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PROJECT PERFORMANCE AUDIT REPORT

MADAGASCAR: MORONDAVA IRRIGATION AND RURAL DEVELOPMENT PROJECT
AND FIRST VILLAGE LIVESTOCK AND RURAL DEVELOPMENT PROJECT

(CREDIT 322-MAG AND CREDIT 506-MAG)

VOLUME I

December 28, 1984

Operations Evaluation Department

ABBREVIATIONS

BNM	-	Malagasy National Development Bank (prior to 1977)
BTM	-	Malagasy Rural Development Bank (replaced BNM after 1977)
CFDT	-	Compagnie française pour le développement des fibres textiles
FAO/CP	-	FAO/IBRD Cooperative Program
FAFIFAMA	-	Livestock Development Agency for West Madagascar
FOFIFA	-	Center for Agricultural and Rural Development Research
DGR	-	Rural Engineering Department, Ministry of Rural Development
HASYMA	-	Malagasy Cotton Development Authority
IDA	-	International Development Association
IRAM	-	Institut de recherches agronomiques malgache
MDRRA	-	Ministry of Rural Development and Agrarian Reform (prior to 1982)
MPAEF	-	Ministry of Animal Production, and Fisheries and Forests
MPARA	-	Ministry of Agricultural Production and Agrarian Reform (after 1982)
ODEMO	-	Development Agency for the Middle West
OMBY	-	Beef Cattle State Farm
PLS	-	Provincial Livestock Service
SODEMO	-	Project Executing Agency (Société pour le développement économique de la Région de Morondava)
SPA	-	Animal Production Service of the MDRRA
UNDP	-	United Nations Development Programme

Fokonolona Institutions:

Fomantany - village level local government.
Firaissam-pokonolona - second tier local government (former canton)
Fivondronan-pokonolona - third tier local government (at former sub-prefecture level)
Faritany - fourth tier local government (at former province level)

Fiscal Year

Government and FAFIFAMA - January 1-December 31
SODEMO - November 1-October 31

CURRENCY EQUIVALENTS

Currency Unit = Franc Malagasy (FMG)

1971 US$1 = FMG 255
1972 US$1 = 252
1973 US$1 = 223
1974 US$1 = 241
1975 US$1 = 214
1976 US$1 = 239
1977 US$1 = 246
1978 US$1 = 226
1979 US$1 = 213
1980 US$1 = 211
1981 US$1 = 272
1982 US$1 = 345

Volume I

PROJECT PERFORMANCE AUDIT REPORT

MADAGASCAR MORONDAVA IRRIGATION AND RURAL DEVELOPMENT PROJECT AND FIRST VILLAGE LIVESTOCK AND RURAL DEVELOPMENT PROJECT (CREDIT 322-MAG AND CREDIT 506-MAG)

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PREFACE

This is a performance audit of two rural development projects in Madagascar: the Morondava Irrigation and Rural Development Project, for which Credit 322-MAG was approved on June 29, 1972 in the sum of US$15.3 million, and closed on December 31, 1981, after cancellation of US$1.2 million; and the First Village Livestock and Rural Development Project, for which Credit 506-MAG was approved on July 17, 1974, and closed on December 31, 1982. Part of the credit remained undisbursed at closing; however, a decision to use these funds to finance investments under the follow-on project resulted in the full disbursement of the credit as of August 1983 (see PCR II, para. 6.23).

These two rural development projects, though different in nature, have been covered in a single audit as both have been affected by similar problems and gave rise to some similar lessons.

The audit report consists of two audit memoranda prepared by the Operations Evaluation Department (OED) and two completion reports (PCRs) dated April and June 1984. The PCRs were prepared by the East Africa Regional Office. The audit memoranda are based on a review of the Appraisal Reports (No. PA-128a-MAG and PA-403a-MAG, dated May 26, 1972, and June 25, 1974), the President's Reports, the Credit Agreements, and the PCRs; correspondance with the Borrower and internal Bank memoranda on project issues as contained in relevant Bank files have been consulted, and Bank staff associated with the project have been interviewed.

An OED mission visited Madagascar in June 1984. Discussions were held with the officials of the Ministries of Finance and Agricultural Production as well as with officials of SODEMO and FAFIFAMA, the two project authorities. A field trip to visit the project areas and the participating farmers was undertaken. The information obtained during the mission was used to test the validity of the conclusions of the PCRs.

The draft report was sent to the Borrower on October 23, 1984 for comments. Government's comments (attached in Annex 1) generally agree with the main conclusions of the PPAR.

The audit finds that the PCRs are excellent and cover adequately the projects' salient features, and the Project Performance Audit Memoranda (PPAM) generally agree with the conclusions. In addition to summarizing the objectives and results of the projects, the PPAM expands upon some of the projects' most important issues: the lack of consensus between the Bank and the Borrower, the institutional problems of the projects, and the difficulties inherent in integrated development.

The valuable assistance provided by the Government of Madagascar and the project staff met during the preparation of this report is gratefully acknowledged.

PROJECT PERFORMANCE AUDIT BASIC DATA SHEET

MADAGASCAR - MORONDAVA IRRIGATION AND RURAL DEVELOPMENT PROJECT (CREDIT 322-MAG)

KEY PROJECT DATA

	Appraisal Estimate	Actual or Estimated Actual	Actual as % of Appraisal Estimate
Project Costs (US$ million)	27.0	56.6/a	209
Credit Amount	15.3	15.3	100
Disbursed Credit	15.3	14.1	92
Cancelled Credit	-	1.2	-
Board approval		06/29/72	
Credit agreement date		06/30/72	
Credit effectiveness	09/28/72	04/30/73	
Closing date	06/30/79	12/31/81	135 /d
Date Physical Components Completed			
Civil works	12/78	02/80	130
Land development	12/78	12/81	146
Proportion then completed (%)			
Civil works	-	100 /b	
Land development	-	58 /b	
Economic rate of return (%)	16	negative to 0	
Institutional Performance	good (1)	poor (3)	
Technical Performance	good (1)	poor (3)	
Financial Performance	good (1)	poor (3)	

CUMULATIVE DISBURSEMENTS /c

	1973	1974	1975	1976	1977	1978	1979	1980	1981
Appraisal estimate (US$ million)	1.9	4.4	6.9	9.3	12.1	14.6	15.3	-	-
Actual (US$ million)	-	0.4	3.8	7.9	10.1	11.3	12.9	13.7	14.1
Actual as % of estimate	-	9	55	85	83	77	84	90	92

Date of Final Disbursement: February 11, 1982
Principal repaid to March 31, 1984: US$210,000

MISSION DATA

Mission	Sent by	Month/ Year	No. of Persons	Staffdays in Field /e	Specializations Represented /f	Performance Rating /g	Trend /h	Types of Problems /i
Identification I	FAO	07/65						
Identification II	FAO/IBRD	01/66						
Preparation I		11/66						
Preparation II		02/67						
Preparation III		06/70						
Preparation IV		10/70						
Preparation V		02/71						
Appraisal		11/71	5	70	/j			
Supervision I		08/72	2	8	c,d	n.a.	n.a.	n.a.
Supervision II		04/73	1	6	c	n.a.	n.a.	n.a.
Supervision III		02/74	3	21	a,c,d	3	2	F,M,T
Supervision IV		06/74	1	3	e	-	-	-
Supervision V		11/74	3	45	a,b,c	3	3	F,M,T
Supervision VI /k		10/75	5	30	b,c,g,h	3	1	F,M,T
Supervision VII		05/76	1	5	c	2	1	F,M
Supervision VIII		11/76	2	12	a,c	2	2	F,M
Supervision IX		07/77	3	15	a,b,c	2	2	F,M
Supervision X		02/78	2	14	b,c	2	3	M,F
Supervision XI		04/78	3	10	a,b	3	2	M,F,T
Supervision XII		11/78	2	10	a,b	3	1	M,F,P
Supervision XIII		02/79	1	3	c	3	2	M,F,P
Supervision XIV		09/79	3	18	a,b,c	3	2	M,F,P,T
Supervision XV		01/80	4	24	a,c,d	3	2	M,F,P,T
Supervision XVI		06/80	2	12	b,c	3	2	M,F,P,T
Supervision XVII		11/80	3	18	a,c	3	2	M,F,P,T
Supervision XVIII		06/81	2	14	a,b	3	2	M,F,P,T
Supervision XIX		12/81	2	10	a,b	3	2	F,P,M,T
Completion		05/83	2	14	b,f	-	-	-
TOTAL				362				

*Footnotes on the following page.

OTHER PROJECT DATA

Borrower	Government of Madagascar
Executing Agency	SODEMO (Société pour le développement économqiue de la Région de Morondava)
Name of Currency (abbreviation)	Malagasy franc (FMG)
Currency Exchange Rates:	
Appraisal Year Average	US$1.00 = FMG 255
Intervening Years Average	US$1.00 = FMG 267
Completion Year Average	US$1.00 = FMG 272

/a Cost of redesigned project.
/b Project scope redesigned; % of redesigned targets.
/c Calendar years.
/d Calculated from date of Board approval.
/e Actual number of days worked on project, not total number of days in country.
/f a = agriculturalist; b = economist; c = irrigation engineer; d = financial analyst; e = disbursement officer; f = public administration/management specialist; g = regional management; h = loan officer.
/g 1 = problem free or minor problems; 2 = moderate problems; 3 = major problems.
/h 1 = improving; 2 = stationary; 3 = deteriorating.
/i F = financial; P = political; M = managerial; T = technical. Most critical problem first to left, others in descending order of importance.
/j Appraisal mission was composed of an irrigation specialist, an irrigation economist, an agriculturalist, a tobacco specialist and a health specialist.
/k Regional management participated full time in this mission, including the Projects Devision Chief and the Programs Director; the loan officer also participated.

PROJECT PERFORMANCE AUDIT BASIC DATA SHEET

MADAGASCAR - FIRST LIVESTOCK AND RURAL DEVELOPMENT PROJECT (CREDIT 506-MAG)

KEY PROJECT DATA

	Appraisal Estimate	Actual or Estimated Actual	Actual as % of Appraisal Estimate
Project Costs (US$ million)	12.8	13.6	106
Credit Amount	9.6	9.6/a	100
Date Board Approval		07/17/74	
Date Effectiveness	11/29/74	06/17/75	
Date Physical Components Completed	06/79	12/82	150
Proportion then completed (%)	100	60/70	60/70
Closing Date	12/31/79	12/31/82	155
Economic rate of return (%)	69	16	
Financial Rate of Return (%) /b	-	-	negative
Institutional Performance		mixed	
Technical Performance		fair	
Number of Benefitting Villages	1,900	2,790/c	147

CUMULATIVE DISBURSEMENTS (Estimated and Actual)

	FY76	FY77	FY78	FY79	FY80	FY81	FY82	FY83
Appraisal estimate (US$ million)	2.3	4.5	7.0	9.0	9.6	-	-	-
Actual (US$ million)	0.1	0.1	0.8	3.2	4.4	6.3	7.7	9.6
Actual as % of estimate	4	2	11	36	46	66	80	100

Date of Final Disbursement: August 24, 1983
Principal repaid to December 31, 1982: none

MISSION DATA

Mission	Sent by	Month/ Year	No. of Persons	Staffdays in Field	Specializations Represented /d	Performance Rating /e	Trend /f	Types of Problems /g
Identification	FAO/IBRD	02/72	1	10	a			
Preparation	FAO CP/IBRD	06/72	3	84	a,b,g			
Preparation	FAO CP/IBRD	10/72	3	30	a,b,d			
Appraisal	IBRD	10/73	4	104	a,b,c,e			
Follow-up Appraisal	IBRD	06/74	1	5	a			
Sub-total				233				
Supervision I		05/75	2	30	a,b	2	2	M,F
Supervision II		11/75	2	18	a,b	2	2	L,M
Supervision III		04-05/76	3	24	a,b,f	3	3	M,L,T,P
Supervision IV		10/76	2	6	b,e	3	2	L,M,T,F
Supervision V		02/77	2	14	b,c	3	1	L,M,T,F
Supervision VI		07/77	2	14	a,b	2	1	L,M,F
Supervision VII		02-03/78	1	10	b	2	1	M
Supervision VIII		11/78	3	27	a,b,e	2	1	M,F
Supervision IX		04-05/79	3	22	a,b,c	2	1	M,F,T
Supervision X		10/79	3	24	a,b,d	2	1	M,T,F
Supervision XI/h		06-07/80	6	120	a,b,c,f,g,h	2	2	T,M
Supervision XII		06/81	2	16	a,c	2	2	T,F,M
Supervision XIII		06-07/82	3	54	a,b,c	2	3	F,M
Sub-total				379				
TOTAL				612				

OTHER PROJECT DATA

Borrower	Government of Madagascar
Executing Agency	Livestock Development Agency for West Madagascar (FAFIFAMA); Beef Cattle State Farm (OMBY); Development Agency for the Middle West (ODEMO).
Name of Currency (abbreviation)	Malagasy franc (FMG)
Currency Exchange Rates:	
Appraisal Year Average	US$1.00 = FMG 223
Intervening Years Average	US$1.00 = FMG 232
Completion Year Average	US$1.00 = FMG 345
Follow-on Projects:	
Name:	Second Village Livestock and Rural Development Project
Credit Number	1211
Credit Amount	US$15.0 million
Date Board Approval	February 23, 1982

/a Includes US$1.3 million of investments in preparation of a follow-on project.
/b Individual financial rates of return were calculated for Project Components at appraisal, and ranged from 28% to 100%; actual rates of return were either insignificant or negative.
/c The Project area was enlarged in 1976 and again in 1977; figure includes 40 villages benefiting from OMBY extension program.
/d a = Livestock Specialist; b = Economist; c = Financial Analyst; d = Health Specialist; e = Agriculturalist; f = Management Specialist; g = Civil Engineer; and h = Water Engineer.
/e 1 = problem free or minor problems; 2 = moderate problems; and 3 = major problems.
/f 1 = improving; 2 = stationary; and 3 = deteriorating.
/g F = Financial; M = Managerial; T = Technical; P = Political; L = Legal. Most critical problem first.
/h Includes time spent on appraisal for follow-on project.

PROJECT PERFORMANCE AUDIT REPORT

MADAGASCAR: MORONDAVA IRRIGATION AND RURAL DEVELOPMENT PROJECT AND FIRST VILLAGE LIVESTOCK AND RURAL DEVELOPMENT PROJECT (CREDIT 322-MAG AND CREDIT 506-MAG)

HIGHLIGHTS

As of September 1984, Bank lending for the agricultural sector of Madagascar consisted of 14 projects and amounted to US$146 million. The two projects under review were the third and fourth operations for the sector.

The Morondava Irrigation and Rural Development Project, in the western part of the country, was designed as a first phase of a long-term development plan. The project consisted of the construction of a diversion dam, rehabilitation of an existing irrigation system, on-farm development of about 9,300 ha and the construction of rural infrastructure. The project objectives were to increase rice and cotton production, already cultivated in the area, and to introduce two new export crops, tobacco and peanuts. Rice was to be grown by smallholders, while the other crops were to be cultivated on state farms.

The Village Livestock and Rural Development Project, in Northwest Madagascar, was to develop an intensive veterinary and livestock program, as well as rural infrastructure (roads, water supply, health and education centers), in one of the least developed and populated regions of the country. In addition, two livestock-oriented pilot schemes and one including crop extension, credit, educational and health facilities in addition to animal health were to be carried out in the Middle West. The project beneficiaries were expected to be about 2,000 villages and several thousand small cattle owners. The project objective was to increase beef production both for internal consumption and export.

Two new corporations were to be established to implement the projects: SODEMO for the Morondava Irrigation Project and FAFIFAMA for the Village Livestock Project. Due to the complexity of the projects and the lack of national expertise in some areas, expatriate consultants were to be recruited. Other government agencies involved in the Village Livestock Project were the ministries and/or provincial services of health, education, public works and water supply for implementing their respective part of the project under FAFIFAMA's coordination.

The projects were implemented during a turbulent period in Madagascar's history, which witnessed several changes of government, expansion of the State control of the economy, and a foreign exchange and economic crisis in the late 1970s. The two project authorities were made agricultural marketing agents in their respective regions, which severely strained their financial and organizational capabilities. Government control of agricultural prices adversely affected the project's production. Relations between the Bank and the Government were marked by misunderstandings and confrontations during the start-up and part of the project implementation period (PPAR, paras. 21-28 and para. 68).

The Morondava Irrigation and Rural Development Project was reappraised when project costs were found to be 100% higher than originally estimated, following changes in the project design and high inflation. To keep the project close to its original estimate, the on-farm development component was significantly reduced in scope, resulting in marginal economic viability. At project completion, irrigation civil works were completed according to revised targets but land development was only partly completed. The total project cost was about 85% higher than revised estimates. Incremental paddy production has been close to estimates of the redesigned project; cotton production, however, was less than pre-project production due to poor performance of SODEMO. Introduction of tobacco and groundnuts did not materialize. The project re-estimated ERR is now negative or zero. Nevertheless, the project's social impact is substantial as more farming families than anticipated have benefitted from the project (PPAR, para. 17).

The Village Livestock and Rural Development Project was adversely affected by start-up problems: delays in staffing FAFIFAMA and organizational confusion regarding the respective roles of FAFIFAMA and the Provincial Livestock Services, Government's failure to provide budgetary allocations because of its misunderstanding of IDA's policy of financing only incremental costs, and Government's decision to merge FAFIFAMA with OVOMA, a bankrupt, state-owned meat marketing company. The Bank requested that the Credit Agreement be revised, specifying that FAFIFAMA's management and financing be separated from OVOMA's. Following the revision, FAFIFAMA significantly reinforced its implementation capacity and succeeded in developing an efficient animal health program, by training and installing village vaccinators, an innovative and successful formula. There was little success, however, with the establishment of improved pastures and the introduction of new husbandry practices. Due to the lack of cooperation of other government agencies, the infrastructure component of the project fell short of appraisal estimates. The project's ERR has been re-estimated at about 16%. Productivity increases are likely to be sustained as cattle owners are now accustomed to regular animal health services.

Experience gained and main lessons learned from the projects are the following: the two projects demonstrated the difficulty of implementing development projects in a volatile political and economic environment and the need for the Bank to take strong action if ill-advised policies threaten to undermine project benefits (PPAM, para. 28 and PCR II, paras. 6.33-6.40). The Morondava Irrigation project also showed the risk of implementing a project when consensus is not assured between the Bank and the Borrower on project objectives and components (PPAM, paras. 21-28).

The projects illustrate (i) the risk of waiving or substantially reducing technical assistance when the latter is considered essential for project success, and (ii) the need to reformulate the project if, for political reasons, the Government objects to hiring such technical assistance (PPAM, para. 23).

The institutional problems of the two projects are a demonstration of (i) the difficulty of starting new institutions from scratch, especially for implementing projects, and (ii) the danger of imposing a duality of objectives, commercial and services, on a project authority (PPAM, paras. 33-37 and 75-77).

The following points may be of particular interest:

- Reluctance and difficulty for the Bank to disengage from a project (PPAM, paras. 29-32);

- Inconsistencies in the Bank applying its economic viability criteria (PPAM, para. 31);

- The project experience confirmed OED findings that interagency coordination is a constant problem in integrated rural development projects (PPAM, paras. 70-74);

- Good prospect for sustainability of benefits for the Village Livestock Project (PPAM, paras. 78-84); and

- The village vaccinator formula proved innovative and successful (PPAM, para. 79, and PCR II, paras. 5.10-5.12).

PROJECT PERFORMANCE AUDIT MEMORANDUM

I. MADAGASCAR: MORONDAVA IRRIGATION AND RURAL DEVELOPMENT PROJECT (CREDIT 322-MAG)

A. SUMMARY 1/

Project Design

1. The project was the second IDA credit to Madagascar for irrigation development and the third Bank Group operation in the agricultural sector. It was part of the Government's program to accelerate regional development, encourage settlement of the underpopulated but fertile areas of the country's west coast, increase rice production (the main staple foodcrop) and diversify export crop production.

2. The project was to be the first phase of a long-term development plan that would ultimately involve the irrigation of 30,000 ha in the Morondava region, through the construction of two diversion dams on the Morondava and Andranomena Rivers and a storage reservoir on a tributary of the Morondava.

3. As appraised in late 1971, this first-phase project was designed to support the rehabilitation and expansion of an existing irrigation scheme dating from the early twentieth century. The project was to provide irrigation to three operationally independent units totaling 9,300 ha: a rice cultivation unit (4,700 ha) to be farmed by about 1,200 farm families already living in the region and about 2,300 new settlers; a state tobacco and peanut farm (2,700 ha) and a state cotton farm (1,900 ha). Project works were to include:

(a) construction of a diversion dam at Dabara, on the Morondava River;

(b) rehabilitation of about 64 km of main canals;

(c) construction of a gravity irrigation and drainage system on 6,600 ha for cotton and rice cultivation;

(d) construction of a sprinkler irrigation system on 2,700 ha for tobacco and peanut cultivation;

(e) on-farm development, including the construction of tertiary and quaternary canals and drains, and land levelling;

(f) improvement and construction of rural roads (90 km);

1/ Adapted from the PCR.

(g) construction of project buildings and housing; and

(h) construction of new villages, including health, school and marketing facilities, for existing and new settler population.

The project was also to include a migration and settlement program, agricultural research activities, a credit program for the provision of inputs to farmers and bilharzia prevention and control measures.

4. The project was to be implemented over 6 years. Overall responsibility for the project was to rest with SODEMO, a corporation to be established by the Government specifically for project implementation. SODEMO was to be supervised by a Board of Directors, comprising representatives from various ministries concerned with the project. The general manager was to be appointed by the Board of Directors in consultation with IDA. The Rural Engineering Department (GR) of the Ministry of Agriculture was to be responsible for construction of major civil works. To help SODEMO and GR manage their complex and ambitious tasks, consulting firms were to be engaged. Two deputies to the SODEMO general manager, the three directors in charge of the rice farming unit and the two state farms, as well as an expert to head the operation and maintenance (O&M) unit, would be provided by these firms. The consultants were also to be responsible for the preparation of final designs and tender documents and for the supervision of construction. The employment of consultants under terms and conditions acceptable to IDA was a condition of credit effectiveness. It was estimated that all expatriates would be replaced by local staff within 10 years. SODEMO was expected to be fully self-financing by 1979, through revenues from the cotton and tobacco farms, as well as recovery from farmers for land development and irrigation services. The total project cost was estimated at US$27.0 million. The project was expected to yield an economic rate of return (ERR) of 16%.

Project Implementation

5. The project was implemented during a turbulent period in Madagascar's history. The Government was overthrown in May 1972 a few weeks after negotiations. As the project was scheduled for Board presentation in June, Bank staff contacted government officials to determine whether the project was supported by the new Government. Bank staff stressed the urgency for a prompt decision as funds allocated for the project could be forfeited if the credit were not signed during the 1972 fiscal year. The Government agreement was received on June 16, 1972 and the project was approved by the Board on June 29. However, the first supervision mission found that the project was opposed by some members of the new Government on the grounds that it was a large and complex project, requiring substantial technical assistance, and fitting poorly with the new Government's priority of focusing development efforts towards the poorest segments of the population.

6. Because of the uncertainties caused by the recent change in Government, agreement and action on critical conditions of effectiveness were seriously delayed, and the original deadline for Credit effectiveness was extended four times. The new Government insisted that the large expatriate technical assistance proposed under the project be reduced and that positions of project responsibility be taken by nationals. IDA agreed to the government views and the Credit was declared effective in April 1973.

7. Following the completion of detailed engineering studies in 1973, it became evident that changes in the design of the dam and the main canal were needed. These design modifications combined with international inflation resulted in a 40% cost overrun. The Government expressed its concern with the financial implications of this cost increase. However, IDA supervision missions concluded that the project was still economically justifiable. In November 1974, and following the Government's formal request for a supplementary credit to finance cost overruns, IDA decided to send a supervision mission to reappraise the entire project concept. The mission found that costs of all project components had significantly increased, resulting in doubling the original project cost, and that the project's ERR had become at best marginal and probably negative. Therefore the mission recommended, and the Bank management agreed, that the Government scrap the existing project and start preparing a totally different project.

8. A second change of government occurred in early 1975 and communications broke down for weeks. While the Bank management was considering cancelling the Credit, it learned that the Government had rejected the Bank's proposal, had given the work order for the civil work contract and was unwilling to consider any other option than the original Morondava project. However, the Government was prepared to redesign the agricultural development components of the project in order to reduce costs and the financing gap.

9. A high-level IDA mission was sent to Madagascar in October 1975. The mission found that civil works construction had started in March 1975 and that halting project implementation would no longer be an option as it would result in a loss of US$7.0 million. The mission still believed that the original project was not economically viable and therefore was not willing to recommend additional financing from IDA. However, the mission agreed with the Government to redesign the agricultural development components of the project by (i) deleting irrigation works for cotton, (ii) deleting the tobacco farm and (iii) deleting the settlement component as spontaneous migration to the Morondava region exceeded expectations.

10. The redesigned project consisted of:

(a) construction and O&M of main irrigation works, as originally planned, except for cotton cultivation;

(b) land development of about 2,500 ha for rice cultivation and provision of support services to rice farmers;

(c) establishment of a rainfed cotton farm on 1,300 ha;

(d) implementation of an applied research program (mostly for rainfed cultivation);

(e) expansion of health facilities; and

(f) consultant services for management assistance and studies.

11. The project as redesigned was estimated to cost US$30.7 million, an increase of US$3.7 million (14%) over original estimates. Its ERR was estimated at between 1% and 3%. The Credit Agreement was amended to reflect the new project design. The Board was informed, on a no-objection basis, of the proposed changes in December 1975. As no objections were raised, the amended Credit Agreement became effective in February 1976.

12. Implementation of the redesigned project faced a number of difficulties. While construction of the civil works proceeded on schedule, due to good performance of the contractor, land development and construction of buildings by SODEMO were delayed by late arrival of equipment, poor planning, and poor work organization. The quality of works was also poor. The cotton farm incurred constant loss, mostly due to the lack of technical and organizational skills of the farm manager. With the exception of the applied research program, which proved well managed and useful, SODEMO's agricultural support activities were disappointing. SODEMO's managers were changed three times and technical assistance was not sufficient to compensate for managerial weakness. Moreover, SODEMO was designated by the Government as the marketing agency for a range of commodities, including rice, in the Morondava region; SODEMO also embarked on a carpentry workshop, a fertilizer program, and the construction of agricultural tools in order to generate funds and to meet its chronic cash shortages.

13. The proliferation of SODEMO's activities strained its financial and organizational capabilities and resulted in an overstaffed and bureaucratic structure, while targets of land development, construction, agricultural production and irrigation O&M were not achieved. By 1981, Madagascar was hit by a severe economic crisis. Budget funds received by SODEMO from the Government were about half that of 1980 and sufficient only to pay salaries. All SODEMO operations came to a virtual halt.

14. At Credit closing date, in December 1981, irrigation civil works were completed to 100% of revised targets, but land development and construction achievements stood at about 60% of redesigned project estimates. Total project cost was US$56.6 million, an 85% cost overrun above the revised (1975) estimates.

Project Impact

15. Incremental paddy annual production (15,800 t) was close to revised estimates (16,000 t) but far below appraisal estimates (32,500 t at full production). Actual production of cotton was less than pre-project production. The re-estimated ERR was negative (if production stagnates at the present levels) or zero (if production and yields increase significantly), compared with 16% estimated at appraisal and 1% to 3% at the time of project redesign.

16. Paddy cropping intensity (90%) and yields (2.6 t/ha) were much lower than anticipated (160% and 4 t/ha, respectively) within SODEMO's zone of intervention. In contrast, cropping intensity (110-125%) and yields (3 t/ha) have been better on lands outside the project area (mainly the Morondava Delta) which indirectly benefitted from the project through an increased water supply. The main reasons for poor performance of the project were: (i) poor design of tertiary and quaternary canals; (ii) poor land levelling by SODEMO; (iii) lack of animal traction and plows, resulting in shortage of labor at land preparation time, and (iv) farmers' lack of experience in rice cultivation and non-adherence to the cropping calendar. Farmers outside the project area have been less affected by these drawbacks as they have been settled on their lands for a longer time and generally are experienced farmers.

17. The project social impact has been greater than expected at project reappraisal. About 1,065 farm families in the project area and 3,680 outside have benefitted from project activities. Although no information exists on farmer incomes it is estimated that paddy growers benefitted financially from the project, particularly since the credit covenants stipulating that beneficiaries would pay annual charges to cover SODEMO's costs for land development and O&M of the irrigation network were never enforced.

18. Project impact on institutions was poor. SODEMO's performance was consistently unsatisfactory and it was ineffective as a development and irrigation authority; it also failed to generate revenues from its cotton production. A major reason for its poor performance was the proliferation of objectives assigned to SODEMO (as well as to other agricultural parastatals in Madagascar) and the ambiguity of its role and status resulting in little autonomy and accountability. At the time of the audit, SODEMO had scaled down its activities, reduced its structure and staff and prepared a new five-year work program and financing plan. Under this program, development (or non-revenue earning) activities like extension services and O&M of the irrigation system would be financed by the Government, while productive activities (cotton) would be financed by loans from the Rural Development Bank (BTM) and the Cotton Development Authority (HASYMA). These reforms represent a step forward and could allow SODEMO to evolve into a more effective regional development agency.

19. Because of the project failure, no IDA-financed second-phase project was undertaken. However, the Government started developing sugar and maize production in the Morondava Plain. These investments would use water made available by project investments in irrigation civil works.

20. In conclusion, the project did not contribute to the national economy and represented a poor use of scarce financial and human resources. However, the project has had a significant impact on the rural population's welfare. The project illustrates the difficulty of implementing development operations in a volatile environment, marked by political upheavals, social

changes, economic crisis and foreign exchange shortage. In retrospect, it becomes clear that the complexity of sociological issues and the difficulty of starting a new development institution from scratch were underestimated.[2] The Government's changing policy on the role of parastatals and reluctance to employ technical assistance also have had adverse effects on the project outcome.

B. MAIN ISSUES

Lack of Consensus between the Bank and the Borrower

21. The history of the project, appearing on the problem project list from start-up until credit closing, has included a number of misunderstandings and confrontations between the Government and the Bank, and the question can be raised why the project was not terminated at an early stage.

22. The project, designed in 1970, was to be the first phase of an ambitious long-term development plan, supported by substantial expatriate technical assistance to the responsible authorities. Following the 1972 revolution, the new Government was pressured by the Bank to accept the project so that it could be immediately submitted to the Executive Directors, and the Government would not forfeit the benefits of the IDA funds allocated for the project in that fiscal year. It was clear, however, that the new Government had serious reservations about the project, which it felt was a large, foreign-enclave project, unsuited to its national priorities and new development policy.

23. The project finally became effective in April 1973 after the effectiveness date had been postponed four times and the Government had succeeded in getting the Bank to reduce the volume and level of the technical assistance originally proposed. With the benefit of hindsight, it can be said that the Government's decision, and the Bank's agreement, to reduce technical assistance was the fatal blow to the project as originally designed. At the time, the country did not have sufficient expertise to execute a complex irrigation project of this nature; consequently the project should have been reformulated and simplified to adapt it to the human resources available in Madagascar.

24. The Government once again expressed its concern in 1974, when project costs were found to be about 40% higher as a result of inflation and changes in the final design of the main civil works. The Government offered

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2/ OPS staff has reservations on this assessment and points out that the project was exceptionally well prepared by FAO/CP and a consortium of two reputable consulting firms. In addition, SODEMO was closely modelled on the successful examples of SOMALAC and SOMANGOKY, two irrigation authorities operating modern schemes elsewhere in Madagascar.

several suggestions aimed at reducing project scope; however, the Bank insisted on keeping the project intact because it still regarded it as economically justifiable. Faced with this firm attitude on the part of the Bank, the Government immediately reacted by asking for a supplementary credit to finance cost overruns, a request to which the Bank did not accede.

25. At the end of 1974, when project costs had risen by 100%, a Bank mission concluded that the project was no longer economically viable and that it would either have to be completely redesigned, reduced in size, or scrapped. The mission proposed, in particular, that the project be limited to simple rehabilitation of the existing network or development of rainfed agriculture, for which the Morondava region is naturally suited. But the Government, reversing its previous position, rejected the mission's findings, disagreed with IDA's revised cost-benefit analysis, urged that the project be completed as planned, and requested again that the Bank increase its financing to cover cost overruns. It also decided to sign the dam construction contract despite strong objections on the part of the Bank.

26. Signature by the Government of the contract for construction of the dam and ancillary structures presented the Bank with a fait accompli, while Bank management was considering cancelling the credit. The Bank then proceeded to a de facto suspension of disbursements and project supervision, which it resumed, however, several months later, feeling that it should not abandon the Borrower in midstream. Project scope was finally reduced in order to keep the total cost at approximately the same level as the original estimates. With the revision, the estimated ERR of the amended project had to be reduced to between 1% and 3%. At the end of 1975, the new Credit Agreement was submitted to the Board. The President's memo to the Board stressed that although the first-phase project showed a disappointingly low return, a second-phase project would achieve a good ERR if major civil works included in the first project were treated as sunk costs. The Board accepted the amended project despite the reluctance of some of its members.

27. Although the 1976-80 implementation period showed a marked improvement of relations between the Government and the Bank, no agreement was reached on a course of action that could have resolved the problems posed by the project. The Government failed to comply with the Credit covenants stipulating that SODEMO be staffed with experienced managers and that user fees be collected for land development and for O&M of the irrigation system. SODEMO was also given additional responsibilities beyond its mandate and capability: its managers were changed three times, without prior consultation with the Bank.

28. The complex and eventful history of the project shows the risk of trying to implement a project when the Bank and the Borrower are not able to reach a clear understanding on project objectives and components. The project was a striking example of a complete lack of consensus, with each

partner recommending in turn, but never at the same time, that the project be kept intact, scrapped, or redesigned. Finally, Bank support for the project was kept alive principally for the sake of maintaining good relations between the Government and the Bank. The audit fails to see, however, that contributing to a project which has a high probability for failure is the best course of action. While the Bank was motivated by trying to help the Government to deal with the enormous problems the Morondava Project posed, the efforts, with hindsight, were not very effective. In retrospect, the audit believes that a stronger stance when covenants were breached, and possibly IDA withdrawal from the project, might have proved more effective in moving the Government to take stronger and more effective action.

Bank Remedies

29. Project experience also illustrates the reluctance of, and the difficulty for the Bank to disengage from a project. The General Conditions applicable to the Development Credit Agreement (DCA) provide (Section 6.01) that "the Borrower may by notice to the Association cancel any amount of the Credit which the Borrower shall not have withdrawn prior to the giving of such notice." The Bank, on the other hand may not proceed to such cancellation unless the Borrower has "failed to perform its obligations under the DCA" (Section 6.02(b)) unless "events which have occurred after the date of the DCA have resulted in an extraordinary situation which make it improbable that the project can be carried out or that the Borrower will be able to perform its obligations under the DCA" (Section 6.02(d)).

30. The history of the project, which experienced substantial non compliances with Credit covenants (PCR, para. 3.37) and numerous events in the country, confirms OED findings that "the Bank is reluctant to apply strong remedial action as this tends to be disruptive of the development process to which Bank and Borrower are committed."[3/]

31. This project is also an example of some inconsistencies in the Bank applying its economic viability criteria. The Bank does not agree in principle to finance a project when the ERR is lower than the opportunity cost of capital. If during execution, however, it appears that the project is no longer economically justifiable, the General Conditions do not provide the Bank with the right to cancel a loan/credit (contrary to other international

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3/ Operational Policy Review--Compliance with Loan Covenants, OED Report No. 4090, dated September 1, 1982.

financial organizations).4/5/ In this case the Bank went even further: a new Credit Agreement was approved by the Executive Directors, in contradiction with their principles since they knew that the rate of return on the amended project was only on the order of 1% to 3%.

32. Lastly, as correctly pointed out in the PCR, the Bank's insistence on maintaining the date for presentation of a project to the Board of Directors, regardless of the Borrower's hesitations and political troubles, is likely to cause future difficulties, and is a risk that should not be taken simply for the purpose of respecting timetables.

Institutional Problems

33. The project was closely modelled on two existing irrigation projects, Lac Alaotra and Mangoky, at the time regarded as successful. As in the case of these two projects, a state company, SODEMO, was established and entrusted with execution of the Morondava project. Its initial role was essentially to develop the project area, settle rice growers, provide agricultural extension services, manage and maintain the irrigation network, and produce cotton, groundnuts, and tobacco on the lands allocated to it. Nine expatriate specialists were to be provided in various areas, including management and accounting. Most of the investments were to be carried out by contractors. SODEMO was gradually to become financially self-sufficient, thanks to profits obtained from crops grown by its own force-account and to the fees paid by farmers for land development and irrigation water rights.

4/ See also Iraq Grain Storage, OED Report No. 2778, dated August 1, 1973.

5/ The Legal Department comments that to its knowledge only one financial institution (European Investment Bank) provides in its general conditions for "economic frustration" to be an event of suspension and cancellation. The Legal Department also asks the following theoretical question: "Since the Bank did not react in the case of clear cut violations of specific credit covenants, would the Bank have suspended for lack of economic viability of a project, if the Bank had the right to do so and if the Borrower has insisted on the continuation of the carrying out of the Project?"

On the same subject, OPS comments that "If the covenants requiring government ... to undertake a project in a manner consistent with sound management and financial practices doesn't provide adequate grounds for cancellation when circumstances arise which make compliance inconsistent with continued implementation, is there not a need for some other mechanism to close a project which on ethical grounds the Bank should not be supporting?"

34. SODEMO has considerably deviated from its original objectives. It has gradually become a multipurpose company, going from force-account agricultural production to regional commodity marketing (a function assigned to it by the Government), building construction, tool and furniture manufacture, and land clearing and levelling. Increased responsibilities of the company resulted in an expansion of its services and payroll, which totalled 1,100 persons between 1974 and 1978.[6/] The level of experience of its managers and specialists was completely inadequate to handle the numerous tasks assigned to the company. The problem was exacerbated by the Government's refusal to hire the consultants originally thought necessary.

35. One of the consequences of this proliferation of objectives and inadequately qualified personnel was that SODEMO became incapable of carrying out its tasks properly. Land levelling, for example, carried out by SODEMO's own labor force, was not satisfactorily done. Agricultural production, in any case restricted to cotton, has experienced disappointments and incurred deficits for nine consecutive years. A large number of houses have been built by SODEMO and are still unoccupied. As for SODEMO's principal tasks, establishing farmers and providing them with extension services, these were relegated to the back burner for most of the project implementation period. In addition, the company's accounting system was in such a shambles that financial control was largely impossible.

36. The experience of the project (confirming that of some other projects, particularly in Sub-Saharan Africa[7/]) reveals the danger of entrusting a large number of tasks to a newly-established company for which it is not suited.

37. Moreover, like other companies of the same kind, SODEMO has suffered and is still suffering from ambiguity of purpose and duality of character. Is it a service company for farmers or is it a self-supporting commercial company? In fact it has been required to be both at the same time, an impossible task. To fulfill its commercial role, not only would it have to be fully autonomous and to have specialized staff but it would also have to be able to dismiss redundant personnel, which it has not been allowed to do for years. It should also have diversified its cropping patterns, following repeated failures with cotton, and turned to maize and groundnut production, for example. But it has an obligation to produce cotton to supply the Hasyma ginnery in Morondava and does not have adequate know-how for other crops. When responsibility for rice marketing in the Morondava region was given to SODEMO, the latter had no say in the determination of rice price and therefore was exposed to serious shortfalls in earnings over which it had no control. Moreover, it was impossible for SODEMO to recover

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6/ SODEMO ceased handling agricultural marketing functions in 1977, leaving a legacy of chronic staffing problems.

7/ See, in particular, the Audit Report on 6 projects in Tanzania (OED Report No. 5197, dated June 29, 1984).

fees for land development and water rights from the farmers because this went against government policy, which has so far not been in favor of recovery. With respect to its service activities (network O&M extension), these were not priorities for SODEMO because they did not contribute to its revenues and the funds received from Government for these services were small and irregular.

38. SODEMO's future and the sustainability of project investments is now highly dependent on whether or not the company's role will remain ambiguous, with conflicting priorities. Experience has shown that SODEMO has not been able to achieve self-support by producing crops on force-account or through other commercial activities.[8/] SODEMO's essential role is to ensure and rationalize operation of the irrigation and water distribution network and to provide the rice growers with extension services and inputs. SODEMO has not satisfactorily carried out this role, but has instead spread its efforts too thinly in the illusory pursuit of financial self-support.

39. The fact that rice growers in the project area have lower yields than those outside, and that they have great difficulty in preparing their land properly is evidence that much remains to be done in the matter of supporting services to farmers. Moreover, new developments in the Morondava region are taking place (sugar production), or are proposed (maize production), which will use the water that is theoretically available in the irrigation network. As long as the rice sector remains as outmoded as it is at present, because of the farm families' labor constraints and inability to observe the agricultural calendar, water wastage will remain considerable and conflicts will arise between old and new water users. The project's sustainability and continuation of its social impact depend to a large extent on the clarification and redefinition of SODEMO's role.

40. The Morondava region has, moreover, an excellent and practically unexploited potential for rainfed crops, which could be developed by small- and medium-sized farmers from different areas of the country. Considerable regional development could be achieved by promoting and organizing the establishment of new farmers in Morondava.

8/ The same errors of judgment have occurred in a number of Bank-financed projects (see paras. 76-77).

II. MADAGASCAR: VILLAGE LIVESTOCK AND RURAL DEVELOPMENT PROJECT (CREDIT 506-MAG)

A. SUMMARY [9/]

Background

41. Livestock represents a major national resource to Madagascar, amounting to about 10% of agricultural output. The livestock population of the country is estimated at about 10 million cattle, 1.8 million sheep and goats, and about 1.1 million pigs. With a strong tradition of extensive animal husbandry, vast areas of natural pastures, the absence of most of the major diseases common to continental Africa, and high per capita beef consumption, Madagascar has excellent potential for livestock production.

42. Virtually all production comes from the traditional sector and great socio-economic significance is attached to livestock in many parts of the country. With the exception of a few state livestock farms, cattle remain largely in the hands of 900,000 smallholders. The average herd is small, about 15 head, with a marked variation in the size and composition of herds.

Project Design

43. The project was the fourth Bank lending for the agricultural sector and the second operation in the livestock sector. The first project, the commercially oriented Beef Cattle Development Project (Loan 585-MAG, approved in 1960 and closed in 1975) was designed to establish six cattle ranches with improved pasture. Although the project was, in certain respects, technically successful, it failed to achieve its objectives mostly because it did not take full account of the socio-economic context of the project area, and particularly of the presence, on the ranch area, of farmers who had been using large tracts of land for traditional grazing and cultivation of paddy. This created strong opposition against the ranches and resulted in substantial cattle theft, destruction of fences and burning of pastures. The main lesson learned from the project was that a better approach to cattle development in Madagascar would be to provide essential infrastructure and supporting services to traditional smallholders rather than to establish enclave ranching.

44. The present project sought to address the most urgent problems of traditional livestock owners in one of the main breeding areas of Madagascar, the province of Mahajanga in the Northwest of the country (see map). The project area, sparsely populated and covering 6.2 million ha is one of the least developed regions of Madagascar. During project preparation, in 1972,

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9/ Adapted from the PCR.

three major constraints to livestock production were identified: (i) low animal conception rates and high mortality due to poor nutritional conditions, insufficient water supply and inefficient animal health coverage; (ii) inadequate rural infrastructure; and (iii) a system of meat price controls and export quotas which were subsidizing urban consumers and penalizing farmers.

45. As appraised in 1973, the project was to develop an intensive veterinary and extension program as well as rural infrastructure for seven of the eighteen sub-prefectures of the Mahajanga Province. The project consisted of:

(a) provision of basic animal health sources including, a systematic annual vaccination program of cattle against blackleg and anthrax, dissemination of extension services to farmers for improving animal husbandry techniques, and construction of necessary infrastructure;

(b) establishment of 10,000 ha of improved pasture;

(c) provision of drinking water for cattle and human beings through the construction of 100 ponds, 50 wells and 150 boreholes;

(d) construction of 28 village schools and provision of eight mobile health units; and

(e) establishment of an Agricultural Training Center to train farmers in animal production techniques.

46. During the appraisal mission, and at the request of the Bank's president, Mr. McNamara, who was visiting Madagascar, an additional component aiming at extending to the surrounding villages the technology developed under the Beef Cattle Development Project was included in this project. This component consisted of three pilot development schemes--cattle fattening, extension and pig production--in the Tsiroanomandidy sub-prefecture (Middle West) where the ranches are located (PPAM, para. 43).

47. The project was to be implemented over four years. Its total cost was estimated at US$12.8 million and its economic rate of return (ERR) at 69%. The Livestock Department of the Ministry of Rural Development was to have overall responsibility for coordination and implementation of project activities. A livestock development unit, FAFIFAMA, was to be established as a quasi-autonomous agency which would have responsibility for coordinating and supervising project activities in the Mahajanga Province. FAFIFAMA was to carry out the veterinary and extension service programs, building on the existing Provincial Livestock Service whose staff and facilities would be transfered to FAFIFAMA. Village vaccinators would be recruited within village populations, trained for three months in veterinary and husbandry practices and re-established in their villages. The Ministries of Education, Social Affairs and Public Works were to be responsible respectively for the construction of project schools, health units and roads. The project was to benefit about 2,000 villages and the village population was to provide materials available locally and labor.

48. The Middle West pilot development schemes were to be placed under the responsibility of OMBY (Beef Cattle State Farm) and ODEMO (a development agency for the Middle West), both under the general direction of the Ministry of Rural Development.

49. All cattle produced under the project were to be marketed and processed through existing systems. It was estimated that 80% of incremental beef production (10,600 t per year) would be exported and 20% would be consumed locally. To ensure that production and export of beef cattle would be encouraged, consultations between the Bank and the Government were to take place at least once a year on pricing, export quotas and other policies relating to the production, processing and marketing of beef cattle.

50. Three consultants, a hydrogeologist, an animal production advisor for FAFIFAMA and a pig production specialist for ODEMO were to be recruited. The project also included a training component, experimental trials and studies on marketing and slaughtering.

Project Implementation

51. Successive changes in Government, social turmoil, government efforts to increase its control over the economy and, later, a nationwide economic crisis adversely affected project implementation. The original date for effectiveness was postponed four times, mostly due to the political situation which caused long delays in finalizing the subsidiary loan agreement between the Government and both FAFIFAMA and OMBY. During the 1974-76 period, delays in project start-up also resulted from the Government's failure to provide budgetary allocations as the Government erroneously assumed that IDA would pre-finance project expenditures. Few staff positions were filled. No action was taken on the water supply and road components, as the respective ministries failed to second engineers to FAFIFAMA, as planned at appraisal. No consultants were recruited. The only sign of progress was the recruitment and training of 54 village livestock agents. In 1976, FAFIFAMA's zone of activity was extended to fit with the new administrative boundaries resulting from the Government's decentralization policy. In addition, and following the Government willingness to exert greater control over meat marketing, a bankrupt, state-owned, meat marketing company (OVOMA) was merged with FAFIFAMA without consultation with IDA.

52. In the Middle West, OMBY was selected as the monopoly cattle buyer for Antananarivo and experienced financial difficulties as the Government attempted to reduce meat prices. Problems of insecurity and cattle theft discouraged farmer participation in cattle fattening operations. However, OMBY extension services and assistance with marketing were well received by farmers. The ODEMO pilot programs were adversely affected by bureaucratic and organizational problems.

53. In May 1976, a Bank supervision mission found that the FAFIFAMA/OVOMA merger and the Government's new policy on meat marketing and pricing

were a serious breach of the Credit Agreement. IDA was particularly concerned about OVOMA's negative net worth and the potential conflict between the extension objectives of the project and the new marketing objectives of FAFIFAMA. The Government's policy on meat price was also contradictory to the spirit of the Credit covenant on pricing and export quotas (PPAM, para. 49). Following discussions with the Government, IDA agreed, in January 1977, to proceed with the project under a revised Credit Agreement specifying that: (i) project management, staff and financing would be separated from those of OVOMA; (ii) the Government would liquidate OVOMA's debts; and (iii) a study on cattle and meat pricing and marketing would be carried out. The amended Credit Agreement was signed in May 1977 and became effective in September 1977. Because of delays in project implementation, inflation, and expansion of the project area, the project costs were estimated to have increased by 20%; its ERR was recalculated at 35%.

54. Following the revision of the Credit Agreement, FAFIFAMA significantly reinforced its implementation capacity. From 1976 to 1982 the village vaccinator staff grew from 53 to 110 agents; the number of animal health interventions increased by 400%, well in excess of appraisal targets. However, by the end of the project implementation period, the animal health program was adversely affected by the rise in cattle theft, the country's economic crisis, and the shortage of foreign exchange, resulting in insufficient production of vaccines and a penury of veterinary products. The pasture improvement component was carried out on about 3,800 ha at scattered locations, but its results were poor due to technical errors and the lack of interest. After two years, only 10% of the improved pasture remained.

55. The progress of the rural infrastructure component of the project was uneven. The construction of wells and watering points was delayed because the water supply department of the Ministry of Rural Development was unable to implement the program; therefore FAFIFAMA started digging wells with the assistance of a water engineer. Costs proved higher than anticipated. The water supply program was reduced from 300 water points to 140, of which only 69 were constructed, most of them for human consumption. Criteria for location, construction standards, maintenance and recovery of costs remained poorly defined.

56. The road improvement program was expanded from 170 km to 680 km because the regional network was found more deteriorated than expected. Nevertheless, it soon became apparent that the provincial service of the Ministry of Public Works did not have sufficient staff to execute the program. As with the water supply component, FAFIFAMA took over the road program by establishing and staffing its own Department of Public Works. However, roadworks fell short of targets (about 60%), mostly because FAFIFAMA lacked the technical skills to implement the program. In addition, the quality of work was sacrificed for quantity and all roads require frequent maintenance.

57. The rural school component was successful, with 33 schools constructed, (five more than planned) often with participation of the local

population. Teachers were made available through the Ministry of Education and all schools were immediately utilized upon completion. However, some of these schools were destroyed by a typhoon, which severely hit the Mahajanga area in April 1984.

58. Implementation of the Mobile Health Units (UMS) program was delayed by excessively high local bids. Eight units have been finally constructed, but only two are now operational because the official health policy shifted from the UMS concept to the establishment of dispensaries for each county. The Agriculture Training Center was built in an isolated area with major access problems and neither electricity nor water were supplied. A first training course stopped after two months and the Center is now effectively closed.

59. In accordance with the revised Credit Agreement, FAFIFAMA's commercial operations were kept separate from its development activities, although some funds were diverted from the development funds for financing the working capital of the Commercial Department, a direct breach of covenant. Since October 1978, FAFIFAMA has been responsible for operating the new Mahajanga slaughterhouse and has incurred losses, mostly due to insufficient supply of cattle (as FAFIFAMA's purchase price has not been competitive with those of local butchers), high operating costs, lack of holding grounds in the vicinity of the abattoir, and low capacity utilization of the abattoir.

60. In the Middle West, the OMBY pilot program encountered problems; the crop extension and agricultural credit component was adversely affected by the difficulties in recovering costs and loans from farmers. The village share fattening operation achieved 33% of appraisal estimates. The improved pasture program failed but the social infrastructure and cattle vaccination programs were successful and appreciated by the village population; ODEMO's pig program encountered technical problems and was closed in 1980; ODEMO never hired the pig production specialist envisaged at appraisal.

61. More funds than originally planned were spent for training: seven livestock specialists were sent to France and FAFIFAMA's general manager visited livestock operations in the US. The originally planned in-service training did not take place as no technical assistants were hired. Two studies were carried out: (i) a monitoring and evaluation study which failed to establish a methodology for measuring the economic impact of the project, but helped to design a follow-on project; and (ii) a livestock and marketing study which turned out to be a livestock census and presented few recommendations for future livestock policy.

62. At credit closing date, in December 1982, 3 years behind schedule, actual project costs were estimated at US$13.6 million (106% of appraisal estimate). Disbursements under the IDA Credit were about US$8.3 million or 86% of appraisal estimates, mostly because the targets for road and water supply components were not achieved. The IDA Credit was fully disbursed, however, as a result of a decision to finance start-up investments for the

Second Village Livestock and Rural Development Project (approved by the Board in February 1982), whose objectives are basically the same as those of this first project.

Project Impact

63. The animal health component of the project had a positive impact on herd productivity, mainly by reducing the mortality rate. Productivity increases are likely to be sustained as cattle owners now understand the benefit of regular vaccination. The project, however, was not, or was only marginally successful in its objective to improve animal husbandry techniques. The pasture improvement component failed. Rural development objectives were partially achieved through greater access to villages and successful operation of the schools. The Middle West program was only marginally successful or failed. The ERR of the animal health component of the project was re-estimated at 19% while the return on the Middle West programs was found to be negligible or negative. The overall project ERR was estimated at 16%, compared with 69% estimated at appraisal and 35% at project revision. Because of the failure to institute a cost recovery system, the project financial rate of return to FAFIFAMA was negative.

64. The institution-building impact of the project was mixed. FAFIFAMA has been highly successful in developing a village-based program of animal health. However, additional responsibilities (cattle marketing) imposed by Government and the lack of support from the Ministries of Health, Public Works and Mines adversely affected FAFIFAMA's capability to successfully implement a rural development project of this nature. Meat pricing policy in Madagascar has been a continuous source of concern during project implementation; the covenant in the Credit Agreement specifying that consultations would take place annually on meat pricing between the Government and IDA was breached. Nevertheless, the Government has now recognized the negative effects of its past policy and dismantled monopolies and meat price controls.

65. In conclusion, the project had a positive, but limited, impact on the national economy. Its social impact, however, was significant. The Government's reluctance to hire technical assistance had adverse effects on the introduction of new husbandry techniques and much remains to be done in this area. As for the Morondava project, the difficulty of starting a new institution from scratch was underestimated. The financial future of FAFIFAMA remains uncertain as no viable system of cost recovery has been developed.

B. MAIN ISSUES

66. The project illustrates the difficulties encountered in many Bank-financed integrated rural development projects, and particularly the problems related to the establishment of new project authorities, inter-agency coordination, financial autonomy of project units and sustainability of project benefits.

Establishment of FAFIFAMA

67. As for a number of rural development projects, a new authority was created for project implementation. The main reasons for establishing FAFIFAMA were: (i) the recognized weakness of the Ministry of Rural Development and Agrarian Reform and (ii) the perception that an autonomous unit would have more administrative and financial flexibility to execute the project. These two reasons for establishing a new project authority have been found by OED in a number of projects of this nature. FAFIFAMA was to be controlled by an inter-ministerial executive board which would facilitate cooperation with other ministries and provincial services.

68. FAFIFAMA's establishment was adversely affected by a number of problems. First, successive changes in government, social turmoil and decentralization policy inevitably led to organizational and legal problems, slow staff appointments, and delays in budgetary allocations. Second, the Government failed to hire the planned expatriate technical assistance. Third, as for the Morondava project, relations between the Government and the Bank were plagued by a series of misunderstandings. During the first months of the project implementation, the Government, misinterpreting Bank procedures, thought that all project expenditures and investments (not only the incremental ones) would be prefinanced (and not partially reimbursed) by the Bank. Later, when the Bank reacted against the merger of FAFIFAMA and OVOMA, and the meat price policy, the Government demonstrated a poor knowledge of Bank's policies and practices by expressing its views that IDA funds should be used as the Government pleases, without conditionality. These difficulties have been finally, but belatedly, overcome thanks to the goodwill and mutual understanding by FAFIFAMA's management and the Bank division responsible for the project. But this experience shows that many breakdowns of communication and misunderstandings could have been avoided if the Bank had given the Borrower better information concerning its rules and procedures. In this respect, the role of the Legal and Disbursement Departments of the Bank appears essential at the early stage of a project. The presence in the country of a Bank Resident Representative (which is now the case in Madagascar) can also greatly contribute to a better understanding between the Bank and the Borrower.

69. The issue of project start-up problems due to delays in establishing a new project authority, determining its legal status, recruiting staff and allocating budget has been noted in most of the audited projects where new project units were created. In most cases, delays and difficulties have been underestimated. As correctly pointed out in the PCR, an important lesson from this, and other similar projects, is that a new project authority should only be established if it has been demonstrated that a project cannot be implemented by existing services.

Inter-Agency Coordination

70. The project institutional arrangement provided that FAFIFAMA would have direct responsibility for the livestock component and would coordinate the rural infrastructure activities, which would be carried out by the

ministries and provincial services concerned: Public Works, Education, Health and Water Supply. FAFIFAMA would also encourage the population to participate in project-related decisions and works.

71. In practice, the project was not implemented in the way intended. The Ministries of Public Works and Health as well as the Department of Water Supply did not demonstrate adequate commitment to the project and were virtually non-participants in the project implementation. Therefore, FAFIFAMA attempted to carry out directly many project activities, building roads, schools, wells and health centers. However, due to its insufficient expertise and Government's reluctance to employ expatriates, FAFIFAMA was unable to complete the rural infrastructure programs, and the quality of works was frequently defective. In addition, the project activities were scattered throughout the Mahajanga Province and not integrated in a coherent development program. A number of project investments remained unused. Population participation was lower than expected.[10/]

72. The problem of inter-agency coordination has been found by OED in virtually all audited integrated rural development projects. Typical quotes from PPARs vary from "The coordination arrangement proved unsatisfactory,"[11/] to "The project authority was not in a position to coordinate the agencies which had direct responsibility for project implementation"[12/] and "The weakness of local services forced the project unit to take over project implementation."[13/]

73. This project thus confirms that when a large number of disciplines are involved in a project, the project unit has little authority over other ministries and government agencies, which tend to give priority to their own program and budget, and have no interest in carrying out works that another ministry asks them to do. Another consequence of poor coordination and communication between government agencies is duplication of programs, which, in the case of this project, resulted in "FAFIFAMA wells" and "FAFIFAMA roads" that the Water Supply Service and the Ministry of Public Works do not recognize and do not maintain. It is worthwhile noting that a similar situation exists within the Bank where an agricultural division will have difficulty in obtaining assistance from other specialized divisions (education, health, roads and water supply in the case of this project) for project appraisal and supervision.

10/ In June 1984, there was no evidence that the population was willing to participate in the reconstruction of schools destroyed by typhoon.

11/ Paraguay: Credit and Rural Development Project (OED Report No. 4419, dated March 25, 1983).

12/ Tanzania: Kigoma Rural Development Project (OED Report No. 4858, dated December 28, 1983).

13/ Haiti: Rural Development in the North (OED Report under preparation).

74. The Bank's experience has demonstrated that the simpler a project is, the more likely it is to succeed, which does not bode well for integrated development. There is a serious risk in projects of this nature that multiple infrastructure components will undermine the productive elements of the project by adding responsibility to the project authority and detracting from its ability to carry out its main job. The response to integrated rural development might well be to promote a set of specialized projects (agriculture, roads, education and health) in the same region rather than to combine all these components in a same project. Project implementation would then be carried out by respective ministries and project coordination would be ensured by a supra-ministerial entity.

Financial Autonomy

75. The financial situation of FAFIFAMA was and remains a matter of concern for the Bank. At appraisal, FAFIFAMA was expected to be treated as a public service financed through budgetary allocation and not as a self-sufficient parastatal. On the subject of cost recovery, the Bank thought that because of the innovative aspect of the project, costs would initially be recovered through the existing tax structure; only when the value of new technologies would be demonstrated would the beneficiaries pay recurrent costs for veterinary services and maintenance of water points.

76. The Government's policy to promote financially self-sufficient parastatals, and its decision to merge FAFIFAMA and OVOMA, unnecessarily complicated an already complex project. As with SODEMO in the Morondava project, FAFIFAMA deviated from its original development targets and suffered from a duality of objectives. In addition, the Government meat price control discouraged cattle production by reducing producer incentive, contradicted the project production objective and resulted in constant losses for FAFIFAMA's commercial department.

77. Again the experience of this project confirms that of other similar projects where responsibility for both rural development and commercial activities was given to the project authority. In most projects of this type reviewed by OED, the problems arising from the twin objectives were:

(a) lack of control on product prices, fixed by Government, thus exposing the project unit to serious shortfalls in earnings for which it is not compensated, and to financial losses;[14/]

(b) inadequately qualified personnel to handle both development and commercial activities; and

(c) lack of flexibility for staff hiring and dismissing, and risk of overstaffing.

14/ See, in particular, PPARs on Mali: Rural Development Project (OED Report No. 3274, dated December 31, 1980), and Upper Volta: Second Rural Development Fund Project (OED Report No. 4541, dated June 15, 1983); and Ivory Coast: Impact Evaluation on Oil Palm and Coconut Development Projects (OED Report No. 5072, dated May 7, 1984).

The few exceptions of projects which successfully combined development and commercial activities have been found by OED in the treecrop subsector[15], and some cotton-oriented projects[16]. It is worth noting, however, that in both cases, the project authorities were not facing government price control and that this type of project focusses on a cash crop that has to be processed, thus requiring vertical integration of production, transportation, industrial processing and marketing.

Sustainability

78. The PCR raises the important question of project sustainability, and the future of FAFIFAMA once external support ceases. The PCR states that one possibility would be FAFIFAMA's reabsorption into the national veterinary service, which would reduce the institution's impact on rural development. Another possibility would be to maintain or reinforce the regional development character of FAFIFAMA, which, however, has not proven fully successful in this area. The PCR concludes that the most promising alternative would be the consolidation of FAFIFAMA's livestock activities.

79. The audit concurs with the PCR that a lot remains to be done in livestock development and therefore FAFIFAMA's efforts should concentrate in this area. Out of the ambitious livestock program designed at appraisal, only the veterinary component has been implemented. The village vaccinator program, whereby individuals were nominated by the village population, trained in veterinary methods, and reinstalled in their native village has proved innovative and fully successful in an area where communications are extremely difficult. This constitutes the major achievement of the project. Nevertheless, other livestock activities failed or remained to be developed. The establishment of artificial pasture was beset by the difficulties common to so many livestock projects: lack of familiarity with the socio-economic context and grazing rights; lack of interest on the part of stockraisers; communal ownership of land; absence of grazing regulations, resulting in rapid disappearance of pasture. This experience confirms that gained in other projects, that the establishment of improved pasture in an extensive stockraising area can only take place very gradually following a long testing and demonstration period (now undertaken under the follow-on project).

80. Animal husbandry progressed little during the project period and much has yet to be done in this respect. Cattle raising within the Mahajanga region remains totally haphazard. Calves are born at any time; castration is rarely practiced; the stockraisers tend to increase their stock rather than

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15/ PPARs on Oil Palm and Rubber Development Projects in Malaysia (OED Reports No. 2122, 3024 and 4221, dated June 30, 1978, June 11, 1980 and December 13, 1982).

16/ PPAR on Ivory Coast: Cotton Areas Development Project (OED Report No. 4568, dated June 20, 1983).

selling their animals at the appropriate time. This tendency to hoard cattle is due partly to the prestige linked to a large herd, regardless of quality, and partly to the fact that the stockraisers do not need any fresh money in a deprived region where, they say, there is nothing to buy. The stockraisers' attitude could seriously jeopardize the future of the project: by continuing to increase their herds but failing to step up their sales they are likely to contribute to the depletion of natural pastures while depriving the country of any economic benefits.

81. One of the merits of the Second Village Livestock and Rural Development Project is the recognition that little was really known about the motivation and mentality of the stockraisers and that no activities to improve husbandry practices were possible without considerable familiarity with the human factors. A socio-economic study is now under way and a monitoring and evaluation system is being established. It is regrettable that although these components were included in the first project, they were not implemented.

82. The limited accomplishments of the project clearly indicate that (i) the time needed for achieving a significant impact on production is particularly long for this type of project, and (ii) the results obtained will have to be consolidated by one or several follow-on projects. Similar observations have been made in many audited rural development projects.[17/]

83. While the Second Village Livestock Project is expected to consolidate the results of the first project for the coming years, the problem of sustainability will be faced when external funding ceases. In contrast to other projects of this kind, the situation of the Village Livestock and Rural Development Project looks relatively favorable, provided the Government takes adequate measures. Productivity increases are likely to be sustained as stockraisers are now accustomed to vaccinations and other animal health services. The audit mission found that cattle owners are now ready to contribute financially. Introducing cost recovery measures now appears feasible and would constitute a valuable source of revenue for the Government.

84. When the investment phase is completed, the veterinary andlivestock activities could be taken over, probably without too many difficulties, by the Ministry of Livestock, Fisheries and Forests. FAFIFAMA could concentrate its activities on cattle marketing and management of the Mahajanga slaughterhouse, two operations which could become profitable if there is a substantial increase in livestock production in the province. The roads and social infrastructure could be taken over, managed, and maintained by the pertinent ministries and public services, which would obviate the present confusion of "FAFIFAMA roads" and "FAFIFAMA wells" that nobody maintains.

17/ See, particularly PPARs of Tanzania: Kigoma Rural Development Project (OED Report No. 4858, dated December 28, 1983); Upper Volta: Bougouriba Agricultural Development Project (OED Report No. 4541, dated June 15, 1983); and Mexico: PIDER I Project (OED Report No. 4617, dated June 30, 1983).

TRANSLATIONS

TELEX to Mr. Yukinori Watanabe, Director, OED

HAVE RECEIVED YOUR PPAR OF OCTOBER 17, 1984, AND THE PCR OF APRIL 13, 1984. HAVE NO COMMENTS TO MAKE ON WHAT HAS BEEN WRITTEN. WE INTEND TO SEND YOU A LETTER CONFIRMING THIS AND BRINGING SOME ADDITIONAL INFORMATION COMING OUT OF EXPERIENCE OF CREDIT 322-MAG BY REGULAR MAIL.

From Ministry of Agriculture and Agrarian Reform

TELEX to Mr. Yukinori Watanabe, Director, OED

FOLLOWING YOUR LETTER OF OCTOBER 23 RELATING TO THE DRAFT PPAR OF THE FIRST VILLAGE LIVESTOCK AND RURAL DEVELOPMENT PROJECT (CREDIT 506-MAG). WE WOULD LIKE TO INFORM YOU THAT WE HAVE NO OBJECTION TO THE CONTENTS OF THIS REPORT. REGARDS, RANDRIANASOLO JOSEPH, MINISTER.

From the Ministry of Livestock and Forestry

MAY 1984

DAGASCAR
VESTOCK AND RURAL
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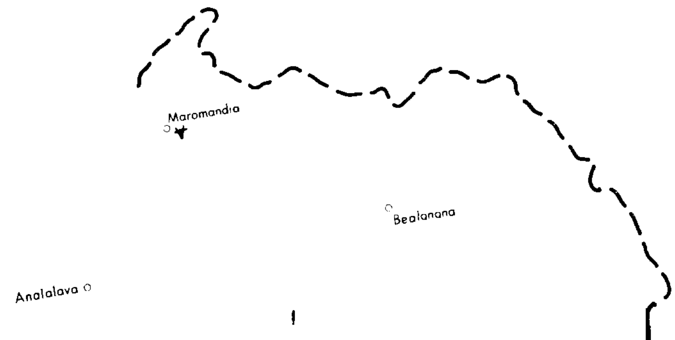
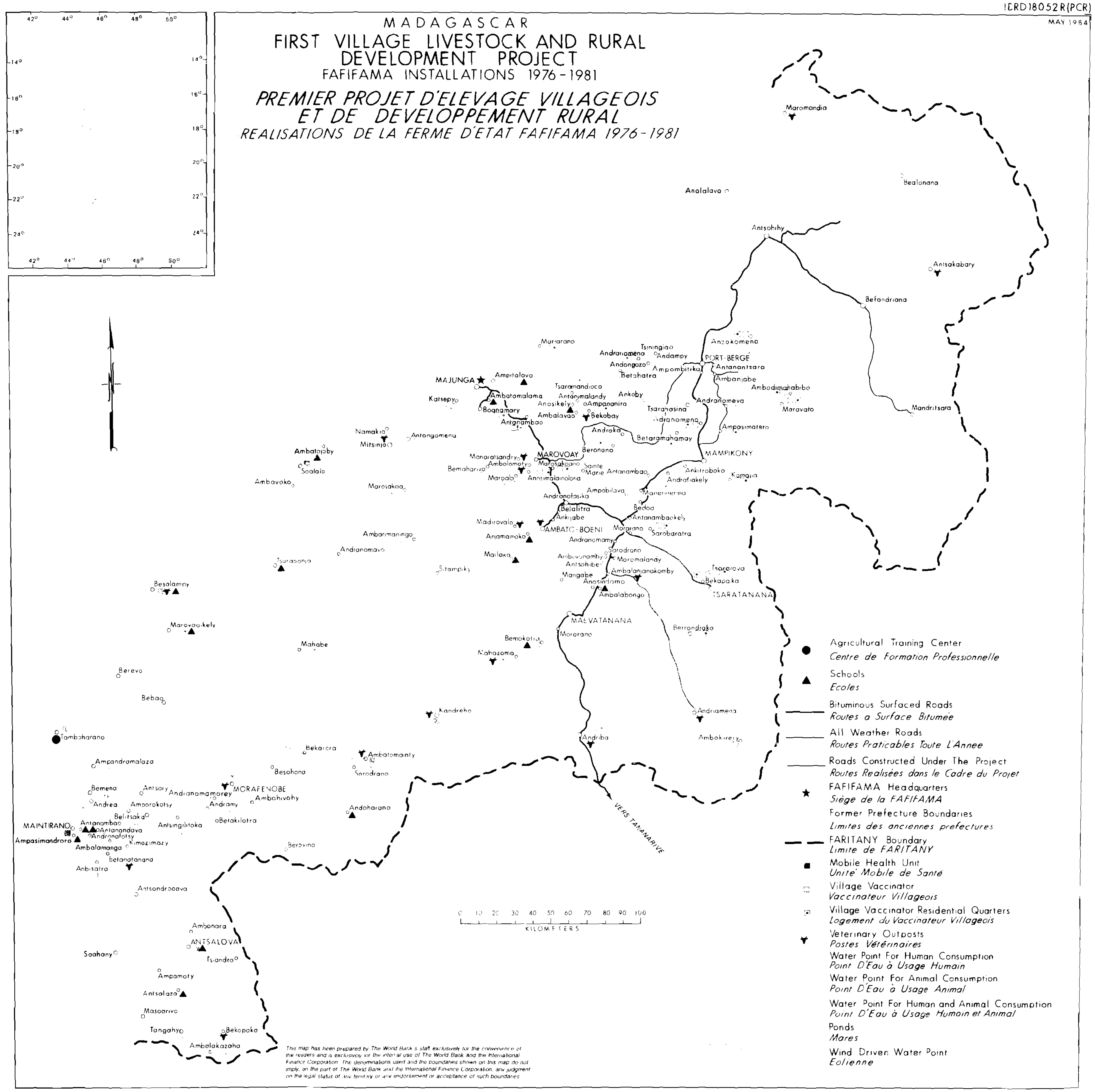
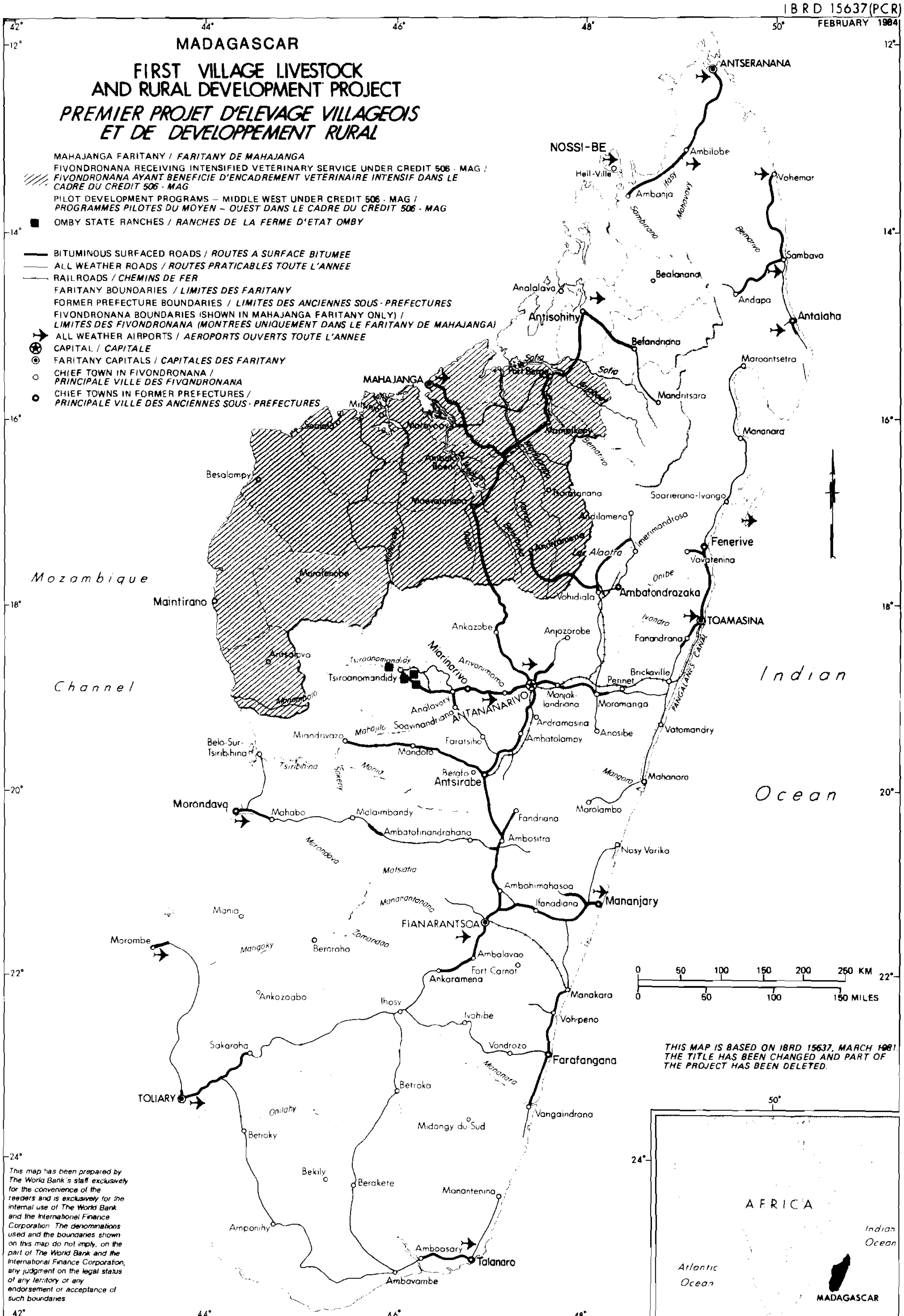
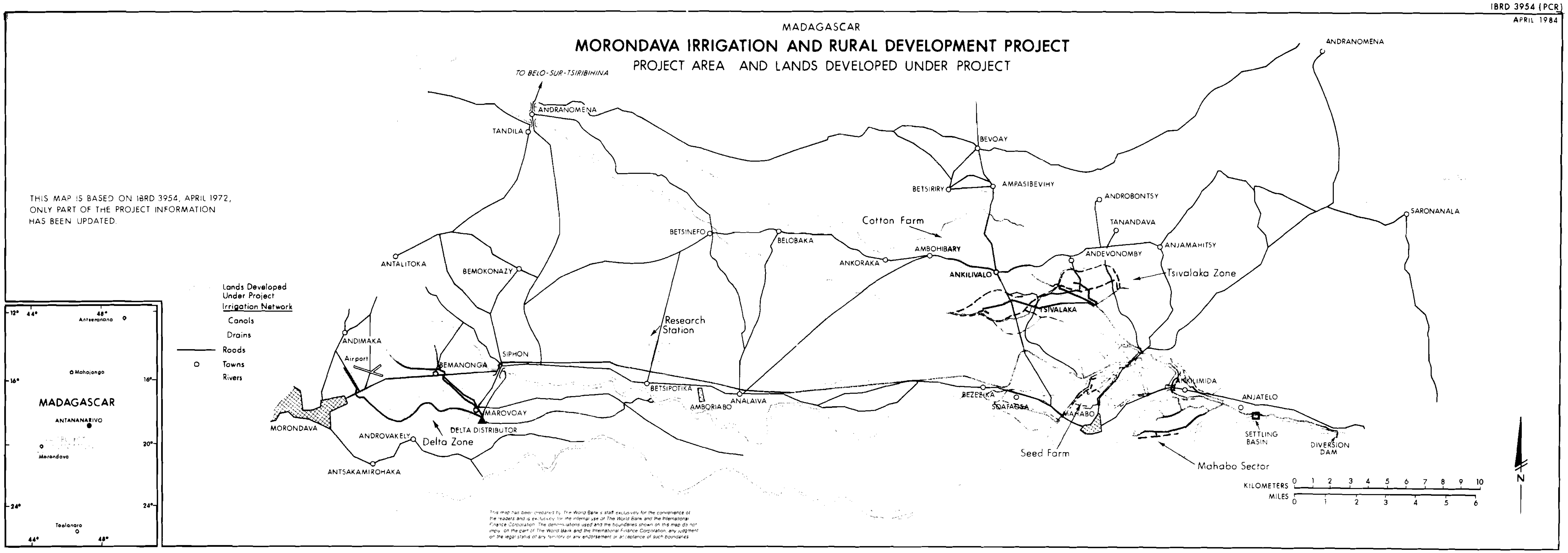
VILLAGEOIS
RURAL
MA 1976 - 1981

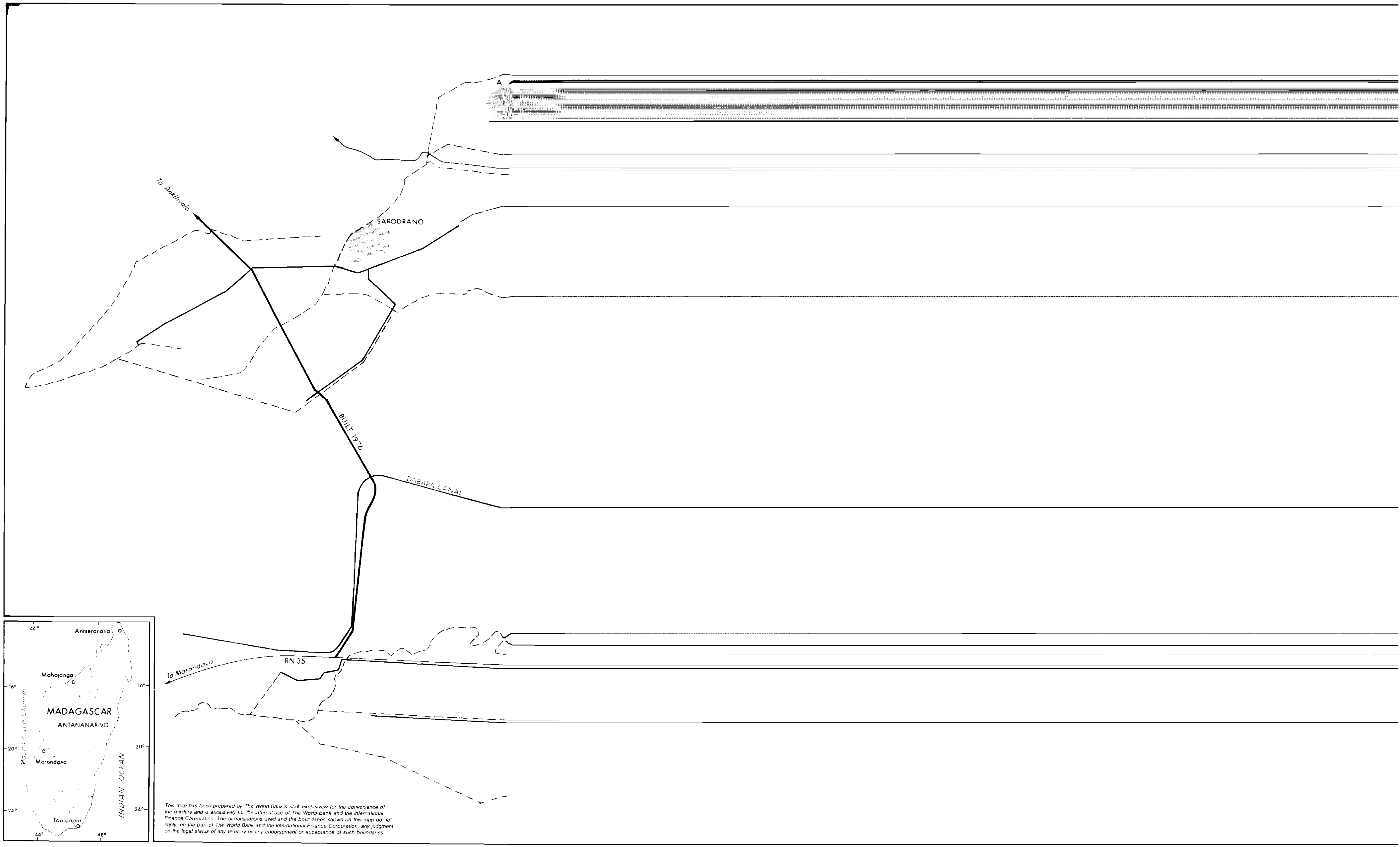



IBRD 18052R(PCR)
MAY 1984
MADAGASCAR
FIRST VILLAGE LIVESTOCK AND RURAL DEVELOPMENT PROJECT
FAFIFAMA INSTALLATIONS 1976-1981
PREMIER PROJET D'ELEVAGE VILLAGEOIS ET DE DEVELOPPEMENT RURAL
REALISATIONS DE LA FERME D'ETAT FAFIFAMA 1976-1981
MAJUNGA
MAROVOAY
AMBATO-BOENI
MAEVATANANA
TSARATANANA
MAMPIKONY
PORT-BERGE
MORAFENOBE
MAINTIRANO
ANTSALOVA
VERS TANANARIVE
Agricultural Training Center
Centre de Formation Professionnelle
Schools
Ecoles
Bituminous Surfaced Roads
Routes a Surface Bitumee
All Weather Roads
Routes Praticables Toute L'Annee
Roads Constructed Under The Project
Routes Realisees dans le Cadre du Projet
FAFIFAMA Headquarters
Siège de la FAFIFAMA
Former Prefecture Boundaries
Limites des anciennes prefectures
FARITANY Boundary
Limite de FARITANY
Mobile Health Unit
Unité Mobile de Santé
Village Vaccinator
Vaccinateur Villageois
Village Vaccinator Residential Quarters
Logement du Vaccinateur Villageois
Veterinary Outposts
Postes Vétérinaires
Water Point For Human Consumption
Point D'Eau à Usage Humain
Water Point For Animal Consumption
Point D'Eau à Usage Animal
Water Point For Human and Animal Consumption
Point D'Eau à Usage Humain et Animal
Ponds
Mares
Wind Driven Water Point
Eolienne
0 10 20 30 40 50 60 70 80 90 100
KILOMETERS
This map has been prepared by The World Bank's staff exclusively for the convenience of the readers and is exclusively for the internal use of The World Bank and the International Finance Corporation. The denominations used and the boundaries shown on this map do not imply, on the part of The World Bank and the International Finance Corporation, any judgment on the legal status of any territory or any endorsement or acceptance of such boundaries.

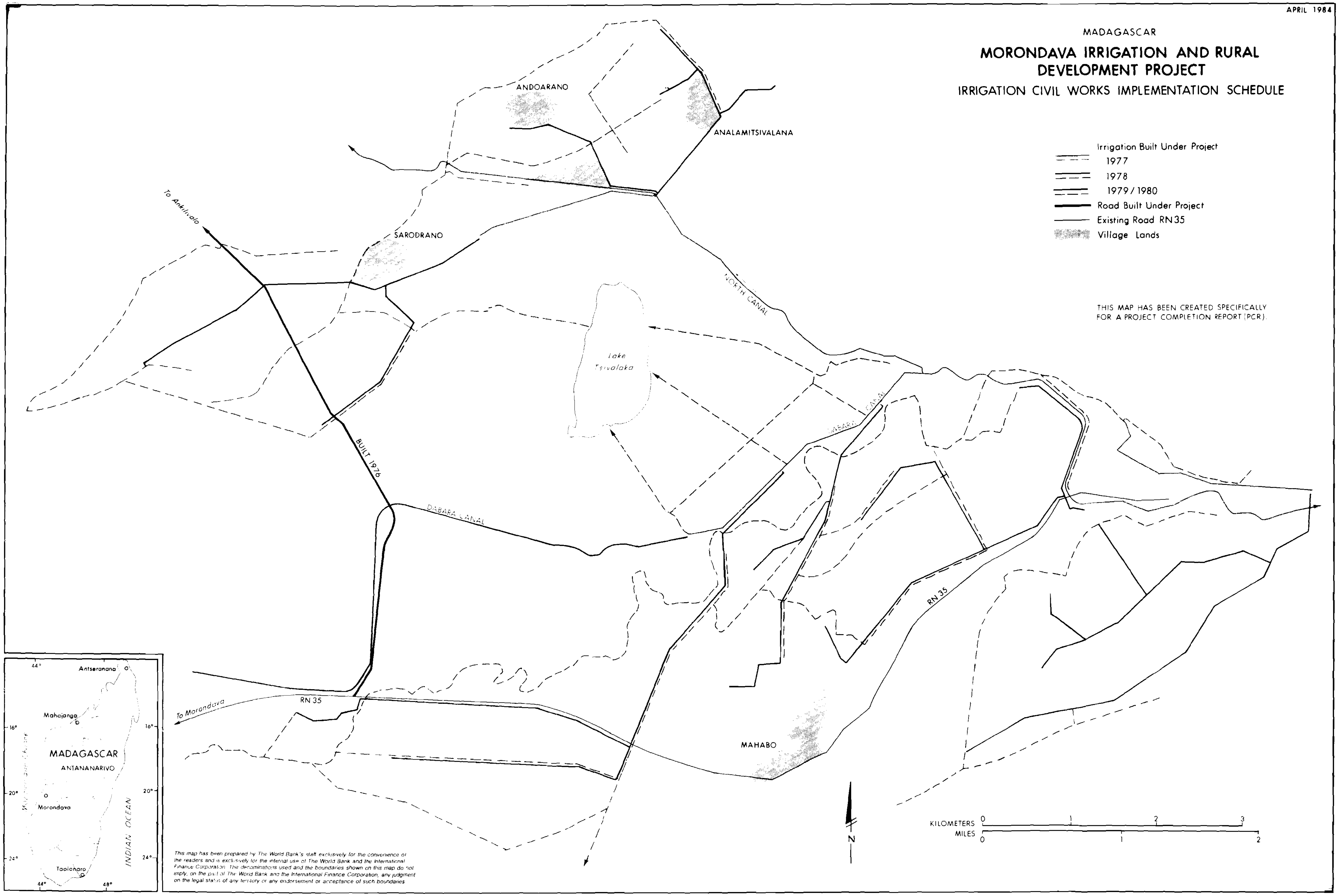
IBRD 15637(PCR)




IBRD 3954 (PCR)
APRIL 1984
MADAGASCAR
MORONDAVA IRRIGATION AND RURAL DEVELOPMENT PROJECT
PROJECT AREA AND LANDS DEVELOPED UNDER PROJECT
THIS MAP IS BASED ON IBRD 3954, APRIL 1972, ONLY PART OF THE PROJECT INFORMATION HAS BEEN UPDATED.
Lands Developed Under Project
Irrigation Network
Canals
Drains
Roads
Towns
Rivers
TO BELO-SUR-TSIRIBIHINA
ANDRANOMENA
TANDILA
BEVOAY
BETSIRIRY
AMPASIBEVIHY
ANDROBONTSY
TANANDAVA
SARONANALA
Cotton Farm
BETSINEFO
BELOBAKA
ANKORAKA
AMBOHIBARY
ANKILIVALO
ANDEVONOMBY
ANJAMAHITSY
Tsivalaka Zone
TSIVALAKA
ANTALITOKA
BEMOKONAZY
Research Station
ANDIMAKA
Airport
BEMANONGA
SIPHON
BETSIPOTIKA
AMBORIABO
ANALAIVA
BEZEZIKA
SOATAOSA
MAHABO
ANKILIMIDA
ANJATELO
SETTLING BASIN
DIVERSION DAM
Mahabo Sector
Seed Farm
MORONDAVA
MAROVOAY
DELTA DISTRIBUTOR
ANDROVAKELY
Delta Zone
ANTSAKAMIROHAKA
KILOMETERS 0 1 2 3 4 5 6 7 8 9 10
MILES 0 1 2 3 4 5 6
N
MADAGASCAR
Antseranana
Mahajanga
ANTANANARIVO
Morondava
Toolanaro
12° 44° 48° 16° 20° 24°
This map has been prepared by The World Bank's staff exclusively for the convenience of the readers and is exclusively for the internal use of The World Bank and the International Finance Corporation. The denominations used and the boundaries shown on this map do not imply, on the part of The World Bank and the International Finance Corporation, any judgment on the legal status of any territory or any endorsement or acceptance of such boundaries.


A
To Ankilivalo
SARODRANO
BUILT 1976
DABARA CANAL
RN 35
To Morondava
44°
Antseranana
Mahajanga
16°
MADAGASCAR
ANTANANARIVO
20°
Morondava
24°
Taolanaro
48°
INDIAN OCEAN

IBRD 18189 (PCR)



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