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DEPARTMENT OF STATE
AGENCY FOR INTERNATIONAL DEVELOPMENT
Washington, D.C. 20523

CAPITAL ASSISTANCE PAPER

Proposal and Recommendations
For the Review of the
Development Loan Committee

ETHIOPIA - ADA AGRICULTURAL DEVELOPMENT PROJECT

AID-DLC/P-982

DEPARTMENT OF STATE
AGENCY FOR INTERNATIONAL DEVELOPMENT
Washington, D.C. 20523

UNCLASSIFIED

AID-DLC/P-982

June 11, 1971

MEMORANDUM FOR THE DEVELOPMENT LOAN COMMITTEE

SUBJECT: Ethiopia - Ada Agricultural Development Project

Attached for your review are the recommendations for authorization of a loan in an amount not to exceed $1,300,000 to the Imperial Ethiopian Government to assist in financing the foreign exchange and local costs of fertilizer, farm machinery, other production inputs, storage facilities and project vehicles and other goods and services for use by the Ada Agricultural Development Project organization.

Please advise us as soon as possible but in no event later than close of business on Friday, June 18, 1971, if you have a basic policy issue arising out of this proposal.

Rachel R. Agee
Secretary
Development Loan Committee

Attachments:
Summary and Recommendations
Project Analysis
ANNEXES I-XV

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SUMMARY AND RECOMMENDATIONS

1. Borrower: Imperial Ethiopian Government (IEG)

2. Amount of Loan: $1,300,000*

3. Terms:

   A. Maturity: 40 years, including a 10-year grace period

   B. Interest: 2 percent per annum during the grace period; 3 percent thereafter

   C. Currency: Interest and principal payable in U.S. doll rs

4. Financial Plan:

	Foreign Exchange Costs	Local Costs	Total
AID Loan	$ 660,000	$ 640,000	$1,300,000
AID Grant	1,711,000	-	1,711,000
IEG Contribution	-	642,000	642,000
	$2,371,000	$1,282,000	$3,653,000

5. Description of the Project: The project consists of the provision of a comprehensive "package" of goods and services to small farmers in the Ada District of Ethiopia to increase the productivity of peasant agriculture. The project organization will extend supervised short-term credit to participating farmers for the purchase of inputs including fertilizer, improved seed, pesticides and some machinery rental services. The project organization will also provide roads, water supplies and marketing services. The project is intended to reach 10,240 individual farms by the end of the tenth year, covering approximately 47,000 hectares.

* All dollar amounts in this paper are expressed in U.S. dollars (US$1.00 = Eth.$2.50) unless otherwise stated

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6. Purpose of the Loan: To finance the foreign exchange costs and a portion of the local costs of the project. The cost of U.S. contract personnel for the project will be financed by an AID grant.

7. Background of the Project: The Ada District was originally selected in early 1967 as one of three high-potential agricultural areas to be studied by a Stanford Research Institute team using systems analysis methods. The SRI report, submitted in April, 1968, suggested a highly favorable rate of return to investment in an agricultural development project in the Ada District. Subsequently SRI prepared a more detailed report, completed in early 1969, on a possible project for the Ada District. The IEG reviewed the reports during 1969 and in mid-1970 convened a working group to prepare a detailed proposal for AID assistance in financing the required technical assistance and commodity inputs. The IEG proposal was forwarded to AID in October, 1970.

8. Export-Import Bank Clearance: Received on May 11, 1971.

9. Statutory Criteria: Satisfied, see Annex I.

10. Country Team Views: The CT strongly endorses this project.

11. Issues: None.

12. Recommendation: Authorization of a loan to the Imperial Ethiopian Government for an amount not to exceed $1,300,000, subject to the terms and conditions contained in the draft authorization attached as Annex XV.

CAPITAL ASSISTANCE COMMITTEE

USAID:

Loan Officer	J. Westley
Program Officer :	D. Miller
Agricultural Advisor:	W. Eichberger
Engineer :	D. Gephart

EARCDO:

Loan Officer	:	O. Cylke
Counsel	:	R. Meignan

AID/W:

AFR/CDF	:	R. Moyers
AFR/EAF	:	A. Matthews
GC/AFR	:	K. Fries
AFR/CDF/ENGR	:	R. Henrikson

AID-DLC/P-982
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CAPITAL ASSISTANCE PAPER

ETHIOPIA: ADA AGRICULTURAL DEVELOPMENT PROJECT

I. INTRODUCTION

A. Background

The Ethiopian economy is predominantly rural and agricultural. Agriculture accounts for about 60% of GNP, (as compared with the African average, excluding South Africa, of 40%) and generates about 95% of total exports. Out of a total estimated population of 25 million, only 1.7 million live in cities; it is estimated that 87% of Ethiopia's manpower is engaged directly in agricultural production. Modern manufacturing, which accounts for less than 4% of Ethiopia's GNP, is heavily dependent on the processing of agricultural raw materials.

The Third Five Year Development Plan of the Imperial Ethiopian Government accordingly stresses that the "foundation for the Ethiopian economy is and must long remain agriculture"; and further that the "real and sustained development of Ethiopia is unthinkable without sound progress in the expansion of agricultural output". 1/ The TFYP emphasizes that this expansion of output must come about both through the encouragement of corporate and commercial agriculture and through the modernization of peasant subsistence agriculture. The TFYP also emphasizes that efforts should be focused on certain areas or problems through the use of the "package project" approach and specifically identifies the Ada District near Debre Zeit as a possible site for an area package project.

The Ada Agricultural Development Project is designed to provide all the material and human inputs required to achieve a significant expansion of grain output in the Ada District, an area typical of Ethiopian highland peasant agriculture. (For the location of the Ada District, see map at Annex II.) The Ada District, located about 45 kilometers southeast of Addis Ababa, has long been famous for the high quality of its grain. Debre Zeit, the principal town in the Ada District, has developed rapidly in recent years and has several flour mills; it is also the site of Haile Selassie I University's Agricultural Experiment Station. The Ada District was selected in early 1967 as one of three high-potential agricultural areas to be studied by a Stanford Research Institute team using systems analysis methods. 2/ The study by SRI suggested that the rate of return to investment in a package

1/ IEG "Third Five Year Plan, (1968-1973)," page 36

2/ SRI, "Systems Analysis Methods for Ethiopian Agriculture," April, 1968.

agricultural development project in the Ada District would be highly favorable. Based on these results SRI prepared a more detailed report on the Ada District as part of the SRI Agro-Industrial Sector Survey.[3/] The IEG reviewed both reports during early 1969. Subsequently, during his visit to Washington in July, 1969, the Emperor requested that President Nixon consider U.S. assistance in financing a project for the Ada District. In mid-1970 the IEG formed a working group to prepare a detailed proposal for AID assistance in financing the required technical assistance and commodity inputs. The group included senior representatives of the Ministry of Agriculture, the Ministry of National Community Development and Social Affairs and the Ministry of Land Reform and Administration, as well as representatives of the Ethiopian Grain Board, the Planning Commission and AID. The IEG forwarded the detailed project proposal to AID in October, 1970.

B. Relationship of Project to U.S. Assistance Strategy

Steps are being taken to increase the effectiveness of U.S. assistance by adhering to a strategy of concentration. The U.S. assistance strategy for Ethiopia is based on concentration on one major sector - agriculture - and on two sub-sectors - higher education and financial resources management. The Ada Agricultural Development Project falls within agriculture, the major sector of concentration. The project is intended to increase agricultural output by small farmers in an area typical of Ethiopian highland peasant agriculture. Progress in the modernization of traditional peasant agriculture is essential to the long-run agricultural development of Ethiopia.

C. Borrower and Executing Agency

The Borrower is the Imperial Ethiopian Government. The implementation of the project will be the responsibility of the Ada project organization, operating under the aegis of the Ministry of Agriculture. The IEG Ministry of Finance will relend the proceeds of the foreign exchange component of the AID loan to the project organization on the original AID loan terms; the project organization will in turn make short-term credit available to participating farmers for purchase of the inputs financed under the loan.

3/ SRI, "A Development Program for the Ada District Based on a Socio-Economic Survey," March, 1969 (Report No. 13 of the Agro-Industrial Sector Survey.)

The Ada project organization will be established as a semi-autonomous body by Ministerial Order of the Minister of Agriculture. This organization will be charged with full responsibility for receiving funds, channeling these in accordance with authorized plans, making periodic accounting of all monies, and reporting on economic benefits flowing from the project.

D. Export-Import Bank Clearance

The Export-Import Bank Board of Directors reviewed the proposed loan on May 11, 1971, and concluded that, in view of the need for local cost financing and concessional terms, the project was not appropriate for Export-Import Bank financing.

II. TECHNICAL ANALYSIS

A. Project Description

The project consists of the provision of a comprehensive "package" of goods and services to small farmers in the Ada District to encourage the modernization of peasant agriculture and substantially increase agricultural output in the area. The project is intended to cover about 47,000 hectares of the estimated 58,000 hectares in the project area, or to reach about 80% of the estimated 12,800 farmers in the Ada District.

To accomplish its objectives the Ada Agricultural Development Project will establish ten multi-purpose farm development centers. (For a map of the Ada District and the proposed locations of the centers, see Annex III.) The activities of these centers will involve the following functions:

(a) To provide production credit.

(b) To make available and distribute the necessary inputs for improving production efficiency, such as good seed of improved crop varieties, fertilizers, pesticides, and improved tools and equipment.

(c) To provide marketing facilities.

(d) To provide intensive advisory services.

(e) To provide machinery rental services for selected farm operators.

(f) To establish a local credit organization to provide farmer credit for the purchase of agricultural inputs.

(g) To develop, with appropriate support from agencies of the Imperial Ethiopian Government, an orderly system for marketing farm products, and the purchase of farm supplies in the district. Marketing and credit will be tied together in the project organization to assure repayment of loans.

(h) To construct sources of domestic water close to the peoples' point of residence. This will involve both individual and group action.

(i) To construct penetration roads to provide access to the development centers.

(j) To provide guidance in creating group organizations through which collective action of farm operators may be channeled to progressively improve the conditions of farm production and of community affairs.

(k) To develop a landlord-tenant lease agreement following the model leases prepared by the Ministry of Land Reform and Administration and based upon the draft legislation presented to Parliament in late 1970. See ANNEX XI for Sample Lease Agreement.

The goods and services required for the project and the estimates of project costs are listed in Annex IV. Detailed information regarding the operation of the projects is found in ANNEX V, and a detailed listing of the equipment to be provided is in ANNEX VI.

The impact of such projects--both in direct terms, e.g., mechanization, and indirect long-run changes, e.g., in employment, labor displacement and land tenure systems--are obviously unknown. For this reason it is intended that sufficient research and evaluation shall be undertaken jointly by the IEG and U.S. to develop information in these areas for use in designing future small farmer "package" projects in Ethiopia.

B. Technical Feasibility

1. Project Area

Communications to and in the project area are good. Debre Zeit is situated on the main highway from Addis Ababa which extends east and west through the center of Ada District.1/ Other unimproved dry weather roads and trails extend from Debre Zeit to other towns located within the District. The Franco-Ethiopian railway runs through Debre Zeit from Addis Ababa and connects with Dire Dawa and Djibouti. Agricultural production from Ada District is generally marketed in the villages of the District and in Debre Zeit although

1/ The Ada District is a sub-division of Yerer and Kereyu Awraja, Shoa Province.

Some of the production is marketed directly in the Addis Ababa. There are central storage facilities in Debre Zeit, but on-farm storage is very limited. Most of the produce is sold immediately following harvest.

There are essentially no organized credit facilities in the area. A branch of the Commercial Bank of Ethiopia is located in Debre Zeit, but the amount loaned to farmers in the area is extremely limited. Most loans are obtained from money lenders, traders, relatives or friends generally at very high interest rates. Very little money is borrowed for productive purposes such as the purchase of improved seed, fertilizer or chemicals. During the past three years the FAO Freedom from Hunger Campaign has established a credit program for small farmers for the purchase of fertilizer. The program has been highly popular and successful, and has maintained a good repayment record.

The project area is typical of the highland provinces of Ethiopia in regards to population, land tenure and cropping systems. Population density is high with considerable pressure on the cultivated land. Most of the area is in cultivated crops with an extremely limited area available for grazing and livestock production. About 70 percent of the land is owned by absentee landlords and operated by tenants. Rental shares are high, averaging about 40 percent and ranging up to and in excess of 50 percent. Because of high population density there is considerable competition among tenants for land, resulting in bidding up of rents. The use of fertilizers and improved seed in the area has demonstrated that production can be greatly increased.

2. Existing Farming Patterns

Farms in the Ada District are generally small, averaging 4.6 hectares in crops per farm. These farms range in size from less than two hectares to 40 hectares. Crops include teff, wheat, maize, barley, chickpeas, sorghum, broad beans, and lentils, with teff, wheat and chickpeas occupying the largest areas on farms.

Crop yields, as indicated in Table 1, are low as compared to U.S. yields, although they are above Ethiopian national averages:

Table 1: CROP YIELDS, ADA DISTRICT, COMPARED WITH 1960-66 U.S. AVERAGE YIELDS

Crop	Qn./Hectare 2/	Bushels/Acre	U.S. Yields Bushels/Acre
Teff	10	-	-
Maize	15	23.9	65.1
Wheat	10	14.8	25.5
Barley	10	18.6	35.9
Sorghum	10	15.9	45.3
Chickpeas	9	-	-

Present farm incomes are low. On the average farm with 4.6 hectares in crops, the gross farm income is Eth.$887. While there is no way of determining actual farm production costs, these have been estimated to be Eth.$623, leaving a net farm income of Eth.$264 or Eth.$57 per hectare (only U.S.$9.30 per acre). Cropping patterns on the average farm are as follows: teff, 37%; chickpeas, 20%; wheat, 17%; barley, 11%; broad beans, 7%; maize, 4%; sorghum, 2%; and lentils, 2%.

The Ada District is noted for its cereal production, particularly the production of white teff known as "Ada Teff" or "Magna". The acreage devoted to each crop fluctuates from year to year depending on the need for the crop for family consumption. Farming practices and methods of operation on the farms are essentially the same as those found on oxen-powered farms throughout the peasant farming sector. Plowing is done with the traditional wooden plow with a steel point. Fields are plowed from two to ten times depending on the crop; teff, wheat and barley land is plowed from four to ten times before seeding. All crops are seeded by the broadcast method. Weeding is the most serious problem in the area, particularly with teff, wheat and barley. Considerable labor is required for weeding which usually is done during August and September. Crops are harvested by hand with sickles and threshed by animal power.

The scarcity of grazing land limits the production of livestock in the project area. Every farmer manages to keep a pair or more of oxen, one or two dairy cows, one or two donkeys, and a few sheep and goats. Because all livestock must be carefully herded to prevent crop damage, most farmers consider livestock production

2/ One quintal equals one hundred kilograms or about 220 pounds. Ten quintals equal one metric ton. One hectare equals about 2.5 acres.

uneconomical and keep a few head only because of necessity. Livestock are not fed grain; the only feed aside from very limited grazing is straw and crop residue.

Cattle manure is not used as fertilizer but rather as fuel because of the scarcity of wood. Aside from a very small percentage of farmers in the project area who participate in the Food and Agriculture Organization's Freedom from Hunger Campaign, no fertilizers are used. Because no crop residue is turned under the soil erodes easily; erosion in the area is a serious problem. While by far the major portion of the land is farmed with oxen and traditional implements, there are about 25 tractors presently in the Ada District some of which are used for custom work. The tractors are used primarily for plowing and hauling. Practically no farm implements aside from disc plows and trailers are found in the area.

3. Development Potential

The application of a package of inputs (fertilizers, improved seed, insecticides, etc), coupled with some longer term investments (farm machinery and equipment and central grain storage) and the provision of an adequate extension and credit service for the first time, will have a marked effect on productivity and output. Wheat and teff yields have been doubled in the FAO Freedom from Hunger Campaign fertilizer trials conducted in the Debre Zeit area in 1968/69. The use of improved wheat and teff seed in the area has indicated that yields of these crops can be greatly increased by using improved varieties. Improved varieties have consistently yielded more and been more resistant to many diseases than the indigenous varieties.

The project has been worked out on the basis of existing crops for which there is adequate experience and information. Other possibly higher value crops will be tried on experimental basis to determine their adaptability and suitability for the area. Crops such as chillies, vegetables and fruits for which there is a good local market (Addis Ababa to Nazareth) should be tried experimentally. However only the traditional crops have been included in the project because too little is known about other possible crops concerning yields and production costs.

While the project proposal is based upon the best information and data available, there is a paucity of reliable information with regard to the probable impact of the farm machinery component on the social and economic objectives of the project. Therefore three types of farm equipment will be fully tested and compared with oxen-powered implements at the initial two farm centers in order to evaluate the most suitable equipment and/or implements for the eight remaining farm centers to be established by the project.

4. Production Estimates

At the outset emphasis will be put on the staple crops now grown in the area, viz: teff, wheat, maize, barley, sorghum, chickpeas, broad beans and lentils. It is anticipated that these crops will be grown in the future in approximately the same proportions as at present.

On the basis of the FAO fertilizer trials, and expected increases in output due to the application of improved seeds and recommended practices, the IEG Ministry of Agriculture has assumed the following yields for each crop:

Table 2: ASSUMED YIELDS (QUINTALS PER HECTARE)

Crop	Present Yield	With Improved Practices Only	With Improved Practices Plus Mechanization
Teff	10	17	20
Wheat	10	22	25
Maize	15	30	35
Barley	10	20	22
Sorghum	10	20	22
Chickpeas	9	13	14
Broad Beans	8	12	13
Lentils	4	8	8.5

The weighted average yields in quintals per hectare for the entire project area for the 10 years of the project, and the number of hectares brought into the project, are shown in Annex VII A.

On the above assumptions regarding the yields and the number of hectares involved (Annex VII), the pattern of output for the entire 58,880 hectares in the project area is shown in Annex VII B. A rise in productivity of 1.5 percent per year without the project has been allowed, because even if there were no project some adoption of improved seeds and other improved practices could be expected.

C. Organization and Management

1. Policy and Coordination

A pattern of organization and administration for package projects has been developing in Ethiopia which it is proposed to follow in general form, but with a departure with regard to the procurement and distribution of agricultural machinery, fertilizers, insecticides, improved seeds, etc. The overall organization and management pattern is based on the experience of Chilalo Agricultural Development Unit (CADU), which has been operating three years and is financed by the Swedish Government, the Wolamo Agricultural Development Unit (WADU), financed by the World Bank, and the Shashemene Agricultural Development project, financed by AID. Other package projects will also roughly follow this pattern.

As in the case of the Chilalo, Wolamo and Shashemene projects, an interministerial committee will be formed to provide general control, coordination and evaluation of the functions and progress of the project. The committee will consist of the Ministers of Agriculture (Chairman), Finance, Land Reform, and Community Development, and the Minister of State for Planning.

2. Project Organization

Budgetary provision for the contract staff has been made for a period of five years. However, the IEG and AID agree that the transition from the U.S. to the Ethiopian staff should take place as soon as practicable within the five-year period. It is anticipated that the day to day management of the project will be in the hands of the U.S. project director initially, supported by the Ethiopian deputy director. The project director will be responsible to the Interministerial Committee for all policy matters and will report directly to the head of the Extension and Developmental Project Implementation Division of the Ministry of Agriculture.

The project director will be assisted by the heads of the following five divisions: Soils and Crops; Extension Credit; Finance and Accounting; Supply and Marketing; and Engineering. Each local center will be headed by a Purchasing and Sales Agent, and will be made up of three departments - Purchasing and Sales, Extension Credit, and Machinery. (See the organization chart at Annex X.)

The Extension Credit Division will advise on creditworthiness, recommend the appropriate level of credit needed by participating farmers, and will have the main responsibility for helping farmers in the preparation of farm plans. Credit for production inputs will be provided to the participating farmers only on the recommendation of the Extension Credit Department. The loan supervisor will provide general extension advice to the participating farmers. The detailed farm plans upon which the Extension Credit Department will base its loan recommendations will vary in scope and complexity, depending on the size and nature of the farm, the market potential for particular crops, and the education, training and experience of the farmer. However, the farm plan will consist of a detailed farm budget showing costs and returns for at least one crop year and the cropping pattern to be followed during the production year.

The Finance and Accounting Division will handle the project accounts and operate the project's bank account on behalf of the project director. All revenues received on behalf of the project will be paid into this account and all expenditures incurred on behalf of the project will be paid out of this account.

The Supply and Marketing Division will supervise the operations of the grain storage and seed cleaning facilities of the local centers. The ten centers will provide community-level storage and collection points and assist the traditional agricultural producers of the area in obtaining honest pricing and accurate weighing for the products that they market. The storage facilities at each of the centers will provide an opportunity to demonstrate the advantage that can be obtained through programmed marketing; i.e., taking advantage of the price increases that normally take place with the passage of time after harvest. This division will also provide to each of the ten local centers comprehensive marketing information on a continuing basis for all the agricultural products produced in the area. In addition, the division will disseminate general information that may affect marketing activities, i.e., transportation, weather, etc.

The Engineering Division will be directed by an expatriate agricultural engineer. In addition to providing technical services in the general field of agricultural engineering, the division will also make available to the project a water development engineer and a highway engineer. The latter two will be Ethiopian and will cooperate with those agencies of the IEG that are concerned with these developments.

The Soils and Crops Division will utilize the services of crop production specialists to present crop demonstrations, conduct soil testing and fertility analysis, analyze and project crop yields and conduct land use and soil conservation studies.

D. Technical Assistance

1. U.S. Contract Team

The establishment of a project organization to handle the proposed volume of intensively supervised credit and the training of a full staff of Ethiopian supervised credit officers will require a substantial technical assistance input. The technical assistance will be provided under an IEG contract with a U.S. firm and will be funded over five years by an AID grant estimated at $1.7 million.

U.S. contract personnel will include the Project Director and the heads of four divisions as follows:

1. Supply and Marketing Specialist (Chief of Division)

2. Credit Supervisor Specialist (Chief of Division)

3. Soils and Crops Specialist (Chief of Division)

4. Agricultural Engineer (Chief of Division)

In addition, one man year of consulting services will be provided. This will allow flexibility in obtaining the needed technical services. For detailed information, see Annex V.

2. Ethiopian Project Staff

By year ten the project will employ 183 Ethiopians, including 32 professionals. Ethiopian personnel to work with U.S. technicians, and to assume as soon as practicable the management and operation of the project, will be recruited from within the Ministry of Agriculture, the College of Agriculture, and from other IEG and private agencies. During the period 1951 to 1969, a total of 137 Ethiopians were trained in the U.S. in the areas of crop and livestock production, agricultural education, extension and research, land and water resources, agricultural economics, agricultural co-ops, marketing and processing. During the same period, A.I.D. sponsored training programs in agriculture for another 101 Ethiopians in third countries. Of the 32 professional positions to be filled by the fourth year of the project, only six will necessarily require college level training in agriculture. Therefore it is anticipated that the manpower requirements for the project will be satisfied.

3. Research

The Ada Agricultural Development Project proposal has been developed on the basis of existing crops for which there is sufficient information. Whereas agronomic research is not, *per se*, a direct component of this project, the project officials will cooperate with the Debre Zeit Agricultural Research Station, Institute of Agricultural Research, the Ministry of Agriculture and the IEG Awassa farm. The project agriculturalists will work closely with the Agricultural Research Station at Debre Zeit, which operates under the aegis of the College of Agriculture, Haile Selassie I University.

Further, an agonomist will be provided by A.I.D. and assigned to the Institute of Agricultural Research. He will work initially in the Shashemene area and will later expand his research activities to the Ada Agricultural Development Project.

4. Evaluation

The IEG Ministry of Agriculture and A.I.D. have developed a system for continual evaluation of the project, based on the evaluation guidelines for non-capital projects recently established by A.I.D. Detailed baseline data has been collected recently by the Central Statistical Office from five percent of the households in the Ada District. It is anticipated that annual evaluations will be directed by a U.S. consultant working in cooperation with the Ministry of Agriculture. Additional information regarding project evaluation is provided on Page 12 of Annex V.

E. Technical Soundness

The Ada Development Project proposal has been developed on the basis of a series of technical studies by the Stanford Research Institute, as well as appropriate agencies of the Ethiopian Government including the Ministries of Agriculture, National Community Development, and Land Reform and Administration. The cost estimates can be considered reasonably accurate, and the agronomic and engineering plans and specifications meet the requirements of Section 611(a) of the Foreign Assistance Act of 1961, as amended.

III. ECONOMIC ANALYSIS

A. Market Prospects

1. The Market for Grains and Pulses in Ethiopia

Grains and pulses are the dominant foods in the Ethiopian diet. Teff, wheat, maize, barley and sorghum provide from one-half to three-fourths of the caloric intake in Ethiopia, while pulses, notably chickpeas, dried green field peas, horse beans and haricot beans, account for about seven percent of the caloric intake and provide an important source of protein.1/ The demand for food in Ethiopia over the past 20 years has grown more rapidly than supply, with the result that the grain exports of the 1940's and 1950's have been replaced by some grain imports although exports of pulses have increased in response to the very favorable world market situation. With the anticipated acceleration of the general population growth rate and more particularly of the growth rate of the "market-dependent population," (i.e., those who do not grow their own food supplies), the demand for food will grow even more rapidly in the future. This led the SRI team to conclude the following with respect to grains and pulses:

> The likelihood of Ethiopia returning to its former position as a grain exporter is slight in the immediate future. In fact, unless very major and concerted effort is made to increase supplies, Ethiopia will become even more dependent on grain imports to meet its domestic needs. . . .
>
> The situation for pulses is more favorable, but is no less urgent. Pulse exports have more than doubled over the past 20 years, but with domestic demand probably growing even faster than that for grains as a group, a major and concerted effort will be needed to increase pulse supplies just to maintain the present level of exports. 2/

The agricultural marketing outlook for the increased production of grain and pulses generated by the Ada Agricultural Development Project thus appears highly favorable. As suggested above, it should remain favorable due to the following factors:

(1) The population growth rate in Ethiopia is relatively high;

(2) The growth rate of the market-dependent population is high; and

(3) The coefficients for income elasticity of demand for grains and pulses are high.

1/ Alan R. Thodey: "Marketing of Grains and Pulses in Ethiopia," SRI Report No. 16, p. 1
2/ Thodey, op. cit., p. 5.

2. Price Assumptions

The table below summarizes the price assumptions on which the project economic analysis is based and compares the projected prices with actual Debre Zeit prices over the period October 1969 to November 1970:

Table 3: PROJECTED AND ACTUAL PRICES FOR PROJECT OUTPUT (Ethiopian Dollars per Quintal)

	Projected Prices	Actual Prices Oct. 1969 - Nov. 1970 3/	
		Low	High
Teff (White)	25	40	55
(Red)	25	27	47
Wheat	20	25	38
Maize	12	13	29
Barley	14	14	28
Sorghum	15	14	--
Chickpeas	17	20	--
Broad Beans	14	15	--
Lentils	24	28	--

As can be seen from the above table, the price projections are quite conservative relative to prevailing prices, particularly in view of the fact that project storage facilities should enable farmers to hold grain off the market while it is selling at the harvest-time lows. With respect to teff, wheat, maize, and barley, the crops which will account for the bulk of the increased output and farm returns, the projected prices are all below the 1969/70 low and are about half of the 1969/70 high. Thus even if existing and planned agricultural projects result eventually in a substantial decline in average grain prices, it is unlikely that average prices will drop below the prices projected for project output.

It should also be noted that the Ada District enjoys several distinct marketing advantages, including its proximity to Addis Ababa, the existence of both traditional traders and large purchasing organizations in the project area, and the existence of large flour mills in Debre Zeit.

3/ Debre Zeit price series for sorghum, chickpeas, broad beans and lentils are not available; March 31 prices have been taken as the low since prices are typically lowest in February and March after all crops have been harvested.

B. Farm Returns

Farm returns without the project, with the project involving only the application of fertilizers, chemicals, and improved practices, and with the project involving the application of fertilizers, chemicals, improved practices, and custom hire mechanization, are shown in Annex VIII A.

Total output, value of production, cost of production and net return without the project are shown in Annex VIII B. Total output, value of production, cost of production, and net returns with the project, weighted in accordance with the assumptions given in Annex VII A are shown in Annex VIII C.

C. Benefit - Cost Analysis

The benefit to the Ethiopian economy derived from devoting resources to the Ada project comprises the added output made possible by the project, net of the added costs required to produce that output

1. Benefits

The added or incremental output valued at the farmgate prices assumed in Annex VIII A may be derived by comparing "without project" production to the "with project" production and gross revenues. The "without project" and "with project" production figures are presented in Annex VIII B and Annex VIII C; the corresponding gross revenue figures and the incremental gross revenues are shown in columns 1, 2 and 3 of Annex IX.

2. Costs

The incremental costs include all investment costs and U.S. contract services costs given in Annex IV, as well as project recurrent costs and incremental farm recurrent costs. Investment costs and project recurrent costs are shown in columns 4 and 5 of Annex IX. Incremental farm costs derived are the difference between "without project" farm current costs and "with project" farm current costs. The farm current cost figures are shown in columns 6, 7 and 8 of Annex IX.

3. Benefit - Cost Ratio and Internal Rate of Return

The incremental revenues and incremental cost streams over the project life of 25 years have been discounted at rates of 8% and 16%. The benefit-cost ratio at 8% is 1.23; and at 16% 0.93. The internal rate of return of the project is 15.7 percent. Annex IX shows the details of the benefit-cost analysis.

D. Other Benefits

In addition to increasing agricultural output and net revenues, the project will yield benefits to the Ethiopian economy in the form of increased government revenues and foreign exchange earnings. Government revenues from the agricultural income tax should increase substantially, since the projected increase in net farm incomes is 87 percent. No attempt has been made to calculate the probable increase in government revenues, however. Although the project has not been designed specifically for export, there is a good possibility that a significant percentage of the pulses produced in the project area will be exported. The Ministry of Agriculture is presently considering establishment of a joint export marketing organization for pulses produced under the Ada, Shashemene and CADU projects.

The project should also benefit project farmers by enabling them to take advantage of seasonal price swings and providing them with honest weighing and buying. Based on studies by CADU, it is estimated that the marketing services of the Ada project organization will increase the average price paid to the farmer by about Eth.$3-4 per quintal for cereals and pulses. Of this increase more than half would be due to honest weighing, while the remaining amount would be due to lower margins and the advantages of storage. Since these gains represent a redistribution of income from middlemen to farmers rather than increases in output, they have not been included in the benefit-cost analysis.

The project is not expected to have a significant impact on employment in the project area. The modest amount of mechanization will reduce the time required for plowing and threshing but will not affect the amount of labor required for weeding and crop cutting.

IV. FINANCIAL ANALYSIS

A. Financial Requirements

At this time farm equipment for only two farm centers is being requested. The remainder of the farm equipment investment will be determined by evaluations which will ascertain the type of farm equipment most desirable for reaching the total project's objectives. It is anticipated the IEG will request additional financing to provide farm equipment for the remainder of the project centers. The following capital costs are estimated for the proposed project (U.S.$000):

	Foreign Exchange Costs	Local Costs	Total
Machinery & Equipment	177.3	-	177.3
Fertilizer	153.5	-	153.5
Grain Storage	241.8	-	241.8
Water Development		564.0	564.0
Road Construction		468.2	468.2
Vehicles	92.7	-	92.7
Office & Buildings		157.2	157.2
Office Funiture & Equipment		22.1	22.1
Local Transport		53.1	53.1
U.S. Personnel Services	1,520.0		1,520.0
Participant Training, etc.	191.0	11.7	202.7
Total	2,376.3	1,276.3	3,652.6

For a detailed breakdown of total project costs by years including recurrent costs, see Annex IV. For a detailed breakdown of equipment and fertilizer requirements by years, see Annex VI. The planning figures used in these Annexes are based on the estimate that approximately $224,000 will be needed for additional farm equipment and other foreign exchange costs not being financed at this time.

B. Financial Plan

It is estimated that the total capital requirements for the proposed project will be as follows (U.S. $000):

	Foreign Exchange Costs	Local Costs	Total Costs
AID Loan	$ 660,000	$ 640,000	$1,300,000
AID Grant	1,711,000	-	1,711,000
IEG Contribution	-	642,000	642,000
Total	$2,371,000	$1,282,000	$3,653,000

The proposed $1,300,000 loan would cover all foreign exchange costs and fifty percent of the local costs of the project. The costs of U.S. personnel services and participant training would be covered by an AID grant. It is proposed that the loan be extended on 40-year terms, including a 10-year grace period, and bear interest at 2 percent during the grace period and 3 percent thereafter.

C. IEG Ability to Provide Local Cost Financing

The IEG would be responsible for financing fifty percent of project capital costs and all project recurrent costs. IEG local cost financing required over the first five years of the project is as follows (U.S. $000):

Table 4: IEG SHARE OF LOCAL CAPITAL & RECURRENT COSTS

	Year					
	1	2	3	4	5	Total
IEG Capital Costs	280	65	71	70	154	642
IEG Recurrent Costs	116	149	280	341	360	1,246
Total	396	214	351	411	514	1,888

The IEG contribution would thus total about $2.0 million for the first five years of the project and would average $400,000 per year. Given the relatively small budgetary outlays required, and the fact that a portion of the $2.0 million IEG contribution will be provided from the proceeds of the AID Agricultural Sector Loan, the IEG should have no difficulty in meeting its share of the local cost financing requirements of the project. The first-year contribution of $396,000 compares with budgeted FY 1971 IEG capital expenditures of $53 million and FY 1971 agricultural sector capital expenditures of $10 million. The IEG has made provision for its contribution to the project in the FY 1972 budget.

As a condition precedent to disbursements under the loan, AID will require that the IEG provide assurances that its local cost contribution will be made available on a timely basis.

D. Repayment Prospects

The IEG's outstanding foreign debt (including private loans guaranteed by IEG financial institutions) increased to US $182 million by the end of FY 1970 or about 11 percent of estimated GDP for that year. It was distributed by creditors as follows:

OUTSTANDING IEG EXTERNAL DEBT, JUNE 30, 1970

	U.S. $ (Millions)
IBRD/IDA	66.6
United States	62.0
Italy	21.7
USSR	13.6
Netherlands	5.0
Yugoslavia	4.4
West Germany	3.9
Czechoslovakia	2.6
Sweden	2.1
United Kingdom	0.1
Total	182.0

It may be noted that loans to the IEG from the U.S. and IBRD/IDA comprise approximately 70 percent of the total external debt outstanding.

According to the September 1970 IBRD report on the Ethiopian economy, 65 percent of Ethiopia's external borrowing has been on concessional terms and 35 percent on conventional terms. The average lending terms have afforded a maturity period of 24.7 years, a grace period of 5.4 years, and an interest rate of 4.4 percent. Due to the rather dim prospective for Ethiopia's balance of payments position over the next 10 to 15 years, the recommendation of the report was that Ethiopia seek aid on more concessionary terms. Thus, A.I.D. concessional term lending (i.e., 40 years maturity, 10 years grace, and 2 percent interest during the grace period and 3 percent thereafter) would appear fully justified.

The IBRD report projects an increase in Ethiopia's exports at an annual rate of 5 percent, but it is doubtful that the Ethiopian economy will achieve even this modest goal unless considerably more investment in export-oriented activities takes place. Plans for increasing the quantity and quality of exported coffee will probably just compensate for the future decline in world market coffee prices. This means that export growth must be achieved through the rapid expansion of non-coffee traditional exports (assumed by the IBRD to increase at 9 percent a year) and through the introduction of new export commodities. Pressures on imports--particularly on imports of capital goods and intermediate goods for industry--are anticipated, and total imports are projected to increase at an annual rate of more than 10 percent over the next 5 years, thus creating an increasing trade deficit. Ethiopia will require a rising net capital inflow to offset these trends.

External debt servicing outlays (principal and interest) during the past five years and projected through 1978 are shown on the next page in relation to actual and projected export earnings. In the projections, two separate assumptions about export growth are made--one based on the IBRD assumed growth rate of 5 percent per annum and one based on the empirically observed average annual growth rate of 2.5 percent over the past 5 years. Under the first assumption, the debt service ratio (ratio of debt service to exports of goods and services) will increase from 12.6 percent in 1970 to only 12.8 percent in 1978. Under the second assumption, the debt service ratio will increase from 12.6 percent in 1970 to 15.5 percent in 1978.

Ethiopia should be able to handle debt service payments of the range projected, however, these payments constitute only the beginning of a heavy burden. It is difficult to predict what Ethiopia's debt service burden will be in the 1980s--particularly because assumptions about the level of new debt contractions and terms of lending, as well as about export performance, are crucial--but it will certainly continue to grow. The IBRD report projects a debt service ratio of approximately 15 percent in the mid-1980s; however, their expectations regarding export performances are now considered overly optimistic. A more realistic estimate of the debt service ratio in 1985 would be in the range of 19-20 percent. In any case, Ethiopian development will be highly dependent on external capital and know-how for the foreseeable future. The IEG will need to obtain future loans on as favorable terms as possible if the debt service burden is not to become intolerable before domestic savings and capital investment, supplemented by foreign private direct investment, are sufficient to permit an acceptable rate of economic growth.

Ethiopia's Debt Service Burden

Year	Debt Service Principal and Interest	Actual Exports of Goods and Services	Ratio of debt Services to Exports of Goods and Services
1965	24.6	403	6.1
1966	29.0	408	7.1
1967	36.9	384	9.6
1968	45.3	436	10.4
1969	51.9	451	11.5
1970	58.4	464 a/	12.6

	Debt Service Principal and Interest b/	Projection Exports of goods and Services c/		Ratio of Debt Services to Exports of Goods and Services	
		A	B	A	B
1971	65	476	487	13.6	13.3
1972	68	487	512	13.9	13.2
1973	68	500	537	13.6	12.7
1974	70	513	564	13.6	12.4
1975	75	525	592	14.3	12.7
1976	80	538	622	14.9	12.9
1977	83	552	653	15.0	12.7
1978	88	566	686	15.5	12.8

a/ Preliminary final figure. It should be noted that this figure is about Eth. $20 million less than the estimate included in the IBRD report of September 1970.

b/ A.I.D. estimates of total new borrowing each year:

FY 71 US $35 million
FY 72 US $35 million
FY 73 US $40 million
FY 74 US $40 million
FY 75 US $40 million
FY 76 US $40 million
FY 77 US $40 million
FY 78 US $40 million

c/ Column A assumes an annual growth of 2.5 percent in exports of goods and services, based on the empirically observed export performance 1965-70. Column B assumes an annual growth of 5 percent in accordance with IBRD estimates.

E. Other Sources of Assistance

Ethiopia has been successful in mobilizing loan assistance from a variety of sources. Major Free World aid donors other than the U.S. and the World Bank institutions include France, Germany, Italy, Sweden and the U.K. The bulk of the external financing for agricultural projects thus far has come from the World Bank group, and includes IFC investments of $12.1 million in cotton and sugar as well as $6.6 million in IDA credits for the agriculture projects at Wolamo and Humera. The other major donor in the agricultural sector is Sweden, which is financing the Chilalo agricultural package project. Ethiopia also receives technical assistance for agriculture from the U.K., France, Taiwan, the U.N. organizations and Yugoslavia.

The Ada project was developed on the basis of the findings of the two-year AID-financed Stanford Research Institute study of the agriculture sector. In view of the commitments of other donors to other agricultural projects and AID's long involvement with the Ada project, other donors are not interested in participating at this point.

V. EFFECT ON U.S. ECONOMY, BALANCE OF PAYMENTS AND ON PRIVATE ENTERPRISE

A. Effect on U.S. Economy and Balance of Payments

The foreign exchange component of the loan will finance the procurement of vehicles from the U.S. and of other services from Ethiopia and Code 941 countries, i.e., from the U.S. and eligible lower income countries. The major items to be financed other than vehicles are agricultural machinery, fertilizer, and grain storage facilities, including seed cleaning and grain handling equipment. To the extent that these items are procured in the U.S. there will be a favorable effect on the U.S. economy and no unfavorable impact on the U.S. balance of payments.

B. Effect on Private Enterprise

The project will benefit private enterprise in Code 941 countries by providing an opportunity to provide the offshore goods and services needed for the project. The project will benefit Ethiopian private enterprise by giving Ethiopian suppliers and contractors an opportunity to provide local goods and services and by assisting private Ethiopian farmers to increase their productivity and output.

VI. EFFECT OF THE PROJECT ON THE ENVIRONMENT

There is a possibility that the introduction of mechanized land preparation could excerbate the problem of erosion in the project area. In order to minimize this possibility the project organization will teach tractor operators proper plowing methods designed to enhance soil conservation. The project organization will also investigate the possible uses of the project motor graders in constructing drainage works.

VII. IMPLEMENTATION

According to present plans the project organization will begin by establishing the Debre Zeit headquarters and two of the ten local development centers. Each of these two initial centers would be equipped with three lines of equipment based on 45 horsepower, 10 horsepower and 25 horsepower tractors. The three types of equipment will be fully tested and evaluated to confirm their suitability for the project. Following evaluations to determine the need for or optimum machinery mix, it is expected that the IEG may request approximately $224,000 to proceed with procurement of equipment items and would establish two centers in year two and three centers each in years four and five. Assuming authorization of the proposed loan in May 1971 and ratification by the IEG Parliament in June or July 1971 the implementation schedule for the project is as follows (dates in parenthesis indicate implications for schedule if authorization and ratification is delayed):

Loan authorization	May, 1971	(July, 1971)
Loan Agreement executed	June, 1971	(August, 1971)
Loan ratified by Parliament	July, 1971	(March, 1972)
Personnel contractor selected	October, 1971	(May, 1972)
Issuance of IFB for first tranche equipment procurement	August, 1971	(May, 1972)
Project Director in Ethiopia	November, 1971	(June, 1972)
All U.S. technicians in Ethiopia	January, 1972	(August, 1972)
Evaluation of first year operations	January, 1973	(January, 1974)
Issuance of second tranche IFB	February, 1973	(February, 1974)
Evaluation of second year operations	January, 1974	(January, 1975)
Issuance of third tranche IFB	February, 1974	(February, 1975)
Evaluation of third year operations	January, 1975	(January, 1976)
Issuance of fourth tranche IFB	February, 1975	(February, 1976)
Terminal date for disbursements	December, 1975	(December, 1976)

VIII. ISSUES

None.

CHECKLIST OF STATUTORY CRITERIA

DEVELOPMENT LOAN FUND

Many of the questions require only yes or no answers. Others, however, must be answered more fully. In those cases, a specific reference to explicit discussion of the matter in the loan paper will suffice. But where the loan paper does not deal explicitly with a matter that clearly requires more than a yes or no response, sufficient response must be made to indicate that the matter has been appropriately considered.

The following abbreviations are used in the checklist:

FAA - Foreign Assistance Act of 1961, as amended, incorporating amendments effected by the Foreign Assistance Act of 1968.

App. - Foreign Assistance and Related Agencies Appropriations Act, 1969.

Space for answers is provided in the margin to the right of each question. This form must be made a part of the Capital Assistance Paper.

I. COUNTRY PERFORMANCE

A. Progress Towards Country Goals

1. FAA §§201(b)(5), 201 (b)(7), 201 (b)(8), 208. Discuss the extent to which the country is:

(a) Making appropriate efforts to increase food production and improve means for food storage and distribution.

The Third Five-Year Plan (1968 1973) puts major stress on increased food production and improved marketing of agricultural products, and allocates a considerably higher level of projected expenditures for agriculture than in the past.

(b) Creating a favorable climate for foreign and domestic private enterprise and investment.

Ethiopia provides tax holidays and duty-free entry privileges to foreigners investing in needed development projects. The government plans to establish a trade and investment center to assist businessmen and to improve further the Investment Proclamation.

(c) Increasing the people's role in the developmental process.	Villagers in certain parts of Ethiopia are building schools, water systems and farm-to-market roads and are modernizing farms with the help of U.S., Sweden, etal. This is on a modest scale so far but is an appreciable start.
(d) Allocating expenditures to development rather than to unnecessary military purposes or intervention in other free countries' affairs.	See I, D, 2 below
(e) Willing to contribute funds to the project or program.	The IEG is contributing $1.2 million to the project. See Section IV of the Capital Assistance Paper.
(f) Making economic, social, and political reforms such as tax collection improvements and changes in land tenure arrangement; and making progress toward respect for the rule of law, freedom of expression and of the press, and recognizing the importance of individual freedom, initiative, and private enterprise.	The traditional monarchial system in Ethiopia is gradually broadening. The IEG is allowing greater freedom of expression, although the press is still largely government-controlled. There is a 12-year old Parliament with some, if limited, effective powers. Entrepreneurs operate fairly freely, and trade unions are beginning to have an independent voice. The government is seeking Western advice in legal matters, taxation, finance, private enterprise, and information services. The Ministry of Land Reform and Administration has conducted land tenure surveys and prepared land reform legislation which is presently under consideration by the Parliament and may be promulgated this year.

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(g) Responding to the vital economic, political, and social concerns of its people, and demonstrating a clear determination to take effective self-help measures.	The IEG has strengthened its commitment to development in recent years, and has shown a new willingness to take meaningful self-help measures in order to carry out the Third Five-Year Plan (1968-1973).

B. Relations with the United States

1. FAA 8620(c). Is the government indebted to any U. S. citizen for goods or services furnished or ordered where: (a) such citizen has exhausted available legal remedies, including arbitration, or (b) the debt is not denied or contested by the government, or (c) the indebtedness arises under such government's, or a predecessor's unconditional guarantee?	No such indebtedness is known to exist.
2. FAA 8620(d). If the loan is intended for construction or operation of any productive enterprise that will compete with U.S. enterprise, has the country agreed that it will establish appropriate procedures to prevent export to the U.S. of more than 20% of its enterprise's annual production during the life of the loan?	Not applicable.
3. FAA 8620 (e)(1). Has the country's government, or any agency or subdivision thereof, (a) nationalized or expropriated property owned by U.S. citizens or by any business entity not less than 50% beneficially owned by U.S. citizens, (b) taken steps to repudiate or nullify existing contracts or agreements with such citizens or entity, or (c) imposes or enforced discriminatory taxes or other exactions, or restrictive maintenance or operation conditions? If so, and more than six months has elapsed since such occurrence, identify the document indicating that the	No, to first question. Second question not applicable.

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3. FAA §620(e)(1). (continued)

government, or appropriate agency or subdivision thereof, has taken appropriate steps to discharge its obligations under international law toward such citizen or entity? If less than six months has elapsed, what steps if any has it taken to discharge its obligations?

4. FAA §620(j). Has the country permitted, or failed to take adequate measures to prevent, the damage or destruction by mob action of U.S. property, and failed to take appropriate measures to prevent a recurrence and to provide adequate compensation for such damage or destruction? No.

5. FAA §620(l). Has the government instituted an investment guaranty program under FAA §221(b)(1) for the specific risks of inconvertibility and expropriation or confiscation? Yes.

6. FAA §620 (o). Fisherman's Protective Act of 1954, as amended, Section 5. Has the country seized, or imposed any penalty or sanction against, any U.S. fishing vessel on account of its fishing activities in international waters? If, as a result of a seizure, the U.S.G. has made reimbursement under the provisions of the Fisherman's Protective Act and such amount has not been paid in full by the seizing country, identify the documentation which describes how the withholding of assistance under the FAA has been or will be accomplished. No.

7. FAA §620(q). Has the country been in default, during a period in excess of six months, in payment to the U.S. on any FAA loan? No.

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8. FAA §620(t). Have diplomatic relations between the country and the U.S. been severed? If so, have they been renewed?	**No, to first question. Second question not applicable.**
9. App. §106. Describe any attempt made by the country to create distinction because of race or religion in granting personal or commercial access or other rights otherwise available to U.S. citizens generally.	**None.**

Relations with Other Nations and the

1. FAA §620(i). Has the country been officially represented at any international conference when that representation included planning activities involving insurrection or subversion directed against the U.S. or countries receiving U.S. assistance?	**No, as far as known.**
2. FAA §§620(a), 620(n); App. §§107(a), 107(b), 116. Has the country sold, furnished, or permitted ships or aircraft under its registry to carry to Cuba or North Vietnam items of economic, military, or other assistance?	**No, as far as known.**
3. FAA §620(u); App. §114. What is the status of the country's U.N. dues, assessments, or other obligations? Does the loan agreement bar any use of funds to pay U.N. assessments, dues, or arrearages?	**Ethiopia is not in arrears in its obligations to the UN. The loan agreement will restrict the loan funds to the project.**

D. Military Situation

1. FAA §620(i). Has the country engaged in or prepared for aggressive military efforts directed against the U.S. or countries receiving U.S. assistance?	**No, as far as known.**

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2. FAA §620(s). What is (a) the percentage of the country's budget devoted to military purposes, and (b) the amount of the country's foreign exchange resources used to acquire military equipment? Is the country diverting U.S. development assistance or P.L. 480 sales to military expenditures? Is the country diverting its own resources to unnecessary military expenditures? (Findings on these questions are to be made for each country at least once each fiscal year and, in addition, as often as may be required by a material change in relevant circumstances.)

About 30 percent of the country's budget is devoted to defense and security purposes. Little foreign exchange is used to acquire military equipment, most of which is grant financed under U.S. MAP. The November 1968 Report of The Ethiopian Study Team (Bell Report) concluded that "Ethiopia is not diverting United States economic assistance nor its own resources to unneccessary military expenditures." The findings of the Bell Report were reconfirmed in October 1970.

II. CONDITION OF THE LOAN

A. General Soundness

Interest and Repayment

1. FAA §§201(d), 201(b)(2). Is the rate of interest excessive or unreasonable for the borrower? Are there reasonable prospects for repayment? What is the grace period interest rate; the following period interest rate? Is the rate of interest higher than the country's applicable legal rate of interest?

The loan terms are low and reasonable. There are reasonable prospects for repayment. The grace period interest rate is 2%, followed by an interest rate of 3% for the duration of the loan. The answer to the last question is no.

Financing

1. FAA §201(b)(1). To what extent can financing on reasonable terms be obtained from other free-world sources, including private sources within the U.S.?

Concessional financing not believed available for purposes of this loan from other free world sources. Need for lenient terms, size and purpose of loan exclude consideration of other private or official U.S. sources. See Section IV-E of Capital Assistance Paper.

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-- Economic and Technical Soundness

1. FAA §§201(b)(2), 201(e). The activity's economic and technical soundness to undertake loan; does the loan application, together with information and assurances, indicate that funds will be used in an economically and technically sound manner?	Yes. See Sections II and III of Capital Assistance Paper.
2. FAA §611(a)(1). Have engineering, financial, and other plans necessary to carry out assistance, and a reasonably firm estimate of the cost of assistance to the U.S., been completed?	The necessary planning for the project has been completed. (See Sections II and IV, Capital Assistance Paper) and reasonably firm cost estimates have been obtained (see Annexes IV and IX).
3. FAA §611(b); App. §101. If the loan or grant is for a water or related land-resource construction project or program, do plans include a cost-benefit computation? Does the project or program meet the relevant U.S. construction standards and criteria used in determining feasibility?	Not applicable.
4. FAA §611(e). If this is a Capital Assistance Project with U.S. financing in excess of $1 million, has the principal A.I.D. officer in the country certified as to the country's capability effectively to maintain and utilize the project?	Yes, the Mission Director has so certified. See Annex X.

B. Relation to Achievement of Country and Regional Goals

-- Country Goals

1. FAA §§207, 281(a). Describe this loan's relation to:

a. Institutions needed for a democratic society and to assure maximum participation on the part of the people in the task of economic development.

The loan will be implemented by the Ministry of Agriculture and will strengthen that Ministry's administrative and technical capabilities. The project organization will service farmers and through a farmers committee, involve farmers in decisions affecting the livelihood of farmers in the project area. Furthermore, it is expected that the project organization will gradually evolve into a multi-purpose farmers' cooperative.

b. Enabling the country to meet its food needs, both from its own resources and through development, with U.S. help, of infrastructure to support increased agricultural productivity.

The objective of this loan is to finance the inputs required to increase crop production. A.I.D. and IEG grant financing will provide organizational infrastructure required to reach the project's objectives. Furthermore, the projected increases in production will provide, through additional tax revenues, a source of capital for further development of infrastructure in the project area.

c. Meeting increasing need for trained manpower.

A primary goal of the project is to train manpower in the administration and supervision of agricultural credit and ancillary activities.

d. Developing programs to meet public health needs.

Not applicable.

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e. Assisting other important economic, political, and social development activities, including industrial development; growth of free labor unions; cooperatives and voluntary agencies; improvement of transportation and communication systems; capabilities for planning and public administration; urban development; and modernization of existing laws.

The loan will assist in the economic development of an agricultural area and the development of organizations to service farmers, including cooperatives. The planning and implementation of the loan-financed project increases the capability of the IEG to carry out similar projects.

2. FAA §201(b)(4). Describe the activity's consistency with and relationship to other development activities, and its contribution to realizable long-range objectives.

The loan will finance one of several area "package" agricultural development projects already implemented or in the pipeline as called for in the Third Five-Year Development Plan. See Section I of the Capital Assistance Paper.

3. FAA s201(b)(9). How will the activity to be financed contribute to the achievement of self-sustaining growth?

See Sections I-A and III-C of the Capital Assistance Paper.

4. FAA §201(f). If this is a project loan, describe how such project will promote the country's economic development, taking into account the country's human and material resource requirements and the relationship between ultimate objectives of the project and overall economic development.

The loan will assist in demonstrating how supervised agricultural credit can increase production. Furthermore, it will increase manpower trained in agricultural credit operations.

5. FAA §201(b)(3). In what ways does the activity give reasonable promise of contributing to development of economic resources or to increase of productive capacities?

The loan will directly contribute to increased agricultural output through more productive use of land, labor and capital.

6. FAA §281(b). How does the program under which assistance is provided recognize the particular needs, desires, and capacities of the country's people; utilize the country's intellectual resources to encourage institutional development; and support civic education and training in skills required for effective participation in political processes.	**The loan will assist the IEG in providing the capital desired by farmers and build institutions that serve farmers.**
7. FAA §601(a). How will this loan encourage the country's efforts to: (a) increase the flow of international trade; (b) foster private initiative and competition; (c) encourage development and use of cooperatives, credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry, agriculture and commerce; and (f) strengthen free labor unions?	**The loan will encourage Ethiopia's efforts with respect to (a), (b), (c), (d), and (e) as indicated in Sections II, III, and V of the Capital Assistance Paper. Item (f) not applicable.**
8. FAA §202(a). Indicate the amount of money under the loan which is: going directly to private enterprise; going to intermediate credit institutions or other borrowers for use by private enterprise; being used to finance imports from private sources; or otherwise being used to finance procurements from private sources.	**The foreign exchange component of the loan will be used to finance procurement from private sources in code 941 countries; the bulk of the local cost component of the loan will be used to finance procurement from private Ethiopian sources.**
9. FAA §611(a)(2). What legislative action is required within the recipient country? What is the basis for a reasonable anticipation that such action will be completed in time to permit orderly accomplishment of purposes of loan?	**None known to be required except for Parliamentary ratification of the Loan Agreement. The Ethiopian Parliament has always ratified A.I.D. loans.**

-- Regional Goals

1. FAA§619. If this loan is assisting a newly independent country, to what extent do the circumstances permit such assistance to be furnished through multilateral organizations or plans?

Not applicable.

2. FAA §209. If this loan is directed at a problem or an opportunity that is regional in nature, how does assistance under this loan encourage a regional development program? What multi-lateral assistance is presently being furnished to the country?

First question, not applicable. The World Bank Group and the UN are providing substantial assistance to Ethiopia. See Section IV-E of Capital Assistance Paper.

C. Relation to U.S. Economy

-- Employment, Balance of Payments Private Enterprise

1. FAA §§201(b)(6); 102, Fifth. What are the possible effects of this loan on U.S. economy, with special reference to areas of substantial labor surplus? Describe the extent to which assistance is constituted of U.S. commodities and services, furnished in a manner consistent with improving the U.S. balance of payments position.

See Section V of Capital Assistance Paper.

2 FAA §§612(b), 636(h). What steps have been taken to assure that, to the maximum extent possible, foreign currencies owned by the U.S. and local currencies contributed by the country are utilized to meet the cost of contractual and other services, and that U.S. foreign-owned currencies are utilized in lieu of dollars?

The IEG is paying half of project local capital. At this time no other local currencies are available.

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3. FAA §601(d); App. §115. If this loan is for a capital project, to what extent has the Agency encouraged utilization of engineering and professional services of U.S. firms and their affiliates? If the loan is to be used to finance direct costs for construction, will any of the contractors be persons other than qualified nationals of the country or qualified citizens of the U.S.? If so, has the required waiver been obtained?

Only U.S. and Ethiopian professional services will be used. These will be financed by A.I.D. and IEG grants. The local cost portion of the loan will finance some construction of facilities by Ethiopian contractors.

4. FAA §608(a). Provide information on measures to be taken to utilize U.S. Government excess personal property in lieu of the procurement of new items.

The Loan Agreement will include express provisions for use of U.S. Government excess personal property to the extent feasible.

5. FAA §602. What efforts have been made to assist U.S. small business to participate equitably in the furnishing of commodities and services financed by this loan?

The Loan Agreement and implementation letters will include express provisions for U.S. small business to have the opportunity to participate equitably in the furnishing of commodities financed by this loan.

6. FAA §621. If the loan provides technical assistance, how is private enterprise on a contract basis utilized? If the facilities of other Federal agencies will be utilized, in what ways are they particularly suitable; are they competitive with private enterprise (if so, explain); and how can they be made available without undue interference with domestic programs?

Not applicable.

7. FAA §611(c). If this loan involves a contract for construction that obligates in excess of $100,000 will it be on a competitive basis? If not, are there factors which make it impracticable?

Not applicable.

3b

-- Procurement

1. FAA §604(a). Will commodity procurement be restricted to U.S. except as otherwise determined by the President? — Yes

2. FAA §604(b). Will any part of this loan be used for bulk commodity procurement at adjusted prices higher than the market price prevailing in the U.S. at time of purchase? — No.

3. FAA §604(e). Will any part of this loan be used for procurement of any agricultural commodity or product thereof outside the U.S. when the domestic price of such commodity is less than parity? — No.

D. Other Requirements

1. FAA §201(b). Is the country among the 20 countries in which development loan funds may be used to make loans in this fiscal year? — Yes.

2. App. §112. Does the loan agreement provide, with respect to capital projects, for U.S. approval of contract terms and firms? — The Loan Agreement will so provide.

3. FAA §620 (k). If the loan is for construction of a productive enterprise, with respect to which the aggregate value of assistance to be furnished will exceed $100 million, what preparation has been made to obtain the express approval — Not applicable.

4. FAA §§620(b), 620(f); App. §109(b). Has the President determined that the country is not dominated or controlled by the international Communist movement? If the country is a Communist country (including, but not limited to, the countries listed in FAA §620(f)) and the loan is intended for economic assistance, have the findings required by FAA §620(f) and App. §109(b) been made and reported to the Congress?

Ethiopia is not a communist or communist-dominated country. The Secretary of State so determined on October 11, 1961.

5. App. §109(a). Will any military assistance, or items, of military or strategic significance, be furnished to a Communist nation?

No.

6. FAA §620(h). What steps have been taken to insure that the loan will not be used in a manner which, contrary to the best interest of the United States, promotes or assists the foreign aid projects of the Communist-bloc countries?

The Loan Agreement will not permit this.

7. App. §118. Will any funds be used to finance procurement of iron and steel products for use in Vietnam other than as contemplated by §118?

No.

8. FAA §636(i). Will any part of this loan be used in financing non-U.S.-manufactured automobiles? If so, has the required waiver been obtained?

No.

9. FAA §§620(a)(1) and (2), 620(p); App. §117. Will any assistance be furnished or funds made available to the government of Cuba or the United Arab Republic?

No.

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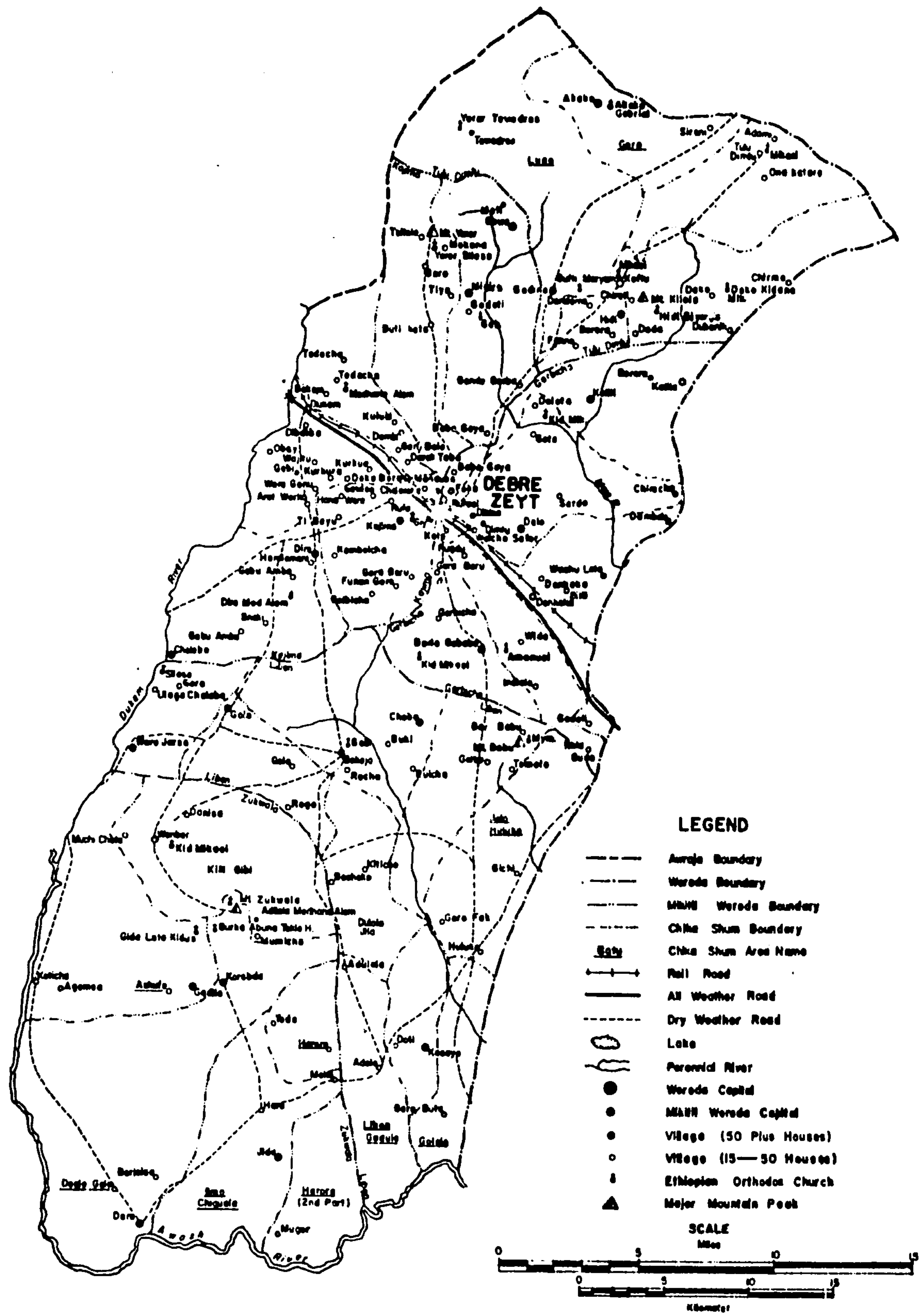
10. FAA §620(g). Will any part of this loan be used to compensate owners for expropriated or nationalized property? If any assistance has been used for such purpose in the past, has appropriate reimbursement been made to the U.S. for sums diverted?	Answer to first question is no; no assistance has been so used in the past.
11. <u>FAA §620(f)</u>. If this is a project loan, what provisions have been made for appropriate participation by the recipient country's private enterprise?	Ethiopia private enterprise will b nefit from the development of markets for agricultural inputs made possible by the project. See Section V-B of Capital Assistance Paper.
12. <u>App. §104</u>. Does the loan agreement bar any use of funds to pay pensions, etc., for persons who are serving or who have served in the recipient country's armed forces?	The Loan Agreement will so provide.

MAP OF ETHIOPIA



ADA DISTRICT

TOTAL PROJECT COSTS FOR FIRST FIVE YEARS (U.S. $ 000)

Item	1 Local	1 Foreign	2 Local	2 Foreign	3 Local	3 Foreign	4 Local	4 Foreign	5 Local	5 Foreign	Total Local	Total Foreign
Investment Costs												
Offices & Buildings	137.8		4.8		7.3		7.3				157.2	
Machinery & Equipment		177.4		54.7		82.1		82 .1				396.3 e/
Vehicles		31.4		15.3		23.0		23.0				92.7
Office Furniture & Equipment	14.1		2.0		3.0		3.0				22.1	
Fertilizer		19.2		38.4		95.9						153.5
Grain Storage		161.2						80.6				241.8
Local Transport	19.4		8.9		15.3		14.5				58.1	
Water Development d/	112.8		112.8		112.8		112.8		112.8		564.0	
Road Construction	275.7a/								192.5b/		468.2	
Subtotal	559.8	389.2	128.5	108.4	138.4	201.0	137.6	185.7	305.3		1,269.6	884.3
U.S. Personnel Services		304.0		304.0		304.0		304.0		304.0		1,520.0
Participant Training	3.0	67.0	2.9	50.0	2.9	44.0	2.9	30.0			11.7	191.0
Subtotal	3.0	371.0	2.9	354.0	2.9	348.0	2.9	334.0			11.7	1,711.0
Total Investment Costs	562.8	760.2	131.4	462.4	141.3	549.0	140.5	519.7	305.3	304.0	1,281.3	2,595.3
Recurrent Costs												
Personnel	35.8		40.9		70.8		98.1		163.6		349.3	
Maintenance & Operation c/	18.5		46.6		75.7		82.3		86.4		309.5	
Working Capital	61.6		61.6		133.5		161.0		169.5		587.2	
Total Recurrent Costs	115.9		149.1		280.0		341.4		359.5		1,246.0	
Total Project Costs	677.0	760.2	280.2	462.4	421.3	549.0	481.6	529.3	667.4	304.0	2,527.5	2,595.3

a/ 57.0 km. @ $4,800/km.
b/ 39.8 km. @ $4,800/km.
c/ Includes maintenance on wells and roads and office operating costs including vehicle operation. Maintenance on wells @ $400 per well per year. Maintenance on roads @ $1,040/km.
d/ 50 Wells @ $11,200.
e/ Only $177.43 of this total included in loan request, as optimum farm equipment mix can be determined only after evaluation of initial year of operation. Then IEG may request approximately $224.0 amendment for procurement of additional farm equipment.

AID-DLC/P-982

NON-CAPITAL PROJECT PAPER (PROP)

Country: ETHIOPIA Project Number: 663-55-130-162

Submission Date: April 23, 1971

Project Title: ADA AGRICULTURAL DEVELOPMENT PROJECT

U.S. Obligation Span: FY 1971 through FY 1975 - 1977 CP

Gross Life of Project Financial Requirements:

U.S. Dollars (000)............................		3,011,000
Grant..........................	1,711,000	
Loan..........................	1,300,000	
U.S.-Owned Local Currency		
Cooperating Country Cash Contribution		1,887,000
(Ex. rate: E$2.48125 = $1.00)		
Other Donor		
TOTALS		4,898,000

A. SUMMARY DESCRIPTION

1. Necessity and Justification for the Project

One of the objectives of the Third Five Year Development Plan of the Imperial Ethiopian Government is to increase productivity on small peasant farms through the application of technology and innovations to bring the subsistence agriculture sector into the monetary economy. Most of the small farms are found in the highland areas. The Ada District was selected for a project site because it was identified in the Third Five Year Plan and by the Stanford Research Institute in its study of agricultural development in Ethiopia. Other reasons for selection include: (1) it is representative of Ethiopia's highlands; (2) it is close to markets; (3) transportation facilities are good; (4) considerable knowledge of the area and its people is available; and (5) agronomic information is available and crop responses are known with some degree of certainty.

The Ada Agricultural Development Project is justified on the grounds that through the project the knowledge and experience necessary to develop the essential institutions to change the subsistence agriculture sector from subsistence to market orientation and to substantially increase agricultural production in Ethiopia's highlands will have been developed to the point of ready transference to other highland areas.

2. Project Goals

Project objectives are to (1) increase net farm income; (2) assist in improving the rights of tenants; (3) develop the necessary institutions to change the economy of the area from subsistence to market orientation; and (4) develop the knowledge and experience necessary for replication in other areas that will substantially increase agricultural production in Ethiopia's highlands.

3. General Approach

These goals will be met through the development of a multi-purpose institution to provide credit, supplies, marketing and technical services to small farmers. The services will be provided through a project headquarters at Debre Zeit and ten multi-purpose farm centers in the project area. Other components of the project will be the construction and improvement of penetration roads into the area, the development of water supplies, and the development of an equitable land tenure system.

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TABLE I

NON-CAPITAL PROJECT FUNDING (OBLIGATIONS IN $1000)

COUNTRY: ETHIOPIA PROJECT TITLE: ADA AGRICULTURAL DEVELOPMENT PROJECT NUMBER: 663-55-130-162

FISCAL YEARS	AP	L/G	TOTAL	CONT.	PERSONAL SERVICES AID	PERSONAL SERVICES PASA	PERSONAL SERVICES CONT	PARTICIPANTS DIRECT	PARTICIPANTS CONT	COMMODITIES DIRECT	COMMODITIES CONT	OTHER COSTS DIRECT	OTHER COSTS CONT.
OY	TC	G	425	425			425 a/						
FY 1971	DL	L	1,700								1,700		
BY FY 1972	TC	G	67					32		25		10	
BY +1 FY 1973	TC	G	355	305			305 b/	35		10		5	
BY +2 FY 1974	TC	G	332	288			288	39		-		5	
BY +3 FY 1975	TC	G	332	302			302	30		-		-	
BY +4 FY 1976	TC	G	160	160			160	-		-		-	
BY +5 FY 1977	TC	G	40	40			40 c/	-		-		-	
TOTALS	TC	G	1,711	1,520			1,520	136		35		20	
	DL	L	1,700								1,700		

a/ Includes one-man year of funding ($50,000) for short-term consultants.

b/ Includes one-man year of funding for short-term consultants, plus 10% inflation.

c/ For short-term consultants.

TABLE II

OTHER FINANCING FOR ADA AGRICULTURAL DEVELOPMENT PROJECT

(Obligations in U.S. $000)

FISCAL YEAR	AID-CONTROLLED LOCAL CURRENCY	OTHER CASH CONTRIBUTION COOPERATING COUNTRY a/ d/	OTHER DONOR CONTRIBUTION
Oper. Yr. FY 1971	-	-	-
Budget FY 1972	-	396 b/	-
Proposed FY 1973	-	215	-
Projected FY 1974	-	351	-
Projected FY 1975	-	411	-
Projected FY 1976	-	514	-
Projected FY 1977	-	c/	-
TOTAL FY 72-76		1,887	

a/ A portion of these costs may be financed with AID agricultural sector loan proceeds.

b/ U.S. $252,000 has already been budgeted for FY 1972.

c/ See Annex C of the Project Application, dated October 1970 for IEG costs beyond the fifth year.

d/ Excludes cost of MLRA land tenancy officer and MNCD cooperative officer assigned to ADA District to work with Ada Project.

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B. SETTING

Ethiopian agriculture encompasses more than four million households. Although some of these are nomadic or semi-nomadic pastoralists, the bulk are sedentary farmers confined largely to the highlands from which about 90 percent of the total production of grains, pulses and oilseeds is realized. The size structure of the highlands farms is very unfavorable for efficient production. About 90 percent have less than five hectares in cultivated area and about two-thirds have less than 1.5 hectares of cultivated land. Fixed assets, except for the value of land, are very low per farm. Capital investment largely of only a few very simple implements, oxen and tools, and working capital for purchasing modern inputs is definitely lacking. The low productivity of labor on most farms using very primitive implements or doing many time-consuming operations by hand without implements (e.g., weeding), coupled with seasonal time limitations, explains why many operations needed for higher yields are not done properly or at all. This goes a long way toward explaining the relatively low yields per hectare and the very small cultivated area per peasant family.

The existing agrarian relationships need considerable improvement for accelerated development of agriculture. In the northern highlands the traditional system of communal ownership (with its attendant redistribution of land from time to time) has given rise to dwarf holdings. In most of the central, western and southern highlands the widespread share-cropping system of tenancy stifles incentives for tenants to make investments, particularly monetary inputs, in production-increasing innovations and technology. Regulations and legislation have yet to be enacted to protect tenants from unjust eviction or to provide them security of tenure. However, tenancy legislation has been approved by the Council of Ministers and is presently being considered by Parliament.

The success of economic development in Ethiopia will depend on sustained growth in agriculture, more particularly in the peasant sector which accounts for the bulk of production for domestic use. The development of the highlands subsistence sector of the agricultural economy is essential to the economic, social and cultural efforts of all the people of Ethiopia.

In emphasizing the need to modernize peasant subsistence agriculture, the Third Five Year Plan indicates that strategically selected areas should be identified so that maximum results may be obtained from the input investment. The Plan also emphasizes that the "package program" should be utilized so that all inputs, both material and human, may be concentrated to achieve modernization of traditional subsistence agriculture. The Ada Agricultural Development Project meets these two major requisites and affords an opportunity to demonstrate how to significantly accelerate agricultural production on small peasant farms.

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The modernization of small farms is in direct keeping with country objectives of increasing food production at least sufficiently to keep pace with population growth and to accelerate the rate of growth of the agricult sector. The Ada Agricultural Development Project will increase unit yields staple crops and at the same time increase per capita income in the project area.

C. STRATEGY

The objective of the project is to demonstrate an approach to increase productivity and net income of small farmers, while developing the Ethiopian capability for replication of this approach in other highland areas of Ethiopia.

The project objective will be achieved through the application of a "package" which will include all the necessary inputs; viz. credit, fertilizer, improved seeds, a modest amount of mechanization consisting of equipment of various types and sizes, extension services, and marketing. A necessary condition for attaining the project objective is the building of institutions and improvement in the system of land tenure. More security must be provided for tenants and they must be protected from unreasonable share rents demanded by landowners.

The strategy will be as follows:

1. The use of, and as a condition for participation in the project, written leases between landowners and tenants which specify rent. This will be carried out cooperatively between the project and the Ministry of Land Reform and Administration.

2. The development of farmers' associations which are controlled by farmers and which will eventually evolve into sound multi-purpose cooperatives.

3. The establishment of a sound supervised credit institution that will provide credit to small farmers.

4. The creation of a strong market organization.

5. Establish close relationships with the MLRA on land tenure problems and with the Ministry of National Community Development and Social Affairs in establishing farmers' associations and cooperatives.

The strategy will also include the provision of credit for the purchase of necessary inputs and for the rental of machinery services from the project. Furthermore, close supervision of the use of all inputs and assistance in the application of improved farming practices, technology and innovations will be provided through technical assistance from U.S. and Ethiopian technicians.

1. Alternative Approaches

Alternative approaches to achieve project objectives were considered by the Interministerial Committee but were rejected. Some of the alternatives considered (discussed below) could have attained the same objectives at the same monetary cost but possibly higher social costs in the way of increased unemployment and accelerated tenancy displacement. The approach adopted by the Committee makes the machinery, credit and technical services available through the project only to tenants and small owner operators. This approach more fully guarantees the retainment of tenants on the land because it is only through the tenants that landowners can realize the benefits (through increased production) from the project. It should also encourage landowners to enter into written lease agreements with their tenants.

a. Large type farm equipment for all farm operations could have been made available to all farmers regardless of farm size. However, this could have encouraged large landowners and large farmers to evict tenants and to diminish the use of hired labor. Furthermore, large type equipment, because of its relatively high cost, would preclude the possibility of purchase by individual small farmers.

2. Row crop planting equipment, inter-row tillage equipment, and harvesting (cutting) equipment were dropped because weeding and cutting are the most labor intensive farm operations and the use of such equipment would probably displace labor.

2. Cooperating Country Leadership

Evidence of leadership in the Ada Project has been demonstrated by the active interest taken by responsible members of the IEG Interministerial Committee. The survey made of the tenancy situation in the Ada District by the Ministry of Land Reform and Administration, the intense interest of the Ministry of Community Development and Social Affairs in the establishment of cooperatives in the area, and the leadership exhibited by the Ministry of Agriculture in planning and developing the project proposal are all indications of good project leadership. Also the Ada Wereda Governor has taken a very active interest in the project. He has directed lesser officials to cooperate in investigations being made in the area.

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3. Cross Relationships

The Ada Agricultural Development Project is the only project in the Empire which deals exclusively with highlands small farm agriculture. The CADU project financed by the Swedish Government which lies south of Ada deals with large farms (which are primarily wheat farms) as well as small holdings. There is a good deal of complementarity between the Ada and CADU projects. The CADU project has a seed reproduction capability to supply at least a part of the improved seed requirement for the Ada project. The two areas are sufficiently similar climatically that crop research results can be exchanged.

There is also a cross relationship between the project and Haile Sellassie I University's Debre Zeit Experiment Station. The Station will be a source of improved seed for the project. Further, agronomic research developed by the Experiment Station is readily adaptable to the Ada Project Area. Close cooperation between the Station and the Project is anticipated.

The Extension Service in the Ada District will be folded into the project. It is anticipated that the Extension Service personnel in the area will work closely with farm credit supervisors in the application of improved practices on participant farms. The project will also cooperate with cooperative personnel and village-level workers of the Ministry of Community Development and Social Affairs.

The OMA (British Aid) team studying on-farm storage will be working in the Ada District. The project will cooperate closely with this team in developing an on-farm storage project.

D. PLANNED TARGETS, RESULTS AND OUTPUTS

The project land area will cover approximately 47,100 hectares. The first year a total of 256 farms encompassing 1,178 hectares will be brought in, expanding gradually as more centers are brought in and as the capability of each center is increased to handle more farms. The target for increased production is an increase of 100 percent on 80 percent of the farms in the Ada District at the end of 10 years. This increase in production should increase net per family income by 130 percent at present prices.

Improvement in the marketing structure through the use of central storage and orderly marketing should provide for greater price stabilization. Central storage facilities will be installed during the first year of project operation of a capacity such that 93 percent, 96 percent and 100 percent of capacity will be utilized during the first three years of the project respectively. Additional central storage will have to be provided in the 4th, 7th and 9th years of the project.

Security of tenure (allowing a sufficient length of time for tenants to recoup their investment in technical inputs) will be more assured through written landlord-tenant lease agreements. Since these lease agreements will be a prerequisite to participation in the project a target of 100 percent of the farmers having such agreement has been set.

Farmers' associations under the direct control of participating farmers will be established in each of the centers. These associations will lead to viable sound multi-purpose cooperatives as more farmers are brought into each association. A total of 10 cooperatives handling credit, input supplies, and marketing has been targeted over the 10 year period.

The targets established for the project are predicated upon the number of farmers participating in the project. The following table shows targets by years.

Year	No. of. Farmers Participating	No. of Farmers Associations	No. of Coops	Loans Made to Farmers (E $1000)
1	256	2	0	152.9
2	512	4	0	305.8
3	1280	7	0	637.1
4	2304	10	0	1036.5
5	3328	8	2	1457.0
6	4352	6	4	1929.5
7	5760	3	7	2573.9
8	7168	0	10	3313.0
9	8704	0	10	4214.0
10	10240	0	10	5286.9

As a result of 10 years of project operation net farm revenue will have increased by E $3,776,000, increasing net income per farm by 130 percent. Ten farm cooperatives with a capability of handling input supplies, product marketing and credit; and an improved marketing system will have been established. In addition the land tenure pattern will have been improved and net income per family increased, resulting in improved economic and social status of small farmers.

E. COURSE OF ACTION

1. Summary of Project Requirements

The project will make available to 10,240 small farmers a package of inputs including (1) technicians; (2) commodities (fertilizer, seed and equipment); (3) provision of production credit; (4) establishment of facilities (farm centers, storage); (5) participant training; (6) extension services; (7) organizational structure - Debre Zeit headquarters and local centers; (8) institutional arrangements - land reform, credit, cooperatives; (9) road and water supply construction/improvement; and (10) employment of written leases.

Centers will be phased in as follows: year 1, two centers; year 2, two centers; year 3, three centers; and year 4, three centers, making a total of ten centers by the end of the fourth year.

Credit supervision will be provided by credit supervisors stationed in each center. These supervisors, trained by a U.S. credit supervisor specialist assisted by his counterpart in the Debre Zeit headquarters, will be extension-type personnel. They will supervise all farming operations performed by participating farmers to assure that all inputs are properly used and that improved practices are used in order to obtain the highest production possible. Because the use of supervised credit is new to Ethiopia, the first year the ratio of credit supervisors to participating farmers will be one to fifty. As farmers gain experience this ratio will be increased, being one to one hundred the second year, each supervisor overseeing 50 new farmers plus 50 experienced farmers. The ratio will be gradually increased until by the 10th year a ratio of one to 200 will be attained.

As each center is brought into the project, a farmers' association will be formed. These associations will be under the general supervision of the Coops and Marketing Specialist located in the headquarters and under the direct supervision of the Purchasing and Sales Agent located in each center. Each farmers association will have a loan committee selected by community leaders in each area. This committee will screen loan applicants and will select from the applicants creditworthy farmers to participate in the project. The association will handle all input supplies, will have charge of warehousing and grain storage, and will assist in orderly marketing of farm produce. As the number of participating farmers increases each year and as the volume of business handled by the association increases, it will eventually be transformed into a financially sound multi-purpose cooperative.

Each U.S. technician on the project will have an Ethiopian counterpart in the Debre Zeit headquarters. The U.S. and Ethiopian technicians will backstop personnel in each of the centers and will provide technical assistance to the centers. In addition to participant training in the U.S. for the Ethiopian staff, on-the-job training will be provided by U.S. and Ethiopian technicians.

The project will involve nine professional-level Ethiopians in the Debre Zeit headquarters and a total of 20 professionals in the 10 local centers. These professionals will be phased in as shown in Tables 8 and 9, pages 26 and 27 of the Project Application.

It is proposed that commodities consisting of fertilizer for the first three years, farm equipment, central grain storage and vehicles will be procured off-shore under a development loan.

In addition to the personnel, material and financial resources essential for project implementation, it will also be highly desirable for the IEG to pass enabling legislation for tenancy reform. Proposed legislation is now being prepared that will give some guarantee of permanency of tenure and that will put ceilings on amounts of rent paid.

The Ministry of Community Development and Social Affairs will need to take an active part in establishing farmer associations which will eventually lead to sound multi-purpose cooperatives. The Ministry of Land Reform and Administration will be actively involved in reforms of landlord-tenant relationships of the project. They will also assist in getting written lease agreements signed. The IHA will be involved in road construction within the project area. The Ministry of Agriculture will be engaged in the operation of the project, and the Water Resources Department of the Ministry of Public Works, will be concerned with the development of water supplies. It is anticipated that at least part of the roads and, where possible, part of the wells will be constructed by hand labor on a self-help basis. This would reduce local costs for construction. Because all of these ministries will be involved in implementation and operation of the project it will be necessary for the IEG to formulate a policy making body to give guidance and direction to the development of the Ada Project area. This body should take the form of an interministerial committee composed of high level government officials of the concerned ministries. It will be the responsibility of this committee to see that the project financial requirements and other inputs of the IEG are made available on a timely basis.

2. Proposed AID Assistance

In addition to the proposed Development Loan for off-shore procurement of project commodities and a portion of project local costs, it is proposed that the following technical assistance be provided with grant funds.

A. Advisory Services

The services of an AID direct hire Agricultural Economist, who will serve as Project Manager, will be made available to the Ada project under Agricultural Advisory Services project in FY 1972 and under Technical Support project in FY 1973. In addition, AID and the IEG's Ministry of Agriculture will agree to assign an Agricultural Agronomist to the project on a part-time basis. These services will be made available through an AID-funded host country contract under Agricultural Advisory Services.

B. Contract Services

It is proposed that AID fully-fund an IEG host country contract with with a US firm or institution to provide a five man team of agricultural specialists for the first five project years. The team would be composed of a team leader, supply and marketing specialist, soils and crops specialist, credit supervisor specialist and an agricultural engineer. The team would be administratively responsible to the project organization, described above, and would be independent of the USAID Mission for logistic support.

In addition, it is proposed that AID salary supplement two IEG host country contracts with an Agricultural Economist and a specialist in legal institutions for one man year each in FY 1972. The Agricultural Economist would continue the collection of data which was previously started under a research grant funded under Agriculture Advisory Services. The specialist in legal institutions would work on land tenancy problems and lease arrangements in cooperation with the Ministry of Land Reform and Administration.

It is also proposed that the costs for six months of services for evaluation be included to follow both the first year of project operation and the fifth year of project operation.

C. Participant Training

It is proposed that a total of fifteen Ethiopians be sent to the U.S. or third countries for up to one year of training.

D. Commodities

While the requirement for off-shore procurement of project commodities will be met by a development loan, there is a limited requirement for grant financed commodities to support the activities of an agronomist as he conducts varietal and fertilizer trials in the project area.

E. Other Costs

It is proposed that a small amount of grant funds be made available in the first years of the project for the limited procurement of local goods and services.

3. Project Evaluation

The Ada Agricultural Development Project will be evaluated at the end of each crop year as the project progresses. Some of the evaluation will consist of purely physical features which will require no research. Other aspects will require research and the accumulation of data for evaluation. For example, evaluation of the number of farms participating in the project, the number of farmers having written lease agreements, number of hectares in the project, tenant displacement and amount of unemployment during the crop year can all be measured more or less directly without research. On the other hand, the level of crop yields, farm prices received for products by farmers, costs of production, gross and net farm incomes, etc., will require some agricultural economic research. This research will be provided by a U.S. part time agricultural economist furnished through short-term contract services to the project in cooperation with the Ministry of Agriculture and HSI University. The number of kilometers of road constructed or improved in each of the areas (centers), number of wells constructed, and amount of soil conservation and reforestation practices implemented will be evaluated for each year. Evaluations will be made of each of the goals or targets established in the Project Implementation Plan. Insofar as possible evaluation will also be made of the economic and social impact of the project on the project area. It is anticipated that the evaluation will carry through from the PROP to the PIP to the actual implementation of the project.

Equipment and Fertilizer Requirements and Costs (US $000)

	1st Year Two Local Centers	2nd Year Two Local Centers	3rd Year Three Local Centers	4th Year Three Local Centers	Total
Jeeps @ $4000 1/	16.0				16.0
Road Graders @ $32,200	96.5				96.5
Shop Tools	7.2				7.2
Equipment Parts	25.3		7.9	7.9	41.1
Jeeps @ $2800	5.6	5.6	8.5	8.5	28.2
Motorcycles @ $800	8.0	8.0	12.0	12.0	40.0
Automotive Parts	1.8	1.7	2.5	2.5	8.5
45 HP Equipment					
Tractor @ $4800	9.6	9.6	14.4	14.4	48.0
2-Furrow Disc Plow @ $1000	2.0	4.0	3.0	3.0	12.0
Disc Harrow @ $1000	2.0	4.0	3.0	3.0	12.0
Trailer @ $1000	2.0	4.0	3.0	3.0	12.0
Spike Tooth Harrow @ $500	1.0	1.0	1.5	1.5	5.0
Grain Drill @ $1700	3.4	3.4	5.1	5.1	17.0
25 HP Equipment @ $8000/set	16.0	16.0	24.0	24.0	80.0
Tractor					
Plow					
Spike Tooth Harrow					
Disc Harrow					
Trailer					
5-ft. Grain Drill					
10 HP Equipment @ $3200/set	6.4	6.4	9.6	9.6	32.0
Walking Tractor					
Roto Tiller					
Plow Trailer					
Spare Parts					
Small Thresher @ $1600	3.2	3.2	6.4	6.4	19.2
Seed Cleaner @ $500	1.0	1.0	1.5	1.5	5.0
Small Tools	0.4	0.5	0.6	0.6	2.1
Tool Bars for 45 HP Tractors	1.0	1.0	1.5	1.5	5.0
Scales	0.2	0.3	0.3	0.3	1.1
Radio	0.2	0.3	0.3	0.3	1.1
Fertilizer	19.2	38.4	95.9		153.5
Grain Storage	96.0			48.0	144.0
Grain Handling Equipment Elevators, Scales, etc.	65.2			32.6	97.8
TOTAL:	389.2	108.4	201.0	185.7	884.3

1/ Jeeps, graders, shop tools and equipment parts are for Debre Zeit headquarters

WEIGHTED AVERAGE YIELDS: ENTIRE PROJECT AREA WITH PROJECT IN EFFECT [1/]
(Quintals per Hectare)

Crop	Present	1	2	3	4	5	6	7	8	9	10
Teff	10	10.18	10.51	11.12	11.84	12.56	13.27	14.18	15.10	16.11	17.17
Wheat	10	10.38	10.71	11.62	12.74	13.38	14.97	16.43	17.90	19.51	21.17
Maize	15	15.37	15.95	17.15	18.61	20.05	21.50	23.39	25.29	27.39	29.57
Barley	10	10.23	10.60	11.37	12.31	13.24	14.17	15.36	16.55	17.84	18.92
Sorghum	10	10.23	10.60	11.37	12.31	13.24	14.17	15.36	16.55	17.84	18.92
Chickpeas	9	9.32	9.32	9.69	10.12	10.54	10.95	11.43	11.91	12.40	12.88
Broad Beans	8	8.30	8.30	8.67	9.09	9.49	9.90	10.38	10.86	11.36	11.86
Lentils	4	4.23	4.23	4.53	4.90	5.27	5.62	6.09	6.55	7.04	7.53

1/ Assumes yields on land not participating in project increase by 1.5% per year. Yields on land participating only in improved practices (fertilizer, chemicals, improved seed, etc.) as follows: teff, 17; wheat, 22; maize, 30; barley, 20; sorghum, 20; chickpeas, 13; broad beans, 12; lentils, 8. Yields on land participating in improved practices plus custom mechanization as follows: teff, 20; wheat, 25; maize, 35; barley, 22; sorghum, 22; chickpeas, 14; broad beans, 13; lentils, 8.5.

Land participating in project as follows: (Hectares):

Improved practices only	346	691	2,978	6,440	9,[illegible]96	12,443	16,269	19,167	21,400	21,943
Improved practices plus mech.	832	1,664	2,910	4,158	5,613	7,576	10,227	13,806	18,638	25,161
Not participating	57,702	56,525	52,992	48,282	43,571	38,861	32,384	25,907	18,842	11,776
TOTAL	58,880	58,880	58,880	58,880	58,880	58,880	58,880	58,880	58,880	58,880

PRODUCTION CHANGE DUE TO PROJECT
(Metric tons - rounded to nearest hundred)

Crop	1	2	3	4	5	6	7	8	9	10
Teff										
With Project 1/	22.2	22.9	24.2	25.8	27.3	28.9	30.9	32.9	35.1	37.4
Without Project	21.8	22.1	22.4	22.7	23.1	23.4	23.8	24.1	24.5	24.9
Difference	.4	.8	1.8	3.1	4.2	5.5	7.1	8.8	10.6	12.5
Wheat										
With Project 1/	10.5	11.0	11.9	13.0	13.7	15.3	16.8	18.3	20.0	21.7
Without Project	10.2	10.4	10.5	10.7	10.9	11.0	11.2	11.4	11.5	12.8
Difference	.3	.6	1.4	2.3	2.8	4.3	5.6	6.9	8.5	8.9
Maize										
With Project 1/	3.9	4.1	4.4	4.8	5.1	5.5	6.0	6.5	7.0	7.6
Without Project	3.8	3.9	4.0	4.0	4.1	4.1	4.2	4.3	4.3	4.4
Difference	.1	.2	.4	.8	1.0	1.4	1.8	2.2	2.7	3.2
Barley										
With Project 1/	6.5	6.8	7.3	7.9	8.5	9.1	9.8	10.6	11.4	12.1
Without Project	6.4	6.5	6.6	6.7	6.8	6.9	7.0	7.1	7.2	7.3
Difference	.1	.3	.7	1.2	1.7	2.2	2.8	3.5	4.2	4.8
Sorghum										
With Project 1/	1.3	1.4	1.5	1.6	1.7	1.8	2.0	2.1	2.3	2.4
Without Project	1.3	1.3	1.3	1.3	1.4	1.4	1.4	1.4	1.4	1.5
Difference	.0	.1	.2	.3	.3	.4	.6	.7	.9	.9
Chickpeas										
With Project 1/	10.5	10.7	11.2	11.7	12.1	12.6	13.2	13.7	14.3	14.8
Without Project	10.4	10.5	10.7	10.8	11.0	11.2	11.3	11.5	11.7	11.9
Difference	.1	.2	.5	.9	1.1	1.4	1.9	2.2	2.6	2.9
Broad Beans										
With Project 1/	3.1	3.2	3.3	3.5	3.6	3.8	4.0	4.2	4.4	4.6
Without Project	3.1	3.1	3.2	3.2	3.3	3.3	3.4	3.4	3.5	3.5
Difference	.0	.1	.1	.3	.3	.5	.6	.8	.9	1.1

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PRODUCTION CHANGE DUE TO PROJECT
(Metric tons - rounded to nearest hundred)

Crop	1	2	3	4	5	6	7	8	9	10
Lentils										
With Project 1/	.5	.5	.6	.6	.7	.7	.8	.8	.9	1.0
Without Project	.5	.5	.5	.5	.5	.6	.6	.6	.6	.6
Difference	.0	.0	.1	.1	.2	.1	.2	.2	.3	.4
Percent Increase in Total Production	1.74	3.94	8.78	15.02	18.98	25.52	32.75	39.65	47.45	53.36

1/ Based on weighted average yields given in Annex VII A.

FARM INCOME ANALYSIS - ADA PROJECT

Crop	%	Ha.	Yield /Ha	Prod. Qn.	Price Qn.	Gross Return	Gross /Ha.	Handling Cost @ $2/Qn.	Seed	Ferti-lizer	Chemi-cals	Field Oper. Cost		Total Cost	Cost/ Ha.	Net Return	Net Return /Ha.
PRESENT																	
Teff	36.96	1.7	10	17.0	25	425.00	250.00	34.00	31.87			185.50		251.37	147.86	173.63	102.14
Wheat	17.39	0.8	10	8.0	20	160.00	200.00	16.00	24.16			77.73		117.89	147.36	42.11	52.64
Maize	4.35	0.2	15	3.0	12	36.00	180.00	6.00	3.60			18.91		28.51	142.55	7.49	37.45
Barley	10.87	0.5	10	5.0	14	70.00	140.00	10.00	10.57			38.87		59.44	118.88	10.56	80.56
Sorghum	2.17	0.1	10	1.0	15	15.00	150.00	2.00	1.50			8.88		12.38	123.80	2.62	26.20
Chickpeas	19.56	0.9	9	8.1	17	137.70	153.00	16.20	13.16			81.40		110.76	123.07	26.94	29.93
Broad Beans	6.53	0.3	8	2.4	14	33.60	112.00	4.80	5.38			23.17		33.35	111.17	0.25	0.83
Lentils	2.17	0.1	4	0.4	24	9.60	96.00	0.80	1.30			7.28		9.38	93.80	0.22	2.20
Total or wt. ave.		4.6				886.90	192.80	89.80	91.54			441.74		623.08	135.45	263.82	57.35
WITH PROJECT: IMPROVED PRACTICES ONLY																	
Teff		1.7	17	28.9	25	722.50	425.00	58.00	30.60	73.00		185.50		347.10	204.18	375.40	220.82
Wheat		0.8	22	17.6	20	352.00	440.00	36.00	12.80	51.00		77.73		177.53	221.91	174.47	218.09
Maize		0.2	30	6.0	12	72.00	360.00	12.00	2.00	9.00		18.91		41.91	209.55	30.09	150.45
Barley		0.5	20	10.0	14	140.00	280.00	20.00	9.00	28.00		38.87		95.87	191.74	44.13	88.26
Sorghum		0.1	20	2.0	15	30.00	300.00	4.00	0.80	4.00		8.88		17.68	176.80	12.32	123.20
Chickpeas		0.9	13	11.7	17	198.90	221.00	24.00	12.60		18.00	84.00		138.60	154.00	60.30	67.00
Broad Beans		0.3	12	3.6	14	50.40	168.00	8.00	3.15		6.00	25.50		42.65	142.17	7.75	25.83
Lentils		0.1	8	0.8	24	19.20	192.00	2.00	1.20	3.00	2.00	10.00		18.20	182.00	1.00	10.00
Total or Ave.		4.6				1,585.00	344.57	164.00	72.15	168.00	26.00	449.39	26.60 1/	906.14	196.99	678.86	147.58
WITH PROJECT: IMPROVED PRACTICES PLUS CUSTOM MECHANIZATION																	
Teff		1.7	20	34.0	25	850.00	500.00	68.00	30.60	73.00		181.36		352.96	207.62	497.04	292.38
Wheat		0.8	25	20.0	20	400.00	500.00	40.00	12.80	51.00		97.34		201.14	251.42	198.86	248.58
Maize		0.2	35	7.0	12	84.00	420.00	14.00	2.00	9.00		14.96		39.96	199.80	44.04	220.20
Barley		0.5	22	11.0	14	154.00	308.00	22.00	9.00	28.00		56.34		115.34	230.68	38.66	77.32
Sorghum		0.1	22	2.2	15	33.00	330.00	4.00	0.80	4.00		11.38		20.18	201.80	12.82	128.20
Chickpeas		0.9	14	12.6	17	214.20	238.00	25.00	12.60		18.00	79.81		135.41	150.46	78.79	87.54
Broad Beans		0.3	13	3.9	14	54.60	182.00	8.00	3.15		6.00	22.45		39.60	132.00	15.00	50.00
Lentils		0.1	8.5	8.5	24	20.40	204.00	2.00	1.20	3.00	2.00	4.67		12.87	128.70	7.53	75.30
Total or Ave.		4.6				1,810.20	393.52	183.00	72.15	168.00	26.00	468.31	73.45 1/	990.91	215.42	819.29	178.11

1/ Interest on operating loan at 10%. Loan for operating cost includes seed, fertilizer, chemicals and machine custom hire (field operation cost). 100% of cash costs loaned.

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TOTAL FARM COSTS AND RETURNS WITHOUT PROJECT 1/

Year	Crop	Ha.	Ave. Yld/Ha.	Prod. Tons	Gross Return (E$ 000)	Total Farm Cost (E$ 000)	Net Farm Return (E$ 000)
1	Teff	21,760	10	21,760			
	Wheat	10,240	10	10,240			
	Maize	2,560	15	3,840			
	Barley	6,400	10	6,400			
	Sorghum	1,280	10	1,280			
	Chickpeas	11,520	9	10,368			
	Broad Beans	3,840	8	3,072			
	Lentils	1,280	4	512			
	Total	58,880			11,352.3	7,975.4	3,376.9
2	Teff	21,760	10.15	22,086			
	Wheat	10,240	10.15	10,394			
	Maize	2,560	15.225	3,898			
	Barley	6,400	10.15	6,496			
	Sorghum	1,280	10.15	1,299			
	Chickpeas	11,520	9.135	10,523			
	Broad Beans	3,840	8,12	3,118			
	Lentils	1,280	4.06	520			
	Total	58,880			11,522.5	8,055.2	3,467.3
3	Teff	21,760	10,30	22,413			
	Wheat	10,240	10.30	10,547			
	Maize	2,560	15.45	3,955			
	Barley	6,400	10.30	6,592			
	Sorghum	1,280	10.30	1,318			
	Chickpeas	11,520	9.27	10,679			
	Broad Beans	3,840	8.24	3,164			
	Lentils	1,280	4.12	527			
	Total	58,880			11,692.7	8,134.9	3,557.8
4	Teff	21,760	10.45	22,739			
	Wheat	10,240	10.45	10,700			
	Maize	2,560	15.675	4,013			
	Barley	6,400	10.45	6,688			
	Sorghum	1,280	10.45	1,338			
	Chickpeas	11,520	9.405	10,834			
	Broad Beans	3,840	8.36	3,210			
	Lentils	1,280	4.18	535			
	Total	58,880			11,862.8	8,214.7	3,648.1
5	Teff	21,760	10.61	23,087			
	Wheat	10,240	10.61	10,865			
	Maize	2,560	15.915	4,074			
	Barley	6,400	10.61	6,790			
	Sorghum	1,280	10.61	1,358			
	Chickpeas	11,520	9.549	11,000			
	Broad Beans	3,840	8.488	3,259			
	Lentils	1,280	4.244	543			
	Total	58,880			12,044.5	8,299.2	3,745.3

1/ Assuming 1.5% Increase Per Year in Production and 1% Increase in Farm Costs

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TOTAL FARM COSTS AND RETURNS WITHOUT PROJECT 1/

Year	Crop	Ha.	Ave. Yld/Ha.	Prod. Tons	Gross Return (E$ 000)	Total Farm Cost (E$ 000)	Net Farm Return (E$ 000)
6	Teff	21,760	10.77	23,435			
	Wheat	10,240	10.77	11,028			
	Maize	2,560	16.155	4,136			
	Barley	6,400	10.77	6,893			
	Sorghum	1,280	10.77	1,379			
	Chickpeas	11,520	9.693	11,166			
	Broad Beans	3,840	8.616	3,309			
	Lentils	1,280	4.308	551			
	Total	58,880			12,226.1	8,382.1	3,844.0
7	Teff	21,760	10.93	23,784			
	Wheat	10,240	10.93	11,192			
	Maize	2,560	16.395	4,197			
	Barley	6,400	10.93	6,995			
	Sorghum	1,280	10.93	1,399			
	Chickpeas	11,520	9.837	11,332			
	Broad Beans	3,840	8.744	3,358			
	Lentils	1,280	4.372	560			
	Total	58,880			12,408.0	8,461.9	3,946.1
8	Teff	21,760	11.09	24,132			
	Wheat	10,240	11.09	11,356			
	Maize	2,560	16.635	4,259			
	Barley	6,400	11.09	7,098			
	Sorghum	1,280	11.09	1,420			
	Chickpeas	11,520	9.981	11,498			
	Broad Beans	3,840	8.872	3,407			
	Lentils	1,280	4.436	568			
	Total	58,880			12,590.0	8,549.6	4,040.4
9	Teff	21,760	11.26	24,502			
	Wheat	10,240	11.26	11,530			
	Maize	2,560	16.89	4,324			
	Barley	6,400	11.26	7,206			
	Sorghum	1,280	11.26	1,441			
	Chickpeas	11,520	10.134	11,674			
	Broad Beans	3,840	9.008	3,459			
	Lentils	1,280	4.504	577			
	Total	58,880			12,782.7	8,637.4	4,145.3
10	Teff	21,760	11.43	24,872			
	Wheat	10,240	11.43	12,847			
	Maize	2,560	17.145	4,389			
	Barley	6,400	11.43	7,315			
	Sorghum	1,280	11.43	1,463			
	Chickpeas	11,520	10.287	11,851			
	Broad Beans	3,840	9.144	3,511			
	Lentils	1,280	4.572	585			
	Total	58,880			13,204.2	8,717.1	4,487.1

1/ Assuming 1.5% Increase Per Year in Production and 1% Increase in Farm Costs

TOTAL FARM COSTS AND RETURNS WITH PROJECT 1/

Year	Crop	Ha.	Prod. Tons	Gross Return (E$ 000)	Farm Costs (E$ 000)	Net Return (E$ 000)
1	Teff	21,760	22,157			
	Wheat	10,240	10,529			
	Maize	2,560	3,934			
	Barley	6,400	6,546			
	Sorghum	1,280	1,310			
	Chickpeas	11,520	10,476			
	Broad Beans	3,840	3,108			
	Lentils	1,280	523			
	Total	58,880		11,571.8	8,063.2	3,508.6
2	Teff	21,760	22,867			
	Wheat	10,240	10,966			
	Maize	2,560	4,084			
	Barley	6,400	6,784			
	Sorghum	1,280	1,357			
	Chickpeas	11,520	10,734			
	Broad Beans	3,840	3,189			
	Lentils	1,280	542			
	Total	58,880		11,791.3	8,151.0	3,640.3
3	Teff	21,760	24,192			
	Wheat	10,240	11,897			
	Maize	2,560	4,391			
	Barley	6,400	7,276			
	Sorghum	1,280	1,456			
	Chickpeas	11,520	11,166			
	Broad Beans	3,840	3,328			
	Lentils	1,280	580			
	Total	58,880		12,388.4	8,391.4	3,997.0
4	Teff	21,760	25,766			
	Wheat	10,240	13,046			
	Maize	2,560	4,764			
	Barley	6,400	7,879			
	Sorghum	1,280	1,575			
	Chickpeas	11,520	11,661			
	Broad Beans	3,840	3,489			
	Lentils	1,280	627			
	Total	58,880		13,164.3	8,704.2	4,460.1
5	Teff	21,760	27,325			
	Wheat	10,240	13,701			
	Maize	2,560	5,134			
	Barley	6,400	8,475			
	Sorghum	1,280	1,695			
	Chickpeas	11,520	12,144			
	Broad Beans	3,840	3,646			
	Lentils	1,280	674			
	Total	58,880		13,950.3	9,020.9	4,929.4

1/ Assuming 1.5% Increase Per Year in Production and 1% Increase in Farm Costs W/O Project.

TOTAL FARM COSTS AND RETURNS WITH PROJECT 1/

Year	Crop	Ha.	Prod. Tons	Gross Return (E$ 000)	Farm Costs (E$ 000)	Net Return (E$ 000)
6	Teff	21,760	28,884			
	Wheat	10,240	15,334			
	Maize	2,560	5,505			
	Barley	6,400	9,066			
	Sorghum	1,280	1,813			
	Chickpeas	11,520	12,610			
	Broad Beans	3,840	3,800			
	Lentils	1,280	720			
	Total	58,880		14,761.4	9,346.9	5,414.5
7	Teff	21,760	30,861			
	Wheat	10,240	16,827			
	Maize	2,560	5,987			
	Barley	6,400	9,830			
	Sorghum	1,280	1,966			
	Chickpeas	11,520	13,172			
	Broad Beans	3,840	3,987			
	Lentils	1,280	780			
	Total	58,880		15,874.0	9,794.3	6,079.7
8	Teff	21,760	32,865			
	Wheat	10,240	18,332			
	Maize	2,560	6,475			
	Barley	6,400	10,591			
	Sorghum	1,280	2,118			
	Chickpeas	11,520	13,716			
	Broad Beans	3,840	4,169			
	Lentils	1,280	838			
	Total	58,880		17,032.1	10,258.8	6,773.3
9	Teff	21,760	35,061			
	Wheat	10,240	19,981			
	Maize	2,560	7,011			
	Barley	6,400	11,415			
	Sorghum	1,280	2,283			
	Chickpeas	11,520	14,284			
	Broad Beans	3,840	4,362			
	Lentils	1,280	901			
	Total	58,880		18,341.1	10,782.7	7,558.4
10	Teff	21,760	37,357			
	Wheat	10,240	21,676			
	Maize	2,560	7,569			
	Barley	6,400	12,107			
	Sorghum	1,280	2,450			
	Chickpeas	11,520	14,843			
	Broad Beans	3,840	4,553			
	Lentils	1,280	964			
	Total	58,880		19,732.7	11,337.6	8,395.1

1/ Assuming 1.5% Increase Per Year in Production and 1% Increase in Farm Costs W/O Project

DETAILS OF BENEFIT/COST ANALYSIS (ETH.$ 000)

Year	Gross Revenues With 1/	Gross Revenues Without 2/	Incremental Gross Revenues	Investment Cost 3/	Project Current Costs 4/	Farm Current Costs With	Farm Current Costs Without	Incremental Farm Current Costs	Incremental Total Costs
1	11,571.8	11,352.3	219.5	3,282.7	287.8	8,063.2	7,975.4	87.8	3,658.3
2	11,793.1	11,522.5	270.6	1,485.7	370.0	8,151.0	8,055.2	95.8	1,951.5
3	12,388.4	11,692.7	695.7	1,712.8	695.1	8,391.4	8,134.9	256.5	2,673.4
4	13,164.3	11,862.8	1,301.5	1,638.1	847.2	8,704.2	8,214.7	489.5	2,974.8
5	13,950.3	12,044.5	1,905.8	1,511.8	891.9	9,020.9	8,299.2	721.7	3,125.4
6	14,761.4	12,226.1	2,535.3		1,027.0	9,346.9	8,382.1	964.8	1,991.8
7	15,874.0	12,408.0	3,466.0		1,273.7	9,794.3	8,461.9	1,332.4	2,606.1
8	17,032.1	12,590.0	4,442.1		1,393.4	10,258.8	8,549.6	1,709.2	3,102.6
9	18,341.1	12,782.7	5,558.4		1,559.3	10,782.7	8,637.4	2,145.3	3,704.6
10	19,732.7	13,204.2	6,528.5		1,731.2	11,337.6	8,717.1	2,620.5	4,351.7
11					658.3				3,278.8
12									3,278.8
13									3,278.8
14									3,278.8
15				1,213.3					4,492.1
16									3,278.8
17									
18									
19									
20									
21									
22									
23									
24									
25									

1/ Based on Annex VIII C.
2/ Based on Annex VIII B.
3/ Includes all investment, U.S. technical assistance and participant training; see Annex IV.
4/ Consists of IEG personnel, maintenance on wells and roads, operating costs of offices and vehicles, and working capital; see Annex IV.

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DETAILS OF BENEFIT/COST ANALYSIS (ETH. $ 000)

	8%			16%		
Year	PWF	Discounted Benefits	Discounted Costs	PWF	Discounted Benefits	Discounted Costs
1	.925	203.0	3,383.9	.862	189.2	3,153.5
2	.857	230.4	1,672.4	.743	199.7	1,449.9
3	.793	551.7	2,120.0	.640	445.2	1,710.9
4	.735	956.6	2,186.5	.552	718.4	1,642.1
5	.680	1,295.9	2,125.3	.476	907.2	1,487.7
6	.630	1,471.2	1,254.8	.410	957.5	816.6
7	.583	2,020.7	1,519.4	.354	1,226.9	922.6
8	.540	2,398.7	1,675.4	.305	1,354.8	946.3
9	.500	2,779.2	1,852.3	.262	1,456.3	970.6
10	.463	3,022.7	2,014.8	.226	1,475.4	983.5
11	.428	2,794.2	1,403.3	.195	1,273.1	639.4
12	.397	2,591.8	1,301.7	.168	1,096.8	550.8
13	.367	2,396.0	1,203.3	.145	946.6	475.4
14	.340	2,219.7	1,114.8	.125	816.1	409.9
15	.315	2,056.5	1,415.0	.107	698.5	480.7
16	.291	1,899.8	954.1	.093	607.2	304.9
17	.270	1,762.7	885.3	.080	522.3	262.3
18	.250	1,632.1	819.7	.069	450.5	226.2
19	.231	1,508.1	757.4	.059	385.2	193.4
20	.214	1,397.1	701.7	.051	332.9	167.2
21	.198	1,292.6	649.2	.044	287.3	144.3
22	.183	1,194.7	600.0	.038	248.1	124.6
23	.170	1,109.8	557.4	.032	208.9	104.9
24	.157	1,025.0	514.8	.028	182.8	91.8
25	.146	953.2	478.7	.024	156.7	78.7
		40,763.4	33,101.2		17,143.6	18,338.2

B/C Ratio: 1.23:1.00

B/C Ratio: 0.93

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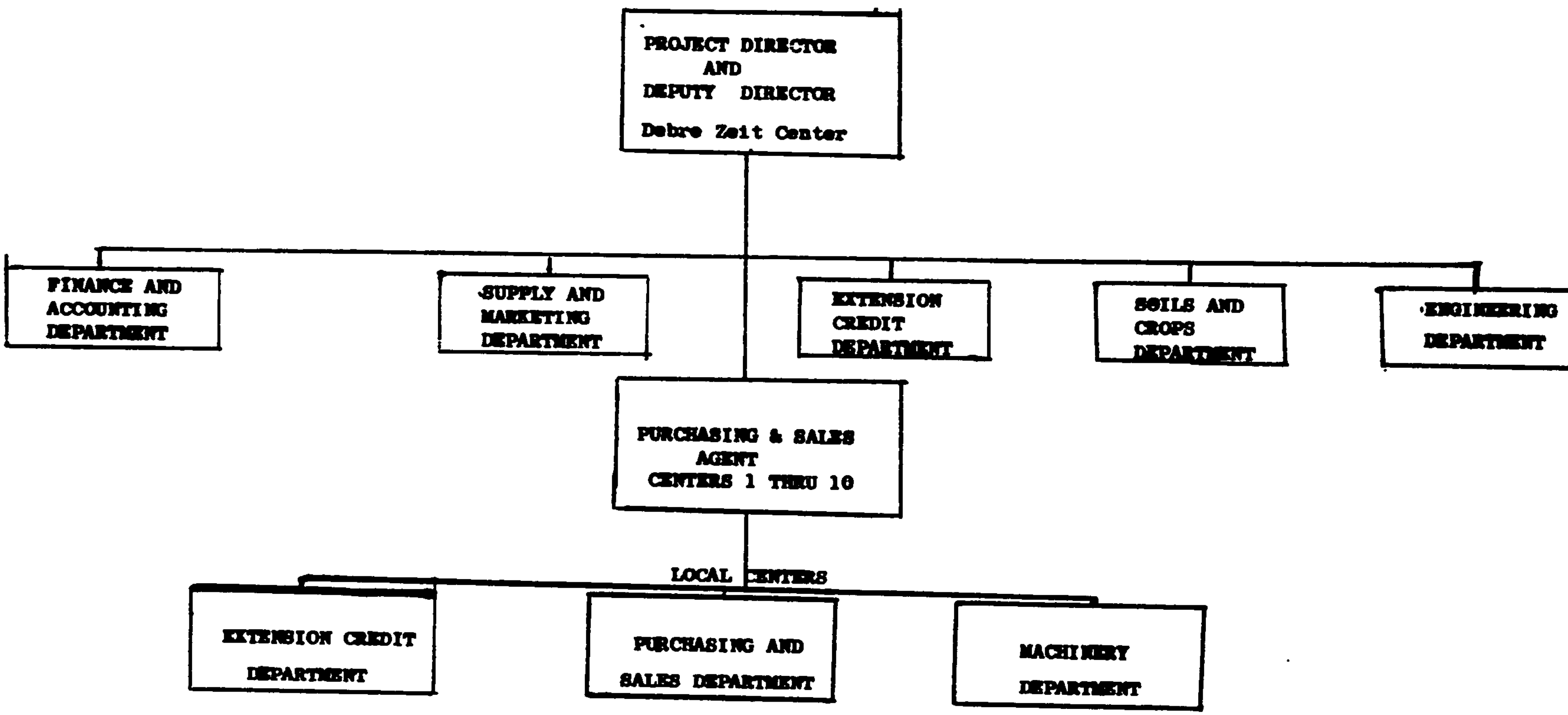
ORGANIZATION CHART: ADA AGRICULTURAL DEVELOPMENT PROJECT



MODEL LEASE
TYPE I (ADA PROJECT)
RENT (1/3) or FIXED

LEASE AGREEMENT

I. Lease of Land

I/We ______________________________ landholder(s)

hereby lease to ______________________________ tenant

the land described below:

District ______________________________

Sub District ______________________________

Balabat area ______________________________

Chika shum ______________________________

Description of parcel (if possible the approximate area of the parcel and suitable marks of identification ______________________________

____

____

II. Duration of Lease

This lease agreement shall become effective as of the date of its signing and shall continue to run for five consecutive years; provided however that this lease agreement may be terminated by either of the parties before the expi.., of the lease period stipulated for any of the reasons specified under Article VIII.

III. Amount of Rent

The tenant shall, subject to the provisions of Articles IV and V hereof, pay 1/3 of the gross produce of the parcel to the landholder;

OR

The tenant shall, subject to the provisions of Article IV hereof, pay Eth.$ ______________, or ______________ quintals of ______________ and/or quintals of ______________.

Contributions by the Landholder

(1) In addition to the land contained in the parcel above, the landholder agrees to contribute the following:

Draft animals ____________

Farm implements ____________

Seeds ____________ ____________

Fertilisers ____________

Services ____________

At the following rates which the parties agree to constitute the reasonable rental value of:

Draft animals ________ $ ____________ or ________ quintals of ________

Farm implements ________ $ ____________ or ________ quintals of ________

Seeds ________ $ ____________ or ________ quintals or ________

Provided however, the tenant may in any year provide any or all of the above contributions himself.

(2) The total amount of rent and the rental value of contributions payable under Articles 3 and 4 hereinabove shall in no case exceed 50% of the gross produce of the parcel.

Contributions by the Tenant

The tenant may, prior to the division of the gross produce of the parcel according to the maximum share rent under Article 2, deduct from the gross produce and retain for himself an amount of the produce equal to the cost of inputs such as seeds and fertilizers provided by him.

Time of Payment of Rent and Other Contributions

(1) The tenant shall pay the rent and the value of contributions made by the landholder on the ____________ day of ____________ which the parties agree to be the normal date of the end of the threshing of crops or within 30 days thereafter

(2) The landholder shall give a receipt for the full or partial payment by the tenant of any obligation indicating the amount paid, the date on which it was made and the specific obligation in satisfaction of which it was made.

VII. Place of Payment

(1) The tenant shall pay and the landholder shall collect the rent and the value of any contributions made by him at the site of the farm.

(2) If delivery is effected at any place other than the site of the farm the tenant shall be entitled to deduct from the produce an amount equivalent to the cost of such delivery.

VIII. Termination of Lease

This lease agreement may be terminated by written notification before the time fixed in the lease for reasons enumerated herein below:

(1) by the mutual agreement of the landholder(s) and the tenant provided that such agreement of terminating the lease is witnessed by the Project Director or his duly authorized representative, or by two witnesses one of whom shall be chosen by each party;

(2) by either the landholder(s) or the tenant where an illness affecting the tenant prevents him from continuing the exploitation in a normal manner, unless the tenant's immediate family carry on satisfactory farm operations;

(3) if the tenant has failed to pay the rent within the time agreed upon under Article VI of this lease agreement and the landholder(s) has given the tenant a sixty days notice, with copy to Ada Project Director, demanding of the tenant to pay the rent as agreed upon;

(4) if the landholder(s), his/her spouse, child or grandchild above 16 years of age intends to exploit the holing by personal cultivation: provided that the landholder(s) shall give at least two years notice, with copy to Ada Project Director, to the tenant of his intention to seek termination, and provided further that the landholder(s) pays to the tenant a disturbance compensation equivalent to the loss sustained by the tenant by termination.

IX. Compensation

Whenever and however the lease agreement is terminated, the tenant shall be paid compensation for improvements made on the holding, equivalent to the unexhausted value of the improvement at the time of termination.

X. Mutual Obligations of the Parties

(1) The parties hereto agree that this lease agreement constitutes the entire agreement between them in respect to the matters contained herein to the extent that said agreement conforms to and does not contradict the provisions of the Civil Code of 1960 and any other law governing agricultural tenancy relationship.

(2) The landholder agrees to warrant to the tenant the peaceful use and enjoyment of the parcel; and on his part, the tenant undertakes to personally (with family and hired labor) cultivate it.

XI. Taxes

(1) The landholder alone shall be responsible for the payment of the land, health and education taxes assessed on his land and the tax assessed on the agricultural income from the land.

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(2) In particular, the landholder shall not demand or collect from the tenant, apart from rent and the reasonable rental value for his contributions if any as fixed and determined in Articles 3 and 4 hereinabove, any payment in the form of asrat or any other payment whatsoever in cash, kind or personal services.

Dated this________________________of the day________________19__

Thumbmark or signature of landholder   Thumbmark or signature of tenant

Witness   Witness

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FINANCIAL CASH FLOW PROJECTION FOR THE ADA AGRICULTURAL DEVELOPMENT PROJECT

(U.S. $1,000)

	INFLOW						OUTFLOW					
Year (1)	U.S. Loan (2)	U.S. Grant (3)	IEG Contri-bution (4)	Interest Received (5)	Repayment of Principal (6)	Total	Project Investment (7)	Current Costs (8)	Repayment of U.S. Loan (9)	Total	Balance	Cumulative Balance
1	670.6	371.0	395.6			1437.2	1323.0	115.9	13.4	1452.3	-15.1	-15.1
2	174.1	354.0	214.5	6.3	52.4	801.3	593.8	149.1	16.9	759.8	+41.5	+26.4
3	271.6	348.0	350.5	12.6	104.7	1087.4	690.3	280.1	22.3	992.7	94.7	121.1
4	255.9	334.0	411.4	26.2	218.2	1245.7	660.2	341.4	27.4	1032.1	213.6	334.7
5	152.6	304.0	514.8	42.6	355.1	1369.1	609.3	359.5	30.5	999.3	369.[illegible]	704.5
6			413.9	59.9	499.1	972.9		413.9	30.5	444.4	528.5	1233.0
7			513.3	79.3	661.0	1253.6		513.3	30.5	543.8	709.8	1942.8
8			561.6	105.8	881.7	1549.1		561.6	30.5	[illegible]	957.0	2899.8
9			628.4	136.2	1134.9	1899.5		628.4	30.5	658.9	1240.6	4140.4
10			697.7	173.2	1443.6	2314.5		697.7	30.5	728.2	1586.3	5726.7
11			265.3	217.3	1810.8	2293.4		265.3	77.8	333.1	1960.3	7687.0

(1) First Year = 1972
(2) Off-shore procurement of machinery and equipment, fertilizer (1st 3 years), vehicles, grain storage, one-half of IEG capital costs.
(3) U.S. technicians, participant training, and commodities.
(4) One-half of capital costs plus recurrent costs (personnel, operation and maintenance), and working capital except as noted in (3) above.
(5) Interest paid by farmers @ 12% of production loans. Reduced by 15% for loss in collections.
(6) Principal paid on production loans by farmers. Reduced by 15% for loss in collections.
(7) U.S. investment ((1) + (2)) plus one half IEG investment in offices and buildings, office equipment and furniture, transportation of off-shore procured commodities, water development, road construction.
(8) IEG personnel cost, operation and maintenance, and working capital.
(9) Interest paid on U.S. loan first 10 years @ 2% and amortized over next 30 years @ 3%.

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PROJECT REPAYMENT CAPACITY TO RETIRE LOAN

(U.S. $1,000)

Year	Total Inflow (1)	Subtotal Outflow (1)	Payment on Loan to Ministry Finance @ 1% (2)	Total Outflow	Balance	Cumulative Balance
1	1437.2	1453.5	6.7	1460.2	-23.0	-23.0
2	801.3	762.3	8.4	770.7	+30.6	+7.6
3	1087.4	996.2	11.2	1007.4	80.0	87.6
4	1245.7	1032.5	13.7	1046.2	199.5	287.1
5	1369.1	1002.8	15.2	1018.0	351.1	638.2
6	972.9	447.9	15.2	463.1	509.8	1148.0
7	1253.6	547.3	15.2	562.5	691.1	1839.1
8	1549.1	901.6	15.2	916.8	632.3	2471.4
9	1899.5	968.4	15.2	983.6	915.9	3387.3
10	2314.5	731.7	15.2	746.9	1567.6	4954.9
11	2293.4	352.0	15.2	367.2	1926.2	6881.1

(1) From Sheet 1

(2) To be negotiated.

CERTIFICATION PURSUANT TO SECTION 611 (e) OF THE FOREIGN ASSISTANCE ACT OF 1961, AS AMENDED

I, Roger Ernst, the principal officer of the Agency for International Development in Ethiopia, having taken into account, among other things, the maintenance and utilization of projects in Ethiopia previously financed or assisted by the United States, do hereby certify that in my judgment, Ethiopia has both the financial capability and the human resources capability to effectively implement, maintain and utilize the capital assistance project, Ada Agricultural Development Project.

I base the above judgment upon my conviction that the Imperial Ethiopian Government is committed to the development of peasant agriculture, and on assurances received from the Government regarding the provision of adequate financial resources and personnel to insure successful implementation of this project. The record of the IEG in successful area agricultural development project implementation is demonstrated in the Chilalo (Swedish) project. Also to be noted is the fact of IBRD support for the Wolamo and Humera projects.

Roger Ernst

Roger Ernst, Director
USAID/Ethiopia

4/20/71
Date

AID-DLC/P-982/A Draft

UNCLASSIFIED

ANNEX XV

CAPITAL, ASSISTANCE LOAN AUTHORIZATI

**Provided from: Development Loan Funds
Ethiopia - Ada Agricultural Development Project**

Pursuant to the authority vested in the Administrator of the Agency for International Development (hereinafter called "A.I.D.") by the Foreign Assistance Act of 1961, assmended, and the delegations of authority issued thereunder, I hereby authorize the establishment of a loan pursuant to Part I, Chapter 2, Title I, the Development Loan Fund, to the Imperial Ethiopian Government ("Borrower") of not to exceed one million seven hundred thousand dollars ("1,300,000") to assist in financing the foreign exchange and local costs of fertilizer, farm machinery, other production inputs, storage facilities and project vehicles and other goods and services for use by the Ada Agricultural Development Project organization. This loan is subject to the following terms and conditions:

1. Interest Rates and Terms of Repayment.

   Borrower shall repay the loan to A.I.D. in U.S. dollars within forty (40) years from the date of the first disbursement under the loan, including a grace period of not to exceed ten (10) years. Borrower shall pay to A.I.D. interest at the rate of two percent (2%) per annum during the grace period and three percent (3%) per annum thereafter.

2. Currency of Repayment.

   Repayment of the loan and payment of interest shall be made in United States dollars.

3. Other Terms and Conditions

   (a) Goods and services financed by the loan shall be procured from the U.S., Ethiopia, and countries included in Code 941 of the A.I.D. Geographic Code Book.

   (b) The loan shall be subject to such other terms and conditions as A.I.D. may deem advisable.

Assistant Administrator for Africa

Date