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PERFORMANCE AUDIT REPORT

ETHIOPIA

SMALL-SCALE IRRIGATION AND SOIL CONSERVATION PROJECT (CREDIT 1765-ET)

June 28, 1999

Sector and Thematic Evaluations Group
Operations Evaluation Department

Currency Equivalents (annual averages)

Currency Unit = Ethiopian Birr (ETB)

At appraisal	**US$1.0 = ETB 2.07**
	ETB1.0 = US$ 0.48
At completion	**US$1.0 = ETB 6.40**
	ETB1.0 = US$ 0.16

Fiscal Year

July 8 - July 7

Abbreviations and Acronyms

AIDB	Agricultural and Industrial Development Bank
CCC	Central Coordinating Committee
CFSCDD	Community Forest and Soil Conservation Development Department
DA	Development Agent
ERR	Economic Rate of Return
GOSE	Government of Socialist Ethiopia
ICR	Implementation Completion Report
IDA	International Development Association
IDD	Irrigation Development Department
IFAD	International Fund for Agricultural Development
MOA	Ministry of Agriculture
PAR	Performance Audit Report
PC	Producers Cooperative
SAR	Staff Appraisal Report
T&V	Training and Visit
WUA	Water Users' Association

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The World Bank
Washington, D.C. 20433
U.S.A.

Office of the Director-General
Operations Evaluation

June 28, 1999

MEMORANDUM TO THE EXECUTIVE DIRECTORS AND THE PRESIDENT

SUBJECT: Performance Audit Report on Ethiopia
Small-Scale Irrigation and Soil Conservation Project (Credit 1765-ET)

The Ethiopia Small-Scale Irrigation and Soil Conservation project, supported by Credit 1765-ET for US$7.0 million equivalent, was approved in FY87. The project was cofinanced by the International Fund for Agricultural Development (IFAD) (US$11.0 million equivalent), and the Organization of Petroleum Exporting Countries Fund (US$4.0 million equivalent). The Credit was closed in FY97, three years later than planned and US$2.4 million equivalent was canceled.

The project's principal objectives were to increase food production in drought prone areas through the development of small-scale irrigation for 25,000 farm families and control land degradation in the highlands to benefit 300,000 families. There were five components: (i) institutional capacity building through technical assistance, staff training, and provision of equipment; (ii) construction of small-scale irrigation infrastructure; (iii) provision of agricultural support services; and (iv) soil conservation through biological bund stabilization. The irrigation component, covering 4,400 ha, was to be the first phase of a long-term development program focused on strengthening irrigation and agricultural institutions. The soil conservation component included stabilization of soils over 9,500 ha, conservation-based agricultural trials, extension services, and support for development of rural women's vegetable plots and associated micro-credit.

The project was implemented during a period of intense political, administrative and social turmoil that dramatically slowed implementation. Initiated within a socialist collective farming and marketing system, the physical implementation of the irrigation and soil conservation components made no progress for the first five years because 95 percent of farmers refused to work within the collective system. Conversely, throughout the project, the institutional capacity-building components were very successful in training a cadre of competent irrigation, agricultural extension and soil conservation professionals in the line agencies. These professionals were the foundation of the project's later success following the overthrow of the Derge government in 1991, devolution of implementation to new regional agencies in 1991/92 and the return to a market economy. As a result of these problems, a mid-term review in 1992 extended the project by three years, reduced the irrigation and soil conservation target areas by 20 and 80 percent respectively.

The revised irrigation target was substantially achieved, while that for soil conservation was a failure. Forty-five irrigation schemes have been rehabilitated or established, covering just under 3,000 ha compared to the 4,400 ha original and 3,500 ha revised targets. The schemes have been developed with farmer collaboration, including contributions of labor. Farmers have formed themselves into water users' associations that have taken responsibility for scheme operation and maintenance and achieve a substantial level of cost recovery. The extension service is viable and is generally well regarded and

considered helpful by farmers. The high husbandry standards and switch from subsistence to high value horticultural crops reflect the good work of the support services. The Economic Rate of Return of this component is estimated at 19 percent. Soils conservation trials were a failure because of the limited replications. The bund stabilization program was ill-conceived and achieved less than 30 percent of physical targets. Given the vital importance of arresting erosion, the budgetary support for conservation-based husbandry practices was, and is, inadequate

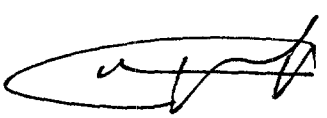
Support for women's activities was very successful. The vegetable garden component exceeded the appraisal target by over 50 percent, while the program of income-generating micro projects performed well and disbursed to 3,450 women in 413 groups primarily for livestock. Loan repayments are generally high but problematic in the drought prone areas. Some of the micro-credit conditions are flawed and need a quick fix to avoid becoming disincentives for womens' participation. Despite this, many women are now re-investing in expanding their vegetable gardens or in livestock production, and three of these women were given national awards for their successful ventures.

The Bank's safeguard policy on international waters was breached. Despite the agreement during negotiations that the project area would exclude the Wabi Shebelli catchment, the government requested reimbursement for schemes located in that catchment and, in the absence of adequate supervision, the Bank financed these subprojects

OED rates the outcome as satisfactory. Sustainability is rated as likely and institutional development impact as substantial. While the project was eventually successful –capitalizing on the investment in training - this was due more to pent-up demand released by the return to a market economy than the design of the project. Recognizing the success of the project, IFAD has recently negotiated a nation-wide second phase targeted on smallholders.

There are three main lesson from this project. To undertake conventional projects in countries whose policies are inimical to economic development is to court disaster; conversely, if undertaken, withdrawal strategies must be formulated to mitigate political risk. Cofinancing as a junior partner (as in this project) can prove to very costly to the Bank if safeguard policies are involved, particularly when not foreseen at the time the partnership was agreed. Finally, if safeguard policies are involved, compliance with them must be effectively monitored.

Attachment



Contents

This report was prepared by Keith Pitman, Task Manager and Frank Thornley (Consultant) who audited the project in November 1998. William Hurlbut edited the report. Pilar Barquero provided administrative support.

Principal Ratings

	Credit 1765–ET	
	ICR	*PAR*
Outcome	Satisfactory	Satisfactory
Sustainability	Likely	Likely
Institutional Development	Substantial	Substantial
Borrower Performance	Satisfactory	Unsatisfactory
Bank Performance	Satisfactory	Unsatisfactory

Key Staff Responsible

	Task Manager	*Division Chief*	*Country Director*
Appraisal	Ulrich Kuffner	M. Altaf Hussain	Hans Wyss
Midterm	Akhtar Elahi	Vijaya Mackrandilal	Callisto Madavo
Completion	Akhtar Elahi	J. Baah-Domoh	O. Meesook

Preface

This is the Performance Audit Report (PAR) for the Small-Scale Irrigation and Soil Conservation Project in Ethiopia, for which Credit 1765-ET in the amount of SDR 5.9 million (US$7.0 million equivalent) was approved by the International Development Association (IDA) on March 3, 1987, and made effective on October 21, 1987. The project was cofinanced by the International Fund for Agricultural Development (IFAD) with a loan of SDR 9.3 million (US$11.0 million equivalent) and the Organization of Petroleum Exporting Countries Fund with a loan of US$ 4.0 million. The credit was extended twice and closed on December 31, 1996, three years after the original closing date. An undisbursed balance of SDR 3.310 million (US$4.632 million equivalent) was canceled at the close.

The PAR, which was prepared by the Operations Evaluation Department of the World Bank, is based on the Implementation Completion Report (ICR) prepared by staff of the Food and Agriculture Organization/World Bank Cooperative Program, Staff Appraisal Report (SAR), and legal documents; on a review of the project's files, supervision reports, and project documents; and on the findings of an audit mission to Ethiopia in November 1998. The mission met with central and regional government officials, project beneficiaries, and other knowledgeable individuals; staff of the Bank's Field Office also assisted the mission. This collaboration is gratefully acknowledged.

The PAR was undertaken to investigate how the project outcome was rated as satisfactory despite negligible disbursement in its first four years, civil war and an extension of three years. It also apparently had notable successes with a women's agricultural component and an unresolved issue concerning the Bank's safeguard policy for international waterways.

Following customary procedures, copies of the draft audit report were sent to the relevant government officials and agencies for their review and comment but none were received.

1. Introduction

1.1 Severe soil erosion is widespread in the densely populated Ethiopian highlands. The degraded state of the region's agricultural land compounded the effects of the severe droughts and famine that afflicted the country in the 1970s and again in 1983–84. Following those events, the government, together with the donor community, attempted to address the root cause of the problem through a Special Program for Sub-Saharan African Countries Affected by Drought and Desertification. The Small-Scale Irrigation and Soil Conservation Project (Cr. 1765-ET) was part of this response.[1]

1.2 The appraisal and implementation of the Bank-financed project occurred during a period of political turmoil in Ethiopia[2]. The government in power during appraisal (May–June 1986) was the Government of Socialist Ethiopia (GOSE), commonly referred to as the Dergue regime. This regime practiced a socialist, command style of economic management, a key element of which was to organize farmers into producers' cooperatives that were to practice collective farming. These socialist and collective farming aspirations were a failure.

1.3 The demise of the Dergue regime in 1991 was the outcome of a civil war that continued for some time after the regime fell as different elements competed for power. In 1992, a federal system of government was established with authority for most matters delegated to 14 regional governments. Civil strife continued to impede the normal functioning of government for much of the implementation period.

1.4 The political turmoil was accompanied by administrative changes that affected implementation of the project. Under the Dergue regime, the administrative structure of government was a hierarchy of regions, zones, *awrajas*, and *woredas*.[3] At appraisal this structure had been in place only about 18 months, but was thought to be becoming effective. Then, in 1988–89 the structure was revised to two tiers: regions and *woredas*. The end of the Dergue regime and eventual rise of the federal government brought more changes. In 1992, for example, the Ministry of Agriculture and Natural Resources was split into a Ministry of Agriculture and a Ministry of Natural Resource Development and Environmental Protection; in 1995 these were again combined.

1. The Special Program was a new International Fund for Agricultural Development (IFAD) financing facility specifically aimed at assisting African countries suffering from drought and desertification.

2. Originally, the Bank only appraised the project on behalf of IFAD but by September 1986 it had agreed to cofinance the project.

3. Awrajas are equivalent to counties, woredas to districts.

2. Objectives and Design

Objectives

2.1 The overriding objective of the project was to increase food production, primarily in drought-prone areas. The project adopted a two-pronged approach. About two-thirds of the project funds were targeted at the development of small-scale irrigation, the balance went to a variety of measures, chiefly sound husbandry and soil conservation practices, that aimed to slow or arrest soil erosion. The latter measures also included a small component to pioneer development among rural women.

Components

2.2 The project had nine components:

- Strengthen the Project Studies and Preparation Division of the Irrigation Development Department (IDD) at the Ministry of Agriculture's (MOA) headquarters and establish an irrigation support unit at the headquarters of the Agricultural and Industrial Development Bank[4] (AIDB).
- Strengthen the Rural Infrastructure Development Departments and Cooperative Promotion and Agricultural Development Departments at the zonal offices in Asela and Harrar to execute the irrigation program.
- Construct irrigation schemes by direct financing through the IDD and, in a pilot program, by credit provided through AIDB.
- Strengthen the programming and planning capability of the Community Forest and Soil Conservation Development Department (CFSCDD) at MOA headquarters.
- Conduct conservation-based research trials in the Hararghe zone.
- Strengthen extension in the Hararghe zone by introducing a modified training and visit (T&V) system.
- Stabilize existing soil conservation bunds in Hararghe.
- Pilot a women's development program in Hararghe comprising promotion of vegetable gardens and a line of credit, through AIDB, for income-generating micro enterprises.
- Develop an overall program for monitoring and evaluation at MOA headquarters.

Appropriateness of Design

2.3 The project's broad objective was appropriate under the prevailing conditions. But given the political posture of the government and its demonstrated intent to pursue policies inimical to

4. Although since renamed Development Bank of Ethiopia, AIDB will be used in this report.

project success, it was, in our view, an error of judgment for IDA to proceed with the project. The key issue was the government's intent to promote the formation of producers' cooperatives and collective farming in the face of resistance among the rural population. This danger was recognized and discussed during appraisal, and a legal covenant was proposed to restrict participation in cooperatives to no more than 25 percent of irrigation funding. The government rejected this conditionality—clearly signaling its intentions—and the lenders acceded. Although IDA management recognized the political risks to the project, and made an explicit decision to proceed despite them, the risks were not discussed in the SAR.[5] They should have been.

Quality at Entry

2.4 The design of this project was too complex. It had too many activities, requiring the involvement of too many government units, for the limited implementation capabilities of the government.[6] There was no compelling reason for this. The two main components, irrigation and soil conservation, were unrelated and there was no synergy to be had from putting them together in one operation. The objective, increased food production, could have been best pursued through concentration on irrigation.

2.5 The involvement of the AIDB in the irrigation component was a mistake.[7] It had a poor record, it already had access to funds for irrigation lending that it was unable to use, and there was no reason to suppose that, with poor incentives[8] and uncertain land tenure,[9] farmers would be prepared to borrow for irrigation development. Furthermore, AIDB's inclusion was not critical to the success of the irrigation component.

2.6 Cost recovery for the irrigation component was also poorly designed. When the project was being formulated and appraised the government had no policy on cost recovery and had no strong intent to pursue recovery of capital costs. The lenders nonetheless attempted to impose recovery conditionality, which the government rebuffed at negotiations. The considerable effort the lenders expended on this issue, both during loan processing and supervision, was to no avail—to this day Ethiopia has no cost-recovery policy.

2.7 The conservation component was an ill-conceived bundle of activities that would have been better left to other operations. There is ample Bank experience that small research components built into larger projects do not succeed; the trials, if warranted, should have been left to a research operation. Whether the trials as planned were warranted is doubtful. The great amount of work and experience of the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) could have been drawn upon but is not referred to in the formulation or

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5. Nothing in the project files explains this management decision. It is worth noting, though, that similar circumstances had prevailed in Tanzania in the previous decade. There, a socialist government promoted villagization and, in the final stage of the so-called Ujamaa, introduced collective farming. Considering the failure of Ujamaa, the Bank could have anticipated a similar outcome in Ethiopia.

6. The ICR also found the design too complex (a view endorsed by OED's Evaluative Memorandum) and considered the involvement of producers' cooperatives in the irrigation credit component ill-conceived. It also considered the coordination arrangements inadequate for the complex design. The ICR does not suggest how the complexity might have been dealt with and does endorse the focus on both irrigation and soil conservation (ICR para 28).

7. The intent here is to reflect a view contemporaneous with project design. The fact that the entire irrigation component would subsequently become hostage to the AIDB sub-component could not have been foreseen.

8. These were well documented in the Bank economic reports of May 31, 1984 (Report No. 4683a-ET) and February 5, 1987 (Report No.5929 ET).

9. Despite the Dergue's land reform, farmers did not have long-term security of tenure; land was periodically redistributed by Peasants' Associations.

appraisal documents. In any case, it was unrealistic to expect the trials to generate technology within "two or three years" (SAR 6.07).

2.8 A free-standing bund stabilization activity was also a mistake. As events proved, bund stabilization can only be successfully pursued through farmer persuasion. It should merely have been one element of a broader extension message addressing the need for farmers to adopt a more conservation-oriented farming system. Thus, it should have been an element in an effort to strengthen extension. Such an extension effort was needed on a wider front than a few *woredas* in Hararghe and merited a free-standing operation.

2.9 The complexity of the design is reflected in the coordination arrangements made for the project. Coordination was the responsibility of a Central Coordinating Committee (CCC), which was to be serviced by the Planning and Programming Department's Technical Support Unit, the head of which was to be project coordinator. In a way that is typical of such arrangements, the CCC functioned only briefly, and the head of the Technical Support Unit was too junior an official to be effective as coordinator.

2.10 The AIDB credit for income generating micro projects did not make progress throughout the project implementation period, mainly due to women's reluctance to work with or through the socialist based PCs. However, the situation improved after the change of economic policy in 1990 with the new Government and with AIDB's change in lending procedures.

2.11 A final design-related point concerns project cost estimates. These were made using a high allowance for local inflation together with a fixed exchange rate. This resulted in an overestimate of foreign exchange needs and contributed to the fact that 34 percent of the credit was not disbursed.[10]

Safeguard Policies (International Waterways)

2.12 The issue of international waters made the preparation of the project difficult. During the Bank's appraisal of the project for IFAD, the need to notify the downstream riparian (Somalia) was brought to IFAD's attention. However, once the Bank agreed to cofinancing it became responsible for ensuring the provisions of OMS 2.32 (now OP 7.50, Projects in International Waterways) was followed. Both the government and IFAD were reluctant to raise the issue of riparian rights, particularly as the proposed area of irrigation on international waterways was only 1,650 ha. Indeed, GOSE declined to attend negotiations if the issue was raised. In the absence of mandatory notification to Somalia, at the request of government, the Bank redefined the project area specifically to exclude the 1,650 ha at issue and deleted financing for those proposed irrigation works (file memorandum - December 10, 1986).

10. This issue was raised during the review of the yellow cover SAR but no action was taken (memorandum of November 14, 1986).

3. Implementation

General

3.1 The implementation period, which had been designed as 6 years but became 9 years after two extensions, comprised two distinctly different periods. The first lasted through the Dergue regime and the period of turmoil in the aftermath of the civil war. Accomplishments during this period were almost entirely confined to what could be done by officials, little was achieved on the ground working with beneficiaries. Thus, progress was confined to training, technical assistance (including five preparatory studies; see Annex B, Table B2), and some procurement. The second period began when things settled down after the overthrow of the Dergue. Most of the project's accomplishments came during this period, but these fell well short of targets. An in-depth review of the project was carried out in November 1992, roughly coinciding with the end of the first period. Reflecting the very poor progress achieved to that time, the review significantly reduced major project targets (key performance indicators are listed in Annex A).

3.2 Given the poor progress during the first period, and the Dergue regime's insistence on using producers' cooperatives as the medium through which to implement the irrigation component, the satisfactory performance ratings given to the project by the April 1989 and October 1990 supervision missions are questionable. Indeed, with such a poor record and with civil war in the land it is surprising that Bank management did not a least explore suspension of the credit.[11]

3.3 The civil strife surrounding the downfall of the Dergue regime had serious consequences for project implementation. Among other things, it led to the loss or damage of considerable equipment procured under the project.[12] It also prevented normal supervision of the project between October 1990 and October 1992[13] and prevented supervision field visits to the Hararghe components for about four years. The administrative upheavals were accompanied by wholesale reassigning and transferring of staff. This was extremely disruptive to work and significantly detracted from the impact of project training efforts. The extent of the disruption was evident during the audit mission: all of the officials concerned with project implementation who were contacted had only been in post since the regionalization in 1992.

3.4 The two generic support activities, the provision of technical assistance and training were well designed. It went smoothly when contrasted with the halting progress of the investment activities, despite the administrative upheavals. Training exceeded appraisal estimates by 50 percent – overseas training by 200 percent - but technical assistance was 40 percent less than planned.

Irrigation

3.5 This component was severely set back from the start by a failure of IDA supervision. As noted above, the AIDB/credit component was intended to be a pilot activity. From the outset, however, supervision missions focused on the credit aspect, seemingly ignoring direct financing, and pressed for a cooperation agreement between the MOA and the AIDB, as had been foreseen at appraisal. The agreement, when it eventually came, proposed that credit would be used to

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11. The IDA Regional office has commented on "the need for withdrawal strategies in countries where policies are not conducive to any economic development."

12. 13 vehicles, 2 motor graders, 2 backhoes, 4 dump trucks, and 4 tractors and trailers.

13. The November 1991 mission was reconnaissance in nature, not a full supervision.

finance upstream works for every scheme and direct financing through IDD would finance the balance (at appraisal, IDD and AIDB had been expected to operate in discrete areas if AIDB was to operate at all). IDA accepted this misconceived arrangement, thus making all schemes hostage to AIDB's (unproven and very dubious)[14] ability to perform; to there being an adequate number of registered cooperatives to which to lend; and to an adequate number of those cooperatives being prepared to borrow. In the event, no loans were made, hence no irrigation development took place until this arrangement was abandoned in 1990.

3.6 Following abandonment of the credit approach, the project adopted the approach to irrigation development that had been intended at appraisal—the use of direct financing through IDD and a policy of close collaboration with farmers' groups. These changes laid solid foundations for progress in this component.[15] But the progress was delayed by the overthrow of the government. Once the political situation had settled down and the newly constituted regional governments were in place, good progress was made. The area brought under irrigation by the project increased from 215 ha at the end of 1993 to about 2,930 ha at the end of 1996. This included the development of support services through which farmers were trained both in scheme operation and maintenance and in improved husbandry.

3.7 A remaining problem is that scheme roads were developed only to the extent necessary to provide access for construction. Consequently, several schemes have been left with poor access, which adversely affects farmers' input purchasing and output marketing. World Food Program funding for access road construction was never mobilized; the audit could not ascertain why.

3.8 Supervision missions devoted considerable time and energy to the cost-recovery issue. This had no effect as the government lacked the will to follow up on it. Discussing it with beneficiaries may even have done some harm. In one scheme, money had been collected even though there was no policy for its custody and use.

Soil Conservation

3.9 The component to strengthen the CFSCDD at headquarters was not implemented, but the audit was unable to establish why. This is not a serious lapse, however, because the purpose seemed to duplicate work already done under a Bank-sponsored/FAO-executed Highlands Reclamation Study (which absorbed over 200 person months of technical assistance) and under earlier FAO technical assistance.

3.10 The three-tiered trials component (trial, on-farm verification, and demonstration) was implemented only partially and only after long delay. So great was the delay that the two lower tiers were never attempted and the trials were conducted over a shorter period, on fewer and smaller sites, and covering fewer variables than planned.

3.11 The bund stabilization component went poorly, particularly for the first five years. Initially there was disagreement within the government as to which department was to execute the

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14. As originally formulated the component was to be wholly credit financed. At appraisal, concerns about the abilities of AIDB and cooperatives led to their role being reduced to a pilot activity. An internal (IDA) memorandum of October 14, 1986, reinforces doubts about the credit system.

15. The way these events are portrayed in supervision reports and reflected in the ICR (and endorsed by OED's Evaluative Memorandum) is misleading. A sense is conveyed that resort to direct financing and use of water users' associations (WUAs) was conceived during implementation in the face of the failure of the AIDB component. However, it was always the intent that direct financing be the mainstay of the project and that scheme development be solely driven by farmer demand and that the farmers should agree to organize themselves in such a way as to be able to operate and maintain the scheme.

program. The Animal Husbandry and Feed Development Department (AHFDD) had been chosen at appraisal (adding to institutional complexity), apparently because it had the ability to produce the seed for the grasses needed for the stabilization program, whereas the CFSCDD did not. AHFDD never took up the program, though, and eventually it was implemented by CFSCDD. During the 1991–92 civil disturbances, farmers damaged the grass seed nurseries and many bunds, reportedly as an expression of resentment against the Dergue regime and the coercion that was used to implement bund construction.[16] In the last three years of the project, fair progress was made, with just over a quarter of the original target being completed.

3.12 The establishment of the modified T&V extension system in the project area started sooner and proceeded more smoothly than other components. At project closing, as noted in the ICR, the target ratio for development agents to farmers (1:1,300) had been surpassed. This had been achieved despite administrative and civil turmoil. The audit disagrees with the ICR finding that the T&V system was being discontinued in favor of the Sasakawa-Global 2000 model.[17] Although development agents are now required to conduct demonstrations following the Global 2000 model, they also continue with their regular training (as do the subject matter specialists) and maintain their regular rounds of their contact farmers covering a full range of technical messages beyond those addressed by the Global 2000 demonstrations.

Support for Women

3.13 After a slow start, the women's vegetable garden component went well and exceeded its target. The component for income-generating activities financed through an AIDB credit line was also greatly delayed, mainly by security problems. Following the change of government and adoption of a more liberal economic policy, AIDB, responding to representations from an IDA mission, changed its lending procedures. These changes included: the provision of loan to women formed voluntarily into groups; introduction of group liability for loan security; coverage of the livestock purchased on credit under insurance; and waving the requirement to co-sign loans by the borrowers' husbands. After the introduction of these changes, the program took off in a remarkable manner.

16. The use of coercion was verified by the audit mission in conversations with farmers. It is surprising and unfortunate that this was not discovered during formulation or appraisal as it created an unpromising environment in which to promote soil conservation, always a difficult undertaking.

17 The Sasakawa-Global 2000 agricultural demonstration program started in Ghana in 1986. A major regional workshop to promote it was held in Addis Ababa in 1997 and opened by Prime Minister Meles Zanawi. Its objective is to demonstrate that, given the technology already available in Africa, small-scale farmers can dramatically increase their yield of staple crops such as maize, sorgum and wheat. In addition to extension services, SG-2000 provides inputs, credit and advice on marketing incremental yields.

4. Outcome

Irrigation

4.1 After the change of government and the period of civil turmoil that followed, the irrigation component went well and in line with appraisal proposals. Forty-five schemes have been rehabilitated or established, covering just under 3,000 ha compared to the 4,400 ha original and 3,500 ha revised targets. The schemes have been developed with farmer collaboration, including contributions of labor, and the farmers have formed themselves into water users' associations (WUAs). These WUAs have taken responsibility for scheme operation and maintenance (thus achieving a better *de facto* cost recovery than is achieved in many countries). Farmers are practicing double and occasionally triple cropping and are growing higher value (horticultural) crops than foreseen at appraisal. The high husbandry standards to a considerable degree reflect the good work of the support services. Thus, the foundations have been laid for a soundly planned, sustainable development of small-scale irrigation on an expanding scale and a well-trained cadre has been established to do this.

4.2 It appears that the Bank's safeguard policy on international waterways was breached.[18] Despite the project area being reduced, at the request of the government, by excluding catchment basins of international waterways, the government requested reimbursement for schemes located in such catchments and, in the absence of adequate supervision, the Bank financed these subprojects.[19]

4.3 The ICR calculated an economic rate of return (ERR) of about 25 percent for the irrigation component. The farm models used in the calculation are a reasonable depiction of present farming activity on the schemes with one caveat: the component mainly improved and enlarged existing schemes. On these schemes, as was assumed in the SAR's ERR calculation, there was certainly some dry season irrigation and vegetable production. This is ignored in the ICR's calculation, which therefore slightly overstates the ERR. The truth probably lies closer to the SAR estimate of 19 percent,[20] which is still an excellent outcome.

Soil Conservation

4.4 The trials component was a failure. Little of the original work program was completed and the few trials carried out were not sufficiently replicated over time—given the drought-prone environment—to produce significant results. On this the audit differs from the ICR, which states that all the cropping trials with maize and sorghum were successful. In our view, these and other techniques could be expected to be successful based on work elsewhere (e.g., ICRISAT) but were not proven *in situ* because of the limited replications.

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18. Some of the schemes in East Hararghe visited by the audit mission (Water - 01, 02, & 03) are on water courses which are part of the catchment of the Wabi Shebelli River which is an international water course draining into Somalia. Other schemes financed by the project-but not visited-are also in this catchment. OED has requested clarification of the location of such schemes from the responsible IDA staff, since the IDA regional office has commented: "On the issue of international waterways, there were no riparian issues involved in this project and, therefore, the reference in the PAR to "....the Bank's policy on international waterways..." was not relevant."

19. There is no mention of this issue in the ICR. In discussing this point regional staff have noted that a contributory factor may be that during the period when such schemes were financed, security conditions did not permit IDA staff to go to the area in question. This raises a further issue of the justification for continuing to disburse against expenditures at sites which IDA staff could not visit for supervision purposes, which is contrary to normal policy.

20. While there is no doubt that dry season irrigation took place before the project, there are no data by which it can be quantified, hence the subjective judgment regarding the ERR estimate.

4.5 In the absence of any monitoring data the extension component can only be judged subjectively. In our judgment, the outcome of the component has been good: the modified T&V system is now employed in all the *woredas* of East and West Hararghe. The target for the farmer-development agent ratio has been surpassed. Each of many agents interviewed in the field had a clear idea of his work program and knew what he was doing. And from farmer interviews it was clear that the agents were known and were generally well regarded and considered helpful. In the irrigation schemes the extension effort has undoubtedly contributed significantly to the introduction of new crops and varieties and to improved in-field water management. An important feature of the extension program is that soil conservation messages have been integrated into it. But more could be done. Given the vital importance of arresting erosion, the budgetary support for conservation is inadequate relative to that for the Global 2000 technology packages. An example is that supplies of planting material for bund stabilization are inadequate. Also development agents are currently prepared to compromise over the conservation message if it is necessary to meet their target for Global 2000 demonstrations.[21] This should stop, with greater importance being given to the conservation message.

4.6 The bund stabilization program achieved little in physical terms, less than 30 percent of target. More important, as noted in the discussion of design, the component was ill-conceived and should not be replicated. The erosion problem in Ethiopia is so enormous that the introduction of conservation-based husbandry practices should be a central part of the extension message. This should cover stabilization of existing bunds. Only if farmers can be made to be believers in the merits of conservation-based husbandry will they retain the bunds (and other related conservation works) in a workable condition. As noted above, the conservation element should receive stronger budgetary support within the extension program.

Support for Women

4.7 The women's vegetable garden component exceeded the appraisal target by over 50 percent. It was well received by the women and contributed to household income and family nutrition. The more successful women have been able to expand their operation and some have used profits to purchase goats and cows. Over 75 percent of beneficiaries appear to be continuing production notwithstanding that inputs initially given free now have to be purchased. The women do face a significant problem in that good vegetable seed is scarce.

4.8 The program of income-generating micro projects performed well in terms of loan approvals. This was toward the end of the project following the change of government and, at the urging of a supervision mission, the adoption of improved lending policies by the AIDB. About ETB 2.2 million was disbursed to 3,450 women in 413 groups; about 75 percent was for the purchase of dairy cows with the balance going to sheep and goat production.

4.9 The project also provided the beneficiaries with vegetable seeds and extension service. About half of the vegetable production is consumed by the family, while the other half is sold in the market, contributing to improved nutrition and incomes. Many women are now re-investing in expanding their vegetable gardens or in livestock production, and three of these women were given national awards for their successful ventures.

4.10 It is too soon to know the outcome of this pilot, but the indications in East Hararghe are promising. All the women interviewed in the field were enthusiastic about the program and,

21. If the field of a farmer candidate for a Global 2000 demonstration requires conservation measures, e.g., bunding, the development agent will propose them. If the farmer declines, the agent will go ahead with the demonstration. The result is to downplay the importance of conservation in the minds of both agent and farmer. In addition, the demonstration is carried out at a sub-optimal level of excellence.

according to regional government officials, first year repayments amounted to about ETB 0.3 million against loans of ETB 1.6 million made in September 1996. This looks quite respectable when viewed against a five-year loan period. But there is a problem.

4.11 All the interviewed women insisted that they were told (all are illiterate) that the loans would be for five years, yet their documents are for three-year loans. This would work for the goat loans, but not for the larger dairy cow loans that are the majority.

4.12 Mistakes made in the haste to approve loans before the project closed may account for this problem. The logical solution would be to reschedule at least the dairy cow loans onto a five-year basis. If that is done, there is every chance of a successful outcome to this pilot in East Hararghe. If it is not done, the pilot will appear to have performed poorly, the women will bear the stigma of default, and the AIDB will have a bad portfolio of loans.[22] The audit mission did not visit West Hararghe groups, but the situation is reported to be similar to East Hararghe. However, the situation with the loans in the Dire Dawa region is less promising.

4.13 The audit mission did not visit the Dire Dawa area but did collect loan information. A total of about ETB 104,000 was loaned to 23 groups: 22 for goat production and one for camels. At the time of the mission (November 1998), only ETB 3,229 had been repaid out of the amount due of ETB 59,715. This element of the pilot therefore looks doomed to failure.

4.14 Speculating about the difference in performance between the two regions, two things can be said. First, the climate in Dire Dawa is much harsher than in Hararghe. Second, the Hararghe program is being managed very well by dedicated officials, perhaps Dire Dawa is less fortunate.

4.15 The SAR did not estimate a rate of return for the conservation component; it simply stated that if the project caused a 2 percent increase in sorghum production in the project area it would be sufficient to give a 15 percent rate of return. In the event, no evaluative data have been collected and it would in any case be almost impossible to isolate the impact of the project from all the other variables affecting project-area production. Purely subjectively, however, judging from the quality of the extension program observed during the audit mission, the program will yield a satisfactory economic outcome.

22. The Development Bank of Ethiopia, as the AIDB has been renamed, had, at the time of the audit mission, recently reorganized the branch which had been handling these loans. As a result the bank's recovery figures for East and West Hararghe could not be obtained. The issue of rescheduling these loans was discussed with DBE officials and the Oromiya Regional Government is expected to make an official request for this to be done.

5. Ratings

Outcome

5.1 The audit concurs with the ICR that project outcome was **satisfactory,** particularly in view of its good ERR, substantial institutional development and a high degree of stakeholder ownership. In our view, however, IDA should not have proceeded with the project at all given the conditions in Ethiopia at the time of approval – the project, as designed, was not relevant to socio-economic conditions at appraisal. That success was ultimately achieved and the project became relevant was due entirely to the overthrow of the Dergue regime and its replacement by a government that pursued sounder social and economic policies. This could not have been foreseen at the time of approval.

Institutional Development

5.2 The technical assistance and training aspects of the project were handled well and have made a **substantial** and lasting contribution to institutional development. This agrees with the ICR rating. The enhancement of the capacity to plan, execute, and help farmers operate small irrigation schemes is of particular value.

Sustainability

5.3 The overall sustainability of the project is **likely** (as in the ICR). The project's main element, the irrigation schemes, will likely be sustained now that the WUAs have taken on responsibility for operation and maintenance. The extension effort is likewise being sustained and appears likely to continue; indeed, incremental resources have been put into the Global 2000 demonstrations. Bunding and terracing have a long history in Hararghe, and so long as farmers' incentives are adequate, as under the present regime, the bunds should be maintained. The women's vegetable growing also looks likely to be sustained, though a better supply of good seeds would enhance that sustainability. It is early yet to predict the sustainability of the women's credit program, but the Hararghe element looks promising, provided steps are taken to remedy the problem of loan duration. If the program is to be replicated, a more suitable financial intermediary should be found; AIDB has neither the branch network nor the staff suited to the demands of this type of program.

IDA Performance

5.4 IDA's performance on this project was **unsatisfactory**; this contrasts with the ICR's satisfactory rating. There are three elements to this judgment. First, as argued earlier, IDA should not have financed the project at all. Second, the design of the project as appraised was overly complex. Third, early supervision performance was unsatisfactory. In particular, with regard to the irrigation component, it paid no heed to monitoring the changes in project area because of the international waterway issue, excessively focused on the pilot AIDB/credit element, failed to push direct funding, and accepted a seriously flawed MOA/AIDB cooperation agreement that kept the component at a standstill for at least four years.[23] As noted earlier, the audit rejects the assertion in supervision reports and the ICR that supervision mission advocacy of direct funding and formation of WUAs got a stalled project moving. This was how the project was designed; it stalled because it was allowed to focus exclusively on what had been intended as a pilot activity.

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23. If there were factors at work here that are not recorded in the project file such that, against all suasion, GOSE was determined to have this unsuitable agreement, then supervision should have recommended suspension of the credit.

Nor does the audit agree with the ICR's laudatory judgment that, in the face of poor initial progress, "supervision missions should be credited for believing in the validity of the project, and for not being discouraged by changing events" (ICR para. 29). We take the contrary view: since the missions could not foresee the overthrow of the Dergue regime, whose policies undermined the objectives of the project, the missions should at least have raised the prospect of suspension.

5.5 In commenting on this report the IDA Regional office takes a contrary view in support of the ICR's position, as follows:

"We accept that there were weaknesses in certain aspects of the Bank's performance: unrealistic implementation period for a project involving a huge amount of civil works, several implementing agencies, considerable number of Water User Associations, infrequent supervision missions and lack of a marketing strategy for farm produce. The socialist orientation of the economy and related policy and the highly centralized management of the economy influenced the project design. There were also a number of other constraints faced by the project, particularly at the early stages of project implementation when supervision was difficult owing to the security situation in the country. However, since 1992/93, the entire framework changed and the situation improved. Consequently, there were improved supervision missions and consistent attention was given to implementation issues which, in our view, contributed to the overall performance of the project."

"Therefore, the Bank's persistence in staying with the project turned out to be most useful in developing successful models under the project, despite all the road blocks in Ethiopia (centrally controlled system, civil strife, change of regime and wide administrative disruptions, to name a few). We believe the Bank was courageous for not abandoning the project when faced with all these challenges. The success of the project was also measured by a larger follow-up project currently financed by IFAD, nation-wide."

5.6 On balance, however, the audit finds that the early shortcomings of IDA performance were too egregious to allow a satisfactory performance rating.

Borrower Performance

5.7 Over the project period, Ethiopia was governed by two regimes of such vastly different character, separated by a civil war, that a single rating of borrower performance is deceptive. On balance, borrower performance was **unsatisfactory** (satisfactory in the ICR) because overall achievements fell well short of targets despite an extension of the project period by 50 percent. The performance of the Dergue regime was unsatisfactory: its early coordination efforts were inadequate and lead to delay. This was compounded by administrative upheaval. Its policies, which ultimately led to a civil war, were hostile to many of the project concepts and precluded its success. The present governments, federal and regional, performed much better, and on balance satisfactorily, though further delay was caused by administrative upheaval. To their credit, the regional governments, particularly that of Oromiya, have continued strong support and development in the project area with irrigation development being expanded following the project pattern.

5.8 The IDA Regional office has a contrary view:

"During the early stage of implementation, the project was plagued with weak project management and widespread political instability in the country. All these made the achievement of the project objectives more difficult. However, the project did take off after 1992 and it achieved substantially the revised targets, albeit with some delays."

"Thus, we think that this is one of those cases where perseverance by the Bank and the Borrower paid off and hence they should be commended, rather than condemned, for preparing and implementing a project to benefit the poor rural population. While the satisfactory outcome and substantial institutional development may have been related to the overthrow of the Dergue regime, we would not have had this outcome had the project been cancelled and therefore we recommend that the rating for the Bank's and Borrower's performances be adjusted to satisfactory."

6. Findings and Lessons

Findings

6.1 A credit for a project of overly complex design was extended to a government which, at the time of project formulation, appraisal, and approval, was clearly intent on pursuing social and economic policies that were inimical to project success. That the outcome was ultimately satisfactory is due entirely to the overthrow of the regime to which the credit was extended and its replacement by a government pursuing sounder policies, not to the design of the project. The design weakness was compounded, and progress of the key irrigation component was made impossible, when the lenders accepted a flawed cooperation agreement between the MOA and the AIDB, which held the entire component hostage to the success of what had been intended as pilot activities.

6.2 A major project objective was to promote conservation-based agricultural development. The project designers obviously felt that adequate underpinnings for this were lacking and included a small research component to fill this gap. This component, divorced from mainstream research activities, and located in a drought-prone area with erratic rainfall, was supposed to produce extendible technological innovations within 2 to 3 years. This was a hopelessly unrealistic expectation.

6.3 Despite its inauspicious beginnings, the irrigation component has established a sound, sustainable approach to the development of small-scale irrigation based on farmer participation. A cadre of staff capable of carrying out such work has also been established. Farmers in all the schemes visited by the audit mission were unanimous that their main problem was a shortage of quality seed, which sometimes limited their planting programs. This should be addressed.

6.4 The extension component helped to establish an effective extension program in Hararghe. Reflecting Government of Oromiya policies this has evolved beyond what T&V purists would approve, but it is effective and that is what counts. Soil conservation messages/demonstrations have been integrated into the program to a good degree (as distinct from free-standing efforts like the bund stabilization program). This needs to be taken further, however, both in budgetary support and in the commitment of staff to a complete technical package (promotion of the conservation message currently may be compromised in pursuit of targets for other messages).

6.5 The women's vegetable-growing pilot was successful, although its future is threatened by the seed problem. It is too early to say whether the credit pilot will be successful. Although the program in Hararghe looks promising, it is threatened by confusion over the terms of the dairy loans. This should be sorted out as a matter of urgency so that the pilot is given a fair trial.

Lessons

- To undertake conventional projects[24] in countries whose policies are inimical to economic development is to court failure.

24. Meaning projects in which beneficiaries, and perhaps other stakeholders, are expected to react normally to social and economic stimuli.

- Where institutions are weak, project design should focus on achievement of the primary objectives and be as simple as possible to meet them.

- Sustainable small-scale irrigation development can be achieved when farmers (and women's groups) are closely involved and shoulder the responsibility for scheme operation and maintenance. This is in marked contrast to the experience with large, top-down scheme development, where achieving farmer involvement and getting them to assume operational responsibility is frequently slow, difficult, expensive, and often impossible.

- Small research components away from mainstream research activity are seldom successful. Hence, if another desired component lacks technological underpinnings, using such a component to fix the problem is not the answer. The unsupported component should be postponed or dropped until technological answers are forthcoming from a reliable source.

- The usefulness of a pilot program depends on sound planning and preparation. The women's credit program in this project has been jeopardized by haste and poor preparation of staff for its launch. As a result, beneficiaries have been misled and are confused.

- Cofinancing as a junior partner (as in this project) can prove to very costly to the Bank if safeguard policies are involved, particularly when not foreseen at the time the partnership was agreed.

- If safeguard policies are involved, compliance with them must be effectively monitored.

Basic Data Sheet

ETHIOPIA—SMALL SCALE IRRIGATION AND SOIL CONSERVATION PROJECT (CREDIT 1765–ET)

Key Project Data

	Appraisal estimate	*Actual or current estimate*	*Actual as % of appraisal estimate*
Total project costs (US$)	33.7	13.9	41.2
Credit amount (US$)	7.0	4.6	66.0
Cofinancing - IFAD Ln SRS003-ET	12.0	5.6	46.7
- IFAD Ln 131-ET	1	**	-
- OPEC	4.0	1.7	42.5
- WFP	1.0	**	-
Cancellaltion	-	13.3	-
Date physical components completed			
Economic rate of return (%)			

**: Not mobilized

Cumulative Estimated and Actual Disbursements *(US$ million)*

	FY88	*FY89*	*FY90*	*FY91*	*FY92*	*FY93*	*FY94*	*FY95*	*FY96*	*FY97*
Appraisal estimate	1.00	2.20	3.20	4.50	5.50	7.00				
Actual	0.87	0.90	1.17	1.95	3.11	3.71	3.91	4.31	4.34	4.63
Actual as % appraisal	87	41	37	43	56	53	56	62	62	66

Project Dates

Steps in project cycle	*Original*	*Actual*
Preparation		November 85
Appraisal	May-June 86	May-June 86
Negotiations	November 86	November 86
Board presentation	March 87	March 87
Signing	April 87	April 87
Effectiveness	October 87	October 87
Mid-term review	April 90	November 92
Project completion	June 93	December 96
Credit closing	December 93	December 96

* The ICR dates are incorrect

Staff Inputs (staff weeks)

Stage of project cycle	*Staff Weeks*	*US$*
Lending	11.7	21,487
Supervision	85.03	205,034
Completion	2.0	3,810
Total	98.73	230,331

* By IFAD

** Data not available due to Bank reorganization

Mission Data

	Date Month/yr	*No. of persons*	*Staff days in field*	*Specializations represented* **	*Performance rating **** *Imp. status*	*Dev. objec.*	*Types of ***** *problems*
Preparation *	11/'85						
Appraisal	5-6/'86	7		I,E,E,A,C,S M,E (IFAD)			
Supervision 1	May-87	2	18	I,E	NR	NR	NR
Supervision 2	Feb-88	2	16	I,A	S	S	PM
Supervision 3	Jun-88	3	18	I,A,PC(IFAD)	S	S	PM
Supervision 4	Mar-89	3	16	I,A,PC(IFAD)	S	S	PM,P
Supervision 5	Feb-90	5	20	I,A,EX,A (IFAD)	S	S	PM,P,PR
Supervision 6	Oct-90	2	12	I,A	U	U	PM,P
Supervision 7	Nov-91	1	8	I	U	U	PM,W
Supervision 8	Oct-92	6	17	I,A,F,R A&PC (IFAD)	S	S	PM,W,P
Supervision 9	Jun-93	3	18	I,A,I (IFAD)	U	S	PM,F
Supervision 10	Apr-94	3	19	I,A,F	S	S	PM,F
Supervision 11	Nov-94	4	19	I,A,H,PC (IFAD)	S	S	PM,F
Supervision 12	Mar-96	4	20	I,A,F,O	S	S	PM
Supervision 13	Nov-96	3	14	I,A,O	S	S	PM
Completion	Apr-97	2	n.a.	E,O			

* Prepared by IFAD, no Bank involvement

** A=Agriculturist; C=Credit Specialist; E=Economist; EX=Extension Specialist; F=Financial Analyst; H=Horticulturist; I=Irrigation Engineer; ME=Monitoring & Evaluation Specialist; O=Operations Officer; PC=Project Controller; R=Rural Institutions Specialist; S=Soil Conservation Specialist

*** NR=Not reported; S=Satisfactory; U=Unsatisfactory

**** PM=Project Management; P=Political; PR=Procurement; W=War; F=Funds

n.a. = not available

Other Project Data

Related Bank Credits

Project title	*Purpose*	*Year of approval*	*Status*
Preceding operations			
Irrigation 1 – Amibara	Develop irrigation for increased food crop production	1973	Completed
Agricultural Minimum Package	Increase crop production by supplying modern inputs	1973	Completed
Drought Areas Rehabilitation	Rehabilitation	1974	Completed
Grain Storage and Marketing	Improve the storage of food crops and their marketing	1978	Completed
Second Agricultural Minimum Package	Increase crop production by supplying modern inputs	1980	Completed
Agricultural Research	Support to Agricultural Research	1984	Completed
Drought Recovery Program	Rehabilitation	1985	Completed
Following operations			
Fourth Livestock Development Project	Increase livestock productions by improving animal health and feed production	1987	Completed
First Peasant Agriculture Development	Increase food production in the highlands	1988	On-going
Emergency Recovery and Reconstruction Program	Rehabilitation of the post socialist economy, including agriculture	1992	On-going
National Fertilizer Sector Development	Increase crop production through fertilizer supply	1995	On-going
National Seed Systems Development	Increase crop production through seed production and supply	1995	On-going
Social Rehabilitation Fund	Rural infrastructure development including small-scale irrigation	1996	On-going

Annex B

Table B1: Key Indicators of Project Performance

Indicator	*Unit*	*SAR*	*Mid-term*	*Actual*
Irrigation				
No. of schemes	No	NS	NS	45
Area to be developed	Ha	4400	3500	2930
No. of farmers	No	17600	NS	10067
Agronomic trials	No	25	25	13
Demonstrations	No	121	121	156
Conservation				
Trial sites	No	6	3	3
On-farm trials	No	30	0	0
Demonstrations	No	100	0	0
Bund stabilization	Ha	9500	1800	2600
DA : farmers	Ratio	1:1300	1 : 1300	1 : 930
Women's gardens	No	370	370	580
Women's credit groups	No	NS	NS	413
Women's credit loans	ETB '000	500	NS	1730
Technical Assistance & Training				
Total TA	mm	415	372	237
Long-term oversea training	mm	192	NS	585
Long-term oversea training	No of staff	NS	NS	38
Short-term overseas training	mm	242	NS	147
Short-term overseas training	No of staff	NS	NS	60
Farmers training	No	NS	NS	1900

NS=Not specified

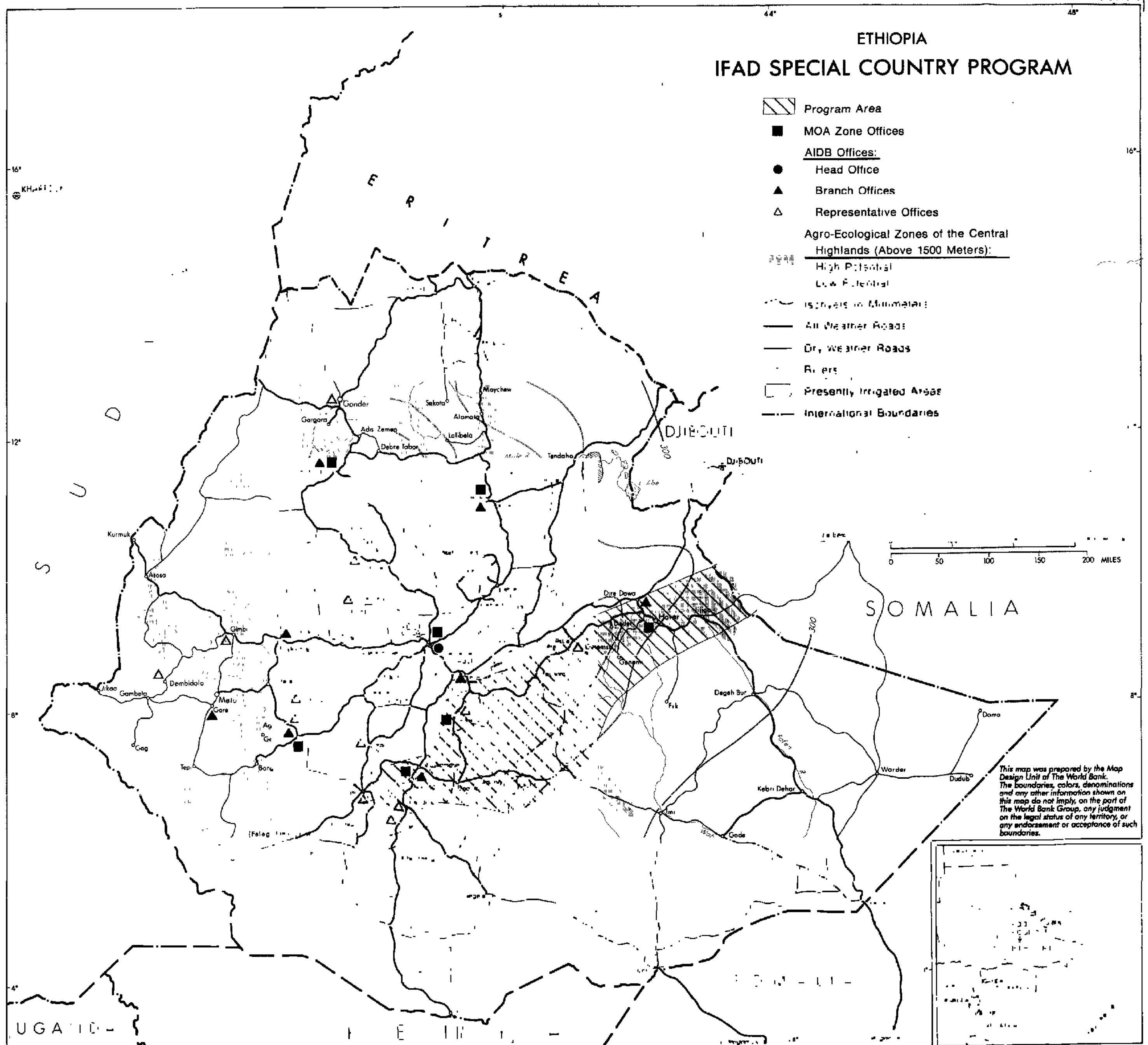
Annex B

Table B2: Studies

Study	*Purpose*	*Impact of study*	
		ICR	*Audit*
1. Irrigation cost recovery	Help form recovery policy	Minimal, no government intent.	Minimal, no government intent.
2. Traditional irrigation system organization	Help scheme planning	Useful in contemplating introduction of WUA	Limited use in group formation
3. Vegetable marketing	Assess market	Limited use. GOSE did not favor free market	No use made
4. Traditional soil con measures	Help plan soil con program	Useful in planning bund program	Useful in planning bund program
5. Conservation based agricultural trials	Help plan trial program	Was major input to trials component	Little value, program severely curtailed

MAP SECTION

IBRD 20028R


ETHIOPIA
IFAD SPECIAL COUNTRY PROGRAM
Program Area
MOA Zone Offices
AIDB Offices:
Head Office
Branch Offices
Representative Offices
Agro-Ecological Zones of the Central Highlands (Above 1500 Meters):
Presently Irrigated Areas
International Boundaries
ERITREA
SUDAN
DJIBOUTI
SOMALIA
Gonder
Gorgora
Adis Zemen
Debre Tabor
Sekota
Alamata
Lalibela
Maychew
Tendaho
Kurmuk
Asosa
Gimbi
Dembidolo
Gambela
Metu
Gore
Dire Dawa
Degeh Bur
Dama
Warder
Dudub
Kebri Dehar
Gode
0 50 100 150 200 MILES
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