source Selection Method would be used for: (1) Assignments related to specialized community mobilization and training as well as service delivery contracts involving the use of NGOs (estimated cost per contract not exceeding US\$100,000 - aggregate amount US\$4.0million); (2) Pilots projects involving the participation

of the Ministry of Agriculture and executed by the Food and Agriculture Organization of the United Nations under a contract amounting to US\$ 0.3 million; and (3) Project technical evaluations executed by UNICEF under annual contracts not exceeding US\$100,000 for an aggregate amount not exceeding US\$300,000. For contracts based on a short list of consultants estimated to cost US\$100,000 or less, the short list may consist entirely of national consultants if a minimum of three qualified ones are available. For contracts involving the use of NGOs for community mobilization, training and hiring of community workers, the short list may consist entirely of NGOs.

9. **Recruitment of Individuals.** Individuals would be recruited in cases where a firm is not needed. Such individuals would be recruited on the basis of qualification and experience in accordance with Bank Guidelines.

10. **Prior Review Arrangements.** All procurement documents for consulting contracts with firms or NGOs for amounts exceeding US\$100,000 per contract selected on the basis of a short list, any sole source contracts exceeding US\$25,000 per contract and the FAO and UNICEF sole source contract would be subject to prior review by IDA. In addition, the technical evaluation report would be needed by IDA for no-objection. Contracts with firms selected on the basis of a short list costing US\$100,000 or less per contract and all sole source contracts costing US\$25,000 or less would be subject to post review.

11. All contracts with individuals costing US\$25,000 or more per contract and all contracts related to the hiring of the National Project Director, the Regional Project Directors, the Administrative and Financial Director, as well as the high level technical staff of the Project (for any amount) would be subjected to prior review by IDA. Contracts with individual consultants for US\$25,000 or less per contract would be subject to post review.

C. Procurement plan and reporting

12. A procurement plan for the first two years of the project for the major contracts indicating needs, procurement methods, time frames and other relevant details would be prepared for submission to IDA for review. Such plan would be updated on a two year sliding scale every three months during the entire life of the project until all major procurement activities have been carried out. A three monthly report and an annual report on procurement actions would be prepared and sent to IDA for review.

Disbursement

13. The allocation of the credit is shown in Table C. The IDA Credit would be fully disbursed over a period of five years (from July 31, 1998 to July 31, 2003). The Credit closing date would be six months after the fifth year (January 31, 2004) to allow payment of last invoices for contracts completed before the completion time. Disbursements would be in accordance with guidelines set out in the disbursement Handbook and in accordance with all relevant Bank operational policies and guidelines. All applications to withdraw from the Credit would be fully documented, except for contracts not subject to prior review by IDA for which reimbursement

may be made against certified statements of expenditures (SOEs). The Project Coordination Unit would be responsible for preparing withdrawal applications and SOEs to be submitted to IDA, and would indicate on the SOEs the nature and origin of any goods and the payment date. These would be retained along with all other supporting documentation for review by Bank supervision missions and independent auditors. Based on the experience with the ongoing project, the Food Security and Nutrition Project, it has been ascertained that the borrower possesses sufficient ability to process SOEs, retain documentation for field review and that satisfactory controls are in place minimizing the risk of use of IDA funds for non-project expenditures.

14. **Special Account.** To ensure that funds would be available when needed, the Government would open a Special Account in US\$ in a commercial bank under conditions acceptable to IDA. The authorized allocation would be US\$1.5 million, representing about four months of disbursement. IDA would make an initial deposit of US\$1 million upon credit effectiveness. Once disbursements through the Special Account would have totaled US\$3.5 million, the fully authorized amount would be paid. Special account funds would be advanced to the regional PCUs. Sufficient capacity would exist at that level to manage funds in accordance with Bank procedures. Local accountants would receive proper training during field visits from the central project authorities to periodically review use of special account funds at the local levels.

15. The project would use the 90-day special account advance procedure and would open six regional Bank accounts in acceptable commercial banks (preferably branches of the Bank where the Operational Account is maintained), and only one Bank account per region, in order to effect payment of small invoices whose settlement would be under the direct responsibility of the regions for reasons of efficiency. Advances withdrawn from the Special Account would be deposited in the Regional Bank accounts and would be of an amount equivalent to US\$ 100,000 in Malagasy francs, representing the equivalent of 2 months total payment of eligible invoices submitted under the approved work program for that region. Apart from payment of salaries, the maximum amount of invoice settlement from the regional accounts would not exceed the equivalent of US\$ 2000 in Malagasy Francs per invoice. The appraisal mission ascertained that the financial management capacity of the project is adequate to permit this arrangement and that systems and controls are in place to ensure that advances to the regional accounts will be used for project purposes and that sufficient oversight and monitoring exist. The project would ensure that the Regional Bank accounts, the invoices and all the relevant documentation are kept according to standards and procedures which would facilitate the justification of the replenishment of the Special Account and the consolidation of the accounts at the national level. Consolidation of the accounts at the national level would be done every month and replenishment applications will be submitted to the Bank on a monthly basis.

16. **Project Account.** Government's counterpart funds needed for each fiscal year to cover its share of project investment and recurrent costs would be deposited semi-annually by the Government in a Project Account not later than January 1 and July 1 of each year. The Project Account would be opened in a local commercial bank and managed by the Project Coordination Unit.

Annex 6, Table A: Project Costs by Procurement Arrangements

(in US\$ million equivalent)

Expenditure Category	Procurement Method				Total Cost (including contingencies)
	ICB	NCB	Other	N.B.F	
1. <u>Civil Works</u>	-	-	0.97 (0.77)	-	0.97 (0.77)
2. <u>Goods</u>	5.65 (4.80)	0.50 (0.40)	0.59 (0.44)	1.67 1/ -	8.41 (5.64)
3. <u>Drugs</u>	-	-	1.16 (1.16)		1.16 (1.16)
4. <u>Food Supplies</u>	-	-	-	9.64 1/	9.64 1/
5. <u>Community Fund</u>	-	-	3.92 (3.92)	0.98 2/	4.90 (3.92)
6. <u>Consultant Services, Training and Audits</u>	-	-	13.82 (13.82)	0.32 1/	14.14 (13.82)
7. <u>Operating costs</u>	-	-	2.66 (2.29)		2.66 (2.29)
<u>Total</u>	5.65 (4.80)	0.50 (0.40)	23.12 (22.40)	12.61	41.88 (27.60)

Note: N.B.F. = Not Bank-financed
 Figures in parenthesis are the amounts to be financed by the IDA credit
 1/ Financed by the World food Program
 2/ Financed by the Beneficiaries

Annex 6, Table B: Thresholds for Procurement Methods and Prior Review

Expenditure Category	Contract Value (Threshold) (US\$ thousands)	Procurement Method	Contracts Subject to Prior Review / Estimated Total Value Subject to Prior Review (US\$ million)
1. <u>Civil Works</u>	Approx. US\$2,500	Quotations	None
2. <u>Goods</u>	> US\$100,000	ICB	All-aggregate (US\$5.65 million)
	> US\$30,000 and < US\$100,000	NCB	None
	< US\$30,000	Quotations	None
3. <u>Drugs</u>	US\$1,240,000	Sole Source	Yes - (US\$1.20 million)
4. <u>Community Fund</u>	Approx. US\$2,000	Quotations	None
5. <u>Consultant Services</u>			
- Firms	> US\$100,000	QCBS	All-aggregate (US\$6.0 million)
	< US\$100,000	QCBS	None
- Financial Auditors	<US\$40,000	Least Cost	None
- NGOs	> US\$25,000	Sole Source	All-aggregate (US\$3.0 million)
	< US\$25,000	Sole Source	None
- FAO/UNICEF	< US\$500,000	Sole Source	2 contracts (US\$0.6 million)
- Individuals	> US\$25,000 All High Level Project Staff	Qualification & Experience	All-aggregate (US\$2.0 million)
6. <u>Operating Costs</u>	N/A	N/A	
Total value of contracts subject to prior review:			US\$18.40 million

Annex 6, Table C: Allocation of Loan Proceeds

Expenditure Category	Amount in US\$million	Financing Percentage
1. Civil Works	0.75	100% Foreign (*) 80% Local
2. Goods	5.62	100% Foreign (**) 80% Local
3. Drugs	1.20	100% Total 80% Local
4. Community Fund	3.80	100% of amounts of Grants disbursed
5. Consultant Services and Audits	11.19	100% Total
6. Training	2.00	100% Total
7. Operating Costs	2.22	85% Total
8. Unallocated	0.82	
TOTAL	27.60	

All percentages are applied to invoice totals (TTC)

(*) 80% calculated to exclude 20% TVA on works

(**) 80% calculated to exclude 20% TVA and an amount estimated to exclude duties on the whole.

Annex 7

Community Nutrition II Project Project Processing Budget and Schedule

A. Project Budget (US\$000)	<u>Planned</u> (At final PCD stage)	<u>Actual</u>
FY97	133.9	141.1
FY98	113.1	108.7

B. Project Schedule	<u>Planned</u> (At final PCD stage)	<u>Actual</u>
Time taken to prepare the project (months)	14 months until Negotiations	
First Bank mission (identification)	11/08/1996	11/08/1996
Appraisal mission departure	10/12/1997	01/19/1998
Negotiations	03/14/1998	01/28/1998
Planned Date of Effectiveness	07/31/1998	07/31/1998

Prepared by: The Nutrition Technical Committee composed of representatives from the ministries of education, health and agriculture, from major donors (WFP, FAO, UNICEF, WHO, USAID), from various international and local NGOs, as well as staff from SECALINE.

Preparation assistance: PHRD

Bank staff who worked on the project included:

<i>Name</i>	<i>Specialty</i>
Marie-Odile Waty	Health Economist, Task Team Leader, AFTH2
Claudia Rokx	Nutrition Specialist, HDDHE
Michele Lioy	IEC Specialist, AFTH2
Bertrand Ah-Sue	Procurement Specialist, AFTS2
Sigal Nissan-Felber	Task Team Assistant, AFTH2

The team also included Martine Lugat (public health specialist and nutritionist), Jacques Gruloos (food security specialist) and Michel Andrien (IEC specialist).

The team benefited from the advice of Christian Rey (Implementation Specialist at the resident mission in Madagascar), Raj Soopramanien (Counselor, LEGAL) and David Freese (Disbursement Officer, LOAAF).

A quality assurance group provided extended and useful technical advice to the team throughout project preparation. The group was headed by Alan Berg (Lead peer reviewer, HDDHE) and included Judith McGuire (LCSHD) and Donald Bundy (HDDDED).

Annex 8

Community Nutrition II Project Documents in the Project File

A. Project Implementation Plan

1. Draft Project Implementation Manual
2. Outline of the IEC and Training Strategy
3. Detailed Project Cost Tables

B. Bank Staff Assessments

1. Food Security and Nutrition Project, SECALINE, Midterm Review, June 1996, Back-to-Office reports, and Mission Aide Memoires.
2. Community Nutrition II Project, Back-to-Office reports, and Mission Aide Memoires.

C. Other

1. IBRD, Madagascar Poverty Assessment (in two volumes), June 28, 1996
2. Government of Madagascar, Plan National d'Action pour la Nutrition, Madagascar, September 1997
3. Government of Madagascar, Stratégie Nationale de Sécurité Alimentaire et de Nutrition (draft), MINAGRI / PNVA / SECALINE, 1997
4. SEDRIC, Evaluation Participative par les Bénéficiaires du Programme Communautaire de Nutrition, SECALINE, April 1996
5. Nutrition Technical Committee, Technical document on the preparation of the Community. Nutrition II Project, February, 1997
6. Nutrition Technical Committee, Technical document on the preparation of the Community. Nutrition II Project, July, 1997
7. Nutrition Technical Committee, Working document Population Data and Statistics, October 1997
8. Nutrition Technical Committee, Technical document on the preparation of the Community. Nutrition II Project, October, 1997
9. SECALINE, Coordination Régionale Antananarivo, Evaluation de l'éducation nutritionnelle du Programme de Nutrition Communautaire, IEC, Septembre 1997
10. SECALINE, Coordination Régionale de Tulear, Enquête sur l'alimentation du jeune enfant dans les sites PCN de Tulear, Septembre 1997
11. UNICEF, Plan d'Action National, 1996. Projet Nutrition à Assise Communautaire, January 1996
12. INSTAT / UNICEF, Multiple Indicator Cluster Survey (MICS), Preliminary Report February, 1996
13. MACRO International / USAID, Nutrition of Infants and Young Children in Madagascar, Findings from the 1992 Madagascar DHS Survey, September 1993 dans la région de Betafo-Miandrivazo, October 1996
14. ORSTOM / RAMSE, Proposition d'un protocole de traitement des nématodes intestinaux à Madagascar, July 1997
15. ORSTOM/RAMSE, Résultats Bio-Médicaux de l'Enquête ORSTOM / DLMT / IPM dans la région de Betafo-Miandrivazo, Octobre 1996

**Status of Bank Group Operations in Madagascar
IBRD Loans and IDA Credits in the Operations Portfolio**

Project ID	Loan or Credit No.	Fiscal Year	Borrower	Purpose	Original Amount in US\$ Millions				Difference Between expected and actual disbursements a/	
					IBRD	IDA	Cancellations	Undisbursed	Orig	Frm Rev'd
Number of Closed Loans/credits: 70										
Active Loans										
MG-PE-1564	IDA30250	1998	GOVERNMENT	RURAL WATER SEC.PILO	0.00	17.30	0.00	17.02	0.00	0.00
MG-PE-1537	IDAN0090	1997	REPUBLIC OF MADAGASCAR	ENVIRON. II	0.00	30.00	0.00	26.01	-0.84	0.00
MG-PE-1555	IDA29560	1997	GOVERNMENT	PRIV SECT DEV & C.B.	0.00	23.80	0.00	21.53	-1.71	0.00
MG-PE-40019	IDA29110	1997	GOVERNMENT	CAPACITY BUILDING	0.00	13.83	0.00	9.29	1.11	0.00
MG-PE-48697	IDA29680	1997	GOVERNMENT OF MADAGASCAR	URBAN INFRASTRUCTURE	0.00	35.00	0.00	33.02	0.89	0.00
MG-PE-1533	IDA28440	1996	GOVT OF MADAGASCAR	ENERGY SECTOR DEV PR	0.00	46.00	0.00	39.44	3.69	0.00
MG-PE-35669	IDA27780	1996	GOVT MADAGAS/FOND D'INTER	SOCIAL FUND 2	0.00	40.00	0.00	18.24	-3.38	0.00
MG-PE-1522	IDA26440	1995	GOVT. OF MADAGASCAR	IRRIGATION II	0.00	21.20	0.00	15.24	4.20	0.00
MG-PE-1563	IDA27290	1995	GOVERNMENT	AG.EXTENSION PROJECT	0.00	25.20	0.00	14.73	3.24	0.00
MG-PE-1558	IDA25380	1994	GOVERNMENT	PET SEC REFORM	0.00	51.90	13.26	34.44	42.05	0.00
MG-PE-1583	IDA25910	1994	MTP/MUT	URBAN WORKS PILOT	0.00	18.30	0.00	0.01	-1.68	0.00
MG-PE-1550	IDA24970	1993	GOVT OF MADAGASCAR	FINANCIAL INSTITUTIO	0.00	6.30	0.00	3.21	2.74	0.00
MG-PE-1553	IDA24740	1993	GOVERNMENT	FOOD SECURITY & NUTR	0.00	21.30	0.00	3.84	2.35	0.00
MG-PE-1552	IDA23820	1992	GOVERNMENT	VOC. EDUCATION	0.00	22.80	0.00	6.73	4.83	-0.20
MG-PE-1520	IDA22510	1991	GOVERNMENT	NAT HEALTH SECTOR	0.00	31.00	0.00	8.55	7.02	0.00
MG-PE-1549	IDA22430	1991	GOVERNMENT	LIVESTOCK	0.00	19.80	0.00	5.79	5.30	0.00
MG-PE-1512	IDA21170	1990	GOV.OF MADAGASCAR	TANA PLAIN DEV	0.00	30.50	0.00	19.42	18.17	0.00
MG-PE-1515	IDA20940	1990	GOVT.	EDUC SECT REINF	0.00	39.00	0.64	0.94	-2.92	-4.81
MG-PE-1540	IDA21040	1990	GOVT.	FIN SECTOR/APEX	0.00	48.00	0.00	14.74	11.33	0.00
MG-PE-1546	IDA20420	1989		AGRIC RES	0.00	24.00	12.31	2.16	13.40	1.01
Total					0.00	565.23	26.21	294.35	109.79	-4.00
					<u>Active Loans</u>	<u>Closed Loans</u>	<u>Total</u>			
Total Disbursed (IBRD and IDA):					241.01	1,061.15	1,302.16			
of which has been repaid:					0.00	95.86	95.86			
Total now held by IBRD and IDA:					539.02	913.15	1,452.17			
Amount sold :					0.00	6.86	6.86			
Of which repaid :					0.00	6.86	6.86			
Total Undisbursed :					294.35	0.57	294.92			

a. Intended disbursements to date minus actual disbursements to date as projected at appraisal.
b. Rating of 1-4: see OD 13.05. Annex D2. Preparation of Implementation Summary (Form 590). Following the FY94 Annual Review of Portfolio performance (ARPP), a letter based system will be used (HS = highly Satisfactory, S = satisfactory, U = unsatisfactory, HU = highly unsatisfactory): see proposed Improvements in Project and Portfolio Performance Rating Methodology (SecM94-901), August 23, 1994.
Note:
Disbursement data is updated at the end of the first week of the month.

Madagascar
STATEMENT OF IFC's
Committed and Disbursed Portfolio
As of 31-Jan-98
(In US Dollar Millions)

FY Approval	Company	Committed				Disbursed			
		IFC				IFC			
		Loan	Equity	Quasi	Partic	Loan	Equity	Quasi	Partic
1983/89	Nossi-Be	1.45	.24	0.00	0.00	1.45	.24	0.00	0.00
1985/89	COTONA	.40	0.00	0.00	0.00	.40	0.00	0.00	0.00
1990/91	AEF FIARO	0.00	.47	0.00	0.00	0.00	.47	0.00	0.00
1991	BNI	0.00	2.61	0.00	0.00	0.00	2.61	0.00	0.00
1992/93/95	AQUALMA	5.04	.61	0.00	0.00	5.04	.61	0.00	0.00
1995	AEF Karibotel	.32	0.00	0.00	0.00	.32	0.00	0.00	0.00
1996	AEF Indosuma	.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	AEF GHM	1.04	0.00	0.00	0.00	1.04	0.00	0.00	0.00
Total Portfolio:		9.15	3.93	0.00	0.00	8.25	3.93	0.00	0.00
Approvals Pending Commitment									
		<u>Loan</u>	<u>Equity</u>	<u>Quasi</u>	<u>Partic</u>				
1997	AEF JUS	.96	0.00	0.00	0.00				
1998	BANQUE SBM	0.00	.75	0.00	0.00				
Total Pending Commitment:		.96	.75	0.00	0.00				

Madagascar at a glance

8/28/97

POVERTY and SOCIAL	Madagascar	Sub-Saharan Africa	Low-income
Population mid-1996 (millions)	14.1	600	3,229
GNP per capita 1996 (US\$)	240	490	500
GNP 1996 (billions US\$)	3.4	294	1,601
Average annual growth, 1990-96			
Population (%)	3.1	2.7	1.7
Labor force (%)	3.1	2.6	1.7
Most recent estimate (latest year available since 1989)			
Poverty: headcount index (% of population)
Urban population (% of total population)	27	31	29
Life expectancy at birth (years)	52	52	63
Infant mortality (per 1,000 live births)	89	92	69
Child malnutrition (% of children under 5)	32
Access to safe water (% of population)	32	47	53
Illiteracy (% of population age 15+)	20	43	34
Gross primary enrollment (% of school-age population)	73	72	105
Male	75	78	112
Female	72	65	98

Development diamond*

Legend: — Madagascar, - - - Low-income group

KEY ECONOMIC RATIOS and LONG-TERM TRENDS	1975	1985	1995	1996
GDP (billions US\$)	2.3	2.9	3.2	4.1
Gross domestic investment/GDP	8.1	8.5	10.8	10.0
Exports of goods and services/GDP	15.9	11.6	23.3	18.2
Gross domestic savings/GDP	3.1	1.3	2.7	4.0
Gross national savings/GDP	5.0	0.2	0.4	3.1
Current account balance/GDP	-2.4	-8.7	-9.9	-5.8
Interest payments/GDP	1.3	1.4	0.7	1.4
Total debt/GDP	39.7	88.1	134.5	..
Total debt service/exports	19.6	42.5	9.2	..
Present value of debt/GDP	0.0	0.0	99.7	..
Present value of debt/exports	0.0	0.0	420.9	..

Economic ratios*

Legend: — Madagascar, - - - Low-income group

(average annual growth)	1975-85	1986-96	1995	1996	1997-05
GDP	-0.3	0.9	1.8	2.0	..
GNP per capita	-3.3	-1.9	-1.4	0.4	..
Exports of goods and services	-5.0	5.8	3.2	9.7	..

STRUCTURE of the ECONOMY	1975	1985	1995	1996
(% of GDP)				
Agriculture	34.0	35.1	33.8	34.7
Industry	15.3	13.3	13.5	13.1
Manufacturing	..	11.5	12.5	12.3
Services	50.1	51.5	52.7	52.1
Private consumption	86.1	89.0	90.6	89.6
General government consumption	10.8	9.8	6.6	6.4
Imports of goods and services	20.9	18.9	31.4	24.2

Growth rates of output and investment (%)

(average annual growth)	1975-85	1986-96	1995	1996
Agriculture	0.8	2.2	2.7	3.8
Industry	-2.7	0.6	1.3	0.8
Manufacturing	..	1.5	18.3	1.7
Services	-0.4	0.9	1.4	1.2
Private consumption	-0.5	0.8	1.4	-0.3
General government consumption	2.8	-1.7	2.2	-3.6
Gross domestic investment	-2.0	0.1	0.8	5.5
Imports of goods and services	-4.1	2.7	1.1	-1.9
Gross national product	-0.7	1.2	1.6	3.5

Growth rates of exports and imports (%)

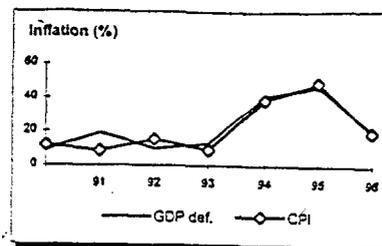
Note: 1996 data are preliminary estimates.

* The diamonds show four key indicators in the country (in bold) compared with its income-group average. If data are missing, the diamond will be incomplete.

Madagascar

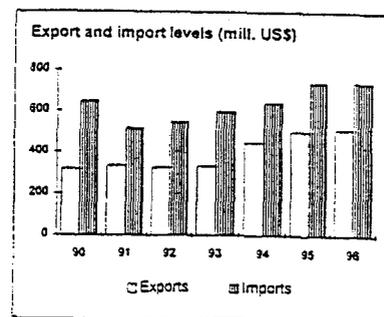
PRICES and GOVERNMENT FINANCE

	1975	1985	1995	1996
Domestic prices				
(% change)				
Consumer prices	8.3	10.6	49.0	19.8
Implicit GDP deflator	4.7	10.4	46.8	21.1
Government finance				
(% of GDP)				
Current revenue	..	13.3	8.6	9.0
Current budget balance	..	2.1	-2.5	-1.1
Overall surplus/deficit	..	-3.9	-6.1	-4.7



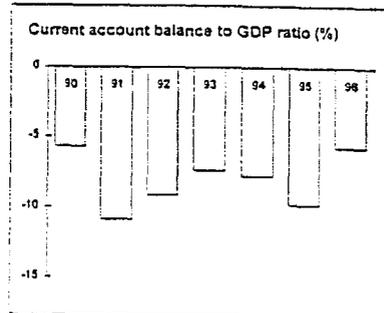
TRADE

	1975	1985	1995	1996
(millions US\$)				
Total exports (fob)	..	291	502	513
Coffee	..	103	93	69
Food Z	..	35	11	7
Manufactures	..	37	132	161
Total imports (cif)	..	466	739	740
Food	..	50	67	45
Fuel and energy	..	85	81	97
Capital goods	..	98	141	174
Export price index (1987=100)	..	94	105	92
Import price index (1987=100)	..	86	122	121
Terms of trade (1987=100)	..	110	86	76



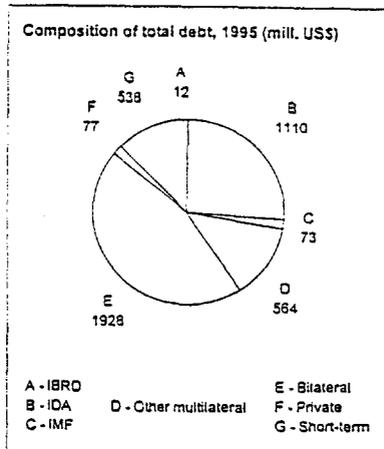
BALANCE of PAYMENTS

	1975	1985	1995	1996
(millions US\$)				
Exports of goods and services	382	350	746	797
Imports of goods and services	480	569	987	1,002
Resource balance	-98	-219	-241	-205
Net income	-17	-129	-167	-155
Net current transfers	60	98	92	120
Current account balance, before official capital transfers	-56	-250	-316	-240
Financing items (net)	24	234	376	375
Changes in net reserves	31	16	-60	-134
Memo:				
Reserves including gold (mill. US\$)
Conversion rate (local/US\$)	214.3	652.5	4,265.8	4,061.3



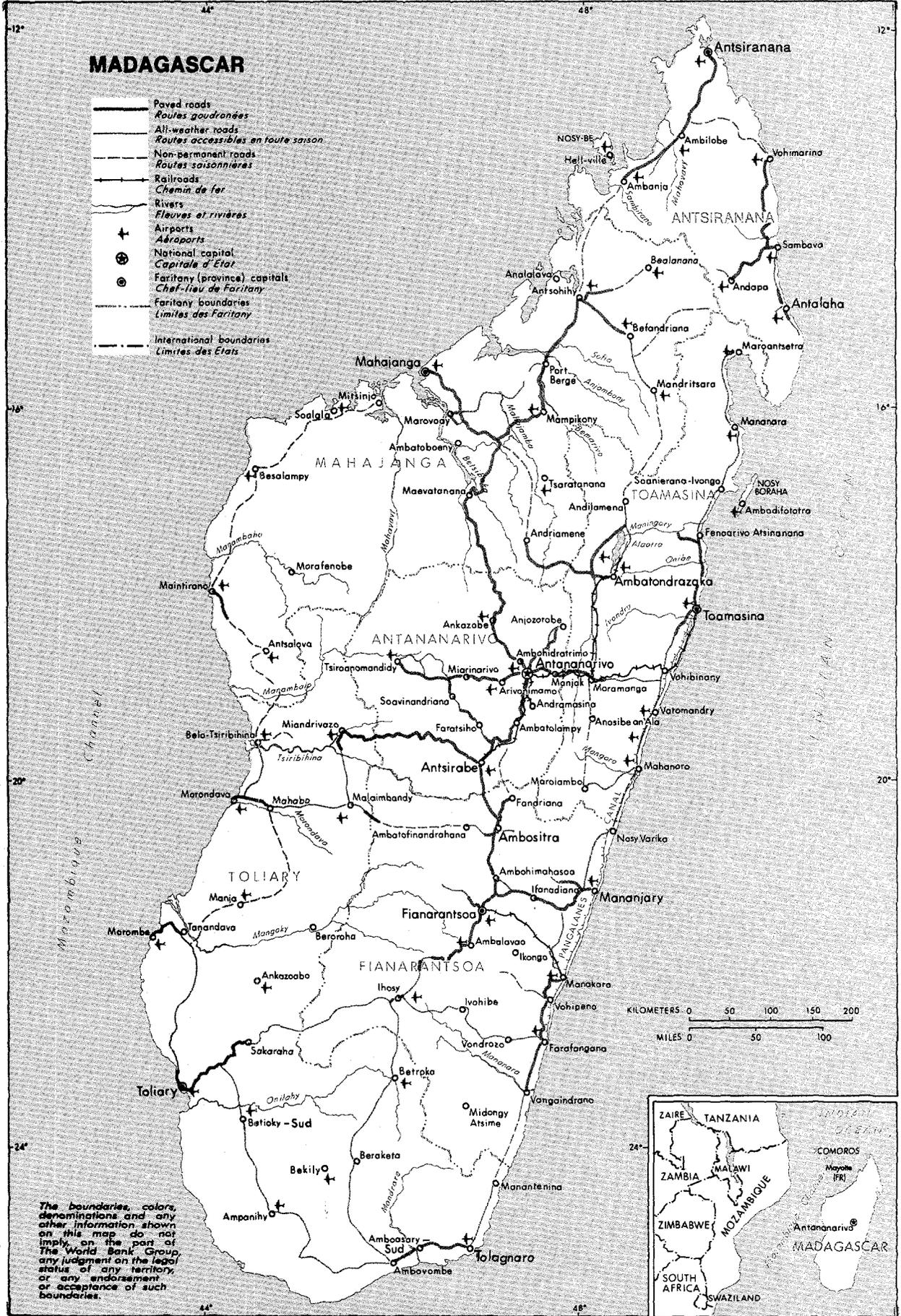
EXTERNAL DEBT and RESOURCE FLOWS

	1975	1985	1995	1996
(millions US\$)				
Total debt outstanding and disbursed	906	2,518	4,302	..
IBRD	24	28	12	7
IDA	54	316	1,110	1,147
Total debt service	76	150	70	..
IBRD	1	3	5	5
IDA	0	3	15	17
Composition of net resource flows				
Official grants	34	0	0	..
Official creditors	123	123	61	38
Private creditors	-1	5	-6	..
Foreign direct investment	5	0	10	..
Portfolio equity	0	0	0	..
World Bank program				
Commitments	6	73	65	60
Disbursements	27	56	76	78
Principal repayments	0	2	11	13
Net flows	27	56	65	65
Interest payments	1	4	9	9
Net transfers	25	52	56	55



MADAGASCAR

-  Paved roads
- Routes goudronnées*
-  All-weather roads
- Routes accessibles en route saison*
-  Non-permanent roads
- Routes saisonnières*
-  Railroads
- Chemin de fer*
-  Rivers
- Fluves et rivières*
-  Airports
- Aérodromes*
-  National capital
- Capitale d'Etat*
-  Faritany (province) capitals
- Chef-lieu de Faritany*
-  Faritany boundaries
- Limites des Faritany*
-  International boundaries
- Limites des Etats*



The boundaries, colors, denominations and any other information shown on this map do not imply on the part of The World Bank Group any judgment on the legal status of any territory, or any endorsement or acceptance of such boundaries.

