

UNCLASSIFIED

UNITED STATES INTERNATIONAL DEVELOPMENT COOPERATION AGENCY
AGENCY FOR INTERNATIONAL DEVELOPMENT
Washington, D. C. 20523

COSTA RICA
PROJECT PAPER

NORTHERN ZONE CONSOLIDATION

AID/LAC/P-445

Project Number: 515-0235

UNCLASSIFIED

PROJECT DATA SHEET

1. TRANSACTION CODE

A = Add
 C = Change
 D = Delete

Amendment Number

DOCUMENT CODE
3

COUNTRY/ENTITY
Costa Rica

BUREAU/OFFICE

LAC 05

2. PROJECT NUMBER
515-0235

3. PROJECT TITLE (maximum 40 characters)
Northern Zone Consolidation

4. PROJECT ASSISTANCE COMPLETION DATE (PACD)
MM DD YY
09/30/93

5. ESTIMATED DATE OF OBLIGATION
(Under "B" column, enter 1, 2, 3, or 4)
A. Initial FY 8 9
B. Quarter 2
C. Fiscal FY 8 9

6. COSTS (\$000 OR EQUIVALENT \$1 =)

A. FUNDING SOURCE	FISCAL FY			LIFE OF PROJECT		
	B. FY	C. L/C	D. Total	E. FY	F. L/C	G. Total
AE. Appropriated Total						
(Grant)	(5,150)	()	()	(5,150)	()	(5,150)
(Loan)	()	()	()	()	()	()
Other						
U.S.						
Host Country					14,107	14,107
Other Donor(s)						
TOTALS						19,257

7. SCHEDULE OF AID FUNDING (\$000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH CODE		D. OBLIGATIONS TO DATE		E. AMOUNT APPROVED THIS ACTION		F. LIFE OF PROJECT	
		1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan
(1) ARDN	133	210				5,150		5,150	
(2)									
(3)									
(4)									
TOTALS						5,150		5,150	

8. SECONDARY TECHNICAL CODES (maximum 8 codes of 3 positions each)
070 060 051 044

9. SECONDARY PURPOSE CODE
233

10. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each)
A. Code BS EOTY LAB
B. Amount

11. PROJECT PURPOSE (maximum 480 characters)
To contribute to the consolidation of the efficient and equitable socio-economic development of the Cantons of Upala and Guatuso, the District of Santa Cecilia of the Canton of La Cruz, and the District of Caño Negro of the Canton of Los Chiles.

12. SCHEDULED EVALUATIONS
Initial MM YY Final MM YY
09/9/0 09/9/3

13. SOURCE/ORIGIN OF GOODS AND SERVICES
 000 941 Local Other (Specify) CACH

14. AMENDMENTS/NATURE OF CHANGE PROPOSED (This is page 1 of a _____ page PP Amendment.)

USAID Controller approves the Methods of Implementation and Financing proposed herein.

Thomas Clarkson
Thomas Clarkson, A/CONT

17. APPROVED BY

Signature
Carl H. Leonard
Title
Mission Director

Date Signed
MM DD YY
10/7/31/89

18. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION
MM DD YY
| | | | | |



AGENCIA PARA EL DESARROLLO INTERNACIONAL

MISION ECONOMICA DE LOS ESTADOS UNIDOS EN COSTA RICA

Apartado Postal 10053
1000 San José, Costa Rica
Teléfono 33-11-55
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PROJECT AUTHORIZATION

Name of Country: Costa Rica
Name of Project: Northern Zone Consolidation
Number of Project: 515-0235

1. Pursuant to Section 103 of the Foreign Assistance Act of 1961, as amended, I hereby authorize the Northern Zone Consolidation Project for Costa Rica involving planned obligations of not to exceed Five Million One Hundred Fifty Thousand United States Dollars (\$5,150,000) in grant funds over a one-year period from date of authorization subject to the availability of funds in accordance with the AID OYB/allotment process and administrative approvals to help in financing foreign exchange and local currency costs for the project. The planned life of the project is five years from the date of initial obligation.

2. The Project will develop programs to maintain the farm to market roads and provide access to credit and technical assistance to increase primarily non-traditional agricultural production in the Northern Zone of Costa Rica. It will also improve the quality of life in the area through improved access to services and improved environmental management ("Project"). The Project has five components:

- A. Expansion of Crop Production;
- B. Road Maintenance and Rehabilitation;
- C. Community Development;
- D. Land Settlement and Titling; and
- E. Project Coordination, Management and Monitoring.

3. The Project Agreement which may be negotiated and executed by the officer to whom such authority is delegated in accordance with A.I.D. regulations and Delegations of Authority, shall be subject to the following essential terms and covenants and major conditions, together with such other terms and conditions as AID may deem appropriate:

A. Source and Origin of Commodities, Nationality of Services

Commodities financed by AID under the Grant shall have their source and origin in the United States, or in countries which are members of the Central American Common Market, except as A.I.D. may otherwise agree in writing. Ocean shipping financed by A.I.D. under the Grant shall be financed only on flag vessels of the United States, except as A.I.D. may otherwise agree in writing.

B. Conditions Precedent to Disbursement

In addition to the standard conditions precedent of (a) an opinion of counsel and (b) the name and signature of the GOCR representative(s):

(1) A.I.D. considers it necessary that A.I.D. have evidence, in form in substance satisfactory to A.I.D., that the following elements have been complied with under each respective component:

(i) Road Maintenance and Rehabilitation Component:

That the Ministry of public Works and Transport (MOPT) has rehabilitated and improved the Route 4 road system to the specifications established in the Northern Zone Infrastructure Development Project (515-T-041) without cost to this Project and has officially and fully accepted the road.

(ii) Project Coordination, Management and Monitoring Component:

That the organization and the financial and administrative functions of the Project Coordination Office and the MIDEPLAN central office have been established.

(iii) Land Settlement and Titling Component:

That the settlers will be advised of the loan repayment terms and what further services they may expect to receive.

(2) To make implementation of the project possible, the GOCR will promote the interinstitutional agreements necessary and adequate to

achieve the objectives of the Project. These agreements shall be concluded so that each of the Project's corresponding components can be initiated, and will be the following:

- MIDEPLAN/MOPT
- MIDEPLAN/IDA
- MIDEPLAN/DINADECO
- MIDEPLAN/IMAS

C. Covenants

(1) Prior to the provision of any road maintenance equipment by the Project, the GOCR shall, except as A.I.D. may otherwise agree in writing, furnish to A.I.D. in form and substance satisfactory to A.I.D., written statements that the equipment provided for the project will be used exclusively for road maintenance in the Project area, until the completion of the Project.

(2) The GOCR will take appropriate steps so that the Project Coordination Office will be the primary organization responsible for the implementation of this Project and so that that Office carries out its responsibilities under the Project appropriately and properly.

(3) Agricultural Production Component: Prior to the promotion of crops supported by the Project which involves the use of any agrochemical, the technological package will not include products prohibited by the Environmental Protection Agency of the United States (EPA), and will be approved by A.I.D. in advance.

(4) Environmental Protection: No activity funded under this Project (with dollars or with local currency counterpart contributions) will be undertaken on upland/fragile areas identified in the Environmental Assessment without prior approval in writing by A.I.D.

(5) No project resources shall be used for the production, processing or marketing of sugar, palm oil, or citrus for export, or to increase agricultural exports to a country other than the United States in direct competition in that third country with the same or similar exports of the United States without the prior written consent of A.I.D.



Carl H. Leonard
Mission Director

Date: July 31, 1988

LIST OF ACRONYMS

AA AND Aya	Costa Rican Water Works Institute
ACCR	Costa Rican Roads and Highway Association
ACDI	Agricultural Cooperative Development International
AID	Agency for International Development
AP	Action Plan
ASAP	Agrarian Settlement and Productivity Loan
CAAP	Private Agribusiness and Agroindustry Council
CAC	"Cantonal" Agricultural Centers
CACM	Central American Common Market
CATIE	Tropical Agricultural Center for Education and Research
CBI	Caribbean Basin Initiative
CDA	Community Development Association
CDSS	Country Development Strategy Statement
CENPRO	Center for Export Promotion
CINDE	Costa Rican Coalition for Development Initiatives
CMV	Northern Zone Municipal Roads Maintenance Commission
CNE	National Emergency Commission
DINADECO	National Institute for Community Development
EA	Environmental Assessment
EAT	Environmental Assessment Team
ESF	Economic Support Funds
FPN	National Parks Foundation
GDP	Gross Domestic Product
GOCR	Government of Costa Rica
IBRD	International Bank for Reconstruction and Development
ICAA	Costa Rican Water Works Institute
ICE	Costa Rican Electricity Institute
IDA	Agrarian Development Institute
IDB	Interamerican Development Bank
IFAD	International Fund for Agricultural Development
IFAM	Municipal Development Institute
IICA	Interamerican Institute for Agricultural Cooperation
IMAS	Institute for Social Assistance
IMF	International Monetary Fund
INA	National Learning Institute
IRR	Internal Rate of Return
MAG	Ministry of Agriculture and Livestock
MIDEPLAN	Ministry of National Planning and Economic Policy
MOH	Ministry of Health
MOPT	Ministry of Public Works and Transport
NBCCA	National Bipartisan Commission on Central America
NDP	GOCR's National Development Plan
NTAE	Non-Traditional Agricultural Export Strategy

NZCP	Northern Zone Consolidation Project
NZIDP	Northern Zone Infrastructure Development Project
OTS	Organization of Tropical Studies
PAAC	Private Agricultural and Agroindustrial Council
PACD	Project Assistance Completion Date
PCO	Project Coordination Office
PDD	Project Development Division
PID	Project Identification Document
PIPA	IDB's Increased Agricultural Productivity Loan
PINDECO	Pineapple Development Corporation
PPDE	Program, Project Development and Evaluation Office
PROJECT	Northern Zone Consolidation Project
PROJECT 235	Northern Zone Consolidation Project (515-0235)
PROJECT 041	Northern Zone Infrastructure Development Project (515-0191)
PSC	Personal Services Contract
PVO	Private Voluntary Organization
RDD	Rural Development Division
ROUTE 4 System	A network of 104.2 kilometers of primary, national gravel road highway including 93.0 kms between Santa Cecilia and Guatuso and 11.2 kms of connecting road between San José (Upala) and Cuatro Bocas.
SPN	National Parks Service
TSC	Tropical Science Center
UNA	National Autonomous University
UNED	National Extension University
USAID	United States Agency for International Development
USG	United States Government
WFP	World Food Program

NORTHERN ZONE CONSOLIDATION PROJECT

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* Not included cc's available in the IOR Bulk files.

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I. PROJECT SUMMARY

1. Background

In an effort to provide the basis for development of one of the most underprivileged areas of Costa Rica, the Northern Zone Infrastructure Development Project (515-0191) (NZIDP) was approved in July 1983 for \$14.7 million.

By providing a trunk road connecting the area with the rest of the country and encouraging new agricultural settlements in the zone, the basis was established to tap the high agricultural potential of the area. Through community development activities the project also enhanced the life style of the local residents. A recent project evaluation concluded that the project has provided significant "visible change" in both the physical structure of the zone and in the attitudes of its inhabitants.

The evaluation also concluded that it is now time to consolidate the achievements of the NZIDP so that this area can contribute to the economic growth of the country - the Project's purpose.

2. Problem and Rationale

Analyses of the 1984 Costa Rican census indicate that the Northern Zone includes some of the poorest districts in the country. It is also one of the fastest growing areas, with a population growth rate approximately twice that of the national average.

The area can be said to owe its poverty in large measure to being "on the wrong side of the mountain". Economic traffic in the country runs east-west, not north-south. As a result, the area has not been integrated into the country's market economy. Moreover, the population is disperse which adds to the difficulty of their accessing services.

At the same time, the Northern Zone is an area of growth potential, both economically and socially. On the economic side, over 250,000 hectares of land in the Project area is suitable for production of export crops, including cacao, heart of palm, macadamia, passion fruit, and black pepper. Farming is primarily subsistence, which is an advantage in the sense that farmers can move directly into non-traditional crops, without the need to change over from traditional export crops. Many farmers are taking advantage of climate, available labor and improved infrastructure (including the trunk road built under the NZIDP) to move into non-traditional crops. On the social side, there is increasing evidence of "future-oriented" behavior, including an accelerated pace of home building, utilizing materials that provide

greater permanence than traditional dwellings of the area, and locally financed construction of school buildings and other infrastructure heavily supported by the NZIDP.

While the NZIDP established the infrastructure base (physical, in terms of community organization, and potentially productive population), the economic support base to maintain the infrastructure and to generate income is not yet there.

Although there is a great deal of interest among farmers in moving into non-traditional crops to improve their income, there is a dearth of knowledge or experience in production, post-harvest, and marketing techniques. Moreover, many farmers are not considered creditworthy, most because of lack of clear title to their land; and many others are only marginally creditworthy.

The roads in the area are vital communication and transportation links to the rest of the country. However, the roads, including the new trunk road, are not paved and need continued maintenance. Many which have lacked appropriate maintenance need to be rehabilitated. And MOPT, which is responsible for doing so does not have the funds to care for roads outside the priority national road system.

The dispersion of the population makes access to social services difficult. Quality of housing, access to potable water and electricity are areas where the statistics differ most widely from the national norms. Development of the area is a priority of the GOCR. One of the associated needs is coordination of the activities of the numerous institutions working in the area to make progress toward common goals.

Primarily because of the poverty in the area, but also because of its potential over the medium to longer term for contributing to national economic growth, the Mission is proceeding with a follow-on to the NZIDP to address the problems which must be addressed in consolidating the development of the region.

3. Project Goal, Purpose, and Expected Achievements

The project goal is to accelerate the socio-economic growth of Costa Rica's Northern Zone in an equitable and sustainable fashion through the rational use of underutilized agricultural lands, a more efficient and diversified use of the region's agricultural resources, improved management of its natural resources, and improved access to markets and services.

The purpose of the project is to contribute to the consolidation of the efficient and equitable socio-economic development of the Cantons of Upala and Guatuso and the Districts of Santa Cecilia in the Canton of La Cruz and Caño Negro in the Canton of Los Chiles. This consolidation

process will be accomplished by: a) increasing areas of production of non-traditional, export oriented crops; b) rehabilitating roads and establishing a self-sustaining road maintenance system; c) supporting local entities in their efforts to improve basic social infrastructure; d) completing and consolidating the land settlement effort of the GOCR through provision of final inputs to the settlements, titling of settlers, and facilitating their integration into local socio-economic structures as individual farmers; e) providing a titling service to land holders; and f) initiating suitable environmental management activities.

By the end of the Project these activities will have achieved the following:

- An adequate network of all weather roads (approximately 450 kms) will be in place as will a self-sustaining system for maintaining them.
- A well organized and trained network of Community Development Associations (55) and their subsidiary committees, covering the entire project area, capable of attending the continuing needs of their affiliates as concerns social infrastructure and also playing an important role in broader development activities.
- Sufficient hectarage planted in key export crops to provide a minimum commercial level of production with the consequent potential for development of suitable marketing and processing facilities within the region as expansion of the area under cultivation continues.
- A dynamic small farmer sector resulting from the incorporation of the IDA settlers (approximately 25% of the population of the project area) into the larger community.

It is planned that every inhabitant of the Northern Zone will benefit from the activities of the project.

4. Project Activities, Costs and Funding

The Project is organized into five components. They and their costs are as follows:

TABLE 1: Project Budget

(millions of dollars or
dollar equivalent)

	AID	GOCR	TOTAL
a. Crop Diversification Support	1.00	4.57	5.57
b. Road Rehabilitation and Maintenance	1.67	4.54	6.21
c. Community Development	0.15	2.11	2.26
d. Land Settlement & Titling	0.10	1.22	1.32
e. Project Coordination, Management & Monitoring	0.35	1.67	2.02
f. AID Project Advisor	0.63	0.00	0.63
g. Environmental Specialist	<u>1.25</u>	<u>0.00</u>	<u>1.25</u>
TOTAL	5.15	14.11	19.26

The entire GOCR input will be from ESF local currency generations. In addition to the above resources, the local communities will contribute directly to project activities an amount estimated at the equivalent of \$0.38 million.

II. PROGRAM FACTORS

1. Agricultural Sector Overview

A. The Costa Rican Economy

In the last half of the 1970's Costa Rica was viewed as a model of development. Following an import substitution strategy for nearly three decades, the country had achieved an average Gross Domestic Product (GDP) growth rate of over 6% annually. The government had made impressive advances in improving the well-being of the (increasingly middle class) population in terms of subsidized education, health care, and social services.

By 1980, economic progress came to a screeching halt when Costa Rica defaulted on its international debt payments. Continued increases in energy prices, record high worldwide interest rates, regional political destabilization, collapse of the Central American Common Market (CACM) -- one of Costa Rica's primary trading partners -- and massive foreign borrowing to appease voter expectations characterized the early 1980's, with declining economic growth (-2.3% in 1981, -7.3% in 1982), high inflation (65.1% in 1981 and 81.5% in 1982), and high unemployment (7.4% in 1981 and 9.5% in 1982). The import substitution strategy did not develop a sustained positive export trade environment due to high levels of industrial protection, an overvalued exchange rate, subsidized interest rates and other incentives such as rapid depreciation schemes.

Since 1983, the Government of Costa Rica (GOCR), through its policy reform efforts, important policy dialogue achievements, and assistance from the International Bank for Reconstruction and Development (IBRD), the International Monetary Fund (IMF), and A.I.D., has successfully stabilized and improved its economic performance. The three-year period from 1983 to 1986 was characterized by positive economic growth rates estimated at an average of 3.8%, inflation averaged less than 14.1%, the non-financial public sector deficit as a percent of GDP decreased more than half from 14.6% to 7.2%, and unemployment declined from 9.5% to 6.2%.

To maintain economic stability and economic growth, Costa Rica will be faced with continuing sacrifices during the remainder of the decade and early 1990's. It is, therefore, essential that in addition to strengthening of its traditional sector, Costa Rica continue to diversify its economy away from the import substitution strategy of the past. An important feature of this diversification is an orientation toward non-traditional agricultural production.

B. The Importance of the Agricultural Sector to the Costa Rican Economy

Traditionally, Costa Rica has been an agricultural country. Approximately 28% of the nation's labor force is employed by the sector and agriculture represents approximately 20% of GDP. Of the total agricultural output, about 63% is exported, representing approximately 60% of total export earnings. Coffee, bananas, sugarcane, basic grains (corn, rice, beans and sorghum), beef and milk make up the country's principal agricultural products. These products account for approximately 80% of agricultural output. Of the products listed above, coffee, bananas, sugar and beef alone account for 60% of agricultural exports. This agricultural production structure has not changed significantly during the past twenty years and historically the country's "boom and bust" cycles have been tied primarily to the price fluctuations of its traditional commodity exports.

The relative stagnation of the agriculture sector (average annual growth rate of 5.6% during 1962-73, but only 1.4% during 1973-81 and 1.9% during 1981-1986) is partially the result of a dependence on traditional export commodities with a fixed market and the failure to diversify into other crops. This is one of the fundamental problems that has been recognized by the GOCR and AID. The GOCR's 1986-1990 Preliminary National Development Plan emphasizes that the possibilities to expand the economy should rely both on an increase of traditional exports and a serious effort to diversify into the production of non-traditional exports. AID is assisting the GOCR on both fronts. Significant P.L. 480 Title I and Economic Support Funds (ESF) local currency resources are being invested in the research and development of traditional crops and AID has initiated a program of activities in response to a recently approved Non-Traditional Agribusiness Export Strategy (NTAE). The non-traditional agricultural sector has grown impressively over the past few years and has become increasingly important in terms of its role in total production. Its contribution to total exports has increased from 8.1% to 16.1% between 1982 to 1986. Examples of successful non-traditional products include flowers, ornamentals, strawberries and others which have collectively increased from \$70.9 million in exports in 1982 to \$169 million in 1986.

2. Social/Political/Geographical Setting*

The Northern Zone Consolidation project area consists of 258,560 hectares with a population of approximately 36,000 located in north central Costa Rica along the Nicaraguan border. It includes (from west to east) the District of Santa Cecilia in the Canton of La Cruz, the Cantons of Upala and Guatuso, and the District of Caño Negro of the

* More complete information on this subject can be found in Technical Exhibits B and I.

Canton of Los Chiles. This is classified by the GOCR as one of the poorest areas in the country, based on a GOCR quality of life study (see Technical Exhibit I - Social Analysis, p. 4).

The Canton of Los Chiles was not included in the NZIDP area because it was not economically or administratively connected to the project area. However, the NZCP design team found that the District of Caño Negro (the western most district of the Canton of Los Chiles) has been influenced by NZIDP-led development and, as the poorest district in Costa Rica, that it will greatly benefit by being included in the NZCP activities. MIDEPLAN, as the GOCR institution responsible for implementing this project, has also agreed to include that District in its administrative structure established in Upala (the Upala Regional Development Office).

The zone's inhabitants are primarily descendents of Nicaraguan and Costa Rica immigrants of the mid-nineteenth to early twentieth century. More recently, a new wave of Nicaraguans (fleeing unrest at home) and Costa Ricans (seeking to own land) has been swelling the population at twice the national growth rate. For the most part, these immigrants are fully absorbed into the local social structure. The notable exception is the GOCR-sponsored (through the Instituto de Desarrollo Agrario (IDA)) Costa Rican settlers who are perceived by many other residents to receive preferential treatment (e.g. better land, infrastructure, and credit) from IDA.

The zone is primarily agricultural with 53% of the land in pastures and 16% in crop production. Nearly three quarters of the labor force is engaged in crop production with another 10% in livestock. The primary crops are basic grains (beans, corn and rice) for personal consumption and for the local market. There has been a dramatic expansion of the number of farm units in recent years (90% increase between 1973 and 1984) because of the opening of the area.

The social structure of the area revolves around the community (159 communities in the zone). Most community-level development activities are organized through the 55 local Development Associations which obtain resources from the community and from external sources. These Associations are very active and, at least under the Northern Zone Infrastructure Development Project, very effective. While there are Unions of Development Associations at the regional and national levels, they are much less effective and active because most activity takes place at the community level.

The district is the base level political structure since the communities have no legal status. Each district (12 in the zone) elects a representative to the Consejo Municipal which is the administrative authority of the canton - the next higher political unit. It is also general practice to elect a Municipal Executive Director for each

canton. This is a full time position and its occupant wields considerable power at the local level.

The Consejo is responsible for the development of the canton and for the provision of basic services (water, electricity, education, etc.). However, due to its limited ability to access resources (local or national taxes), many Consejos are not successful in this. In such cases, national institutions sometimes take over the provision of some services (e.g. ICE for electricity and AyA for water) in the more populated areas.

Like the Development Associations, there are Leagues of Municipalidades at the regional and national levels, and like the associations their influence and activity are limited for the same reasons.

In addition, there are producer organizations and cooperatives in the area, but most have limited experience in the project area. Some of the larger cooperatives and individual processors do support increased production in the zone and will be participating in this Project.

3. Relationship to GOCR Development Strategy

The GOCR National Development Plan 1986-1990 lists as two of its four principal goals: equitable access to the necessary resources for production and assurance of the basic necessities to the poor. The plan also emphasizes the need for the equitable distribution of the benefits of economic growth to the entire population.

Among the areas identified by the Plan for priority action are: 1) increased non-traditional agricultural production for export, 2) increased employment, 3) improved social and political infrastructure; 4) land ownership, and 5) development emphasis on the geographically more isolated areas (outside of the Meseta Central).

This Project addresses these concerns through: (1) the Crop Diversification Support component which emphasizes the development of non-traditional crops for export which also generates increased employment for support organizations (buyers, suppliers, processors, etc.) and more equitable distribution of income; (2) the Road Maintenance component which will preserve the vital infrastructure necessary to maintain access to markets; (3) the Community Development component which supports community infrastructure development; and (4) the Titling sub-component which integrates area residents into the socio-political structure and improves access to credit.

The Development Plan also calls for priority to be given to regional integrated rural development programs in those regions least benefited to date. The Plan states that "integrated rural development

projects will have the highest priority" for regional development to reduce the social and economic inequalities of the poorest regions. The selection and expansion of the Northern Zone project area directly corresponds to this priority. The GOOCR now has 4 regional development projects in execution and an additional 6 in the planning stage.

4. Relationship to the CDSS, NTAE Strategy and Action Plan

The framework for the USAID/Costa Rica program strategy is the four main thrusts of the National Bipartisan Commission on Central America (NBCCA). One of those thrusts is the wide sharing of the benefits of economic growth. The Strategy Update approved by AID/Washington in March 1988 calls for a two-pronged approach to helping Costa Rica improve the quality of life of poorer segments of the population and, in turn, increase their contribution to the country's economic progress. The NZCP is one of the mechanisms for implementing both approaches.

-- First, the NZCP will help integrate more Costa Ricans into active participation in the market economy, through productive employment and through the economic development of one of the country's poorest areas. It will do so by (1) helping increase non-traditional crop production for marketing with the intent of stimulating increases in farmer incomes and increases in economic activity in the Zone through credit programs and technical assistance; (2) by providing for rehabilitation and maintenance of the new road built under the NZIDP and other feeder roads which are key to the region's economic and social integration with the rest of the country; and (3) by consolidating the land settlement and titling activities begun under the NZIDP.

-- Second, it will help fill gaps in Costa Rica's current ability to provide basic social services through support for community development activities which include construction of social infrastructure and development of community-level potable water systems. It will also provide housing construction support.

The project also supports another program goal, i.e., sustained economic growth through export growth, and is consistent with the Mission's NTAE strategy which encourages diversification into production of intensively grown crops and assists in the development of export markets in the U.S. and elsewhere. As non-traditional exports supported by the project grow, the region's production will, over the medium to longer term contribute to the overall production and foreign exchange earnings needed for the nation's sustained economic growth.

The NZCP is also directly supportive of the Mission's FY 1989-90 Action Plan which flows directly from the Strategy Update. The Plan includes a specific "Regional Development" objective and lists the NZIDP and NZCP as the means for achieving the objective.

5. Results of the Northern Zone Infrastructure Development Project

In terms of numerical targets, by September 30, 1988, the NZIDP will have: a) completed the upgrading of 104 km. of all weather roads; b) settled approximately 700-800 farm families on settlements purchased by the Agrarian Development Institute (IDA); c) provided farmers with about 700 registered land titles; d) completed 82 social infrastructure community development projects; e) created 24 community development associations; and f) initiated eight area development studies and pilot projects that tie in with future agricultural investments in the project area. Current progress vis-a-vis Project Paper targets indicate that project outputs will be met satisfactorily.

The recent NZIDP evaluation concluded that: "without question in terms of physical infrastructure, and organization/mobilization of both official and community entities, there has been visible change". The project is achieving its overall purpose. The evaluation also pointed out that: "There also seems to be a sense of optimism about the future on the part of the inhabitants of the area"

6. GOCR and Other Donor Efforts in the Project Area

The diversity of ongoing and planned GOCR and other donor activities in the project area are matching pieces of a broader effort that is being complemented by the NZIDP and, subsequently, the proposed project, to put in place additional basic infrastructure and other productive resources that seek to strengthen the foundation upon which the socio-economic growth and consolidation of the project area will materialize. The combined development efforts of the GOCR and other donors are "opening up" and "linking" with the rest of the country one of Costa Rica's most promising agricultural areas that will provide significant contributions to the country's general well-being.

A. GOCR Efforts

The GOCR is investing significant PL 480 Title I resources in the project area, totalling the equivalent of approximately \$11.7 million. These activities include road rehabilitation, upgrading and construction, community infrastructure projects, settlements, land titling, and creation of a wildlife refuge.

B. Other Donor Efforts

Contributions in the project area by other donors are summarized below. Most of these, however, are still in the planning stages:

- The Interamerican Development Bank's (IDB) nationwide Increased Agricultural Productivity Loan (PIPA), supports research and

technical assistance for cacao, dual purpose cattle, corn and beans. It has also provided three agricultural extension offices in the Northern Zone to support these activities. The NZCP is designed to coordinate with this and other credit programs.

- The International Fund for Agricultural Development's (IFAD) proposed \$8.2 million Northern Zone Project will provide credit and technical assistance to small farmers, mostly for the production of basic grains, plantains, dual purpose cattle, and possibly cacao.

- The United Nations World Food Program (WFP) is contributing basic foods in small amounts for a Food for Work Program on IDA settlements and in community development association projects.

III. PROJECT DESCRIPTION

1. Goal and Purpose

A. The Project Goal - The project goal is to accelerate the socio-economic growth of Costa Rica's Northern Zone in a sustainable fashion through the rational use of underutilized agricultural lands, a more efficient and diversified use of the region's agricultural resources, improved management of its natural resources, and improved access to markets and services.

B. The Project Purpose - As a follow-on to the NZIDP, which sought to establish the basis for the equitable socio-economic development of the project area, the purpose of NZCP is to contribute to the consolidation of the efficient and equitable socio-economic development of the Cantons of Upala and Guatuso and the Districts of Santa Cecilia in the Canton of La Cruz and Caño Negro in the Canton of Los Chiles. This consolidation process will be accomplished by: a) increasing areas of production of non-traditional, export oriented crops; b) rehabilitating roads and establishing a self sustaining road maintenance system; c) supporting local entities in their efforts to improve basic social infrastructure; d) supporting the colonization/land settlement effort of the GOCR through relocation of settlers now located in forest areas, titling of settlers, and facilitating their integration into local socio-economic structures as individual farmers; and e) providing a titling service to land holders.

2. Project Development Strategy

This project was developed as a continuation and consolidation of the accomplishments achieved under NZIDP, plus the addition of new activities designed to provide the economic basis for continued development. It was not intended to deal with all the problems of the region, agricultural or otherwise, but rather to focus on what are considered key factors which need priority attention now in order to facilitate sustained development over the long run. The activities of the project are grouped into five components, which are described in the following section. Three of these components (settlement consolidation, community development, and road rehabilitation and maintenance) were conceived and developed as what might be termed "finishing activities" with respect to components present in the NZIDP. Thus, as regards roads, where the NZIDP concentrated on opening up the project area by construction of a major trunk road and key feeder roads, the new project is designed to put into place a permanent, self-financing system for rehabilitating and maintaining the road network in the region. Since no new road construction is considered necessary in the short term, successful execution of this component will leave the project area at the PACD with: (1) an adequate network of all weather roads; and (2) a financially and technically self-sufficient system for maintaining these roads in good condition.

As concerns the colonization/settlement activity, a significant number of small farmers were introduced into the project area during the life of the NZIDP. No efforts in this direction will be purposely pursued under the new project.

The emphasis and objective of the new project, as it relates to existing settlements and the individual farmers who hold land on them, is to integrate these colonization beneficiaries, as individual, independent farmers, into the broader community of the region with equal -- but not preferential -- access to the social services and production assistance available to all area residents of the project area; and likewise, with equal responsibilities for paying road taxes and fulfilling other communal obligations.

Any additional, new settlements that are created will be the consequence of social pressure that develops within the project area. While this demand will be attended to, it will not be the result of a planned effort to increase the number of small farm holdings. Rather, for this type of eventuality, the project will reimburse IDA for settling up to a maximum of 500 families. No project funds will be used for land purchase or to promote new colonization activities in the area.

One of the NZIDP activities provided for a full service type of titling assistance to small and medium land holders not located in the settlements. The activity did not cover the entire project area. Estimates indicate that there may still be as many as 1,000 candidates scattered throughout the project area who fit the criteria for receiving this type of assistance. The new project will provide an opportunity for those individuals to obtain title to their land, but under a system where the initiative must come from the interested party. If there is a suitable response, the service will be maintained for a maximum of two years. Thus, all eligible land holders will have had an opportunity to secure title if they so desire.

Under the community development component of NZIDP, community development associations were organized for those spatial population groupings where an association did not exist, and both the new and older associations were assisted in undertaking small community infrastructure projects. Under the new project, in addition to helping the communities with some remaining requirements for the same type of community infrastructure as in the past, an effort will be made to develop the organizational and management capacity of the associations to a level where they can continue to play their vital role in development of the region without special attention. This will be achieved by DINADECO through a combination of training of community leaders and involving the associations in long term, continuing types of activities (e.g. road maintenance) and in undertaking projects of more complexity and greater cost (e.g. potable water systems). Thus, by the PACD of the new project, it is intended that a major part of the community infrastructure

requirements will be in place, that the associations will be in a position to continue on their own to take care of outstanding needs, and finally, that they -- and through them, their affiliates -- will be actively involved on a continuing basis in assuring access to vital services.

The crop diversification component is not a continuing activity but rather builds upon the economic development potential created by the NZIDP. The economic potential of the project area is agricultural. This component is designed on crop specific lines, all of which are non-traditional products with export possibilities. The intent here is to encourage increased agricultural production of crops shown to have export potential and thus increase current income for area farmers. The activities under this component are conceived as initial steps in a long-term process designed to provide the resources for continuing the development of the region.

The final component of the project is concerned with: (1) overall management and monitoring of the various components, the several implementing agencies involved, financial accountability and information dissemination through a Project Coordination Office; and (2) a community information feedback system and forum for discussion of regional problems. Both of these mechanisms existed under NZIDP. The Coordination Office, which was created for the implementation of the NZIDP and will continue with expanded functions for the NZCP, will cease functioning at the end of the Project. The MIDEPLAN Huétar Norte Regional Office will continue general development coordination and the Regional Development Council will provide community feedback after the PACD. Experience has indicated that Coordination Office needs to have a significantly increased ability to direct, monitor, and support the various activities of this complex undertaking. The design of this component under the new project has been undertaken with these concerns in mind.

From an administrative standpoint, the project is designed to have one GOOCR entity, MIDEPLAN, as the responsible organization for all activities and components of the project.

3. Project Components

The material in this section is intended to provide brief summaries of the detailed description of the rationale and activities planned for each component which are found in the Technical Exhibits of this document and which will be cross-referenced in each summary.

A. Crop Diversification Support

The details concerning this component can be found in Technical Exhibit D. The implementing entity will be MIDEPLAN. The total costs of this component are: \$1 million and 0343 million.

This component will provide technical assistance, training, and access to credit to area farmers who are interested in expanding from subsistence/local market crop production (e.g. beans and corn) to export market crops. The project design team found a great deal of local interest in such a program but also a dearth of knowledge or experience for most farmers.

The design team's agricultural and marketing experts, along with specialists from MIDEPLAN and the Ministry of Agriculture (MAG) evaluated twenty-four non-traditional, export oriented crops with potential for expansion and promotion from the standpoint of agricultural suitability, marketing potential, profitability, availability of technical assistance, access to credit sources and other inputs.

1) Crops for Immediate Promotion

Six crops were identified as suitable for immediate promotion - cacao, passion fruit, macadamia, black pepper, palm heart and citrus. The first one is currently being grown commercially in the area but has significant expansion potential based on expected market demand, processing capacity in the country, and land use capability in the northern zone. The next four (macadamia, passion fruit, palm heart and black pepper) have been the subject of small scale production, pilot projects or equivalent activities in the project area or in other parts of the country with good results. It should be noted that the Project will not make any of its resources available to support production and marketing of citrus. (Technical Exhibit D provides a more detailed discussion of crops being promoted.)

Table 2 presents the primary five crops designated for immediate promotion by the Project and the target hectareage, estimated number of participating farmers, credit and technical assistance requirements for each crop. These promotional targets do not represent the potential of the project area, but rather the minimum area per crop which is required to achieve a development momentum, provide a basis for commercial marketing, or similar objectives. Based on the NZIDP pilot projects and project design team/MIDEPLAN discussions with local farmers, it has been determined that there is sufficient interest from the farmers, provided basic production inputs and technical as well as financial support are available, to meet or exceed the promotion targets.

TABLE 2: CROP PROMOTION ACTIVITIES

	<u>Promotional Target (Has)</u>	<u>Estimated Number of Participating Farmers</u>	<u>Credit Requirements (Millions of Colones)</u>	<u>T.A. Requirements</u>
<u>1. Immediate Promotion</u>				
<u>Crops</u>				
a. Cacao	2,500	1,000	347.5	30.0
b. Palm Heart	1,000	650	158.5	24.0
c. Passion Fruit	500	250	126.7	18.0
d. Macadamia	500	370	62.7	11.7
e. Black Pepper	<u>100</u>	<u>130</u>	<u>51.8</u>	<u>11.3</u>
Total	4,600	2,400	747.2	95.0

Small matching grants of not to exceed \$750,000 can be awarded by the Project Director, upon recommendation by the technical assistance team (please refer to the Technical Assistance/Training under this component) and the AID Project Advisor, to already established processors or farmer organizations, within or outside the northern zone, which may want to promote and pursue processing and/or marketing of any of the crops under this component. The recipient of the funds will be required to match the grant with an equal amount of resources in cash. This fund will come from reserve funds (\$6 million) set aside for Pilot Projects and Special Studies.

2) Technical Assistance/Training

The Project will contract a full time agronomist and a full time assistant (henceforth referred to as "the team") who, in consultation with the AID Project Advisor and the MIDEPLAN Project Director, will (a) coordinate and approve the use of Project funds to provide technical assistance to participating farmers out of the Upala Project Implementation Unit and (b) promote groups of participating farmers. The team will be under the direct supervision of the Project Director.

Technical assistance in production, post-harvest techniques and marketing will be provided on a crop specific basis and will be contracted out. Efforts will be made by the team to ensure that production technology packages already available from institutions such as COOPESANCARLOS, COOPENARANJO, growers, MAG, CAAP, CATIE, IICA, but which may require minor adaptive on-farm research, are utilized and technology transferred to participating farmers. The budget also provides funds for contracting specialized short-term technical

assistance from other sources such as major processors, farmers organizations and growers, within and outside of the Project zone, with already established market linkages. MAG's agricultural extension agents who are working in Guatuso, Upala and Los Chiles under the support of IDB-supported PIPA Project will also be available to participating farmers since one of the extension agents' responsibilities is to operate in the research-extension continuum as it regards testing of new and/or improved production technologies to increase productivity and enhance the social welfare of local farmers.

The production technology packages will be adapted or developed in consultation with the Project's Environmental Management Specialist (EMS). The Project Director, with concurrence of the EMS, will have access to funds to hire any additional assistance/expertise necessary to ensure the environmental soundness of the technology involved, i.e. ensure that chemicals known to be environmentally hazardous are not used and handled in the project area; ensure that cultural practices are environmentally sustainable, etc. Assistance in water management will be contracted locally to primarily assist the Project Director and the EMS with environmental monitoring and education activities. Pesticides may be purchased with project-provided credit; however, prior to any use, purchase or recommendation for pesticides, an EA amendment will be prepared and submitted to AID's LAC Bureau Chief Environmental Office for approval.

Training activities will be offered by the same institutions providing technical assistance and will be coordinated by the project team. Particular attention will be given to the environmental implications and impact of the cultural practices promoted by the adopted technology, including the use of pesticides and other chemicals.

TABLE 3. Technical Assistance Requirements *

<u>Crop</u>	<u>¢/Unit/Month</u>	<u>No. Units</u>	<u>No. Years</u>	<u>Total (¢ Million)</u>
Cacao	99,900	7	3	30.0
Palm Heart	99,900	4	4	24.0
Passion Fruit	99,900	3	4	18.0
Macadamia	99,900	3	4	11.7
Black Pepper	99,900	<u>2</u>	4	<u>11.3</u>
Total		18		895.0

* Includes a 15% annual inflation factor.

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3) Pilot Projects/Special Studies

Seven other crops (vanilla and other species, amato, soursop, star fruit, ginger, ornamental plants and ramie) have been identified as having sufficient production potential to warrant consideration by the Project. These crops, however, will require a more detailed set of pilot production and marketing potential studies before actual production is initiated. The Project will fund studies with the purpose of (a) determining with greater accuracy the possibility of expanding these crops to commercial levels and (b) generating needed economic feasibility information for promotion with financial institutions.

Another pilot activity to be supported by the Project is the development of suitable windbreak methods, so that production areas currently constrained by extreme windy conditions may be better utilized.

The Project will also make funds available for a pilot project to develop, apply and promote appropriate management techniques for fattening improved swine breeds at the small farmer level. This non-export oriented complementary activity is intended to generate additional income for participating farmers while waiting for the export oriented production activities to begin to produce benefits.

Finally, as a pilot activity the Project will encourage production forestry to diversify the opportunities and sources of family-earned income. This will also help mitigate the practice of cutting and burning timber as part of the agricultural expansion process. This activity will emphasize planting laurel trees, which is a native, fast growing, medium-hard wood variety with strong market demand (see Environmental Assessment, Project Exhibit C).

Pilot projects and special studies will be coordinated by the team, and will utilize information available through CINDE's Private Agribusiness and Agroindustry Council (CAAP) and the AID-supported Non-Traditional Agricultural Export Technical Support Project (515-0237). Efforts will be made by the team to ensure that technology packages already available from institutions such as MAG, CAAP, CATIE, IICA, Colegio Agropecuario de Upala and Cooperativa Aguas Claras, but which may require minor adaptive research, are utilized and technology transferred to the rest of the participating farmers.

In order to have available resources for implementation of any pilot projects or products that may require more knowledge about its production and/or marketing potentials, the project will set aside a reserve fund of £6 million, which can be accessed between the second and fourth year of the project. As part of this effort, small matching grants of not to exceed £750,000 will be awarded by the Project Director, upon recommendation by the team and the AID Project Advisor, to already

established processors or farmer organizations, within or outside the northern zone, who may want to promote and pursue processing and/or marketing of any of the crops under this component. The recipient of the funds will be required to match the grant with an equal amount of resources in cash.

The project will make available 20 million to support all the above described activities (including the 6 million reserve funds).

During the first year of the Project, funds will be also made available to prepare a series of detailed land use maps which are a useful tool in assisting farmers in selecting the kind of crops most suitable to particular topographic and edaphic conditions (crop zoning). The estimated cost of preparing the maps and accompanying use manuals is US\$106,000.

4) Access to Credit

The Banco Nacional de Costa Rica (BNCR), at the national level, currently finances the production of palm heart, cacao, passion fruit, macadamia and black pepper. BANCOOP, through a credit line from the IDB-supported PIPA project, also provides financing for cacao. The team will work with the PCO and these institutions, as well as other local financial institutions to facilitate the process through which credit known to be available in the Project area can be accessed by participating farmers.

Despite the availability of the BNCR and BANCOOP lines of credit described above, credit to farmers during 1987 experienced a decrease when compared to 1986. There are also a number of farmers in the Project area who are not currently considered credit worthy (primarily for lack of title to the land they farm), or are only marginally credit worthy, and thus are unable to obtain funds from these sources. Therefore, the Project provides a mechanism designed to reverse the previously described trends, and MIDEPLAN has approached private and public financial institutions working in the Project area, to explore their interest in participating in the credit program described below. Based on these discussions, it has been determined that the BNCR, Banco Anglo-Costarricense, BANCOOP and FEDECREDITO (and perhaps others) will participate in this component of the Project.

To encourage production loans to farmers in the Project area who are interested in participating in the crop diversification component, but who may not otherwise qualify for loans under existing credit lines, the GOCR intends to establish with GOCR local currency a fund of 200 million colones to be made available to financial institutions as an incentive to take on the risks associated with lending to these farmers. The fund will be managed by the Project Director and

will be disbursed as a donation to the participating financial institutions. As a donation, these funds will serve to increase the capital base of the financial institutions or, in the case of loans that do not perform, to reduce the loss that would be incurred.

It is expected that the above approach, coupled with the fact that the Project will make resources available for technical assistance and training (at an approximate cost of 115 million colones), will lead these institutions to modify their lending behavior in the Project area. Furthermore, and as a result of this shift in behavior, the Project will promote the creation of a broader market for participating financial institutions during and after the life of the Project.

The production team in Upala will submit to each participating financial institution lists of pre-selected farmers. Each list will be updated on a regular basis and will identify the credit needs calculated primarily on the basis of the estimated cost of the respective crop package, and the type of labor required. Among the criteria to be considered by the team in pre-selecting participating farmers are (a) demonstrated interest in participating, (b) location of land, (c) geographic concentration, (d) crop being considered, and (e) credit worthiness. The bank will then subject each farmer on the list to its regular loan approval process.

The Project will disburse to the participating financial institutions of twenty (20) percent of the total amount extended to each of the farmers included in the production team's pre-selection list. The PCO will disburse to the participating financial institutions quarterly upon receipt of satisfactory evidence that (a) the loans have been approved and (b) first disbursements have been made. The twenty percent limit has been determined by the design team to be the minimum amount necessary to motivate the financial institutions to participate in the activity.

To participate in the credit program, MIDEPLAN will require that the financial institutions extend financing for the crops previously identified for immediate promotion, without excluding farmers who, at the time of applying for loans, do not possess legal title to their land, but who are in the process of securing their titles.

MIDEPLAN will sign a Disbursement Program Agreement (DPA) with each participating financial institution. Each DPA will be approved by AID, prior to any Project disbursements to the institutions. Specific terms and conditions will be negotiated with each institution but, at a minimum, are expected to cover the following:

- a. Loans will be extended to participating farmers who comply with all of the bank's regular lending criteria, except for a title;

- b. Unless otherwise agreed to by MIDEPLAN and AID, Project-funded reimbursements will not be used to cover the purchase or use of any pesticides or any other agro-chemicals not previously approved by the Project, in accordance with relevant U.S. and Costa Rican regulations;
- c. Production technical packages to be financed will be those already approved and recommended by the Project Director for crop(s) included in the Crop Zoning Map, or as otherwise determined by the Environmental Management Specialist to be agronomically-sound and environmentally-safe;
- d. Participating farmers will be pre-selected by the Project's Crop Diversification production team; and
- e. MIDEPLAN will reimburse twenty (20) per cent of each loan in colones, but not to exceed U.S.\$2,000 worth of colones per farmer over the life of the Project.

Interest rates on loans to participating farmers will be established by the lending institutions and will be their usual and normal rates for similar loans.

Table 4 shows the scheduling of the resources contributed by the Project per crop, on the basis of planting targets set per year, subject to the planning horizon of the Project:

TABLE 4. Credit Requirements

<u>Crop</u>	<u>¢/ha.</u>	<u>Has.</u>	<u>Total</u>
Cacao	114,750	2,500	286,875,000
Palm Heart	130,209	1,000	130,209,000
Passion Fruit	209,320	500	104,660,000
Macadamia	103,700	500	51,850,000
Black Pepper	428,400	100	42,800,000
Sub Total		4,600	616,434,000
Inflation (15% annually)			130,716,000
Total			747,150,000

The budget for the life of the project of this component, including an annual 15% inflation factor, is as follows:

TABLE 5: Agricultural Production Component Budget

I. AID Grant Funds:

	(\$000)
A. Technical Assistance	600
B. Training	120
C. Pilot Projects	-
D. Credit	-
E. Studies	-
F. Administration	74
G. Land Use Map	106
H. Contingencies	<u>100</u>
TOTAL	\$1,000

II. GOCR Counterpart Funds:

	(C000) (Equivalent in \$000)*	
A. Technical Assistance	50,700	(676)
B. Training	10,000	(134)
C. Pilot Projects	20,000	(267)
D. Credit	200,000	(2,667)
E. Studies	5,000	(67)
F. Administration	17,950	(239)
G. Land Use Map	-	-
H. Contingencies	<u>39,350</u>	<u>(525)</u>
TOTAL	C343,000	(\$4,573)

* Note: The dollar equivalent is calculated at C75/dollar. This equivalent of colon funds is for comparative use only. As the value of the colon falls, this dollar equivalent will also decrease; the budget, however, is based on colon requirements and not the dollar equivalent and, thus, will not change over time as a result of currency fluctuations.

b) Other road maintenance: An additional 450 Kms. have been identified (see Annex 3 of Technical Exhibit E) as priority roads to be maintained by the Project, including the 350 Kms. to be rehabilitated plus another 100 Kms. of good quality gravel road. Although MOPT is statutorily responsible for all primary and secondary road maintenance in Costa Rica, it does not have the resources to maintain many lower priority (as established by MOPT and/or political influence) roads outside of the national road network. Since the 450 Kms. of roads mentioned above are not, experience has shown, part of MOPT's priority, maintenance responsibility rests with the communities and municipalities served by the roads. What maintenance has been done, has been at the initiative of the communities/municipalities themselves through contracts with MOPT and private contractors paid by local fund raising efforts (collections, dances, fiestas, etc.) and municipal taxes (one such tax was recently declared unconstitutional, so the municipalities are investigating other possible taxes and a revenue sharing proposal currently before the legislature).

Since the design team determined through discussions with the local municipalities, that the desire exists for road maintenance and that the main constraints are the high cost and availability of current services, the Project will create the Northern Zone Municipal Road Maintenance Commission (CMV) to provide road maintenance service (see point (c) below for details).

The CMV, which will be a non-profit service organization run by the Municipalities and Development Associations in the area, will be contracted by a community when that community determines that a particular road needs maintenance. The community will be responsible for raising the money necessary to pay for the services of the CMV. In order to promote initial participation of all communities in the program, the Project will provide initial support for maintenance work contracted to the CMV: 50% of maintenance cost in the first year of maintenance activities (i.e. the second year of the Project) will be paid by the Project, 30% in the second year of maintenance activities (i.e. third project year), and 15% in the third year of maintenance activities (i.e. fourth project year). Thereafter communities will be responsible for the full costs of the CMV. The component design team, based on discussions with the municipalities and development associations, determined that this phased approach will permit all communities/development associations to participate in the program from the beginning, encourage them to develop local fund raising programs, and to support/encourage new legislation for local taxation, revenue sharing from the national government, etc.

c) Northern Zone Municipal Road Maintenance Commission (CMV): During the first year of the Project, municipalities in the project area will establish the CMV by joint decree of the Municipalities to coordinate and implement road maintenance activities in the project

area (excluding the Route 4 system). The CMV will be run by a Board of Directors consisting of (i) one representative from each of the four Municipalities in the project area, (ii) one representative from each of the four canton level Development Associations, and (iii) a representative from MOPT. In addition, representatives from IFAM, DINADECO, MIDEPLAN and the project will be permitted full participation, but without a vote. Each representative will serve at the pleasure of his/her appointing organization. The members of the Board will elect the Board President from their own ranks to serve for a 2 year renewable term. While the Municipalities will be responsible for establishing the bylaws of the Board, MIDEPLAN, IFAM, DINADECO and MOPT will provide assistance as requested by the Municipalities. This component also provides funding for T.A. (local or foreign) to set up the CMV, as determined necessary by the MIDEPLAN Project Director in consultation with the Municipalities and the Board (after it is established).

This structure was established through negotiations with the various participating organizations to ensure local control and operation of the CMV for the benefit of these communities and municipalities.

Initial working capital for the CMV will be provided by the municipalities/development associations through their 10% contribution to the road rehabilitation program (see point (a) above). In addition, the project will finance the purchase of the necessary maintenance and support equipment for the Commission (see Technical Exhibit E). The CMV will enter into a covenant with MIDEPLAN to use the equipment provided under the Project only for the road maintenance activities identified in this Project Paper (see Section XI.2.B.).

The project will also provide administrative cost support to the CMV at a decreasing rate over the life of project: 100% in the first year of project implementation, 80% in the second year, 60% in the third year, 30% in the fourth year, and 10% in the final year.

As administrative cost support to the CMV decreases, these overhead costs will have to be picked up by the CMV as part of its total maintenance work charge. By the end of the Project the CMV should be self-supporting. If it is not, then the Municipalities will have to decide whether to subsidize it, seek national government financial support, or close it down.

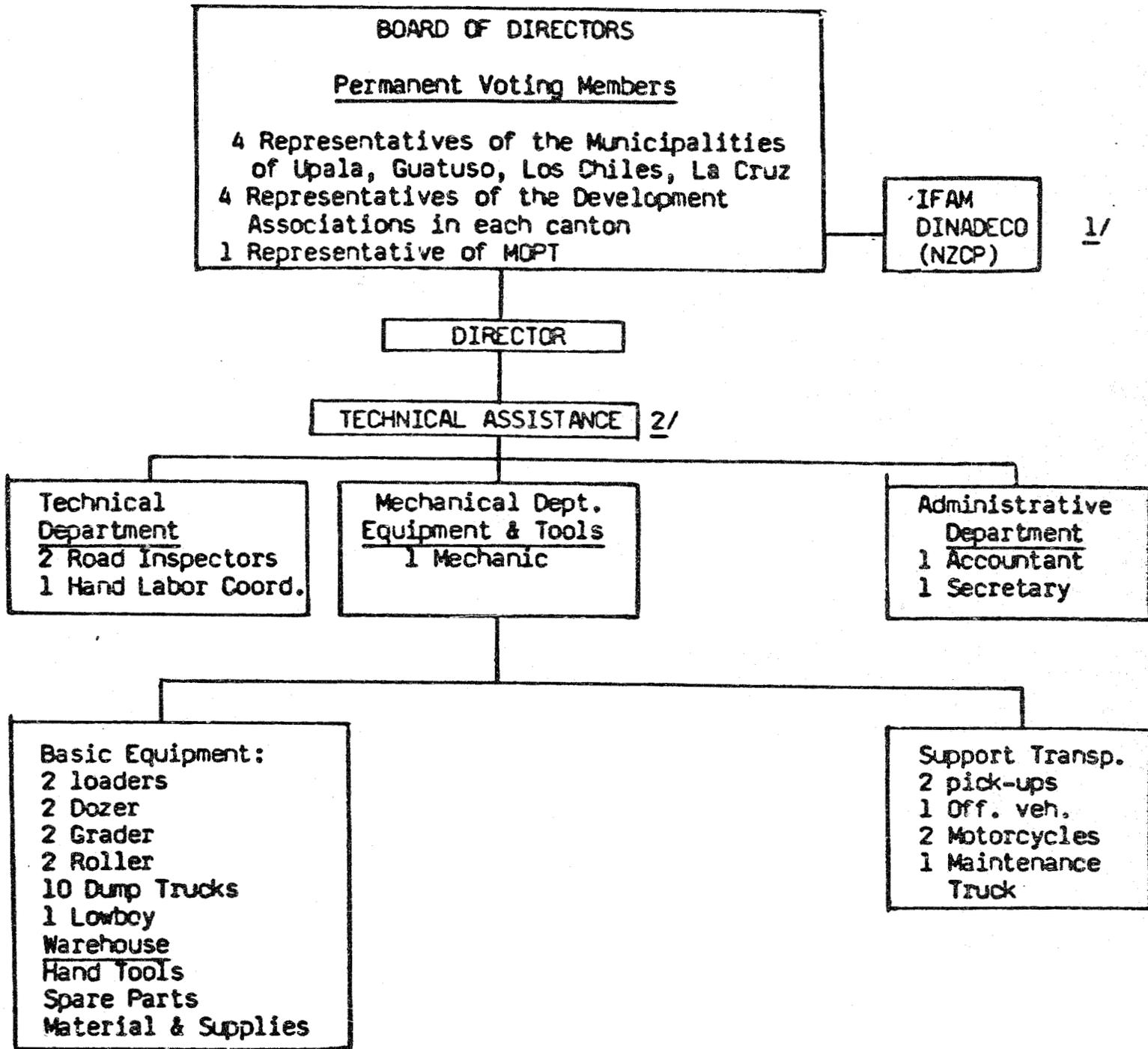
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TABLE 6: Road Maintenance Activities

	Route 4					All Other Roads				
Entity:	MOPT					CMV				
Kms:	104					450				
Proj. Year:	1	2	3	4	5	1	2	3	4	5
Maintenance Support(%):	50	30	15	0	0	-	50	35	20	0
Administration Support (%):	N/A					100	80	60	30	10

ORGANIZATION CHART

Northern Zone Municipal Road Maintenance Commission (CMV)



- (1) Support institutions for the functioning of the system, each one in specific activities; they have no vote on the Board of Directors.
- (2) Initially as part of NZCP financial support for CMV, will provide Technical assistance thru MIDEPLAN.

With guidance from the Project Coordination Office, the AID Project Advisor, and technical assistance provided under this component, the Board of Directors of the CMV will initially contract a Director, 2 road inspectors, 1 labor coordinator, 1 mechanic, an accountant and a secretary to staff the three departments of the CMV: the Technical Department which will be responsible for management of the maintenance program; the Mechanical Department which will be responsible for all equipment, materials and tools; and the Administrative Department. At least initially the labor force (including machine operators) will be contracted by the CMV for each job. The amount and type of labor needed will depend upon the specific job and the type of voluntary labor provided by the community. This gives an incentive to the community to provide as much labor as possible to lower the cost of the job. Later, the CMV may determine it desirable to have some specialized labor as permanent employees. Actual maintenance activities will not begin until the second year when the permanent staff is on board and the basic equipment has been received. The CMV will begin with the minimum staff necessary to carry out its functions; however, consideration has been given for expansion as required.

This component provides for technical assistance to the Project Coordination Office to assist in the creation of the CMV and then through the office directly to the CMV. Such assistance will be both technical and administrative, and may be available locally (however, dollar funds have been provided should outside T.A. be required). The Project Director, working with the Road Monitor, the Municipalities, MOPT and the AID Project Advisor, will develop the scopes of work for the T.A. and the contracting will be carried out by open bidding, with USAID's approval.

3) Rural Property Surveys: In addition to and in support of new revenue raising activities by the municipalities discussed above, the Project will support the improvement of current tax assessment activities which are generally based on amount and use of land holdings. IFAM, working with the four municipal governments of the area, will conduct a rural property survey to improve the basis for current municipal tax assessments. The cost of the survey (25 million), which is to be completed during the first year of project execution, will be paid by the Project.

The total costs and services for financing this component are shown in the following tables (an inflation factor of 15% annually has been included):

TABLE 7: Road Rehabilitation and Maintenance Component Budget

I. AID Grant Funds:

	(\$000)
A. Rehabilitation	107
B. MOPT Maintenance	190
C. CMV Maintenance	1,009
D. Rural Census	-
E. Technical Assistance	159
F. Contingencies	<u>200</u>
TOTAL	\$1,665

II. GOCR Counterpart Funds:

	(C000) (Equivalent in \$000)*	
A. Rehabilitation	193,720	(2,583)
B. MOPT Maintenance	26,156	(349)
C. CMV Maintenance	75,437	(1,006)
D. Rural Census	5,000	(67)
E. Technical Assistance	10,000	(133)
F. Contingencies	<u>30,187</u>	<u>(402)</u>
TOTAL	C340,500	(\$4,540)

* Note: The dollar equivalent is calculated at C75/dollar. This equivalent of colon funds are for comparative use only.

C. Community Development

The detailed plans for this component can be found in Technical Exhibit F. The implementing agencies are DINADECO and IMAS. The total cost for the component is \$150,000 and C158 million.

This component is composed of three types of activities: (1) continuation of social infrastructure activities begun under the NZIDP, (2) community level potable water systems, and (3) housing construction support.

1) The Project has budgeted for 66 infrastructure projects including health posts, school lunch rooms, classrooms, and small bridges, plus 2,000 flush-style latrines. As in the NZIDP, communities will select the most beneficial activities, and, working through the DINADECO field representative, will develop and present formal proposals to DINADECO.

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2) This component will also provide funding support for the construction of 34 community-wide potable water systems which will include systems connected to individual houses in the community, and systems without house connections where houses are geographically or topographically unsuited. In addition, up to 450 hand dug shallow wells (average 9 meter depth) will be financed for more isolated homes.

Both of these categories of projects will be administered by DINADECO as "self-help" activities where the community requests a particular activity through the DINADECO field representative and must contribute a percentage of the total cost. This procedure is the same currently used under the NZIDP. It is important to note that, for the infrastructure projects, DINADECO has considerable experience from the NZIDP in implementing these activities and, therefore, will not encounter difficulties with this Project. In the water systems, designs will be prepared with input from AyA and will also involve the Project's Environmental Specialist so that all construction activities conform to environmental concerns.

TABLE 8: Community Development Activities

	<u>No.</u>	<u>% Comm. Support</u>	<u>Amount Budgeted/ Unit (¢)</u>
A. Social Infrastructure			
- Health posts		30	606,078
- School lunch rooms		40	615,160
- Classroom	66	30	321,000
- Small bridges		66	357,270
- Letrines	2000	-	500
B. New Activities			
- Water systems with house connections	27	16	1,772,888 (average)
- Water System without house connections	7	16	403,000
- Individual hand-dug wells	450	26	7,800
C. Housing Construction Support	2000	-	20,000

For Table 8, the number of activities is based on a survey of area Development Associations conducted during the project design; the percentage of community support is based on experience with the NZIDP and the amount of community provided labor and materials practical for each activity; and unit costs are also based on NZIDP experience and GOCR

standards. A detailed discussion in support of this Table is provided in Technical Exhibit F.

3) One of the strongest felt needs in the project area identified during project design was for adequate housing. Toward this end MIDEPLAN will enter into an agreement with IMAS (Institute for Social Assistance) to establish a separate housing construction support fund. IMAS is the GOCR agency assigned to promote and support housing construction in the project area. The fund will provide a partial reimbursement (up to \$20,000) to IMAS for each new housing unit constructed through the IMAS program and inhabited by the owner. The intent of this fund is to provide an incentive to IMAS to support increased housing production for the area's poorer residents using GOCR counterpart funds. The incentive is expected to come from two directions: 1) from the Project via the fund, and 2) from the area residents who will be informed by the Project about the activity.

In the agreement between MIDEPLAN and IMAS establishing the terms and conditions of the reimbursement program (a condition precedent to disbursement of this fund), IMAS will agree to use these reimbursements as part of its overall housing credit fund.

\$40 million from GOCR counterpart resources is budgeted for this fund based on the following criteria:

- a) 2,000 families have been identified by the project design team as most critically in need of housing; and
- b) \$100,000 plus family labor is required to build an acceptable house; the project will provide up to \$20,000/unit.

This reimbursement program is for the most rural communities in the area, rather than larger population centers such as the town of Upala, San Rafael de Guatuso, Bijagua, and San Isidro de Aguas Claras which already have access to credit programs.

This small GOCR initiative using counterpart resources, while not directly part of the Mission's housing strategy, will act to support one of its priorities, the definition of roles among housing institutions, by encouraging IMAS to fulfill its primary responsibility of providing housing for the rural poor. The reimbursement mechanism will not affect the Mission's program to reform the national housing financial system through the National Housing Mortgage Bank (BANHVI) because the initial use of the funds will be direct reimbursement, not credit, and the subsequent use of the funds as part of IMAS' housing credit fund will be supervised by BANHVI. The Mission expects that some if not all of the new units will be financed by IMAS under the Housing Bond program of BANHVI.

In addition to these three areas of activities, this component will provide a structured training program for community leaders in the interest of having each of the Development Associations in a position to manage their affairs with a minimum of outside assistance by the PACD. These training activities are in response to need identified under the NZIDP.

To implement this component, DINADECO will require 6 promoters, a sub-regional Supervisor, and an administrative assistant/secretary. Five of these will come from DINADECO's current staff in the project area. The additional staff will be contracted by DINADECO for the life of the project using funds budgeted under this component.

It should be noted that all communities in the project zone are represented by Development Associations. Therefore, all communities will have equal access to these community development activities. No distinction is made between established communities, new settlements, or former, new or future IDA settlements.

The total costs and sources of financing for this component are shown in the following table (an 15% annual inflation factor is included):

TABLE 9: Community Development Component Budget

I. AID Grant Funds:

	(\$000)
A. Community Infrastructure	75
B. Equipment	-
C. Personnel	-
D. Operating Costs	50
E. Housing Construction Support	-
F. Contingencies	<u>25</u>
TOTAL	\$150

II. GOCR Counterpart Funds:

	(C2000)	(Equivalent in \$000)*
A. Community Infrastructure	62,500	(833)
B. Equipment	2,600	(35)
C. Personnel	29,500	(393)
D. Operating Costs	8,600	(115)
E. Housing Construction Support	40,000	(533)
F. Contingencies	14,800	(197)
TOTAL	C2158,000	(\$2,107)

III. Other Funds:

A. Community Counterpart	C28,500	(\$ 380)*
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* Note: The dollar equivalent is calculated at C75/dollar. This equivalent of colon funds is for comparative use only.

D. Land Settlement and Titling

The detailed plans for this component can be found in Technical Exhibit G. The Implementing Agency is IDA. The total cost of this component is C 91.5 million and \$100,000.

This component has three sub-components: (1) titling up to 600 properties of between 2 and 100 has. in size, and titling up to 1000 lots under 2 has. in size, (2) settling up to 500 new families in the area, and (3) reforestation at least 600 has. of land within current IDA settlements. Implementation of this component will be directed through the Project Coordination Office by the Community Development/Land Settlement Components Monitor (see Section E, Project Coordination, Management and Monitoring).

1) In order for area residents to qualify for credit (e.g.: production or housing credit) they must have title to their land. Past activities to support the titling bureaucracy in IDA have been expensive and less than fully successful (e.g., the NZIDP was to provide 1,000 titles, but will probably only achieve 700-800 titles) because IDA puts a low priority on granting titles. Past AID supported projects have been unable, through T.A. and direct financial support, to change this priority.

Given this experience, this component has been designed to put the burden on the beneficiary to pressure IDA to provide required services. The project will reimburse IDA for each title actually awarded

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at a rate which includes not only the cost of processing but also some overhead. The project will reimburse up to €5,000 per title granted for properties between 2-100 has. and up to €2,000 for lots under 2 has. (The difference in reimbursement rates reflects the difference in title registration costs based on location (lots are generally in urban areas) and size (primarily the cost of land surveys).)

IDA has expressed its willingness to participate in this activity which will be implemented over the first two years of project implementation. Progress will be evaluated after the first six months and again after the second 6 months to determine the demand for and the delivery of new titles. If demand is insufficient to justify further activity, or IDA chooses another route for granting titles, the component's funds will be reprogrammed within the project.

2) Since the purpose of this Project is to consolidate activities begun under the NZIDP, which includes integrating the new IDA settlers into the socio-political structure, establishing additional IDA settlements is not appropriate for the Project. However, experience from the NZIDP, plus the current socio-political situation in Costa Rica, strongly indicate continued popular pressure for new settlements. Recent experience has also shown that ignoring this pressure has led to -- and very likely will continue to lead to -- land invasions by squatters. Such invasions on inactive lands not only drain scarce public resources but threaten the often fragile environment through inappropriate land use. Therefore, it is appropriate for the project to include a mechanism to continue to deal with settlement demands. This component will provide a "pressure value" to meet this expected demand over the life of the project. IDA will be reimbursed for settling up to a maximum of 500 families, at €130,000 per family.* Reimbursement will be contingent upon IDA's compliance with a series of conditions which include environmental protection and unencumbered titles granted (see Technical Annex G).

* This figure represents approximately 50% of the average cost to IDA of settling a single family in a new settlement - excluding the cost of the land.

Since this activity is designed to respond to popular pressure and not just to settle people, if that pressure does not materialize and IDA chooses not to participate, then funds budgeted for this activity will be reprogrammed.* The mid-term evaluation will assess the demand for and success of this activity to determine the need for its continuation.

In both the cases of titling and of settlements, the Project will reimburse IDA for actual performance. The reimbursement is based on the actual cost of providing titles and on establishing new settlements (based on experience in the NZIDP) plus some administrative overhead. This program is much simpler and cheaper to implement than previous attempts which resulted in the expansion of the IDA bureaucracy without a consequent increase in services provided or efficiency of operation. Experience has shown that IDA has the technical ability to do the work and, in discussions during project design, IDA indicated its preference to work on its own and to be reimbursed for the cost of that work.

3) In response to audit and environmental concerns raised in the NZIDP with specific reference to NZIDP sponsored IDA settlements, this component will also work directly with IDA to reforest up to 600 has. of fragile lands that have been identified on existing IDA settlements. Most of the necessary seedlings will be available from existing IDA nurseries, although it may be necessary for the MIDEPLAN Project Director to find other sources. The Project's Environmental Specialist will work closely with IDA in the execution of this activity with the participating communities.

MIDEPLAN and IDA will sign an agreement which lays out the terms upon which the Project will reimburse IDA for titles granted. IDA has indicated its desire to participate in the Project. If IDA chooses at a later date not to participate because it feels capable of meeting the demand for titles and settlements without external support or because the expected demands do not materialize, then the project support funds (all GOOCR counterpart) will be reprogrammed.* The component is to be evaluated on how well disbursements are handled, not on the basis of number of disbursements, titles, or settlements.

* These unusual conditions are based on lessons learned from past experience with IDA. Although this component is part of the consolidation process, the Project can achieve its purpose without this component.

For the reforestation activity, while IDA has expressed the desire to provide the seedlings, should it later decide not to participate, the component monitor, along with support from the Environmental Specialist, will seek other sources from which to purchase the seedlings.

The entire cost of this component is to be financed from project funds. The following Table summarizes the costs:

TABLE 10: Land Settlement and Titling Component Budget

I. AID Grant Funds:

B. New Settlements: \$100,000

II. GOCR Counterpart Funds:

	<u>No. Units</u>	<u>Cost/ Unit(Ø)</u>	<u>Total Cost (Ø000)</u>	<u>Equivalent ^{1/} (\$000)</u>
A. Titles				
-2 to 100 has.	600	5,000	3,000	(40)
-under 2 has.	1,000	2,000	2,000	(27)
B. New Settlements	500	130,000	57,500 (+7,500 by AID)	(767)
C. Reforestation	800,000	15	12,000	(160)
D. Inflation (15% annually)			<u>17,000</u>	<u>(227)</u>
TOTAL			Ø91,500	(\$1,220)

^{1/} The dollar equivalent is calculated at Ø75/dollar. This equivalent of colon funds is for comparative use only.

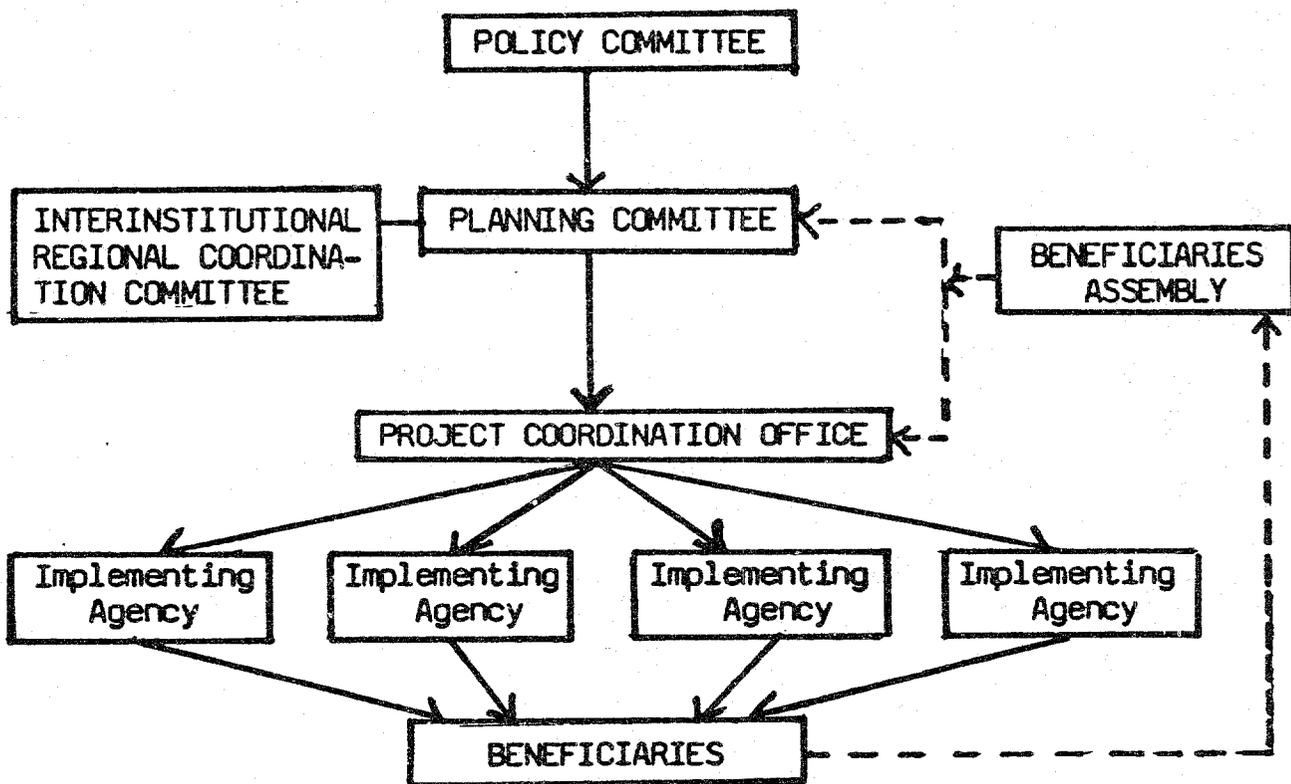
E. Project Coordination, Management and Monitoring

The detailed plans for this component can be found in Technical Exhibit H. The implementing agency is MIDEPLAN. The total cost for this component is: \$350,000 and Ø125 million.

This component deals with the administration of the Project. While MIDEPLAN will be directly responsible for all aspects of Project implementation, several other GOCR agencies will actually implement individual activities (e.g. road maintenance, new settlement and titling,

community development activities, etc.) as discussed in the preceding four sections.

Since this Project is a follow on to the NZIDP, the administrative structure is an adaptation of the structure established under in the NZIDP. The most notable change is the formalization of MIDEPLAN's coordination role through the establishment of three coordinating committees, all of which informally existed under the NZIDP: the Policy Committee, the Planning Committee, and the Interinstitutional Regional Coordination Committee. These changes are the result of lessons learned from the NZIDP and from recommendations by the project design team (primarily to improve coordination among the implementing institutions and to enhance MIDEPLAN's overall ability to implement the Project). These committees along with the already established Project Coordination Office make up the administrative structure of the Project in four levels as shown in the following diagram:



The role of each level is defined below:

1) The Policy Committee is composed of the Heads of all Implementing Agencies and AID's Rural Development Office Chief. It will be chaired by the Minister of Planning, who will schedule meetings on an annual basis for an overall review of the status and progress of the Project. Any administrative support required by this Committee will be provided by MIDEPLAN.

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2) The Planning Committee will be composed of the Director of the MIDEPLAN Regional Office for Huétar Norte (which includes the NZCP area), the Director of the MIDEPLAN Programming and Project Directorate (the office responsible for all projects implemented by MIDEPLAN), the AID Project Officer, and the Director of the NZCP. It will meet trimestrally and will be chaired by the Director of the MIDEPLAN Huétar Norte Regional Office. The Director of the Project will act as Secretary and will prepare agendas, reports and other material necessary for the functioning of this Committee. The AID Project Advisor will be invited to participate as an observer. The purposes of this Committee are as follows:

a. To inform the 6 MIDEPLAN Regional Offices around the country and Regional Planning Office of MIDEPLAN in San José (which is responsible for planning all MIDEPLAN regional activities) on the status of the activities of the NZCP.

b. To ensure that the activities undertaken by the NZCP are in conformity with broad GOCR regional and national policies.

c. To advise the Project Director and, where necessary, make recommendations to the Minister of Planning on the resolution of problems and issues which cannot be resolved in the normal course of events at the level of the Project Coordination Office.

d. To review the annual budget proposals and work plans.

3) As the coordinating body, the Regional Interinstitutional Coordination Committee, which includes the Regional Directors of the Institutions Involved in the implementation of the Project, and the Project Director will meet semi-annually to evaluate the Project's progress in order to strengthen the existing coordination systems.

4) The Project Coordination Office (PCO), located in Upala (in the Northern Zone), was the primary administrative organ of the NZIDP; it will continue that role under the NZCP. While it has undertaken some limited coordination/information dissemination concerning other development activities in the project area, its prime concern was and will continue to be the implementation of the Project. As such, upon the termination of this Project the office will be dissolved.

The MIDEPLAN Project Director will be responsible for the overall management of the Project. This will include administration of all Project funds; logistical support to those implementing agencies located in the office compound in Upala; information dissemination and public relations for all project activities; the operation of a computerized data bank; and the functioning of the Office itself, including plant maintenance, selection of personnel, approval of contracted T.A., approval of pilot project activities and grants,

operation of MIDEPLAN owned vehicles and equipment and related matters.

5) The Implementing Agencies will be responsible for the execution of their respective components, as described in this Project Paper. Individual agreements with MIDEPLAN will be prepared and signed in which responsibilities will be specified and formally agreed to.

The principal functions of the Project Coordinating Office will be as follows:

a. Administration of all local currency project funds:

This is a continuation of current Project Office activities. In this connection, the Office will ensure standard budget and accounting procedures are used by all implementing agencies which conform to standard GOCR practices for the implementation of the Project; will maintain consolidated financial records; will examine and approve or disapprove requests for disbursements; will issue all checks both for its own operations and to each implementing agency for their requirements; will originate and document requests for dollar disbursements; and will contract for the services of an outside audit firm to conduct periodic audits of all components.

b. Data Bank Operation: The Office will replace the current PC with a computer system capable of maintaining financial records and producing pertinent reports for all aspects of the project; maintaining inventory and similar records; keeping track of the physical progress of all components and issuing consequent management and informational reports; maintaining data on basic information related to the operation of the project; and accessing data in the memory banks of selected other computers. Development of this system will be contracted out to a local Costa Rican firm on a "turn key" basis. The contractor will train the Office staff in the use of the system before final acceptance of the product. The cost is included in the Support Fund.

c. Public Relations and Information Dissemination: The Office will prepare and distribute a monthly newsletter to keep all project personnel, local officials and community leaders apprised of what is happening and what is planned with regard to the entire range of activities of the project. It will use other devices (e.g. special reports, television and radio shows, etc.) to keep the public at large and national level policy makers informed about the project. It will also arrange for field days, seminars and similar events where experience can be shared among people with similar concerns. This will be a much more active role than under the NZIDP, for which reason a specialist will be contracted to carry it out.

d. Component Monitoring: The Office will conduct periodic reviews of the progress of each component and will have a capacity for field inspection. This is a continuation of current office

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activities. It will also review and make recommendations to the Planning Committee on annual work plans and budgets.

e. Logistical Support to Implementing Agencies: The offices used in Upala by some implementing agencies (e.g. DINADECO, the Agricultural production team, etc.) will be maintained by the Project Coordination Office, which will also take care of utilities, telephones, etc. This is a continuation of current office activities.

6) Environmental Monitoring and Support: The Coordination Office will also be responsible for assuring the environmental soundness of all project activities, taking into consideration both GOCR and U.S. laws and regulations. To carry out this responsibility an Environmental Management (EM) Specialist to work with the MIDEPLAN Project Director will be contracted for the life of the project. The Project Director, with the concurrence of the Specialist, will also have a fund (\$585,000) to hire short term technical assistance, to carry out project related environmental studies related to the impact of component implementation, to implement mitigative measures identified by these studies, and to conduct environmental education and extension activities in the area. Assistance in water management will be contracted locally to primarily assist the Project Director and the EM Specialist with environmental monitoring and education activities (see Environmental Concern Section).

The staffing requirements of the Project Coordination Office at the professional and/or technical level that emerge from the preceding discussion of functions, plus the requirements for support personnel is as follows:

Professional Personnel

- * Director General of the Office
- Road Component Monitor
- Community Development Component and Settlement Consolidation Component Monitor
- * Public Relations/Information System Specialist
- Financial Controller

Technical Personnel

- * Bookkeeper
- * Administrative Assistant/Computer Operator

Support Personnel

- * Two Secretaries in Upala (1 current)
- * One Secretary in San José
- * Chauffer in Upala
- * Two Guards in Upala

- * One Peón in Upala
- * One Cleaning Woman

* Indicates personnel currently employed under the NZIDP.

In addition, the Coordination Office will manage a dollar support fund (\$350,000) for financing an evaluation, studies, and short term technical assistance to support the permanent staffs implementing the various components. Technical Exhibit H shows \$50,000 for Project progress evaluations, and \$250,000 for such short term consultants as assisting the development of agricultural cropping packages, dealing with marketing problems arising from the Production Component, supporting DINADECO's community potable water projects, and identifying/developing the computer hardware and software for the Coordination Office. Illustratively this fund would provide 30 person weeks of high level foreign T.A., 40 person weeks of local T.A., and 5 support studies (at \$10,000 each). Much of the required technical assistance is likely to be available in country.

The cost of the Office, except for the salaries of permanent GOCR officials, all of which will be in local currency, will be met from Project funds. A summary of the costs for the life of the Project of this component, which include a 15% annual inflation factor, is as follows:

TABLE II: Project Coordination, Management and Monitoring Component Budget

I. AID Grant Funds:

A. Support Fund	\$280,000
B. Audits	70,000

II. GOCR Counterpart Contribution:

	(0000)	(Equivalent in \$000)*
A. Personnel 1/	63,100	(841)
B. Contract Services	14,500	(193)
C. Machinery & Equipment (including vehicles)	5,800	(78)
D. Information Activities	3,900	(52)
E. Operating Costs	24,700	(330)
F. Contingencies	<u>13,000</u>	<u>(173)</u>
TOTAL	0125,000	(\$1,667)

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The ability of the Project Coordination Office to carry out its functions in the manner indicated above is contingent on the issuance of a decree and a regulation: (1) Modification of Decree Law No. 15792-PLAN, which defines the functions of the office and the Consultative Committee (dealt with in the next section); and (2) a new MIDEPLAN Administrative and Financial Procedures Regulation for the project. Both documents should be formally issued and approved by AID as a Condition Precedent to any disbursement of project funds, whether dollars or local currency.

F. Community Feedback: The NZIDP created a Consultative Committee to provide community/local institutional feedback to the Project Coordination Office. It has been only marginally successful because:

(1) it duplicates the feedback program of the Development Council for the Huétar Norte Region which includes the project area, thereby creating confusion for area residents, and (2) it adds an additional bureaucratic layer in the region. Therefore, the NZIDP will abolish this Committee and have the already existing Development Council absorb the feedback responsibilities. The Development Council will establish a Project Beneficiaries' Assembly as part of the Council to carry out this necessary function. The Assembly receives comments, ideas, complaints, etc. from its members (i.e. all residents of the area) and feeds them to the Planning Committee, through the Council's representation in the Huétar Norte Regional Office, and directly to the Project Director and the Project Coordination Office through the Assembly's secretary who will have an office in the Upala compound (that vacated by former Consultative Committee's representative). This part-time position will come from the Regional Office's current staff. Because the Council already exists and has its own budget, additional support from this Project will not be necessary. This proposal has the full support of the Council and MIDEPLAN.

G. A.I.D. Project Advisor: An AID Project Advisor will be provided to the MIDEPLAN Coordination Office in Upala for the life of project. His/her duties and responsibilities are primarily to oversee project implementation and advise the MIDEPLAN Project Director and other project staff. He/she will also be responsible for keeping the AID Mission informed about implementation and issues that require consideration by the Mission.

* The dollar equivalent is calculated at 275/dollar. This equivalent of colon funds is for comparative use only.

1/ While the GOCR will continue to pay current personnel salaries, the entire cost is shown for budgeting purposes. The actual cost will be less.

\$630,000 has been budgeted for this contract from AID grant funds. This position is covered in greater detail in Technical Exhibit H.

H. Environmental Management Specialist: This specialist will also be provided to the MIDEPLAN Coordination Office in Upala for the life of the project. He/she will monitor the environmental impact of project activities and advise the component directors and/or the MIDEPLAN Project Director and the AID Project Advisor of potential problems and mitigative measures. If the Specialist encounters an environmentally harmful activity under implementation or potential activity under consideration by the NZCP, he/she will report it to the Project Director and the AID Project Advisor along with recommended mitigative measures. If the Specialist feels that the Project Director is not responsive to the concerns raised, he/she will then report to the Planning Committee and to the AID project Manager. The final decision regarding acting on these recommendations will be taken at this level.

This Specialist will also develop and carry out environmental education and extension programs for beneficiaries of Project activities.

The Environmental Management Specialist will be assisted by water management technical assistance which will provide assistance in watershed and water source monitoring and environmental education.

To monitor and support component implementation in relation to environmental concerns, as well as to implement related education and extension activities, the team will have a fund (\$585,000 which includes \$85,000 to support activities of the water advisor) to conduct the necessary studies and hire technical assistance. Use of this fund will be with the concurrence of the Environmental Management Specialist.

AID grant funds will provide \$630,000 for the Environmental Specialist's contract, \$40,000 for a locally-hired Water Advisor, and \$585,000 for the support fund. This is covered in greater detail in Technical Exhibit H.

4. End of Project Status

By the end of the Project, this region and its inhabitants will have received the great majority of the special attention and assistance needed to improve income generation, standard of living, health, and economic and social integration that a depressed area can reasonably expect from the national government, and will be in a position to continue the process of accelerated development through local efforts and normal central government support. It will have:

- An adequate network of all weather roads and a self-sustaining system for maintaining them.

- A well organized and trained network of Community Development Associations (55) and their subsidiary committees, covering the entire project area, capable of attending to the continuing needs of their affiliates as concerns social infrastructure and also playing an important role in broader development activities.

- Sufficient hectarage planted in key export crops to provide a minimum commercial level of production with the consequent potential for development of suitable marketing and processing facilities within the region as expansion of the area under cultivation continues.

- A dynamic small farmer sector resulting from the incorporation of the IDA settlers (approximately 25% of the population of the project area) into the larger community.

- Programs in place and functioning designed to protect the natural resource base, including land use maps procured and community environmental education programs conducted.

In terms of direct beneficiaries from project activities, the following table indicates for each component, and major sub-components, an estimate of the number of persons benefitted. Many of them will receive the benefits of all or most of the components. It is important to note that there will be literally no inhabitant of the project area who will not benefit in one way or another from the activities of the Project.

TABLE 12: NZC Project Beneficiaries

<u>Component</u>	<u>No. of Persons Benefited (in thousands)</u>
1. Road Rehabilitation and Maintenance	35.9
2. Community Development	
Health Posts	5.5
School Lunch Rooms	3.0
Schoolrooms	2.1
Small bridges	15.1
Potable Water	19.3
3. Land Settlement Consolidation	5.5
4. Titling	8.0
5. Agricultural Production Expansion	
Cacao	5.0
Palm Heart	3.5
Macadamia	2.0
Passion Fruit	1.5
Black Pepper	0.5

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IV. INSTITUTIONAL ANALYSIS

One of the benefits of doing a "follow-on" project is that the project design team is able to determine the ability of the participating implementing institutions to implement the proposed project based on their performance in the original project. Indeed, the specific activities in the NZCP have been designed in response to that performance.

As in the NZIDP, the principal implementing agencies are:

- Ministry of Planning and Economic Policy - MIDEPLAN
- Ministry of Public Works and Transport - MOPT
- National Community Development Organization - DINADECO
- Agrarian Development Institute - IDA

In addition, the project will promote the creation of the Northern Zone Municipal Roads Maintenance Commission (CMV) by the four municipalities which make up the project area.

Each of these organizations will be discussed in relation to the component in which they will participate.

1. Project Coordination, Management and Monitoring Component: MIDEPLAN

As the name implies, this is the hub of project implementation. The Project has four major separate but related activities to implement. These need to be supervised and coordinated by a single focal point.

The Project Coordination Office in MIDEPLAN was established in Upala for the NZIDP. Its purpose is to assist the Mission in monitoring the project, to provide interinstitutional coordination, and to give the GOCR an entity to serve as a central focus for longer term development activities in the Northern Zone. As a ministry with "cross-ministerial" authority, MIDEPLAN, through this office, undertook the monitoring, coordination, planning, and evaluation responsibilities of the NZIDP. One essential feature of the Project Coordination Office is that it is located in the project area which permits its staff to have a better understanding and feeling for the area and development activities as well as closer monitoring of project activities. This concept of locating a project office outside of San José was not new to MIDEPLAN since it has regional planning offices in each of the country's planning regions. During the NZIDP, the Project Coordination Office received training and support for its duties from the grant-financed Project Advisor.

While the Coordination Office initially had problems performing its functions under the NZIDP, experience gained, support and assistance from the Project Advisor, and, later, a very competent Project Director have turned this office into a smooth running, effective coordinating organization. The key figures have turned out to be the MIDEPLAN Project Director, who runs the office, and the contracted Project Advisor.

Experience has proven the importance of these positions to the Mission and to the GOCR, and refined the qualifications necessary for the positions.

Based on the current operations of the Project Coordination Office, with the financial and technical support proposed in this Project, wide authority for implementation of the Project, and the respect the office has earned within the region, the Mission is confident that it will be able to carry out the implementation of the NZCP. With respect to the specific area of contracting and accounting capability, however, it is clear that additional staff and training must be provided to the Project Coordinating office in order for it to successfully implement the project. Such staff and training will be provided at the beginning of the project. The AID Controller's Office will contract for a Review and Evaluation of Managerial Capacity as soon as the requisite staff are in place. Earmarking of funds will be contingent upon a satisfactory outcome of this review.

2. Crop Diversification Production Support Component: MIDEPLAN and MAG

MIDEPLAN's Project Coordination Office in Upala will direct the implementation of this component. The Office will contract two agricultural production specialists on a full time basis to direct the crop development and expansion program. These individuals will work with the Ministry of Agriculture (MAG) extensionists in the area to assist area farmers who cultivate Project sponsored crops. In addition, these agronomists will receive support from (1) the Project's Environmental Management Specialist who will be located in the Coordination Office full time and (2) short-term specialists contracted with the Project Coordination Office's support fund.

The Coordination Office will also be responsible for setting up the agricultural production credit reimbursement program. There are currently various credit programs in the project area which run through local branches of the major national banks. The Project will enter into agreements with one or more of these financial intermediaries. The Project Advisor plays a major role in setting up the program.

3. Road Maintenance Component: MOPT and the CMV

MOPT is the GOCR agency responsible for road maintenance in Costa Rica. However, its resources are limited to the extent that its top priority is maintaining the national road network. Other roads are maintained to the extent that the MOPT can take on additional work or where local communities or municipalities carry out the work themselves or contract private companies to do so. The lack of resources within MOPT for either of these last alternatives has resulted in the poor condition of roads in the project area.

Experience from the NZIDP and from observations of other roads in other parts of the country indicates that, even with significant project support, MOPT would not be able to adequately maintain the area's entire road network, nor would the communities be able to continue to pay the high cost of MOPT or of private contractors for such work.

Therefore, in line with the recommendation of the NZIDP evaluation, this Project will create a new, local road maintenance unit, under the direction of the municipalities of the Zone, exclusively for maintaining the non-national road network of the project area.

A detailed discussion of this entity - the Northern Zone Municipal Road Maintenance Commission (CMV) is presented in Technical Exhibit E.

The CMV will receive from the Project the necessary equipment and decreasing administrative support. It will function like a private company, in that communities/municipalities will contract for its services on a "cash and carry" basis. The advantage of this operation over a private company is that it is run by the municipalities, it is exclusively for maintaining roads in the area, it is non-profit, it has minimal staff and depends on the community receiving the maintenance for much of its unskilled temporary labor; therefore, it will be cheaper to operate and service will be better.

An equally important attraction is that every community's participation is voluntary - i.e. no community is assessed for work on "somebody else's road".

For the maintenance of the national road network in the Project area, MOPT has agreed to provide regular maintenance. This agreement is supported by project funded equipment and, on a decreasing basis, administrative expenses.

4. Community Development Component: DINADECO

This component is a direct continuation of current NZIDP activities. It will continue under the direction of DINADECO. The Regional Directorate of DINADECO, located in Ciudad Quesada, in the Cantón of San Carlos, will continue to be charged with responsibility for administrative support to the project area. In addition, DINADECO has assigned a Sub-regional Director, located in the Project Coordination Office in Upala, to be the immediate supervisor of project activities. Due to an increase in community activities, 2 additional promoters will be added to DINADECO's staff by the Project.

Coordination between DINADECO and MIDEPLAN at the project level in the Northern Zone has been good.

DINADECO's implementation of the community development activities under the NZIDP was characterized as a complete success by the project's evaluation (February 1988). Based on this performance, the Mission is confident that DINADECO is fully capable of implementing the Community Development component of the NZCP.

5. Land Settlement and Titling Component: IDA

Land settlement and titling has been a major part of two recent Mission projects - including the NZIDP. Both projects worked directly with IDA, the GOCR agency responsible for these activities in rural areas. In neither case was the experience fully successful. The NZIDP evaluation pointed out that in spite of great Mission and MIDEPLAN pressure on IDA, IDA has and will continue to use its own criteria and systems to deal with settlements and titling. While not necessarily bad, they have not always been consistent with AID project implementation requirements. Since IDA is fully capable, on its own terms, of carrying out settlements and titling and since IDA is not intended to be a focus of this Project, the Project will simply reimburse IDA for output that meets project implementation requirements.

There have been pressures for continued land settlement activities in the Northern Zone since the opening of the nation trunk road constructed under the NZIDP. MIDEPLAN personnel in the area and the AID Project Advisor (to the NZIDP) firmly believe these pressures will continue for the next few years and, if the NZCP does not deal with them, public demonstrations and squatters could disrupt project implementation. The only pressure release valve available is to provide for limited additional settlements, but without encouraging such settlements.

Therefore, the Project will be in a position to provide a limited number of new settlements. Since IDA is the only agency empowered to carry out settlement activities in the area, the project will permit IDA "to use its own criteria and systems" to develop settlements; when those criteria agree with criteria established by this project, then the project will reimburse IDA at a pre-established rate.

Since AID and the GOCR recognize the value of land titles for area residents (most importantly for access to credit), and since IDA is the primary agency for processing land titles, the project has created the same type of reimbursement program where the land holder takes the initiative to get IDA to process the title and the Project reimburses IDA, at a pre-determined fixed rate, for each title granted.

Since IDA is the only agency in the area that can perform these functions, the Mission believes that this proposed structure will be successful because pressure will then come from the beneficiaries rather than from the Mission or the Coordination Office. IDA has expressed interest in participating in the program and has discussed a specific

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agreement with MIDEPLAN that both institutions will sign specifying what IDA will do and what payments will be made by the project.

6. Other Organizations

In addition to the primary organizations listed above, there are several local and regional level organizations that will participate in the implementation of this project. They include the municipalities, the local development associations, individual communities, regional leagues of development associations, cooperatives, etc.

These are discussed in greater depth in the Social Analysis (Technical Exhibit I). Suffice it to say here that these organizations have actively participated in the implementation of the NZIDP and in the design of this Project. The Project Coordination Office also has direct and frequent contact with these organizations and they work well together. There is every reason to believe that this will continue under the new Project.

7. Conclusion

In sum, the Mission considers that each of these implementing organizations is well qualified to handle the responsibilities assigned to it in this Project Paper.

V. FINANCIAL PLAN AND ANALYSIS

1. General Description

Table 11 shows total project costs by component and source of financing. The GOCR contribution has its origin entirely from ESF local currency generations. In addition, local communities will contribute direct inputs to project activities. This contribution is not shown in Table 11 since it is not reflected in direct project costs which are defined as those financed by the GOCR and AID.

The \$5.15 million shown in Table 13 as the AID contribution is composed of an estimated \$3.83 million in direct FX costs and \$1.32 million to be converted into colones. Table 14 provides a breakdown of the direct FX use of the dollars by component and year of expenditure.

Table 15 presents the local currency budget of the project by component and year of expenditure.

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TABLE 13. Total Project Costs by Components and Source of Financing
(in millions of dollars and dollar equivalents)^{1/}

	AID ^{2/}	GOGR ^{3/}	Total
1. Crop Diversification	1.00	4.57	5.57
2. Road Rehabilitation and Maintenance	1.67	4.54	6.21
3. Community Development	0.15	2.11	2.26 ^{4/}
4. Land Settlement and Titling	0.10	1.22	1.32
5. Project Coordination, Management & Monitoring	0.35	1.67	2.02
6. AID Project Advisor	0.63	--	0.63
7. Environmental Specialist	<u>1.25</u>	<u>--</u>	<u>1.25</u>
TOTALS	5.15	14.11	19.26

^{1/} Exchange rate used: US\$1 = 75 colones.

^{2/} AID contribution represents the amount of the local currency costs financed with dollars, plus the dollar cost items.

^{3/} ESF generated local currency.

^{4/} In addition the local communities participating in this component will provide a contribution totaling approximately the local currency equivalent of \$380,000.

TABLE 15. Local Cost Budget by Component and Year ^{1/}
(Million of Colons)

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
	(millions of colons)					
1. Crop Diversification	98.4	100.3	94.3	60.5	49.4	402.9
2. Road Maintenance	153.6	138.4	24.1	3.2	3.2	359.7 ^{2/}
3. Community Development	37.0	34.7	37.6	22.9	20.2	167.0 ^{3/}
4. Land Settlement and Titling	28.5	18.5	18.5	13.5	3.0	99.0 ^{4/}
5. Administration	23.0	20.4	23.3	27.1	31.2	125.0
6. AID Advisor	-	-	-	-	-	-
7. Environmental Specialist	-	-	-	-	-	-
TOTAL	340.5	312.3	197.8	127.2	107.0	1,153.8

^{1/} Includes annual inflation factor of 15%.

^{2/} Includes an additional £37.2 for contingency.

^{3/} Includes an additional £14.8 for contingency.

^{4/} Includes an additional £17.0 for contingency.

TABLE 16: NORTHERN ZONE CONSOLIDATION PROJECT BUDGET (Actual)

	G.O.C.R. COUNTERPART (Colones)	A.I.D. GRANT (Dollars)
I. Crop Diversification	343,000,000	1,000,000
A) Technical Assistance	50,700,000	600,000
B) Training	10,000,000	120,000
C) Pilot Projects	20,000,000	-
D) Credit	200,000,000	-
E) Studies	5,000,000	-
F) Administration	17,950,000	74,000
G) Land Use Maps	-	106,000
H) Contingencies	39,350,000	100,000
II. Road Maintenance	340,500,000	1,665,000
A) Rehabilitation	193,720,000	107,000
B) Maintenance	38,750,000	30,000
C) Tools	4,682,000	-
D) Equipment	-	1,169,000
E) Rural Census	5,000,000	-
F) Support to MOPT	26,156,000	-
G) CMV Operating Costs	24,525,000	-
H) CMV Construction	7,480,000	-
I) Technical Assistance	10,000,000	159,000
J) Contingencies	30,187,000	200,000
III. Community Development	158,000,000	150,000
A) Community Projects	62,500,000	75,000
B) Equipment	2,600,000	-
C) Personnel	29,500,000	-
D) Operating Costs	8,600,000	50,000
E) Housing Credit	40,000,000	-
F) Contingencies	14,800,000	25,000
IV. Land Settlement & Titling	91,500,000	100,000
A) Titling	5,000,000	-
B) New Settlements	57,500,000	100,000
C) Reforestation	12,000,000	-
D) Contingencies	17,000,000	-

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	G.O.C.R. COUNTERPART (Colones)	A.I.D. GRANT (Dollars)
V. Coordination & Monitoring	125,000,000	350,000
A) Personnel	63,100,000	-
B) Contract Services	14,500,000	-
C) Equipment	5,800,000	-
D) Information Activities	3,900,000	-
E) Operating Costs	24,700,000	-
F) Support Fund	-	280,000
G) Audits and Assessments	-	70,000
H) Contingencies	13,000,000	-
VI. AID Project Advisor	0	630,000
A) Contract Costs	-	519,100
B) Official Vehicle	-	50,900
C) Contingencies	0	60,000
VII. Environmental Specialist	0	1,255,000
A) Contract Costs	-	519,100
B) Official Vehicle	-	50,900
C) Local Assistant	-	40,000
D) Support Fund	-	585,000
E) Contingencies	-	60,000
TOTAL	Ø1,058,000,000	\$5,150,000

(\$14.11 million equivalent at Ø75/\$. Note that as exchange rate changes the dollar value will also change; however, since the counterpart budget has been developed based on colon costs, only the colon figure is important.)

TABLE 17: NORTHERN ZONE CONSOLIDATION PROJECT BUDGET (In Dollars)

	AID GRANT		COGR #
	<u>FX (\$000)</u>	<u>LC (\$000)</u>	
I.			
Crop Diversification	206.0	794.0	4,573.3
A) Technical Assistance	-	600.0	676.0
B) Training	-	120.0	133.3
C) Pilot Projects	-	-	266.7
D) Credit	-	-	2,666.7
E) Studies	-	-	66.7
F) Administration	-	74.0	239.3
G) Land Use Maps	106.0	-	-
H) Contingencies	100.0	-	524.7
II.			
Road Maintenance	1,444.0	221.0	4,540.0
A) Rehabilitation	-	107.0	2,582.9
B) Maintenance	-	30.0	516.7
C) Tools	-	-	62.4
D) Equipment	1,169.0	-	-
E) Rural Census	-	-	66.7
F) Support to MOP	-	-	348.7
G) CMV Operating Costs	-	-	327.0
H) CMV Construction	-	-	99.7
I) Technical Assistance	75.0	84.0	133.3
J) Contingencies	200.0	-	402.5
III.			
Community Development	25.0	125.0	2,106.7
A) Community Projects	-	75.0	833.3
B) Equipment	-	-	34.7
C) Personnel	-	-	393.3
D) Operating Costs	-	50.0	114.7
E) Housing Credit	-	-	533.3
F) Contingencies	25.0	-	197.3
IV.			
Land Settlement & Titling	0	100.0	1,220.0
A) Titling	-	-	66.7
B) New Settlements	-	100.0	766.7
C) Reforestation	-	-	160.0
D) Contingencies	-	-	226.7
V.			
Coordination & Monitoring	350.0	0	1,666.7
A) Personnel	-	-	841.3
B) Contract Services	-	-	193.3
C) Equipment	-	-	77.3
D) Information Activities	-	-	52.0
E) Operating Costs	-	-	329.3
F) Support Fund	280.0	-	-
G) Audits and Assessments	70.0	-	-
H) Contingencies	-	-	173.3

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	AID GRANT		COGR *
	FX (\$000)	LC (\$000)	LC (\$000)
VI. AID Project Advisor	630.0	0	0
A) Contract Costs	519.1	-	-
B) Official Vehicle	50.9	-	-
C) Contingencies	60.0	-	-
VII. Environmental Specialist	1,175.0	80.0	0
A) Contract Costs	519.1	-	-
B) Official Vehicle	50.9	-	-
C) Local Assistant	-	40.0	-
D) Support Fund	545.0	40.0	-
E) Contingencies	60.0	-	-
TOTAL	\$3,830.0	\$1,320.0	\$14,106.7 *

* NOTE: GOCR local currency contribution is a cash contribution, not in kind, and is in colones. This conversion which is calculated at 075/dollar, is for comparison purposes only.

2. Methods of Implementation and Financing

This narrative is keyed to the item numbers in the leftmost column of the Chart on Methods of Implementation and Financing.

Item 1. Crop Diversification, Technical Assistance, Short Term TA Contracts.

AID and the authorized GOCR representative will execute a bilateral PIL naming the Project Coordinating Office (PCO) as the responsible implementing (contracting) agency, and establishing a budget for this block of short-term TA contracts.

Payments to contractors will be made by PCO from GOCR-owned local currency. AID will reimburse its share of these expenses, upon presentation of certified fiscal reports (Direct Reimbursement financing method). Since adequate amounts of GOCR-owned local currency are budgeted for the project, AID will not need to advance U.S. dollar procured local currency for any of the local currency expenses of the project. Direct Reimbursement is an AID preferred financing method.

Item 2. Land Use Maps

The Procurement Section of the MIDEPLAN central office in San José will execute host country contracts for production of the land use maps.

These contracts will be financed by AID Direct L/Com's. Use of AID/Direct L/Com's, a non-preferred financing method, as opposed to Direct Reimbursement, a preferred method, is justified by the shortage of GOCR-owned foreign exchange.

Item 5. Road Maintenance, Rehabilitation

AID's will finance this component of the Project via Fixed Amount Reimbursement agreements, an arrangement where AID will pay the GOCR a fixed amount per unit of rehabilitated road. Reimbursement will be based on an engineering certification of work completed.

The GOCR will follow its normal contracting methods with respect to the contractors. The FAR agreement will not affect this process, but merely the basis upon which AID will reimburse. In the case of a FAR, reimbursement is based not on actual cost but on actual completed product.

Item 7. Equipment (FX)

Given that the road maintenance equipment will be divided between two Host Country agencies, procurement will be simplified by utilization of AID direct procurement methods.

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Item 9. Technical Assistance (FX)

This procurement action would be treated similarly to Item 1., above; however, the Direct Reimbursement financing method is not feasible because the GOCR does not have sufficient foreign exchange to first pay the contractors and then await reimbursement. Therefore, AID will have to supply the dollars. Larger contracts will be paid by AID Direct L/Com's. However, where necessary to pay contractors in a timely manner and avoid a proliferation of small invoices, the USAID Controller will approve a U.S. dollar advance to the PCO.

3. Assessment of Contracting and Accounting Capability

Two host country entities will be involved in contracting and procurement, the MIDEPLAN central office in San José, and the MIDEPLAN Project Coordinating Office (PCO) in Upala.

The PCO in Upala will be handling smaller value procurements such as short term T.A. contracts, grants and miscellaneous operating expenses. The PCO does not currently have adequate contracting and procurement capability, nor accounting capability. Additional procurement and financial personnel will be hired at the beginning of the project, and a financial procedures manual is now being completed. The AID Controller's Office will contract for a third party "Review and Evaluation of Managerial Capacity, (REMC)" for the PCO. Earmarking of project dollars or dollars provided local currency for the PCO - implemented activities will be contingent on a satisfactory outcome of the REMC.

The MIDEPLAN central office in San José will be responsible for larger host country procurements such as land use maps. Based on prior experience the Mission believes that this entity has the requisite contracting and financial capability. However, this will be confirmed by an REMC, as above, prior to earmarking of project dollars or dollars provided local currency for MIDEPLAN central office - implemented activities. \$20,000 has been budgeted for REMC assessments out of the Coordinating and Monitoring budget element.

4. Audits

Financial Monitoring

MIDEPLAN has proven its ability to set up a financial monitoring unit for large specific activities (namely PL-480 Title I). The Mission recently reviewed that unit and found its procedures acceptable. The Mission plans to request that MIDEPLAN set up a similar financial monitoring unit to act as an internal audit function for the project. The monitoring unit will not exercise direct financial control, but rather will observe and test financial operations and make

recommendations for improving their efficiency and subsequent auditability.

Independent Audit

The GOCR portion of the project will be audited annually using a host country contract; however, both the terms of reference for the audit and the audit firm selected will be subject to USAID approval. USAID presently uses U.S. Controller General auditing standards for audits of ESF local currency projects and various local affiliates of U.S. CPA firms are well versed in these standards. These audits will be financial and compliance oriented and identify questionable costs. USAID will assure the quality of the audits contracted for and compliance with the aforementioned standards.

The U.S. Dollar portion of the project will be audited once at approximately mid-project, and once at the end of the project, by non-federal auditors under the direction of the AID Regional Inspector General.

Budget

The financial monitoring effort will have approximately \$60,000 of GOCR owned Local Currency budgeted from the personnel budget of the Coordination and Monitoring component. This will fund approximately one full time person at MIDEPLAN for the life of the Project.

The cost of the annual independent audits of the GOCR portion of the project will require the GOCR local currency equivalent of approximately \$150,000.

The cost of the non-federal audits of the U.S. dollar portion of the project will require approximately \$50,000.

5. Management of GOCR Local Currency Funds

As indicated in Technical Exhibit I, there will be one central special bank account in the name of MIDEPLAN into which all local currency funds for project use will be deposited. MIDEPLAN will prepare vouchers for reimbursement with a 90 day advance given. The implementing agency for each component, or sub-component of the project will be required to open a separate, special bank account for the activity in question. All disbursements from MIDEPLAN's Project account will be made to these implementing agency special accounts and all disbursements for execution of the components will be made from these special accounts.

Each implementing agency will keep its own accounting records and related files. However, they will be required to present vouchers and other supporting documentation to the Project Coordination Office for

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examination when liquidating advances and requesting new advances. The Project Coordination Office will maintain the consolidated accounts for the entire project, using a computerized system for this purpose.

The initial advance from the ESF local currency account to the MIDEPLAN Project Special Account and from it to the special accounts of the implementing agencies will be for the estimated expenditure requirements of the first 120 days of project execution. Thereafter, disbursements will be made on a 90 day estimated expenditure requirement basis. The initial disbursement is estimated at 0400 million.

Prior to first disbursement to the Project Coordination Office an independent assessment will be conducted of the Office to confirm its ability to handle the funds. If it is found to be weak, T.A. will be contracted via the Support Fund for support. The AID Project manager will be responsible for assuring that this procedure is followed.

TABLE 18. Chart of Methods of Implementation and Financing USAID Life of Project (Dollars Only)

Procurement Action	Implementation Method	Financing Method	HC/AID	Host Country IMP Agency	Approximate Amount	FX/LC
I. CROP DIVERSIFICATION						
1. Technical Assistance	Proj Imp Letter/ Host Country Contract	Direct Reimbursement	HC	Project Coord Office, Upala	600.0	LC
2. Training	Same as No. 1 above		HC	Project Coord Office, Upala	120.0	LC
3. Administration	Same as No. 1 above		HC	Project Coord Office, Upala	74.0	LC
4. Land Use Maps	Host Country Contract	Direct L/Com	HC	Mideplan/San José	74.0	FX
II. ROAD MAINTENANCE						
5. Rehabilitation	Fixed Amt Reimb. or Proj Imp Letter/ Host Country Contract	Direct Reimbursement	HC	Project Coord Office, Upala and Mideplan San José	207.0	LC
6. Maintenance	Proj Imp Letter/Grants	Direct Reimbursement	HC	Project Coord Office, Upala	30.0	LC
7. Equipment	AID Direct Contract	Direct Pay	AID		1,169.0	FX
8. Technical Assistance	Same as No. 1 above		HC	Project Coord Office, Upala	84.0	LC
9. Technical Assistance	Proj Imp Letter/ Host Country Contract	Direct L/Com or advance	HC	Project Coord Office, Upala	50.0	FX

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Procurement Action	Implementation Method	Financing Method	HC/AID	Host Country INF Agency	Approximate Amount	FX/LC
III.COMMUNITY DEVELOPMENT						
10. Community Projects	Same as No. 6 above		HC	Project Coord Office, Upala	75.0	LC
11. Operating Costs	Same as No. 1 above		HC	Project Coord Office, Upala	50.0	LC
12. Support Fund	Same as No. 9 above		HC	Project Coord Office, Upala	280.0	FX
13. Support Fund Environmental	Same as No. 9 above		HC	Project Coord Office, Upala	545.0	LC
14. Audits	AID Direct Contract	Direct Pay	AID (RIG)		50.0	FX
15. REMC Assessments	AID Direct Contract	Direct Pay	AID (CONT)		20.0	FX
VI. AID PROJECT OFFICER						
16. Contract Costs	AID Direct Contract	Direct Pay	AID		519.1	FX
17. Official Vehicle	AID Direct Contract	Direct Pay	AID		50.9	FX
VII.ENVIRONMENTAL SPECIALIST						
18. Contract Costs	AID Direct Contract	Direct Pay	AID		519.1	FX
19. Official Vehicle	AID Direct Contract	Direct Pay	AID		50.9	FX
20. Local Assistance	Same as No. 1 above		HC	Project Coord Office,	40.0	LC

VI. ECONOMIC ANALYSIS

During the course of Project design a general analysis of the economic viability of the Project was completed. This analysis (see Technical Exhibit J) combined the costs and benefits of the NZIDP and those expected from the follow-on NZCP. This is an all encompassing analysis including social benefits derived from the project. This conservative study includes a sensitivity analysis on cost increases of 10%, 20% and 30% and concludes that the overall results are not adversely affected to any significant degree. Moreover, the estimates of cropping system expansion rates are derived from actual growth rates from 1983 to 1988, data which is usually unavailable in any economic analysis of expected project benefits for road or agricultural development projects. This unique situation arises because the NZCP is a "continuation" of an original project whose benefits have already been felt and measured, i.e. acreage expansion due to road construction and community development.

This analysis concludes that the economic viability of the combined NZIDP and NZCP projects is extremely high. The current rate of crop expansion and yield levels has far surpassed estimates made for the NZIDP design. With the continued effort of the NZCP to support community organization, local crop adaptation trials and commercial crop production, the combined project efforts will easily produce a high economic return and lead to rapid development of a relatively undeveloped and previously neglected area.

By estimating realistic rates of expansion of current crop production and yields found in the project area, the analysis came up with a benefit cost ratio, at a 15% discount rate, of 2.60 and an internal rate of return of 39.7. Even with 50% cost increases and a 50% fall in estimated benefits, the Project breaks even, with a benefit-cost ratio of 1.02 and an IRR of 15%. However, this analysis includes support to citrus production, an activity which will not be included in the Northern Zone Consolidation Project. When the original analysis eliminated citrus production from the benefit stream, the internal rate of return became 11%. The Mission Economist judges that an IRR from 5% to 10% is marginally acceptable, that is the fate of a project should depend upon other factors, e.g. institutional, social, environmental concerns, and that an IRR of 10% or more should be deemed to be acceptable. (See Technical Exhibit J, Attachment II.)

At the end of the Project design effort, the Mission commissioned an update for the Economic Analysis, using more recent data for the specific crops proposed in the Project. The update also deals only with the NZCP, to the extent cost and, more particularly, benefits can be separated from the NZIDP.

The conclusions of the updated analysis are divided into the types of labor used for agricultural production, i.e. hired labor vs free family labor. The project proposes only to work with family labor.

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This analysis concludes that when benefits and costs for all crops are combined, the overall benefit/cost ratio is very favorable. In total, promotion of these five crops during the Consolidation Project is an economically worthwhile undertaking. Another favorable finding is that the overall benefit/cost ratio does not fall significantly when the interest rate is increased from 15% to 25%. Even at the highest rate this component of the project shows a very favorable ratio provided the activity is based on family labor.

Therefore, based on the Economic Analysis and the up-date it can be concluded that the Project is economically viable at the levels of costs proposed and that the residents of the area will indeed benefit from the Project.

VII. ENVIRONMENTAL CONCERNS

Project Exhibit C provides the Executive Summary of the Environmental Assessment (EA) prepared by DESFIL. The complete EA can be found in the bulk files of the Project and should be consulted for further details on the mitigative actions to be implemented by the NZC Project.

The EA identifies a number of potentially negative environmental impacts of the Project and describes activities required to mitigate these impacts. Specific upland/fragile areas and lowland areas are identified which are in need of protection because of their importance in the conservation of watershed and wildland areas. The EA also proposes other desirable environmental management activities that are not directly related to the development activities of the Project, but will be implemented concurrently with the use of PI.480 funds (discussed in Section 8 below).

The majority of mitigative actions proposed by the EA will be integrated into the NZC Project as follows:

1. Support to the PCO: an Environmental Management Specialist

Given the size and complexity of the NZCP, it is recognized that some project activities could have unintended negative impacts on the environment, as described in the EA. While each component has been designed to minimize such impacts, the concern of the Mission and the GOCR has led to the creation of an Environmental Management (EM) Specialist position to work with the Project Director in Upala.

The EM Specialist will be responsible for monitoring the environmental impacts of project activities, proposing mitigative measures, conducting relevant studies and providing general support to project implementation. The EM Specialist will assist the Director in ensuring that NZCP activities conform to AID environmental regulations. The EM Specialist will assist the Road Component Monitor, the Community

assisted by the Water Management Advisor responsibilities of the EM Specialist and implementation of environmental to be implemented through the Community 2) coordinating the preparation and Project Manager for AID/W approval of EA technology packages which involve the and for road maintenance activities addressed in the Project Paper or the EA; n of semi-annual reports to both the n Project Manager on the status of en; and 4) advising and informing the tive actions required by ongoing NZC

85,000 for an Environmental Support to develop and implement environmental (see Section 3 below) and to acquire ation of EA amendments. The Specialist of the Water Management Specialist (see

ition is provided in Technical Exhibit

Use Mapping

environmental sustainability of the ent activities of the Project, land use uted. \$106,000 have been incorporated ersification Support Component of the eparation of agroecological maps and n the Project area. This will include (i.e. specific crops, pastures and pabilities (as a function of ecotype, es), as well as demarcation of fragile able agriculture cannot occur or which of water sources, or conservation of especially endangered species or their e employed by the Project to establish l and perennial crops, and which lands ll also be utilized to determine the kimately) nine, new IDA settlements are

Environmental Education and Extension

mitigative actions identified in the EA ation of a Project-wide program of

ital Management Specialist and sponsible for monitoring and

e donated to the CMV and to DEPLAN, prior to receipt of any only road rehabilitation and nto a formal commitment with -funded equipment, to use the e Route 4 system as defined in l be monitored by the Project onitor and the Environmental ies nor Project funds will be ograding.

t Coordination Office provides ioneer to serve as the Road ition and Maintenance Component there is compliance with the .l as other aspects of that nitor requires any specialized se, he/she will have access to the budget.

ilitation and maintenance work i provisions for the extraction t water quality in the Project closely monitored and designed impact. Technical guidance on ll be provided by the Road Advisor, and the Environmental

ironmental Regulations (22 CFR l assessments are required for id building or road improvement ne Project associated with new of which is anticipated in the re Project Paper or in the EA, l of AID/W. The Environmental sponsibility for overseeing the),000 may be provided from the sistance in the preparation of

d maintenance will be provided ntenance component, as well as or-intensive methods of road through the EM Specialist's rcribed in Section 3 above.

5. The Production Component

The Project will provide technical assistance, training and credit to promote increased production of export market crops. This crop promotion activity will be carried out under the direction of an agronomist and the technical assistant, who will be responsible for development of agriculture packages. Pesticides may be purchased with Project-provided credit; however, prior to any use, purchase, or recommendations for pesticides, an EA amendment will be prepared and submitted to the LAC Environmental Officer for approval. Appropriate language to this effect will be included as a condition precedent to disbursement of funds for agricultural production inputs under the NZCP.

A list of permitted agrochemicals will be developed under the EA pesticide amendment and all recipients of Project funded credit will be required to sign a statement at the moment of receiving the credit to the effect that they will not use the loan to purchase any chemicals not on this list.

Adequate funds (\$25,000) are currently budgeted will be provided from the Project Coordination Office technical assistance fund to secure necessary assistance in the preparation of EA amendments for this Project component. In addition, environmental education pertaining to the proper handling and use of pesticides, integrated pest management, and unsustainable agricultural practices, will be provided to farmers as discussed in Section 3 above.

As discussed in Section 2 above, land use maps will be one of the criteria utilized to determine the suitability of specific areas for proposed annual and perennial crops.

6. Social Forestry

Social forestry is discussed in the EA as an activity that promotes the protection of the limited forest resources of the Project area, and reverses the process of deforestation. In addition, social forestry can increase economic diversification beyond that provided by traditional and non-traditional export crops.

Under the Crop Diversification Support Component of the NZC Project, \$260,000 is budgeted for pilot projects. Social forestry practices (as described in the EA) will be promoted as a pilot activity. The use, local processing and marketing of laurel in the Project area lowlands should especially be encouraged.

7. Watershed and Water Source Protection and Management

As stated in the EA, sustainable agriculture and potable community water in the Project area will depend on proper management of

upland watershed areas and prevention of downstream pollution. Because the Project area also includes significant sections of upland catchments that are in established protected areas, and because downstream activities will also affect the integrity of the Caño Negro Reserve, protection of the water resources in the Project area is considered to be an integral part of the NZC Project. Thus, the NZC Project will provide a total of \$100,000 towards watershed management and protection, and monitoring and regulation of downstream water sources.

\$40,000 will also be provided to establish the full time position of a Water Management (WM) Advisor. This position should be a Costa Rican with training in forest engineering and a minimum of three years experience in watershed management. Responsibilities of the WM Advisor will include: 1) the monitoring of stream flows and sedimentation rates, 2) erosion control within the Project area, 3) monitoring agricultural activities which directly impact on watershed areas or downstream water quality (e.g. agrochemical contamination and erosion), and 4) monitoring the quality of potable water at community water sources. An additional \$40,000 will be provided for technical assistance and procurement of simple monitoring equipment to establish baseline data and continued monitoring of stream flows, sedimentation rates, and water quality. In-country expertise can be provided from CATIE, TSC and ICE. The data and results of watershed and water source monitoring under the NZC Project will be incorporated into the country-wide watershed management project that is being planned by the Mission for 1990.

Primary watershed management activities will focus on the upper Río Frío area, much of which exists in the Tenorio Forest Reserve, and as funding permits, in other critical catchments in the Project area that are identified through land use mapping. In order to ensure that areas of forest reserves within the Project area are protected from deforestation and subsequent effects to watersheds, on the ground demarcation of these areas will be conducted. Funding for this activity will derived from the Environmental Support Fund for technical assistance described above. These efforts will involve, as far as possible, the participation of communities within the critical watershed areas of the Project.

Under the Land Settlement and Titling Component, \$160,000 has been budgeted for reforestation of 600 ha. of streambanks and other sites within the Project area. As recommended in the EA, this will involve the use of native riparian tree species (Pithecellobium longifolium and Ficus insipida), wherever possible. The Water Management Advisor will investigate other appropriate native species, and identify other critical areas that are in need of protection or reforestation to ensure water quality within the Project area.

The Water Management Advisor will report to the Environmental Management Specialist, and will assist in the development of

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environmental education programs focusing on the importance of watershed management within the Project communities located in critical watershed areas, and also in programs focussing on water source management for all residents in the Project area. \$20,000 will be provided specifically for these water-related environmental education activities.

The Grant Agreement will include a covenant to the effect that no crop promotion, road activity, land settlement, or titling work under the NZC Project will be authorized or carried out by the GOCR on the land defined in the EA as upland/fragile areas. In addition, before the implementing agency for the Community Development Component, DINADECO, approves and provides funding for any potable water system for a given community, it will obtain written assurance that: 1) arrangements for maintenance have been made, 2) environmental sanitation considerations have been examined and resolved (e.g. the proper location of latrines, drainage of surface water, proper control of pollution to rivers and streams, and 3) environmental protection measures have been identified and instituted (i.e. proper protection of water sources). Technical assistance to DINADECO and the communities in carrying out the needed analyses and in designing appropriate solutions will come from ICAA, the national water agency. Compliance by DINADECO will be monitored by the Water Management Advisor, the Environmental Management Specialist, and the monitor for the Community Development and Land Settlement Components.

8. Wildland and Wildlife Management

While the NZC Project does not provide for any specific support to wildland and wildlife management, the Mission and the GOCR recognize the importance of conserving biodiversity in the region and have agreed to develop a local currency funded Caño Negro Wildlife Refuge Support Project. This Caño Negro Project will be designed and implemented during the life of the NZC Project. The Caño Negro Project will be developed using the suggestions provided in the EA for the development of this critical wetland reserve.

TABLE 19: Breakdown of Budget for Environmental Concerns

Environmental Management Advisor: Salary and vehicle for LOP	\$630,000	
Support Fund	500,000	
Environmental Education		300,000
Extension Training		100,000
Technical Assistance		100,000
Land Use Mapping	106,000	
Pesticides (Technical Assistance) (* From Agricultural Production and Expansion Budget)	25,000	
Social Forestry (** Total amount allocated for all Pilot Projects under Agricultural Production and Expansion Budget - forestry will be included)	260,000**	
Watershed and Water Source Management	125,000	
Water Management Advisor Salary		40,000
Technical Assistance		40,000
Water-related Environmental Education		20,000
Contingencies		25,000
Reforestation (*** funding from Land Settlement and Titling Component)	160,000***	

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VIII. PROJECT IMPLEMENTATION AGREEMENTS

In order to enhance the implementation of the Project, several written agreements (convenios) have been identified to (1) define the relationship between the various implementing agencies and the MIDEPLAN Project Coordination Office (PCO) and (2) to define the roles and responsibilities of the participating organizations. The agreements for each component are discussed below.

1. Agricultural Production Component

A) MIDEPLAN is the primary implementing organization for this component. The PCO will hire a team under the supervision of the Project Director to implement the component. While the Ministry of Agriculture (MAG) will support implementation activities through its local extension agents in the Northern Zone, a formal written agreement is not considered necessary as these agents will do that work for which they are already responsible without supervision or financial support from the Project.

B) MIDEPLAN will enter into written agreements with financial institutions interested in participating in the credit reimbursement program. The agreements will establish the terms and conditions for giving loans and for receiving the partial reimbursement.

--Status: MIDEPLAN and AID are currently talking with potential institutions about participation.

2. Road Maintenance Component

This component requires three agreements to achieve successful implementation.

A) The first, between MIDEPLAN and MOPT, will formalize MOPT's commitment to maintain the quality of the Route 4 road system. It will also formalize the Project's commitment to cover maintenance expenses of MOPT of 50% in the first year, 30% in the second year, and 15% in the third year of project implementation. Finally the agreement will formalize MIDEPLAN's commitment to provide road maintenance equipment through the Project exclusively to maintain the Route 4 system. MOPT will agree to use this equipment only for that purpose for the life of the equipment (but no less time than the life of the Project).

--Status: MIDEPLAN and MOPT are discussing this agreement.

B) The Municipalities of Upala, Guatuso, Caño Negro and Santa Clara will enter into a Convenio to formally establish the CMV as a road maintenance entity. This is necessary in order to take the eventual next step of seeking personería jurídica for the CMV which will give it full and independent legal status (such status is not required for project implementation, but will be desirable over the longer term).

--Status: MIDEPLAN and the Project design team have discussed this with the municipalities and they are in agreement to establish the Convenio (which MIDEPLAN will help draft) once the Project Grant Agreement is signed.

C) Once the CMV is established by Convenio, the CMV, represented by its Board of Directors, will sign an agreement with MIDEPLAN establishing the terms of Project support to the CMV which includes donated equipment; financial support for operating expenses at 100% for the first year of the Project, 80% for the second year, 60% for the third, 30% for the fourth, and 10% for the final year; financial support to help allay maintenance costs at 50% for the first year of maintenance activities by the CMV, 35% for the second, and 20% for the third.

This agreement will also formalize CMV's commitment to use all equipment donated by the Project only for road maintenance activities (i.e. no new road construction nor road upgrading).

--Status: This agreement will be negotiated with the CMV once it has been established; i.e. during the first year of Project implementation. The founding Municipalities agree with this Convenio.

3. Community Development Component

This component requires two agreements to enhance Project implementation.

A) MIDEPLAN and DINADECO will enter into a written agreement establishing the role of DINADECO as the implementing agency for this component, including the staff to be provided by DINADECO and the role of the local supervisor. It will also define the support that MIDEPLAN will provide to the DINADECO staff.

--Status: Both MIDEPLAN and DINADECO are agreed that this Convenio will continue the basic relationship which exists under the NZIDP.

B) MIDEPLAN will also enter into a separate agreement with IMAS to develop the terms and conditions for MIDEPLAN to reimburse IMAS for housing constructed for the area's least benefitted residents (up to \$20,000/unit constructed and inhabited). Reimbursement will be made each six months on a per-unit basis up to the total of funds available for this activity.

--Status: MIDEPLAN has begun discussions with IMAS.

4. Land Settlement and Titling Component

MIDEPLAN will execute an agreement with IDA laying out the terms and conditions upon which MIDEPLAN will commit to reimburse IDA for each new family settled (up to 500 families) and for each new title granted (up to 1600 titles). This will include an exhaustive list of criteria which IDA agrees to meet in order to be reimbursed at the rates set in the agreement.

--Status: MIDEPLAN and IDA are finalizing the agreement.

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IX. PROCUREMENT PLAN

1. Dollar Items

A. USAID Procurement:

1) A PSC for a Project Advisor, with an estimated cost of \$519,000 (see Technical Exhibit H for details) will be executed by the Executive Office of the Mission, using competitive bidding procedures. The PIO/T and scope of work will be prepared by the Rural Development Division of the Mission and approved by MIDEPLAN.

2) A PSC contract for an Environmental Specialist for the Project (see Technical Exhibit H for details) with an estimated cost of \$519,000 will be executed by the Executive Office of the Mission using competitive bidding procedures. The PIO/T and scope of work will be prepared by the Rural Development Division of the Mission and the RQCAP Environmental Officer and will be approved by MIDEPLAN.

3) The USAID Executive Office will purchase, through competitive bidding procedures, the official vehicles for the AID Project Advisor and for the Environmental Advisor, both of which will be of U.S. source and origin.

4) Two purchases of road maintenance equipment, totaling \$1.2 million, are contemplated (see Technical Exhibit E for details). The specifications will be developed by the CMV and AID in consultation with the Roads Component Monitor and the USAID engineer. The issuance of IFBs and other procurement actions will be handled by AID. Payment will be made by direct letter of commitment. Technical assistance is available through the Road Maintenance Component to develop specifications.

5) The Project budget includes \$75,000 for a contracted evaluation if such is deemed necessary. Competitive bidding procedures will be used, with the advertising and contracting handled by the Mission Executive Office. The preparation of the PIO/T and scope of work will be the responsibility of the Rural Development Division of the Mission, and it will be approved by MIDEPLAN.

B. MIDEPLAN Procurement:

1) Miscellaneous contracts for short term consultants, as needed.

2) An institutional contract for the preparation of land use maps (see Technical Exhibit D for details) with an estimated cost of \$106,000 will be executed by the Project Coordination Office using competitive bidding procedures. The PIO/T and scope of work will be prepared by MIDEPLAN and approved by the Mission.

2. Local Currency Items

All goods and services will be procured by the implementing agencies of the Project. The advertising, bidding, contracting and other procurement procedures used by these entities will be those authorized under standard GOCR procurement regulations.

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X. IMPLEMENTATION SCHEDULE

Detailed implementation schedules are shown for each component under the Technical Exhibit dealing with the component. In terms of the Project as a whole, the key actions and their anticipated respective dates from now through the end of CY 1988 are indicated below. By then all major start up actions should have been completed.

1. Submission of Environmental Assessment for AID/W review and approval June, 1988
 2. Approval of Environment Assessment by AID/W July, 1988
 3. Review of PP by GOCR June/July, 1988
 4. Authorization of Project by Director USAID/CR July, 1988
 5. Signing of Grant Agreement August, 1988
 6. MIDEPLAN names Project Director September, 1988
 7. Satisfaction of Conditions Precedent September/October, 1988
 8. Advertise for AID Project Advisor and Environmental Advisor September, 1988
 9. Revision of Law No. 15792-PLAN published in Official Gazette September, 1988
 10. Issuance of MIDEPLAN Administrative and Financial Procedures Regulation September, 1988
 11. Signing of Convenios between MIDEPLAN and Implementing Agencies September, 1988
- The accomplishment dates in the Technical Exhibits have, in some instances, been deliberately moved forward with respect to those indicated below.
12. Contract signed with AID Advisor October, 1988
 13. First disbursement of ESF funds made to MIDEPLAN for the Project Special Account October, 1988

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XI. EVALUATION PLAN

1. Information Generation

Funds have been budgeted for the Project Coordination Office to obtain turnkey assistance in installing a computerized system of standardized inputs and activities. The computer program will also keep track of the verifiable indicators of change in the project area, and of financial records and housekeeping matters. Monthly reports will be generated.

2. In House Continuing Evaluation

There will be quarterly reviews of progress and of work plans for the next quarter for each implementing agency conducted by the Project Coordination Office in connection with approval of quarterly disbursement requests made by each implementing agency. In addition, review of annual work plans and budget proposals will be made by the AID Project Manager. Finally, the AID Project Advisor will prepare quarterly reports which will include identification of problem areas and evaluate progress made.

3. Monitoring

The Project Coordination Office includes in its staffing pattern two professional level positions exclusively for monitoring of the various activities of the project, including field inspections. They will be assisted by the AID Project Advisor. The project Environmental Advisor will monitor the impact of project activities on the environment. At a different level, the RDD Project Manager will also be performing a monitoring function.

4. Mission Monitoring

An AID Direct Hire Agricultural Development Officer in the Mission's Rural Development Division (RDD) will be the Mission official directly responsible for the implementation of the Project (i.e. the Mission Project Officer). He will monitor project implementation in close coordination with the MIDEPLAN Project Director and the AID Project Advisor on an almost daily basis.

The Mission will also establish a Project Implementation Committee (PIC), chaired by the Mission Project Officer, with representatives from at least the following Mission offices: General Development, Project Development, Controller, Executive, and Program. The PIC provides technical as well as general support to the Project Manager.

The Controller's Office also has a monitoring role as it approves disbursements and advances to the Project Coordination Office.

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5. Outside Evaluation

Because of the project's complexity and the number of institutions involved, the Mission also anticipates the need for a formal evaluation conducted by outside evaluators. We will especially want an outside view as to whether and to what extent incentives for land titling, extension of farmer credit, and housing construction are achieving desired impact. The evaluation will be management-oriented in the sense that it will be expected to recommend remedial action for any unresolved problems identified during in-house monitoring and evaluation and/or through the outside evaluation. The evaluation is planned for late 1990, when the project is scheduled to be about 50% completed. However, actual timing will depend on project experience.

In addition, two assessments of the Titling activity will also be conducted during the first 12 months of project implementation.

XII. CONDITIONS PRECEDENT, COVENANTS, AND NEGOTIATING STATUS

1. Conditions Precedent

In addition to standard, legal C.P.s, the following are planned:

A. Prior to any disbursement of dollars or local currency, or the issuance of any commitment documents under the respective project components listed below, the GOCR shall, except as AID may otherwise agree in writing, furnish in form and substance satisfactory to AID:

(i) Road Maintenance and Rehabilitation Component:

- evidence that the Ministry of Public Works and Transport (MOPT) has rehabilitated and improved the Route 4 road system to the specifications established in the Northern Zone Infrastructure Development Project (515-T-041) without cost to this Project and has officially and fully accepted the road;

(ii) Project Coordination, Management and Monitoring Component:

- evidence that the organization and the financial and administrative functions of the Project Coordination Office and the MIDEPLAN central office have been established;

(iii) Land Settlement and Titling Component:

- that the settlers will be advised of the loan repayment terms and what further services they may expect to receive.

B. To make implementation of the Project possible, the GOCR will promote the interinstitutional agreements necessary and adequate to achieve the objectives of the Project. These agreements shall be concluded so that each of the Project's corresponding components can be initiated, and will be the following:

- MIDEPLAN/MOPT
- MIDEPLAN/IDA
- MIDEPLAN/DINADECO
- MIDEPLAN/IMAS

2. Covenants

MIDEPLAN and the implementing agencies will enter into the following covenants:

A. Prior to the provision of any road maintenance equipment by the Project, the GOCR shall, except as A.I.D. may otherwise agree in writing, furnish to A.I.D. in form and substance satisfactory to A.I.D., written statements that the equipment provided for the Project will be used exclusively for road maintenance in the Project area, until the completion of the Project.

B. The GOCR will take appropriate steps so that the Project Coordination Office will be the primary organization responsible for the implementation of this Project and so that that Office carries out its responsibilities under this Agreement appropriately and properly.

C. Agricultural Production Component. Prior to the promotion of any technological package for the crops supported by the Project which involves the use of any agrochemical, the technological package will not include products prohibited by the Environmental Protection Agency of the United States (EPA), and will be approved by A.I.D. in advance.

D. Environmental Protection. No activity funded under this Project (with dollars or with local currency counterpart contributions) will be undertaken on upland/fragile areas identified in the Environmental Assessment without prior approval in writing by A.I.D.

E. No project resources shall be used for the production, processing or marketing of sugar, palm oil, or citrus for export, or to increase agricultural exports to a country other than the United States in direct competition in that third country with the same or similar exports of the United States without the prior written consent of A.I.D.

3. Negotiating Status

The Project has been developed in close collaboration with MIDEPLAN staff in Upala and San José. An extensive review of all components has resulted in full agreement of the final design. No outstanding issues remain to be negotiated and the Project Agreement will be ready to sign shortly after the Authorization of the Project is approved.

The Minister of Planning (MIDEPLAN) has discussed the role of each implementing agency identified in Section 1 A. through C. above with the respective agencies and has received their agreement with the final design. No serious issues remain outstanding. The agreements between MIDEPLAN and the implementing agencies referred to above will be ready to sign shortly after the Project Agreement is signed.

4. Gray Amendment Concerns

While most contracting will be done by the host country, the Mission will contract for two full-time project advisors, their official vehicles, and for the road maintenance equipment. All contracting will be through full and open competition.

2. Legal Exhibits



*Ministerio de Planificación Nacional
& Política Económica
Despacho del Ministro*

San José, Costa Rica

16 de julio de 1987
DPR-053-87-DPP

Señor
Richard K. Archi
Director de Misión
Agencia Internacional para el
Desarrollo (AID)
S. O.

REF.: Proyecto de Desarrollo de
la Zona Norte (II Fase)

Estimado señor:

Este Ministerio, conocedor del positivo efecto que la ejecución del Proyecto de Infraestructura de la Zona Norte ha ocasionado sobre el desarrollo de la misma, ha determinado la necesidad de la preparación de un diagnóstico o documento que justifique la preparación y ejecución de un Segundo Proyecto complementario al vigente, pero que tenga un enfoque más integrado abarcando otros componentes económico sociales o de desarrollo rural.

Por lo tanto, técnicos de la Dirección de Planificación Regional, han elaborado el citado trabajo, que contempla el área de influencia del proyecto, sus componentes y otros elementos accesorios de importancia.

Como parte del proceso de consolidación del desarrollo de la Región, avalados por los resultados del Diagnóstico, hemos considerado conveniente la realización de una Segunda Fase del Proyecto actual.

No omito manifestarle, la concordancia plena del proyecto en su Segunda Fase con los Planes de Desarrollo Económico-Social que el Gobierno de Costa Rica ha establecido como meta para la reactivación económica y desarrollo del país.

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Sr. Richard K. Archi

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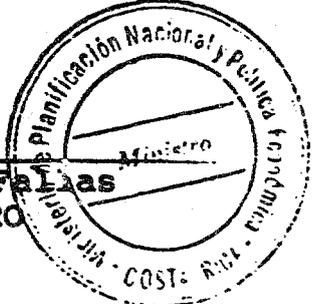
16 de julio de 1987

A efecto de que sea considerado por la Agencia Internacional para el Desarrollo (AID), me permito remitir adjunto un ejemplar del diagnóstico antes indicado, a su vez sugiero se lleve a cabo una reunión de trabajo, el día 23 de julio, en mi Despacho a las 14:00 horas, para la determinación de los pasos a seguir que conlleven a la ejecución de este Segundo Proyecto que procura el desarrollo integral de la Zona Norte.

Agradezco altamente el apoyo de la AID para el impulso, aprobación y ejecución de esta importante iniciativa del Gobierno.

De usted con toda consideración y estima,


Ottón Solís Fallas
MINISTRO


Ministerio de Planificación Nacional y Política Económica
COSTA RICA

RGG/WCH/sas

Adj.: Lo indicado

CC: Dr. Fernando Naranjo, Ministro de Hacienda
Proyecto AID-515-T-041

5C(2) - PROJECT CHECKLIST

Listed below are statutory criteria applicable to projects. This section is divided into two parts. Part A includes criteria applicable to all projects. Part B applies to projects funded from specific sources only: B(1) applies to all projects funded with Development Assistance; B(2) applies to projects funded from Development Assistance loans; and B(3) applies to projects funded from ESF.

CROSS REFERENCES: IS COUNTRY CHECKLIST UP TO DATE? HAS STANDARD ITEM CHECKLIST BEEN REVIEWED FOR THIS PROJECT?

A. GENERAL CRITERIA FOR PROJECT

1. FY 1987 Continuing Resolution Sec. 523; FAA Sec. 634 A.

A Congressional Notification has been issued.

Describe how authorization and appropriations committees of Senate and House have been or will be notified concerning the project.

2. FAA Sec. 611(a)(1). Prior to obligation in excess of \$500,000, will there be (a) engineering, financial or other plans necessary to carry out the assistance and (b) a reasonably firm estimate of the cost to the U.S. of the assistance?

Financial Plans are included in the Project Paper. A reasonably firm estimate of costs has been made.

3. FAA Sec. 611(a)(2). If legislative action is required within recipient country, what is basis for reasonable expectation that such action will be completed in time to permit orderly accomplishment of purpose of the assistance?

No legislative action required

4. FAA Sec. 611(b); FY 1987 Continuing Resolution Sec. 501. If project is for water or water-related land resource construction, have benefits and costs

N/A

been computed to the extent practicable in accordance with the principles, standards, and procedures established pursuant to the Water Resources Planning Act (42 U.S.C. 1962, et seq.)? (See A.I.D. Handbook 3 for guidelines.)

5. FAA Sec. 611(e). If project is capital assistance (e.g., construction), and total U.S. assistance for it will exceed \$1 million, has Mission Director certified and Regional Assistant Administrator taken into consideration the country's capability effectively to maintain and utilize the project? N/A
6. FAA Sec. 209. Is project susceptible to execution as part of regional or multilateral project? If so, why is project not so executed? Information and conclusion whether assistance will encourage regional development programs. No
7. FAA Sec. 601(a). Information and conclusions whether projects will encourage efforts of the country to: (a) increase the flow of international trade; (b) foster private initiative and competition; and (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 project will increase local production of non-traditional agricultural products primarily for export, thereby increasing international trade.
8. FAA Sec. 601(b). Information and conclusion on how project will encourage U.S. private trade and investment abroad and encourage private U.S. participation in foreign assistance programs (including use of private trade channels and the services of U.S. private enterprise). N/A

9. FAA Sec. 612(b), 636(h). Describe steps taken to assure that, to the maximum extent possible, the country is contributing local currencies to meet the cost of contractual and other services, and foreign currencies owned by the U.S. are utilized in lieu of dollars. Host country contributions to the project will total \$14.11 million in LC.
10. FAA Sec. 612(d). Does the U.S. own excess foreign currency of the country and, if so, what arrangements have been made for its release? No
11. FY 1987 Continuing Resolution Sec. 521. If assistance is for the production of any commodity for export, is the commodity likely to be in surplus on world markets at the time the resulting productive capacity becomes operative, and is such assistance likely to cause substantial injury to U.S. producers of the same, similar or competing commodity? No. See Technical Exhibit D.
12. FY 1987 Continuing Resolution Sec. 558 (as interpreted by conference report). If assistance is for agricultural development activities (specifically, any testing or breeding feasibility study, variety improvement or introduction, consultancy, publication, conference, or training), are such activities (a) specifically and principally designed to increase agricultural exports by the host country to a country other than the United States, where the export would lead to direct competition in that third country with exports of a similar commodity grown or produced in the United States, and can the activities reasonably be expected to cause substantial injury to U.S. exporters of a similar agricultural commodity; or (b) in support of research that is intended primarily to benefit U.S. producers? No. See Technical Exhibit D.

13. FY 1987 Continuing Resolution Sec. 559. Will the assistance (except for programs in Caribbean Basin Initiative countries under U.S. Tariff Schedule "Section 807", which allows reduced tariffs on articles assembled abroad from U.S.-made components) be used directly to procure feasibility studies, prefeasibility studies, or project profiles of potential investment in, or to assist the establishment of facilities specifically designed for, the manufacture for export to the United States or to third country markets in direct competition with U.S. exports, of textiles, apparel, footwear, handbags, flat goods (such as wallets or coin purses worn on the person), work gloves or leather wearing apparel?

No.

14. FAA Sec. 118 (c). Does the assistance comply with the environmental procedures set forth in A.I.D. Regulation 16? Does the assistance place a high priority on conservation and sustainable management of tropical forests? Specifically, does the assistance, to the fullest extent feasible: (a) stress the importance of conserving and sustainably managing forest resources; (b) support activities which offer employment and income alternatives to those who otherwise would cause destruction and loss of forests, and help countries identify and implement alternatives to colonizing forested areas; (c) support training programs, educational efforts, and the establishment or strengthening of institutions to improve forest management; (d) help end destructive slash-and-burn agriculture by supporting stable and productive farming practices; (e) help conserve forests which have not yet been degraded, by helping to increase production on lands already cleared or degraded; (f) conserve forested

Yes. A detailed Environmental Analysis of the impact of the project clearly shows that proje activities comply with environ- mental procedures set forth by A.I.D., with the implementation of mitigative activities.

watersheds and rehabilitate those which have been deforested; (g) support training, research, and other actions which lead to sustainable and more environmentally sound practices for timber harvesting, removal, and processing; (h) support research to expand knowledge of tropical forests and identify alternatives which will prevent forest destruction, loss, or degradation; (i) conserve biological diversity in forest areas by supporting efforts to identify, establish, and maintain a representative network of protected tropical forest ecosystems on a worldwide basis, by making the establishment of protected areas a condition of support for activities involving forest clearance or degradation, and by helping to identify tropical forest ecosystems and species in need of protection and establish and maintain appropriate protected areas; (j) seek to increase the awareness of U.S. government agencies and other donors of the immediate and long-term value of tropical forests; and (k) utilize the resources and abilities of all relevant U.S. government agencies?

15. FAA Sec. 119(q)(4)-(6). Will the assistance (a) support training and education efforts which improve the capacity of recipient countries to prevent loss of biological diversity; (b) be provided under a long-term agreement in which the recipient country agrees to protect ecosystems or other wildlife habitats; (c) support efforts to identify and survey ecosystems in recipient countries worthy of protection; or (d) by any direct or indirect means significantly degrade national parks or similar protected areas or introduce exotic plants or animals into such areas?
- (a) Yes
(b) N/A
(c) Yes
(d) No
16. FAA 121(d). If a Sahel project, has a determination been made that the host
- N/A

government has an adequate system for accounting for and controlling receipt and expenditure of project funds (dollars or local currency generated therefrom)?

17. FY 1987 Continuing Resolution Sec. 532. Is disbursement of the assistance conditioned solely on the basis of the policies of any multilateral institution? No

B. FUNDING CRITERIA FOR PROJECT

1. Development Assistance Project Criteria

a. FAA Secs. 102(b), 111, 113, 281(a). Describe extent to which activity will (a) effectively involve the poor in development by extending access to economy at local level, increasing laborintensive production and the use of appropriate technology, dispersing investment from cities to small towns and rural areas, and insuring wide participation of the poor in the benefits of development on a sustained basis, using appropriate U.S. institutions; (b) help develop cooperatives, especially by technical assistance, to assist rural and urban poor to help themselves toward better life, and otherwise encourage democratic private and local governmental institutions; (c) support the self-help efforts of developing countries; (d) promote the participation of women in the national economies of developing countries and the improvement of women's status, (e) utilize and encourage regional cooperation by developing countries.

The project seeks to increase agricultural production and thus income for small farmers in one of the poorest most isolated areas of the country and to improve and maintain the road network to get that production to market. Road repair and maintenance will be through locally run programs.

- b. FAA Sec. 103, 103A, 104, 105, 106, 120-121. Does the project fit the criteria for the type of funds (functional account) being used? Yes

c. FAA Sec. 107. Is emphasis placed on use of appropriate technology (relatively smaller, cost-saving, labor using technologies that are generally most appropriate for the small farms, small businesses, and small incomes of the poor)?

Yes

d. FAA Sec. 110, 124(d). Will the recipient country provide at least 25 percent of the costs of the program, project, or activity with respect to which the assistance is to be furnished (or is the latter cost-sharing requirement being waived for a "relatively least developed" country)?

Yes

e. FAA Sec. 128(b). If the activity attempts to increase the institutional capabilities of private organizations or the government of the country, or if it attempts to stimulate scientific and technological research, has it been designed and will it be monitored to ensure that the ultimate beneficiaries are the poor majority?

Yes

f. FAA Sec. 281(b). Describe extent to which program recognizes the particular needs, desires, and capacities of the people of the country; utilizes the country's intellectual resources to encourage institutional development; and supports civil education and training in skills required for effective participation in governmental processes essential to self-government.

The project components were selected and partially designed by the local residents of the area. Local community organizations will play the major role in the implementation of the project.

g. FY 1987 Continuing Resolution Sec. 540. Are any of the funds to be used for the performance of abortions as a method of family planning or to motivate or coerce any person to practice abortions?

No

Are any of the funds to be used to pay for the performance of involuntary sterilization as a method of family planning or to coerce or provide any

No

financial incentive to any person to undergo sterilizations?

Are any of the funds to be used to pay for any biomedical research which relates, in whole or in part, to methods of, or the performance of, abortions or involuntary sterilization as a means of family planning? No

h. FY 1987 Continuing Resolution. Is the assistance being made available to any organization or program which has been determined to support or participate in the management of a program of coercive abortion or involuntary sterilization? No

If assistance is from the population functional account, are any of the funds to be made available to voluntary family planning projects which do not offer, either directly or through referral to or information about access to, a broad range of family planning methods and services? N/A

i. FAA Sec. 601(e). Will the project utilize competitive selection procedures for the awarding of contracts, except where applicable procurement rules allow otherwise? Yes

j. FY 1987 Continuing Resolution. How much of the funds will be available only for activities of economically and socially disadvantaged enterprises, historically black colleges and universities, and private and voluntary organizations which are controlled by individuals who are black Americans, Hispanic Americans, or Native Americans, or who are economically or socially disadvantaged (including women)? All procurement will be through full and open competition. Most contracting will be carried out by the host country.

k. FAA Sec. 118(c)(13). If the assistance will support a program or project significantly affecting tropical forests (including projects involving Yes

the planting of exotic plant species), will the program or project (a) be based upon careful analysis of the alternatives available to achieve the best sustainable use of the land, and (b) take full account of the environmental impacts of the proposed activities on biological diversity?

l. FAA Sec. 118(c)(14). Will assistance be used for (a) the procurement or use of logging equipment, unless an environmental assessment indicates that all timber harvesting operations involved will be conducted in an environmentally sound manner and that the proposed activity will produce positive economic benefits and sustainable forest management systems; or (b) actions which significantly degrade national parks or similar protected areas which contain tropical forests, or introduce exotic plants or animals into such areas?

No

m. FAA Sec. 118(c)(15). Will assistance be used for (a) activities which would result in the conversion of forest lands to the rearing of livestock; (b) the construction, upgrading, or maintenance of roads (including temporary haul roads for logging or other extractive industries) which pass through relatively undegraded forest lands; (c) the colonization of forest lands; or (d) the construction of dams or other water control structures which flood relatively undegraded forest lands, unless with respect to each such activity an environmental assessment indicates that the activity will contribute significantly and directly to improving the livelihood of the rural poor and will be conducted in an environmentally sound manner which supports sustainable development?

The Environmental Analysis has identified certain mitigative activities, the implementation of which will prevent the Project from unduly threatening the environment. Those activities have been included in this Project.

2. Development Assistance Project Criteria N/A
(Loans Only)

- a. FAA Sec. 122(b). Information and conclusion on capacity of the country to repay the loan at a reasonable rate of interest.
- b. FAA Sec. 620(d). If assistance is for any productive enterprise which will compete with U.S. enterprises, is there an agreement by the recipient country to prevent export to the U.S. of more than 20% of the enterprise's annual production during the life of the loan, or has the requirement to enter into such an agreement been waived by the President because of a national security interest?
- c. FY 1987 Continuing Resolution. If for a loan to a private sector institution from funds made available to carry out the provisions of FAA Sections 103 through 106, will loan be provided, to the maximum extent practicable, at or near the prevailing interest rate paid on Treasury obligations of similar maturity at the time of obligating such funds?
- d. FAA Sec. 122(b). Does the activity give reasonable promise of assisting long-range plans and programs designed to develop economic resources and increase productive capacities?

ANNEX 1

Situation of the Agricultural and Credit Production in Project Area

The project area comprises approximately 260,000 hectares (2,600 km²), in the northern zone of Costa Rica. This is 5.08 percent of the national territory. Eighty percent of the project area is classified as suitable for agricultural production.

TABLE 1. Land Use Potential in Project Area

<u>Use</u>	<u>Hectares</u>	<u>Percent</u>
Agriculture	166,105	57.40
Pastures and Agroforestry	58,002	20.00
Protected Lands	65,411	22.60
Total	289,519	100.00

Table 2 presents, by canton and district, the estimated land use by hectares of the project area.

TABLE 2. Land Use in the Project Area according to Canton and District

<u>Land Use</u>	<u>Santa Cecilia</u> (HA)	<u>Caño Negro</u> (HA)	<u>Upala</u> (HA)	<u>Guatuso</u> (HA)	<u>Total</u> (HA)	<u>Costa Rica</u> (HA)
Pastures	5,097	3,574	47,682	25,977	82,330	1,651,561
Forest	2,656	1,588	20,279	9,054	31,989	492,065
Annual Crops	2,324	982	23,056	4,086	29,468	385,643
Brushland	1,507	1,360	11,801	2,700	16,008	235,602
Permanent Crops	87	203	2,991	249	3,327	235,536
Others	199	113	1,447	583	2,259	69,938
Total	11,870	7,820	107,286	42,651	161,807	3,070,346

Source: General Statistics and Censuses, 1984.

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Table 3 presents the data from the previous table according to a percentage relative to the rest of Costa Rica.

TABLE 3. Percentage of Land Use in the Project Area Relative to Costa Rica

Land Use	Project Area	Costa Rica	% of Project Area relative to Costa Rica
Pastures	48.53	53.79	4.98
Forest	19.80	16.02	6.82
Annual Crops	17.95	12.56	7.89
Brushland	10.25	7.67	7.37
Permanent Crops	2.08	7.67	1.49
Other	1.39	2.27	3.39

Proportionately the project area has more land dedicated to forests, brushland and annual crops and less to permanent crops and pastures than the rest of the country. It can also be observed that the land use in the project area is 48.53% (82,330 hectares) in pastures and 20.03% in either annual or permanent crops.

B. AGRICULTURAL PRODUCTION

Table 4 describes the agricultural production by area under cultivation for the project area. The total area under cultivation in 1987 was 19,331 hectares, of which 20% was planted to permanent crops, mainly cacao, and 80% was devoted to annual crops, principally basic grains. The following table shows a breakdown of these activities:

TABLE 4. Principal crops in the project area, by percentage of areas under cultivation

Crop	% Of Cultivated Area
Beans	46.64
Corn	27.05
Cacao	13.96
Other Crops	6.72
Rice	5.63
Total	100.00

Source: Agricultural Production in the Northern Zone, MIDEPLAN, 1987.

In general, the yields of basic grains are lower than the national averages. Cacao yields, though low, tend to be higher than the national averages, 0.3 T/ha versus 0.2 T/ha. Table 5 provides a more detailed listing of the crops now being produced and indicates production area at the cantonal or district level.

Table 6 shows that livestock production is the predominant activity in the project area. Production figures show that approximately 96,000 head of cattle are being grazed on 82,330 has., resulting in a stocking rate of 1.16 animals/hectare, which is lower than the national average (1.23).

The livestock production in the project area represents 4.67% of Costa Rica's total production. Yields are low due to low technology used in operation.

According to the agricultural census 4.92% of the Costa Rican swine production occurs in the project area. Production is concentrated in Upala. According to the 1984 Agricultural Census, there was a total of 13,905 hogs in the area.

TABLE 5. Livestock Production and Use by Canton and District in Head of Cattle

Crop	Guatuso	Upala	Santa Cecilia	Total Area
Sorghum	-	50	-	50
Corn	800	3,200	900	4,900
Beans	1,100	5,850	1,500	8,450
Rice	120	850	50	1,020
Cacao	430	2,100	-	2,530
Pineapple	24	15	-	39
Citrus	-	400	85	485
Cardamom	129	2	-	131
Passion Fruit	27	7	1	35
Macadamia	84	271	-	355
Plantain	20	-	-	20
Coconut	7	-	-	7
Black Pepper	-	2	-	2
Diffenbacia	32	25	-	57
Cassava	27	-	-	27
Ginger	-	5	-	5
Other Crops	400	600	218	1,218
Total	3,200	13,337	2,754	19,331

SOURCE: Ministry of Agriculture and the Association of Communal Development of Santa Cecilia, 1987.

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TABLE 6. Livestock Production and Use By Canton and District

Item	Caño Negro	Upala	Santa Guatuso	Total Project Cecilia	Area	Costa Rica
Meat	2,910	31,413	22,656	1,506	55,575	1,236,146
Milk	263	3,294	1,256	316	4,866	283,188
Double Purpose	1,243	16,475	9,390	1,364	27,229	359,861
Reproductive Bulls	115	1,692	692	97	2,481	148,765
Ox	20	683	259	63	1,005	18,416
TOTAL	4,551	53,557	34,253	3,346	91,156	2,046,376

SOURCE: Dirección General de Estadística y Censos, 1984.

C. AGRICULTURAL ACTIVITIES ON IDA SETTLEMENTS

With the establishment of new settlements by IDA and the arrival of new farmers under the Northern Zone Infrastructure project the area under cultivation has increased. Table 7 shows that the increase in cultivated area is mainly due to the planting of traditional crops such as rice, beans and corn, among others. According to Table 7, 47% of the settlement areas in Upala were dedicated to livestock, 42% to basic grains and only 8% to non-traditional crops. A similar situation exists in the canton of Guatuso.

TABLE 7. Agricultural Production Activity in IDA Settlements

Canton and District	Basic Grains (ha)	Roots & Tubers (ha)	Non-Traditional (ha)	Livestock (No. of animals)
Upala	1,645	48	339	2,971
Agua Claras	59	N.D.	30	107
Dos Ríos	420	40	50	69
Total Upala	2,134	98	419	3,147
Guatuso	2,053	205	378	1,704
Total Area in Settlements	4,187	303	807	4,851

SOURCE: Survey conducted by IDA (1987).

D. WORK UNDERTAKEN UNDER 041 PROJECT

In early 1987, farm level pilot projects for cacao, black pepper, vanilla and ginger were initiated.

The cacao pilot project, implemented in May 1987 through the collaboration of the Centro Agricola Cantonal of Upala (CACU), was distributed over five cacao producing districts in the canton of Upala using the participation of 47 producers. The project involved renovation of 27 hectares, one-half to one hectare per participating producer, and rehabilitation of 21 hectares of young cacao orchards. On the basis of experience with these pilot project and in response to the interest generated among producers, CACU is developing a practical manual for cacao production to be used in informing and assisting producers in renovating or rehabilitating their cacao plantation.

Cacao rehabilitation is the improvement of the production condition of an already established orchard, to permit the recuperation of the production potential. Rehabilitation occurs principally in young orchards and includes such activities as pruning, weed control and fertilization.

Cacao renovation usually occurs in old orchards where a rehabilitation program would not be effective due to the age of the trees. This includes the planting of new trees and the elimination of the old trees. In addition, CACU is designing a training program for cacao production, which will be broadcasted by the Upala radion station (Emisora Cultural de Upala).

The Upala Agricultural Center (CACU) also established cacao nurseries to produce hybrid cacao plants to producers in the area. There are currently 500 hectares of 20 varieties of hybrid cacao introduced in Upala, in addition to 1600 hectares of criollo. In Guatuso, plantings of 178 hectares of hybrid has taken place since early 1987. CATIE has been the main supplier of cacao seed for the Upala plantings through CACU and through COOPESANTOS for Guatuso.

The pilot project for black pepper, initiated in July 1987 in the districts of Katira, Llano Azul and El Valle (Guatuso) and Colonia Puntarenas (Upala) involved planting of one-tenth of a hectare of black pepper by each of 21 participating producers.

The vanilla pilot project was initiated in September 1987 and involves planting of one-fourth of a hectare each by 18 participating farmers (IDA beneficiaries and traditional farmers) for a total of 5 hectares. The vanilla pilot project parcels are located in the settlements La Javalina and El Gavilan in the Dos Rios district of Upala.

E. CREDIT FACTORS

In order to design the credit strategy component of the Northern Zone Consolidation Project (NZCP) it is necessary to analyze the credit system at the national and regional levels identifying what are the constraints and resources of funds and institutions, including the successful credit programs that are being implemented, which are operating in or have direct impact on the NZCP area.

Costa Rica's financial system is comprised of four public and thirteen private banks, but is dominated by the four public banks which account for about 80% of the total assets of the banking system. These public banks are the Banco Nacional de Costa Rica (BNCR), the Banco Anglo Costarricense (BAC), Banco de Costa Rica (BCR) and the Banco Credito Agricola de Cartago (BCAC).

These four banks, of which the BNCR is the largest, account for most of the institutional credit to the agricultural sector. Among the private banks is the Banco Cooperativo Costarricense R.L. (BANCOOP) that provides loans to agricultural cooperatives and other agricultural enterprises.

The banking institutions present in the project area are the:

- a. National Bank of Costa Rica (BNCR) with a branch in San Rafael de Guatuso and Los Chiles and two sub-branches in Upala and La Cruz and an auxiliary cashier's office in Aguas Claras de Upala.
- b. Costa Rican Anglo Bank (BAC), with branches in La Cruz and Upala.

According to the banks in the project area, credit to farmers during 1987 experienced a decrease when compared to 1986. Farmers that had access to this credit financed new plantings, land already under cultivation and/or improvements to pastures for the production of livestock. The area financed by the BNCR in 1987 in Upala was approximately 2203 hectares, which represented 1.38% of the total canton area. The crops financed were mainly basic grains (rice, beans and corn), some non-traditional crops such as macadamia, ginger, diffenbacia and cacao. Table 8 outlines the area financed by crop for the BNCR, in 1987.

TABLE 8. Crop Area financed by the BNCR in the Canton of Upala

Crop	Hectares	No. of Farmers
Corn	625	162
Beans	1,094	242
Rice	45	4
Cacao	357	87
Macadamia	21	1

Black Pepper	1	1
Ginger	17	12
Pineapple	1	1
Diffenbacia	14	6
TOTAL	<u>2,175</u>	<u>516</u>

SOURCE: Survey of the banks in the project area, 1987.

The area financed in Quatuso was 310 hectares which represented 0.42% of the total area of the canton. The crops financed were cacao, corn, passion fruit, plantain and pineapple. In Quatuso, cacao has been financed by COOPESANCARLOS and plantain, cassava, passion fruit and pineapple by COOPENARANJO as described in Table 10.

In the district of Santa Cecilia, in 1987, 1,148 hectares were financed by the BNCR. The products mainly financed were beans, corn and livestock according to Table 10:

TABLE 10. Area Financed by BNCR According to Product in the District of Santa Cecilia

Crop	Hectares	No. of Farmers
Corn	237	31
Rice	11	2
Beans	710	75
Pasture for Livestock	190	29
TOTAL	<u>1,148</u>	<u>137</u>

SOURCE: Survey of banks in project area, 1987.

F. AGRICULTURAL PRODUCTION ORGANIZATION

In the project area two types of organizations exist that contribute to the agricultural development of the region. These are: (1) cooperative and development associations and (2) private companies.

Cooperatives and agricultural associations are the major form of support in the development of agricultural production in the project area. They provide direct aid to the farmer through credit, technical assistance, and marketing sources. The major organizations providing these services are COOPESANCARLOS located in Ciudad Quesada, COOPENARANJO in Naranjo and the Centro Agrícola Cantonal de Upala (CACU).

COOPESANCARLOS is promoting the planting of cacao by directing credit to farmers located on IDA settlements in the canton of Guatuso. The 3-year plan of the cooperative is to finance 170 hectares of cacao benefiting 65 farmers at an interest rate of 15% per year with a grace period of three years. The cooperative also provides technical assistance and market channels.

COOPENARANJO is providing credit to 53 farmers that are planting the following: 8 hectares of plantain, 16 hectares of passion fruit, 5 hectares of cassava and 16 hectares of pineapple for export in three settlements located in Guatuso, Valle, Florida, and Maquencal. The cooperative set aside 7 million colones for the promotion of these crops under the agricultural project of Guatuso.

Since 1985 the Centro Agricola Cantonal de Upala (CACU) has been concerned with the promotion of crops such as cacao.

The Community Development Association of Santa Cecilia de La Cruz is presently developing a 10 farmer pilot project for the production of ginger. It has provided the farmers with an agriculturalist who will visit the project once per month to provide technical assistance.

During the past few years there has been an influx and growth of private sector initiatives in the project area. These companies have been trying to improve agricultural production through the incorporation of new technologies, establishment of non-traditional export type crops and the development of forests for timber. These activities have been concentrated in the canton of Upala and the district of Santa Cecilia. In the past years activities by the private sector in Guatuso have been limited due to the lack of adequate roads; however, with the execution of the 041 project communication via roads has improved between this canton and the surrounding areas. Future involvement is expected to continue to increase. Tables 11 and 12 describe private sector activities in the Northern Zone project area.

TABLE 11. Private Activities in the Project Area

Canton	Location	Company	Crop	Ha	Future Projections	Ha
Upala	Colonia Libertad Distrito Aguas Claras	Agropecuaria Pérez y Martínez	Macadamia Cardamom	81 6	Macadamia	19
Upala	San Isidro Distrito Aguas Claras	APSA S.A. Soc. Norteamericana	Macadamia Cardamom Vanilla	ND ND ND		
Upala and La Cruz	Distrito Santa Cecilia de La Cruz y Birmania y Brasilia de Upala	Mr. Irwing	Citrus	400	Citrus Processing Plant	3000
Upala and La Cruz	Distrito de Santa Cecilia de La Cruz y Brasilia	Mr. Bryan	Citrus Black Pepper	92 3	Macadamia Citrus and Black Pepper	44 800
La Cruz	Distrito Santa Cecilia	Las Brumas S.A.	Laurel	1000		
La Cruz	Distrito Santa Cecilia	Lachner y Sáenz Finca Santa Julia	Laurel Teak	310 2		
Upala	Distrito Dos Rjos	ALPRE S.A. Finca El Ensayo	Macadamia Ornamentals Citrus: Persian Lemon Grapefruit Uglyfruit Other Fruits Melina Eucalyptus	90 50 61 51 15 7 260 23	Melina and Pine	1000

SOURCE: Survey of private sector in project area, 1987.

TABLE 12. Food Processors in the Northern Zone and Surrounding Areas

Name	Location	Palm Heart	Black Pepper	Macadamia	Passion Fruit	Citrus	Others ^{1/}
San Gerardo	Distrito Río Cuarto del Cantón de Grecia				X		
Santa Rita Corpa	Distrito de Cutris del Cantón de San Carlos, Poblado El Muelle	X					
Microfrut S. A.	Distrito Florencia del Cantón de San Carlos. Poblado el Muelle						
Pedro El Alemán	Distrito La Tigra del Cantón de San Carlos		X				
Hacienda América	Distrito Arrenal del Cantón de Tilarán, Poblado Cerro Chato					X	
Indaco Conservas del Campo) NOTE: This is outside the region	Distrito Horquetas del Cantón de Sarapiquí		X				

^{1/} Ornamentals, chile pepper, roots and tubers and papaya.

SOURCE: Regional Offices of MIDEPLAN.

AGROECONOMIC CONDITIONS OF PROPOSED CROPS

1. CACAO (Theobroma cacao)

A. Background

The production of cacao in project area was estimated in 1987 to be approximately 2,500 hectares with a total production of 800 MT. The national production of cacao in 1987 was approximately 4000 MT with exports estimated at 2500 MT. The cacao production in the NZCP area therefore, represents around 20% of the national production.

The agro-climatic conditions in the region are generally suitable for cacao production except for areas where high humidity is prevalent. Cacao, during periods of high rainfall, is susceptible to fungus diseases. The ideal precipitation is around 3000 mm with an average temperature of about 21°C.

The project area has been a traditional cacao producer. Disease and lack of incentives have taken their toll, and average yields have decreased from approximately 700 kg/ha to 320 kg/ha. While statistics show a total of 2628 ha planted in cacao, a lot of the old cacao is not producing, and the newly planted cacao with hybrid varieties is not yet in production.

Hybrid seed has been involved in a controversy, i.e. being blamed for insufficient production. CATIE, which provided the hybrid seeds, has and "guarantees" yields of at least 800 kg/ha with normal management.

There is a technological package which if applied to cacao could increase yields up to at least 1000 kg/ha. The package consists of the following:

1. Utilization of any of the 44 CATIE cacao resistant hybrids
2. Reduction of the cacao undergrowth in the cacao orchards
3. Regulation of shade through the proper use of shade trees
4. Pruning for aeration and appropriate height for harvesting.

A successful application of the above technological package is being applied in the Guatuso sub-zone by the COOPESANCARLOS-IDB-BANCOOP project where also the fermentation and drying of cacao beans are integrated for quality control to obtain good prices and a secure market.

The COOPESANCARLOS-IDB-BANCOOP cacao program provides 70 members from Guatuso with loans for the production of cacao. The program through the cooperative has provided 370 loans related to cacao production, mostly in San Carlos canton. The program provides technical assistance to the borrowers through the "Unidad Ejecutora del Proyecto de Cacao" which is composed of 5 agronomists and 2 technicians. The team is chosen by COOPESANCARLOS and BANCOOP and funded from the IDB loan.

COOPESANCARLOS provides assistance to the farmers in: 1) preparing loan applications; 2) procuring the planting material and preparing the nurseries at the farm level, 3) transplanting, controlling infestation and applying fertilizers and 4) harvesting and post-harvest handling.

Fermentation and drying is conducted by COOPESANCARLOS, who picks up the beans at the farm by truck. The farmer is paid in 1987 ₡100/kg of dried cacao and the cooperative retains the loan payment and the difference is paid to the farmer. COOPESANCARLOS' fermentation and drying process is good and is able to obtain better prices for its members.

In CATIE's commercial germplasm there are a total of 44 hybrids and they usually include at least 34 different hybrids in each lot shipped to the grower. CATIE's hybrids are resistant to "pod rot" (Phytophthora palmivora) and "mal de machete" (Ceratocystis fimbriata). To date, none of the hybrids available from CATIE are resistant to "pod rot" caused by (Monilia roreri) organisms. They are working on it and may have some Monilia resistant hybrids in the future. "Monilia" can be controlled through proper management, i.e. pruning, maintenance of the right amount of shade and removal of any infected pods. Yields at CATIE's farm "La Lola" on experimental plots have shown 3 year averages from 1535 to 2795 kg/ha. Yields in commercial operations seldom approach experimental plot yields; however, 50% of these yields should be possible.

CATIE can provide 1 million hybrids per year, provided they receive their orders with 6 month advance notice. If requested they could probably increase their capacity. In the past, each hybrid sold for ₡4.50. Other authorized producers and sellers of hybrid cacao seed by the Oficina Nacional de Semillas are: Hda. Buffalo (IICC); Arnold Romero, Playa Blanca, Peninsula de Osa; and Granjas Tropicales, La Virgen in Sarapiquí.

Agronomists working with cacao as well as representatives of the processing industry agree that Costa Rican cacao could be improved by better treatment of the cacao beans after harvesting (fermentation and drying). Costa Rica Cocoa Products plans to adopt a policy to pay a premium for quality. This premium price could be based on their need to get more raw material for their processing plant since the plant has an 8000 MT/yr capacity, and present Costa Rica production is only about 3000

MT/yr. Some support of work in other fermentation facilities for small farmer use seems indicated.

In the project area, specifically in Upala, there is a certain number of cacao seed buyers. 75% of the cacao production in this canton is acquired by independent buyers, representatives of the companies Costa Rican Cocoa Company and Granex, processing and exporting firms. There are also some ten private buyers working in the area.

In Guatuso, COOPESANCARLOS is involved in the purchase of cacao; possibly absorbing all of the production of Guatuso, however some private buyers may occasionally operate in the area.

Costa Rica has an established market in Japan, Europe, United States and Latin America. However, in recent years, Costa Rica exports have declined to less than half from 9500 MT in the late 1970s to 4000 MT in 1987. Costa Rica is a price taking exporter representing 0.2% of the international trade. Costa Rican production could increase five to ten times and still not affect the world market. Costa Rican cacao is preferred in Japan and therefore receiving a premium price of US\$60 MT on top of the international price. The reason reported is due to a "nutty" flavor that is well liked in Japan.

3. Credit

For attaining the established target for cacao, the resources and the financing system under BID-759 Loan: COOPESANCARLOS-BID-BANCOOP Project are the most convenient.

The Central Bank lends to BANCOOP at 7% interest rate, and BANCOOP is lending at 15% to the COOPESANCARLOS small farmer members. The sub-borrowers do not pay for the technical assistance. The 8 points margin that BANCOOP receives, covers the cost of the technical assistance that is composed of a team leader and five cacao specialists and a 3% administration fee. To qualify for a loan under this project, the cooperative member must have clear title to his land, and have a yearly income of no more than ₡200,000. The loans are for a maximum of ten years with a three year grace period on principal. A farmer may obtain up to ₡848,000 loan under this program. Only mortgage collateral is accepted.

The cacao program allows a cooperative member to establish from three to seven hectares of cacao. Through 1987 there has been 1006 hectares of cacao planted by 275 farmers, 178 hectares of which is in the project area. The target is to reach 2750 hectares, with 850 farmers by the end of 1988. Most of 1750 hectares yet to be financed is expected to be outside of the project area, i.e. in the canton of San Carlos.

This cacao credit program is a low risk credit operation since BANCOOP is dealing with title holders who belong to an established cooperative, who are concentrating on a single crop, being advised and supervised in the appropriate cacao technology, and who have centralized fermentation and drying services to obtain good quality and prices. The present delinquency rate is .05%, but these loans in arrears will be easily recovered when the farmers start to deliver their cacao for post-harvest handling.

2. PALM HEART (Bactris Gasipaes)

A. Background

Costa Rica has already established palm heart plantations and has been successfully exporting this product to the United States. The greatest opportunities continue to be in the export of canned palm hearts since fresh heart of palm appears to have a limited market and is also subject to high duties.

Although palm hearts have been frequently harvested from coconut palm and wild palm in general such as Roystonea, Geonoma, Briastea and Euterpe, the heart from the Pejivalle palm compares favorably. It is not bitter and is palatable fresh, cooked or canned. Used mainly as a salad ingredient, pejivalle hearts maintain their flavor, appearance and texture very well.

Pejivalle had originally been grown in Costa Rica primarily for its fruit, and the hearts were extracted as by-products when old trunks were cut away during pruning. Now, however, because pejivalle produces basal shoots, it can be a sustained type of production grown chiefly for the palm hearts. In fact, because of its multiple stems, pejivalle is one of the most promising palms for the plantation production of hearts of palm.

In Costa Rica, pejivalle is found growing from sea level to 1,500 m, but yields are reduced at an altitude above 700 m. Although it is found naturally in areas that differ considerably in rainfall, the plant prefers regions where annual rainfall is 2,500 mm or less. Adequate soil moisture is especially important during the first three years. After that, the roots will be deep enough to utilize water not available to shallow-rooted plants. Although large trees can resist drought, they benefit from extra water applied during the dry season.

The soil requirements for the pejivalle palm are not very exacting. It does best on rich alluvial deposits, but there is experience in acid clays, on hillsides subject to drought, and in flat areas that drain poorly during heavy rains. Most Costa Rican pejivalle palms are produced on clay loams or pure clay soils. Currently,

production is centered in Guapiles, Siquirres, San Carlos and Sarapiquí. For the rest of the project area, in Aguas Claras de Upala, the planting of 200 hectares of palm heart has been started. This will go into production in 1988 and belongs to the Compañía Palmitos de Costa Rica. At the national level, the area under production is close to 1,000 ha.

B. Marketing

While world exports of heart of palm from Brazil have decreased since 1983, exports to the United States of prepared or preserved heart of palm have increased steadily. In 1982, Brazil exported 1,938,000 pounds. In 1986, Brazilian exports totalled 3,977,000 pounds with a value of about US\$3.2 million.

Costa Rica is the second major exporter of canned palm hearts (or palm hearts in jars to the United States, shipping approximately 500,000 pounds annually). Other major exporters include Venezuela, Argentina, Ecuador and Belize. A decrease in unit values in 1983 was recuperated in 1984, but 1985 and 1986 unit values were again lower. This may have been a reflection of the poor quality of the Brazilian product which caused international prices to drop. However, it is expected that prices for the coming years will be better, due mainly to an increase in demand for the product from countries like Australia, Denmark and also the European and United States markets.

The largest exporter of palm hearts from Costa Rica is Conservas del Campo. They pack under a private brand for the markets of Canada, Germany and the United States. In the United States they sell to H&J Trading, of Oakland; Yollings Market, of Los Angeles; Swiss Chalet Fine Foods, of Miami; Intersales, of Old Greenwich. In Canada they sell to Graff Lee, of Montreal; Morris National, of Montreal.

TABLE 13. US Imports of Palm Hearts

Country of Origin	1982	1983	1984	1985	1986
		Quantity (thousand pounds)			
Brazil	1938	2195	3307	3594	3977
Costa Rica	131	125	601	622	467
Other	100	80	337	157	152
All Countries	<u>2170</u>	<u>2401</u>	<u>4235</u>	<u>4373</u>	<u>4596</u>
		Total Value (US\$000)			
Brazil	1764	1877	3004	2343	3241
Costa Rica	101	88	454	375	311
Other	107	85	261	113	66
All Countries	<u>1977</u>	<u>2051</u>	<u>3718</u>	<u>2832</u>	<u>3618</u>
		Value per pound processed			
Brazil	\$.91	.86	.91	.65	.81
Costa Rica	\$.77	.70	.75	.60	.66

Source: US Department of Commerce Statistics (IRI Report)

The production and industrial exploitation of pejivalle for palm heart (palmito) is at an earlier stage of development than cacao and tropical fruits/citrus in Costa Rica; however, it is recommended for immediate development due to: (a) the excellent market potential for palm heart as a salad ingredient; (b) the shrinking production/export base in Brazil, the dominant world producer of palm heart; (c) the positive experience, so far, in Costa Rica; (d) the suitable agro-ecological conditions for the development of the crop in the project area; and (e) the fact that the main packing plants will be in a position to absorb the heart of palm produced within the project area. The company Palmitos de Costa Rica is particularly interested. This company will even give technical assistance to the farmers joining the program.

3. PASSION FRUIT (Passiflora edulis)

A. Background

Costa Rica has demonstrated the potential to produce high quality passion fruit. However, due to fruit fly problems, it will be necessary to process the product in Costa Rica before exporting it to the United States. Both the United States and European markets are increasingly interested in exotic tropical fruits such as passion fruit and the prospects for a profitable operation are good. Statistics show 50 ha of passion fruit in the project area. The 50 hectares are planted in Guatuso, Upala and Aguas Claras. Fifteen hectares are planted in Guatuso and financed by COOPENARANJO at loan terms of 21% for 18 months. The amount financed is determined by the needs of each particular farmer. The cooperative provides technical assistance to the growers.

Twenty hectares are planted in Aguas Claras (Upala) located in Colonia Blanco and financed by BNCR. They are planning to expand to 40 hectares. The production from these plantings are sold to Encoopen, San José Central Market, as fresh fruit. They also manually extract the juice and are selling it in the project area. However, the production area is increasing and plantings of various sizes can be observed throughout the project area. Presently the fruit produced in the project area is sold fresh to processors.

The average age of the plantings are about 2-4 years. Therefore, the agricultural experience in the cultivation of passion fruit in the area is extremely limited. There is a large potential area and need for improvement.

There are two major types of passion fruit, yellow and purple. The yellow is preferred in Costa Rica as it tends to be sweeter and production is usually higher.

The passion fruit produces vigorous vines which come into bearing about 1 1/2-2 years after planting with a cycle of four to five years for optimum commercial production which varies according to the cultural practices, soils, varieties, and other factors. The plants are woody, perennial climbers and for this reason are grown on trellises at a minimum of three meters apart to permit cultivation. Trellises require good bracing to support the heavy growth and crop. Wooden stakes such as manu are recommended over "living posts" as they make for superior plantings and will last the lifetime of the project.

Pollination of the flowers can be difficult. The plant depends largely on insects for pollination, mostly carpenter bees, bumble bees, honeybees or wasps. In some instances, the pollen ripens before the stigmas of the same flower are ready to receive it, and fruit set depends on cross-pollination. Hand pollination is then necessary to obtain a satisfactory fruit set. This is an expensive procedure with high labor costs. The number of pollen grains placed on the stigma influences percentage of fruit set, size of fruit, number of mature seeds and juice yield. An operator conducting hand pollination normally puts seven times more pollen on the stigma than insects do.

Passion fruit generally requires a tropical or subtropical climate with a moderately high rainfall. The yellow type is best adapted to elevations from sea level to 500 mts whereas the purple type favors higher elevations. Therefore, the yellow type is recommended for the project area. A strictly tropical species, it requires high temperatures and humidities. Under dry atmosphere conditions, the flowers produce little or no pollen and the fruit set is poor. Good soil moisture combined with adequate sub-surface drainage is required as the vines rapidly succumb to water logging. Although passion fruit is not very exacting in its soil requirements, the soil should have sufficient quantities of moisture, organic matter and adequate P.H.

Both sexual and asexual or vegetative methods of propagation are employed for producing plants of this fruit. The plant may be propagated from newly matured wood which roots in one month. By far the most common method of raising the plants, however, is from seed.

Propagation by seed is very easy. Seedlings become fit for transplanting in 2 to 3 months during which period, they attain a height of 45 cm to 60 cm. However, the seedlings show great variation with regard to fruit color, aroma, flavor and yield of juice even if they are raised from the seed of the same fruit. The most desirable characteristics to look for in a variety are the oval shape of fruit, biggest size, more juice and marked flavor and aroma. These are obtained by using improved varieties from New Zealand and Brazil. The variety "Waimanalo" is a widely grown yellow hybrid in Hawaii.

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B. Marketing

Definite market opportunities for processed passion fruit and its products seem to exist. During 1979-1982 (the latest period for which data are available), US consumption of miscellaneous fruit juices (of which about 5 percent is estimated to be passion fruit juice) averaged 54 million gallons in the tinned form, fluctuating between 49 million and 60 million gallons annually. Imports accounted for 8 percent of domestic consumption during the four-year period, rising from 3 million gallons valued at US\$8 million to 9 million gallons valued at US\$16 million. From 1983 to 1987, trade statistics confirm a steady increase in the consumption of passion fruit in its various forms to the point where many brokers state they cannot obtain a large enough supply of high quality products to meet the demand. Certainly, the volume of passion fruit juice exported to the US from Brazil from 1971 to 1982 increased from 1,000 to 16,000 tons, indicating a growing market. Brokers also state that quantities of poor quality, bulk fruit in pulp is available, but the poor flavor and the poor quality standards make it unacceptable for the US market. It is possible for Costa Rica to ship fresh passion fruit to Canada and Europe. Consumption of exotic fruits and juices is substantially higher in Europe where acceptance has been growing steadily for the last fifteen years.

The principal exporters of passion fruit to the United States are Brazil, Ecuador, Peru, Colombia, Australia and New Zealand. Exports from Brazil are of high quality and have increased from less than 1 ton in 1971 to about 8 tons in 1982.

The US market prefers passion fruit frozen concentrate of a high quality at Brix 45 to 50. This concentrate is currently selling for US\$4,300 to US\$6,500 per metric ton and in 1986 ranged as high as US\$8,000 per metric ton, according to trade sources.

Single strength juice, frozen at Brix 14 to 17, is currently selling at about US\$2,000 per MT and in 1986 sold for from US\$1,568 to US\$1,770 per MT.

Some of the passion fruit products which should be considered by Costa Rica for export include concentrate puree (popular in gourmet cooking), juice and pulp in the frozen form. Since a large measure of the appeal of passion fruit is in its distinctively pleasant aroma, any processing requiring cooking or heating is not recommended since heating destroys the aroma. A wine cooler with a passion fruit base is currently very popular in the United States.

It is anticipated that the production from new plantings of passion fruit will initially be sold locally for the fresh market or to existing, small processing plants. Eventually as the major processing companies (Borden, Dos Pinos, Salinas and Wilhite farm) begin to come on line the growers will be selling to them also.

4. MACADAMIA NUTS (Macadamia integrifolia)

A. Background

Costa Rica has done considerable work on the development of macadamia nut production and has increased its market share substantially. The market prospects continue to look promising. Macadamia nut is a new crop in the Northern Zone. The commercial plantations were started about three to four years ago. Presently there are 356 hectares planted with macadamia in the project area. Among the most important plantations are El Ensayo farm with 100 hectares and Agropecuaria Pérez y Martínez S. A. with 84 hectares. The plantations are not yet producing; however, the trees look healthy and based on the experience in the rest of the country, these plantations are expected to produce good yields.

Before any large expansion of the macadamia nut production area occurs in the project area initial yield results should be observed from the present plantations. It is expected that results from the first yields should be available at the end of this year.

Macadamia possesses a relatively shallow and weak root system, that requires a well drained, friable and fertile soil of at least 80 cms in depth.

B. Production

The macadamia tree, indigenous to Australia, was first developed commercially in that country. Hawaiian production began in the early 1900's. The tree produces a nut which is either roasted, consumed whole or used as an ingredient in the confectionery industry.

Recent research by the College of Tropical Agriculture and Human Resources at the University of Hawaii shows that macadamia nut yield can vary tremendously by area due to climate, water, soil conditions, elevation and the cultural techniques and field practices employed.

Since the crop is a broad-leaved evergreen plant that can stand only a few degrees of frost, it should be planted only in frost-free areas, under somewhat the same temperature conditions required for orange and lemon trees. Minimum temperature clearly affects yields, lowering them somewhat. It appears that a temperature range between 16 degrees and 25 degrees is best. A dry or cool season induces flowering and fruiting.

The water requirement for macadamia nut trees depends on land type, land slope, cloud cover, wind, exposure and temperature. Therefore specific and qualified irrigation recommendations should be made,

depending on the conditions in each orchard. However, once trees are established they can survive periods of drought. Macadamia trees can be grown on marginal soils not generally suited to other crops, i.e. on land that is too hilly or rocky for other crops.

Because of inherently poor root structure, macadamia nut trees are susceptible to damage from strong winds. Where wind may be a problem, one to three rows of tall windbreak trees need to be planted along the perimeter of the field.

An important consideration in planning a new orchard is accessibility for harvesting and other cultural operations such as weeding and fertilizing. Weed control is one of the more important, as weeds compete with the shallow root system of the macadamia tree for moisture and nutrients vital to the tree growth and production. Intercropping, if properly done, can provide satisfactory weed control. Since macadamia nuts are picked up from the ground by hand, the space under the branches must be leveled and cleared of weed growth to facilitate gathering the nuts, minimizing any crop loss among the weeds which can be substantial.

Harvesting can be the single most expensive operation. Large losses in nut quality reduction can result from improper harvesting methods or scheduling. Unless mechanically harvested, losses of nuts in weeds, from rats eating the nuts or from nuts getting moldy can be substantial.

C. Marketing

Per capita consumption of all tree nuts has steadily increased since 1964 and consumption of macadamia nuts is no exception. Currently, macadamia nuts are outselling the popular cashew nut in the New York market. Although per capita consumption of macadamia nuts is the lowest of all the tree nuts, this is due in large part to the cost of shelling the product (which is reflected in the high retail price) and the need for additional consumer education. Power machinery is needed to break the hard outer shell, thus increasing the product cost. Low per capita consumption is also due to the fact that, according to a recent survey made by the hawaiian Macadamia Nut Producers' Association, only one of four American has heard of the macadamia nut and only one in eight has ever tasted it.

The macadamia is virtually unknown in the European markets and in many parts of the Far East, Latin America and Africa. Thus, there is a large untapped market for macadamia nuts in the United States and in the world generally. Despite these factors, US imports of shelled or blanched macadamia increased over 60% between 1982 and 1986, and imports of unshelled macadamia by over 80% during this same time period.

Currently, the nuts are marketed most easily in the roasted, salted form and premium grade roasted kernels are usually vacuum packed in cans or glass jars or in foil pouches. However, the major complaint from consumers regarding macadamia nuts is that they are too fattening. If the product development of unroasted kernels is successful, the use of oil in roasting may be eliminated, thus reducing the richness of the nut somewhat.

The major foreign suppliers to the US for the last several years have been the Republic of South Africa, Australia and Guatemala. However, Costa Rica increased exports of macadamia nuts to the US by 95% for the period October to February 1984/85-1985/86. This increased market share indicates a good acceptance of the Costa Rican product as well as the market's ability to absorb increasing volumes.

According to the BNCR there exists a macadamia processing plant that has the capacity to process the production from 1000-1500 hectares. The study further says there need to be another processing plant established by 1989. A US company from California is interested in establishing a processing plant in the Atlantic Zone between Siquirres and Guápiles.

Based on increased consumption of macadamia nuts over more than a twenty year period and Costa Rica's ability to produce a good quality product, it is reasonable to expect an increased share of the US and European markets.

Development of new uses will be a factor in increasing the size of the market.

5. BLACK PEPPER (Piper nigrum)

A. Background

The worldwide demand for black pepper appears strong for the foreseeable future. Costa Rica has the technology for production of this crop and has land areas suitable for its production. It is now an exporter of this commodity. The steady demand for black pepper in traditional consumer countries as well as in many Soviet-bloc countries combined with production problems in a number of the producing areas has caused the price of this commodity to soar.

High pepper prices can be expected to continue due to a world shortage of this commodity. It is important, however, to continue to monitor factors relating to pepper production and the liquidation of stocks in the major producing countries as these will effect prices. In addition, production management and technology are important factors. A number of attempts to grow pepper in Costa Rica have failed because of inadequate technology and poor management. If management techniques are

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up-graded to insure a better yield and a good quality crop, the possibility of expanding black pepper exports shows great promise.

B. Production.

Black pepper can be grown by small, medium and large scale farmers. Currently there exists a pilot project of black pepper implemented under the 041 Project. Twenty farmers have each planted one-tenth of a hectare for a total of 2 hectares. The project has been under way for over one year and has been showing promise. It seems to be well adapted to the ecological zone of the project area and requires simple technology for cultivation and production, post-harvest and processing. Before promoting black pepper extensively in the area more results from the existing pilot projects are required. It is expected that by the second year of this project there will be sufficient results regarding yield and adaptation to consider a promotional campaign for commercial level production of black pepper in the project area.

Black pepper is a perennial climbing vine which requires full sun and staked support. These supports may be either a living leguminous tree or a fencepost made of wood that is resistant to rot. The living fencepost must be constantly pruned to afford the pepper vine maximum sunlight. Since approximately 1,600 posts per hectare must be installed, the pruning of the living fenceposts tend to be labor intensive. Alternatively, the posts can be manufactured of a wood called Manu, but these are very expensive, costing between \$2 and \$3 each. (Farmers, however, might find sufficient quantity in their wood lots.)

The pepper plant prefers good, well-drained soil and high rainfall, well-distributed throughout the year and with no excessively dry season. Seed is very important and must be taken from cross-fertilized seed bushes which have been selected for yield and quality. Under normal conditions the seed remains viable for only seven days after harvesting.

Control of pests and diseases is also essential. Pepper foot rot, caused by the soil-borne fungus Phytophthora palmivora, has been the cause of serious production problems worldwide. The pathogen spreads mainly through the soil and ground water and disseminates very rapidly during wet conditions. Characteristic symptoms of the disease are wilting followed by defoliation and death of the mature vine.

The vines come into mature production when they are 4 or 5 years old and continue to produce for 8 to 12 years. A good annual production of dry processed peppercones is about 2 to 3 pounds per plant. Only ripe fruits are harvested and are piled in heaps for fermentation. When the berries turn black, they are dried on mats in the sun. An alternative process is to immerse the ripe berries in boiling water immediately after picking, and then dry. Mechanical drying can be used when the quantity

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justifies the investment. One hundred pounds of berries produce about 35 pounds of black pepper.

C. Marketing

Since spices are not grown in any significant quantity in the United States, imports account for most of the domestic consumption. Pepper, black or white, is by far the leading spice imported by the United States. It accounted for over one-quarter of the US\$131,000,000 worth of spices imported by the US in 1983. From 1979 to 1983, US imports of black pepper increased irregularly from 54 million pounds to 62.5 million pounds. US imports of unground black pepper increased to 76 million pounds (34,505 metric tons) in 1984 and reached 83 million pounds (37,844 metric tons) in 1986. India was the principal US supplier in 1986 because of the short supply from Brazil and Indonesia. Imports into the US of ground pepper, black or white, reached very high levels in 1986 at 86 million pounds (393 MT), compared with 147 thousand pounds (67 MT) in 1985.

In Costa Rica, the consumption of black pepper has increased over the past twenty years as the country continues to consume more meat. Black pepper is also one of the chief ingredients used in processing non-exported meat, i.e. sausages and other "embutidos".

For local consumption there are many spice distribution companies who will buy black pepper, grind it and distribute it locally. Some of these are Escazu Spice, Los Patitos and Factory of Pimiento. There are also local branches of US companies like Baltimore Spice and Griffith Laboratories.

Initially it is anticipated, provided the quantity is acceptable, that the project area production will be sold to Granjas Tropicales S.A. They are close to the project area, have their own drying and storage facilities and ship in containers (10-15 tons per container) to New York. They already are buying from small producers. In the future arrangements can be made with other processors for export.

D. Processing

The term black pepper to designate plantings is actually a misnomer as piper nigrum will produce either black or white pepper depending on harvesting and processing procedures. The difference is that for black pepper the peppercorns are harvested slightly before maturity, i.e. when most are still green (40% or more), then they are passed through hot water, separated over a sieve from their stems and dried. For white pepper the peppercorns are harvested when 50-90% are ripe, i.e. red in color. These ripe peppercorns are placed in a water bath, which desintegrates the outer skin, which is then rubbed off, thus producing white pepper. Black pepper contains all the aromatic

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chemicals, while white pepper tends to have a stronger taste, i.e. a higher percentage of piperim, but less of the aromatic chemicals.

Processing at the small farm level requires mostly hand labor. Equipment needed is one half of a 55 gallon drum to be used as a hot water bath, a sieve and trays to dry the pepper in the sun. For large operations, a mechanical dryer can be employed, or a hot air can be forced under the trays, which have sieve like bottoms for air passages.

Once the pepper is dried, it should be clearly bagged and protected from moisture to avoid fungal contamination. Costa Rican pepper exported until now has a very high reputation for cleanliness, i.e. no fungus, no rodent traces, no insects, no extraneous matter. For top prices this is most important and an inferior product could be rejected at the port of entry into the USA.

If the quantity to be protected is sufficient, storage facilities will have to be built, which can maintain a low relative humidity to prevent molds and assure the quality and shelflife of the pepper.

E. Inputs

There are no special varieties of black pepper in Costa Rica. CATIE claims that there are plants with broader leaves than others, however, no production differences or other characteristics have been recorded. Due to a conflict in the past regarding the quality of CATIE's black pepper seedling the farmers probably will not use CATIE's seedlings in the future. Initial seedlings could be supplied by Granjas Tropicales S.A. Currently their capacity is about 60,000 seedlings per year which at a planting rate of 1,600 plants per hectare and a 10% loss factor is enough to plant approximately 34 hectares. Their production could be increased if deemed necessary.

PROPOSED CREDIT AND TECHNICAL ASSISTANCE BREAKDOWN

A. Credit Factors

In order to design the credit strategy component of the Northern Zone Consolidation Project (NZCP) it is necessary to analyze the credit system at the national and regional levels identifying what are the constraints and resources of funds and institutions, including the successful credit programs that are being implemented, which are operating in or have direct impact on the NZCP area.

Costa Rica's financial system is comprised of four public and thirteen private banks, but is dominated by the four public banks which account for about 80% of the total assets of the banking system. These public banks are the Banco Nacional de Costa Rica (BNCR), the Banco Anglo Costarricense (BAC), Banco de Costa Rica (BCR) and the Banco Crédito Agrícola de Cartago (BCAC). These four banks, of which the BNCR is the largest, account for most of the institutional credit to the agricultural sector. Among the private banks is the Banco Cooperativo Costarricense R.L. (BANCOOP) that provides loans to agricultural cooperatives and other agricultural enterprises.

The banking institutions present in the project area are the:

- a) National Bank of Costa Rica (BNCR) with a branch in San Rafael de Guatuso and Los Chiles and two sub-branches in Upala and La Cruz.
- b) Anglo Costa Rican Bank (BAC), with branches in La Cruz and Upala.

According to the banks in the project area, credit to farmers during 1987 experienced a decrease when compared to 1986. Farmers that had access to this credit financed new plantings, land already under cultivation and/or improvements to pastures for the production of livestock. The area financed by the BNCR in 1987 in Upala was approximately 2203 hectares, which represented 1.38% of the total canton area. The crops financed were mainly basic grains (rice, beans and corn), some non-traditional crops such as macadamia, ginger, diffenbacia and cacao. Table 8 outlines the area financed by crop for the BNCR, in 1987.

TABLE 8. Crop Area financed by the BNCR in the Canton of Upala

Crop	Hectares	No. of Farmers
Crop	625	162
Beans	1,094	242
Rice	45	4
Cacao	357	87
Macadamia	21	1
Black Pepper	1	1
Ginger	17	12
Pineapple	1	1
Diffenbacia	14	6
TOTAL	2,175	516

SOURCE: Survey of the banks in the project area, 1987.

The area financed in Guatuso was 310 hectares which represented 0.42% of the total area of the canton. The crops financed were cacao, corn, passion fruit, plantain and pineapple. In Guatuso, cacao has been financed by COOPESANCARLOS and plantain, cassava, passion fruit and pineapple by COOPENARANJO as described in Table 9.

TABLE 9. Crop Area Financed by Institution in the Canton of Guatuso

Crop	BNCR		COOPESANCARLOS		COOPENARANJO	
	Hectares	No. of Farmers	Hectares	No. of Farmers	Hectares	No. of Farmers
Corn	18	7				
Beans	37	12				
Macadamia	5	1				
Tubers	1	1				
Passion Fruit					31	17
Pineapple					17	18
Cacao			177	66		
Plantain					18	13
Cassava					5	5
TOTAL	61	21	177	66	71	53

SOURCE: Survey of the banks in the project area, 1987.

In the district of Santa Cecilia, in 1987, 1,148 hectares were financed by the BNCR. The products mainly financed were beans, corn and livestock according to the following table:

TABLE 10: Area Financed by BNCR According to Product in the District of Santa Cecilia

Crop	Hectares	No. of Farmers
Corn	237	31
Rice	11	2
Beans	710	75
Pasture for Livestock	190	29
TOTAL	1,148	137

SOURCE: Survey of banks in project area, 1987.

B. Proposed Credit Breakdown

The following action shows the breakdown of credit needs for the proposed level of agricultural production promoted under the Agricultural Production Support component of this project.

1. Cacao

There are three IDB loans that finance cacao in whole or in part and where the resources are, in principle, available to farmers in the project area:

1. Loan IDB-497: Agricultural Credit is being administered through the Banco Nacional de Costa Rica. The disbursements of this loan began in June 1985 and is for a credit program at the national level. This program is to provide credit to medium and large farmers. One of the main activities is cacao production. This program has a total loan fund of US\$54 million (US\$35 million from IDB and US\$19 million in local currency equivalent from the GOCR). The Banco Nacional de Costa Rica has assigned 46 professionals of which 20 are pathologists to provide technical assistance to farmers. This program is behind schedule in implementation and the Government of Costa Rica has asked for an extension.

2. Loan IDB-711: The PIPA (Programa de Identificación de la Producción Agrícola) has research, extension and credit components. The

total project is for US\$36 million of which US\$26 million is provided by IDB and US\$10 million in local currency equivalent from the GOCR. The executive agency is the Ministry of Agriculture (MAG) and the fiduciary agency is BANCOOP. PIPA has the following sub-programs:

- a) Research that includes expenses for laboratories, vehicles, experimental fields, experimental inputs, etc. CATIE provides technical assistance to this component.
- b) Extension Service carried basically out by MAG.
- c) Credit for inputs with the participation of FERTICA and FEDECOOP and the Oficina Nacional de Semillas.

3. Loan ICB-759: COOPESANCARLOS-IDB-BANCOOP project. The IDB has lent \$5.9 million to the GOCR Central Bank at 2% interest. The Central Bank lends to BANCOOP at 7% interest rate, and BANCOOP is lending at 15% to the COOPESANCARLOS small farmer members. The sub-borrowers do not pay for the technical assistance. The 8 points margin that BANCOOP receives, covers the cost of the technical assistance that is composed of a team leader and five cacao specialists and a 3% administration fee. To qualify for a loan under this project, the cooperative member must have clear title to his land, and have a yearly income of no more than 200,000. The loans are for a maximum of ten years with a three year grace period on principal. A farmer may obtain up to 848,000 loan under this program. Only mortgage collateral is accepted.

The cacao program allows a cooperative member to establish from three to seven hectares of cacao. Through 1987 there has been 1006 hectares of cacao planted by 275 farmers, 178 hectares of which is in the project area. The target is to reach 2750 hectares, with 850 farmers by the end of 1988. Most of 1750 hectares yet to be financed are expected to be outside of the project area, i.e. in the Canton of San Carlos.

This cacao credit program is a low risk credit operation since BANCOOP is dealing with title holders who belong to an established cooperative, who are concentrating on a single crop, being advised and supervised in the appropriate cacao technology, and who have centralized fermentation and drying services to obtain good quality and prices. The present delinquency rate is .05%, but these loans in arrears will be easily recovered when the farmers start to deliver their cacao for post-harvest handling.

Table 1 shows the estimated production costs and returns for one hectare of planting of cacao using family labor. It was assumed that the selling price would be about 100 colones per kilogram and that production would begin in the third year and increase to 900 kg in year 7. On this basis the initial capital investment would be paid off in the tenth year; however the farmer would have a positive cash flow in the third year.

TABLE 1. Cash Flow (colones) for One Hectare of Cacao without outside Labor Costs

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11
<u>COSTS</u>											
Production Costs ^{1/}											
NURSERIES	12,722										
a. Materials	33,067	25,812	13,838	17,821	17,821	17,821	17,821	17,821	17,821	17,821	17,821
PLANTATION											
a. Materials	45,789	25,812	13,838	17,821	17,821	17,821	17,821	17,821	17,821	17,821	17,821
TOTAL	6,868	10,740	12,815	12,815	11,658	10,326	8,794	7,033	5,008	2,678	
b. Interest 15% ^{2/}											
i. Principal Payment				7,721	8,878	10,210	11,742	13,503	15,528	17,858	
TOTAL COSTS	52,657	36,552	26,653	38,357	39,357	38,357	38,357	38,357	38,357	38,357	17,821
<u>INCOME</u>											
Loan 100% ^{3/}	45,789	25,812	13,838								
Sale of Cacao (kg/ha) ^{4/}			250	400	600	800	900	900	900	900	900
Price per kg @100 ^{5/}			25,000	40,000	60,000	80,000	90,000	90,000	90,000	90,000	90,000
TOTAL INCOME	45,789	25,812	38,838	40,000	60,000	80,000	90,000	90,000	90,000	90,000	90,000
NET	(6,868)	(10,740)	12,185	1,643	21,643	41,643	51,643	51,643	51,643	51,643	72,179

^{1/} Implementing Unit, IOB - BANCOOP R.L. - COOPESANCARLOS R.L., 1988

^{2/} Interest rate.

^{3/} Financed percentage 100%, the farmer provides the labor, this amount corresponds to the first 3 years with a term of 10 years and a grace period of 3 years.

^{4/} Yield per hectare of dried cacao, information provided by the Oficina Nacional de Semillas and SEPSA, 1988.

^{5/} Mean price paid per kg of cacao at national market, 1988.

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Table 2 describes the amortization schedule for the production loan of one hectare of cacao without outside labor. According to the schedule, based on BANCOOP loans, loans have a ten year term at 15% interest with a 3 year grace period.

TABLE 2. Amortization Schedule for a Loan for One Hectare of Cacao without outside Labor Costs *

Year	Payment	Interest (22%)	Amortization	Balance
1	-	6,868	-	45,789
2	-	10,740	-	71,601
3	-	12,815	-	85,439
4	20,536	12,815	7,721	77,718
5	20,536	11,657	8,878	68,839
6	20,536	10,325	10,210	58,628
7	20,536	8,794	11,741	46,886
8	20,536	7,032	13,503	33,382
9	20,536	5,007	15,528	17,853
10	20,536	2,678	17,853	-

* Interest 15%, with a 10 year term and 3 years grace period
 Total owed: 085,439 (100%)

Based on the estimated target of 2,500 hectares it is assumed that the credit amount needed for a cacao rehabilitation and new planting promotional effort would be 0286,875,000.

2. Palm Heart

Table 3 shows the estimated production costs and returns for one hectare planting of pejivalle palm for palm heart using outside labor. It was assumed that the selling price would be about 025 per unit stem and that production would begin in the second year and increase in the third and fourth years. On this basis, the initial capital investment would be paid off in the second year and the farmer would have a positive cash flow in the second year.

TABLE 3. Cash Flow (colones) of One Hectare of Palm Heart without Labor

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
<u>COSTS</u>							
1. Production Costs ^{1/}							
a. Materials	614,730	17,248	18,625	20,661	20,661	20,661	20,661
b. Others	<u>6,031</u>	<u>850</u>	<u>1,012</u>	<u>1,336</u>	<u>336</u>	<u>1,336</u>	<u>1,336</u>
Total	67,054	18,098	19,637	21,997	21,997	21,997	21,997
2. Interest 22% ^{2/}	14,752	18,734	18,734	15,342	11,205	6,158	
3. Principal Payment			<u>15,414</u>	<u>18,806</u>	<u>22,943</u>	<u>22,990</u>	
TOTAL COSTS	81,806	36,832	53,785	56,145	56,145	56,145	21,997
<u>INCOME</u>							
1. Loan 100% ^{3/}	67,054	18,098					
2. Sale of Palm Heart (Unit/hectare) ^{4/} Price/Unit ^{5/} 125		2,333	4,333	4,900	4,900	4,900	4,900
		<u>58,325</u>	<u>108,325</u>	<u>122,500</u>	<u>122,500</u>	<u>122,500</u>	<u>122,500</u>
TOTAL DE INCOME	67,054	76,423	108,325	122,500	122,500	122,500	122,500
NET	(14,752)	39,591	54,540	66,355	66,355	66,355	100,503

1/ BNCR, 1987 without labor costs.

2/ Interest rate using external funds, BNCR.

3/ Financed percentage: 100%; the farmer provides the labor; financed for two year with a term of 6 years with a grace period of 2 years.

4/ Yield per hectare, BNCR.

5/ Mean price paid per stem to the farmer in Pital de San Carlos.

Table 4 describes the amortization schedule for the loan of production of one hectare of palm without outside labor. According to the BNCR loans have a 6-year term with two-year grace period. The yearly payment is 34,148 with no labor costs.

TABLE 4. Amortization Schedule for Loan for One Hectare of Palm Heart without Labor *

Year	Payment	Interest (22%)	Amortization	Balance
1	-	14,752	-	67,054
2	-	18,733	-	85,152
3	34,148	18,734	15,414	69,738
4	34,148	15,343	18,805	50,933
5	34,148	11,205	22,943	27,990
6	34,148	6,158	22,900	-

* Interest 22%
 6-year term with 2 years grace period
 Financing for first two years
 Total owed = 85,152.8 (100%)

Based on the estimated target of 250 hectares per year with a final amount of 1,000 hectares it is assumed that the credit amount needed for a palm heart promotional effort would be 130,209 per hectare, of 130.2 million for 100 hectares.

As of this date there is no commercial production of pejivalle for palm heart in the project area. The Banco Nacional de Costa Rica does finance the production of palm heart in other parts of the country. They provide a loan for six years with a two year grace period and finance 85% of the production costs. The interest charged depends upon the source of the funds, 22% if the source is BID and 25% if the funds origin are from internal sources.

3. Passion Fruit

Presently the BNCR, using resources from BID is financing passion fruit production. The terms are 2 years at 22% interest for 85% of the production costs.

Cost of production and loan schedules for the establishment of one hectare of passion fruit (source: BNCR, 1987) are shown in Tables 5 and 6.

Table 5 shows the estimated production costs and returns for one hectare planting of passion fruit without external labor. It was assumed that the selling price would be ¢17 per kilogram and that production would begin in the second year and remain steady. On this basis the initial capital investment would be paid off in the fifth year, however, the farmer would have a positive cash flow in the second year.

TABLE 5 Cash Flow (colones) of one hectare of Passion Fruit with Labor

	Year 1	Year 2	Year 3	Year 4	Year 5
<u>COSTS</u>					
1. Production Costs ^{1/}					
a. Materials	124,730	21,251	21,251	21,251	21,251
c. Others	5,947	757	757	757	757
Total	<u>175,677</u>	<u>22,008</u>	<u>22,008</u>	<u>22,008</u>	<u>22,008</u>
2. Interest 22% ^{2/}	28,749	33,591	24,532	13,482	
3. Principal Payment		<u>41,173</u>	<u>50,231</u>	<u>61,282</u>	
TOTAL COSTS	159,426	96,772	96,771	96,772	22,008
<u>INCOME</u>					
1. Loan 100% ^{3/}	130,677	22,008			
2. Sale of Fruit					
(Kg/hectare) ^{4/}		20,000	20,000	20,000	20,000
Price/kg ¢17 ^{5/}		<u>340,000</u>	<u>340,000</u>	<u>340,000</u>	<u>340,000</u>
TOTAL INCOME	130,677	362,008	340,000	340,000	340,000
NET	(28,749)	265,236	243,229	243,229	317,992

^{1/} BNCR, June 10, 1987.

^{2/} Interest rate using external funds, BNCR.

^{3/} Financed percentage, 100%; the farmer provides the labor, financed 2 years with a term of 4 years with a grace period of 1 year.

^{4/} Yield per hectare, BNCR.

^{5/} Mean price paid by the industry, information provided by the "Cooperativa de Ahorro y Crédito R.L. de Naranjo, Departamento de Crédito".

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Table 6 describes the amortization schedule for the loan of the production of one hectare of passion fruit with and without external labor costs. Loan have a 4 year term with a one year grace period. The amount financed is 100% with a yearly payment of 074,764 for without external labor costs.

TABLE 6. Amortization Shcedule for Loan for One Hectare of Passion Fruit without Labor *

Year	Payment	Interest (22%)	Amortization	Balance
1	-	28,749	-	130,677
2	74,764	33,591	41,173	152,686
3	74,764	24,533	50,231	111,513
4	74,764	13,482	61,282	61,282

* Financing of first two years.
4 year term with one year grace period.
Interest 22%.
Total owed: 0152,686.4 (100%)

The estimated credit needs for the production of one hectare of passion fruit is 0209,320. Therefore, the target of 500 hectares would require approximately 0104.7 million.

4. Macadamia

Table 7 shows the estimated production costs and returns for one hectare planting of macadamia using only family labor. it was assumed that the selling price would be 80 colones per kilogram and that production would begin in the fourth year and increase until year nine where production levels off at about 4,000 kilograms per hectare per year. On this basis the initial loan would be paid off in year 12, however the farmer would be receiving a positive cash flow in year five.

TABLE 7. Cash Flow (Colones) of one hectare of Macadamia
without Labor Costs

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13
<u>COSTS</u>													
1. Production Costs ^{1/}													
a. Materials	54,350	19,993	20,573	7,777	8,565	8,565	8,565	8,565	6,451	6,451	6,451	6,451	6,451
b. Others	318	258	361	485	794	1,094	1,329	1,468	1,324	1,324	1,324	1,324	1,324
c. Total	<u>54,668</u>	<u>20,251</u>	<u>20,934</u>	<u>7,762</u>	<u>9,359</u>	<u>9,659</u>	<u>9,894</u>	<u>10,033</u>	<u>7,775</u>	<u>7,775</u>	<u>7,775</u>	<u>7,775</u>	<u>7,775</u>
2. Interest 2% ^{2/}	12,027	16,483	21,088	22,795	22,795	22,796	21,136	21,136	19,112	16,643	13,630	9,955	5,471
3. Principal Payment						<u>7,541</u>	<u>9,201</u>	<u>11,275</u>	<u>13,694</u>	<u>16,707</u>	<u>20,382</u>	<u>24,886</u>	
TOTAL COSTS	66,695	36,734	42,022	30,557	32,154	39,996	40,231	40,370	38,112	38,112	38,112	38,112	7,775
<u>INCOME</u>													
1. Loan 100% ^{3/}	54,668	20,251	20,934	7,762									
2. Sale of Fruit													
(Kg/ha) ^{4/}				276	1,380	2,304	3,244	3,800	3,893	3,893	3,893	3,893	3,893
Price/kg ^{5/} 180				<u>22,080</u>	<u>110,400</u>	<u>184,320</u>	<u>259,520</u>	<u>304,000</u>	<u>311,440</u>	<u>311,440</u>	<u>311,440</u>	<u>311,440</u>	<u>311,440</u>
TOTAL INCOME	54,668	20,251	20,934	29,842	110,400	184,320	259,520	304,000	311,440	311,440	311,440	311,440	311,440
NET	(12,027)	(16,483)	(21,088)	(715)	78,246	144,324	219,289	263,630	273,288	273,328	273,328	273,328	303,665

1/ BNCR, 2/17/87 without labor costs.
 2/ Interest rate using external funds, BNCR.
 3/ Financed percentage 100%; the farmer provides the labor; financed for 4 years with a term of 12 years with a grace period of 2 years.
 4/ Yield per hectare, BNCR.
 5/ Mean price paid to the farmer for kg of nuts; Information provided by COOPERAGON R.L. Turrialba.

NOTE: The price is between 870 a 890 according to quality, depending on percentage of humidity.

8. The amortization schedule for this loan is presented in Table 8. The loan without outside labor has a term of 12 years at 22% interest and a 5 year grace period.

TABLE 8. Amortization Schedule of Loan for One Hectare of Macadamia without outside Labor *

Year	Payment	Interest (22%)	Amortization	Balance
1	-	12,027	-	54,668
2	-	16,482	-	74,920
3	-	21,088	-	95,854
4	-	22,795	-	103,616
5	30,337	22,795	-	103,616
6	30,337	22,795	7,541	96,075
7	30,337	21,136	9,200	86,874
8	30,337	19,112	11,224	75,649
9	30,337	16,642	13,694	61,955
10	30,337	13,630	16,706	45,248
11	30,337	9,954	20,382	24,866
12	30,337	5,470	24,886	-

* Finances 4 years of crop at a 22% interest.
 Term 12 years with a grace period of 5 years.
 Total owed 103,616.

The credit requirements per hectare without labor are estimated at 103,700. Thus 500 hectares could require 51.9 million.

5. Black Pepper

Table 9 shows the estimated production costs and returns for one hectare planting of black pepper using family labor. It was assumed that the selling price would be 320 per kilogram and that production would begin in the second year and stabilize at 2200 kg per hectare in year 3. On this basis the initial loan would be paid off in year 12, however the farmer would begin to receive a positive cash flow in year 2.

TABLE 9. Cash Flow (colones) of One Hectare of Black Pepper
without Labor Costs

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13
<u>COSTS</u>													
1. Production Costs ^{1/}													
a. Materials	306,425	43,379	47,533	47,533	47,533	47,533	47,533	47,533	47,533	47,533	47,533	47,533	47,533
b. Others	26,216	2,318	2,578	2,578	1,578	2,578	2,578	2,578	2,578	2,578	2,578	2,578	2,578
Total	332,641	45,697	50,111	50,111	50,111	50,111	50,111	50,111	50,111	50,111	50,111	50,111	50,111
2. Interest 2x ^{2/}	73,181	83,234	94,259	94,259	90,101	85,029	78,840	71,290	62,079	50,841	37,131	20,406	
3. Principal Payment				18,899	23,057	28,129	34,318	41,868	51,079	62,317	76,027	92,752	
TOTAL COSTS	405,822	128,931	144,370	163,269	163,269	163,269	163,269	163,269	163,269	163,269	163,269	163,600	50,111
<u>INCOME</u>													
1. Loan 100% ^{3/}	332,642	45,698	50,111										
2. Sale of Black Pepper													
(Kg/ha) ^{4/}		400	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200
Price/kg ^{5/}		128,000	704,000	704,000	704,000	704,000	704,000	704,000	704,000	704,000	704,000	704,000	704,000
TOTAL INCOME	332,642	173,698	754,111	704,000	704,000	704,000	704,000	704,000	704,000	704,000	704,000	704,000	704,000
NET	(73,180)	44,767	609,741	540,731	540,731	540,731	540,731	540,731	540,731	540,731	540,731	540,731	653,889

^{1/} BNCR, 2/17/87.

^{2/} Interest rate using external funds, BNCR.

^{3/} Financed percentage 100%; the farmer provides the labor; financed 3 years with a grace period of 3 years.

^{4/} Yield per hectare, BNCR.

^{5/} Mean price paid for kg of black pepper, information provided by Baltimore Spice, Mr. Eudardo Sequeira, February 1988 with 12% humidity.

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The amortization schedules of this loan is presented in Table 10. The loan without outside labor has a term of 12 years at 22% interest and a 3 year grace period.

TABLE 10. Amortization Schedule for a Loan for One Hectare of Black Pepper with Outside Labor Costs*

Year	Payment	Interest (22%)	Amortization	Balance
1	-	73,181	-	332,642
2	-	83,234	-	378,340
3	-	94,259	-	428,452
4	113,158	94,259	18,899	409,552
5	113,158	90,101	23,057	386,495
6	113,158	85,029	28,129	358,365
7	113,158	78,840	34,318	324,046
8	113,158	71,290	41,868	282,178
9	113,158	62,079	51,079	231,098
10	113,158	50,841	62,317	168,781
11	113,158	37,131	76,027	92,754
12	138,479	20,406	92,752	-

* Financing of three years with a 12 year term and a grace period of 3 years 100% without labor costs, interest 22%
Total owed ₱428,452.6.

The credit requirement using family labor is ₱428,400 per hectare. For 100 hectares, this comes to ₱42.8 million.

6. Summary

TABLE 11. Credit Requirements *

Crop	Ø/ha.	Has.	Total (Ø)
Cacao	114,750	2,500	286,875,000
Palm Heart	130,209	1,000	130,209,000
Passion Fruit	209,320	500	104,660,000
Macadamia	103,700	500	51,850,000
Black Pepper	<u>428,400</u>	<u>100</u>	<u>42,800,000</u>
Sub Total	986,379	4,600	Ø616,434,000
Inflation (15% annually)			<u>130,716,000</u>
Total			Ø747,150,000

C. Technical Assistance Factors

To promote each crop successfully and to insure good production and a quality product that is marketable the project will need to provide technical assistance for each crop activity. To provide this assistance the project will enter into contacts with cooperatives, grower associations, nurseries that are providing plant material and/or the processing companies who will buy the product to provide the technical assistance. In the case of the processing companies, the ideal situation would be for the company and the farmer to enter into a marketing/technical assistance agreement. The component implementation team and the Project Director will have to determine the best way to provide the technical assistance for each crop activity. The project will provide sufficient funds for these different entities to provide the

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technical assistance needed. It will be the responsibility of the project crop expansion unit to coordinate with these entities in the selection of personnel and the monitoring of the work. The project crop production and expansion unit and technical assistance teams will develop a technological package for each crop activity including production and cultivation techniques, harvesting, pesticide use, marketing and credit assistance.

D. Proposed Technical Assistance Breakdown

Technical assistance will support the production, harvesting, marketing and credit process for each crop to be promoted under this component. The following gives a breakdown of the proposed link of T.A. and costs:

1. Cacao

The technical assistance program for the cacao activity will be divided into two sections. The reason for this is because COOPESANCARLOS and CACU are already active in the project area in providing assistance to growers in two district areas. The Project will contract with both entities to provide technical assistance. COOPESANCARLOS will be contracted to provide assistance to the growers in Guatuso (1000 hectares) and CACU for those in Upala (1500 hectares). Using COOPESANCARLOS's estimate for the necessary number of people to provide technical assistance of 3 professionals per 1000 hectares, a total of 7 professionals in cacao production is budgeted for the five years of the Project. The amount is based on COOPESANCARLOS' costs:

Salary	Ø55,000
Benefits	28,000
Support	1,200
Overhead	<u>16,700</u>

Total Ø99,900/person/month

For a total T.A. budget of Ø30.0 million, including a 15% inflation factor.

2. Palm Heart

The strategy proposed is for the project to contract with a major producer and/or processor to provide technical assistance, marketing sources and plant materials. They are the principal exporters of palm heart, with good success and have more than ten years of experience in production. They would prefer to work on a long term basis with interested parties. They have the vertical integration, professionals to provide technical assistance, learning curve experience and established fixed capital equipment necessary to support small start-up enterprises.

The present capacity of the Del Campo processing plant is 5,000,000 stems per year. The average price that they are paying is 25 colones per stem.

It is expected that planting of palm heart will be small and therefore more farmers will be needing assistance than in other crops such as cacao. It is recommended that funds should be budgeted to hire four technicians, at the following rate:

Salary	Q55,000
Benefits	28,000
Support	200
Overhead	<u>16,700</u>
Total	Q99,900/person/month

This gives a total T.A. budget for this crop of Q24.0 million, including a 15% inflation factor.

3. Passion Fruit

Genetic material can be purchased from CATIE and COOPENARANJO and also secured from nurseries developed on an individual farm basis with technical assistance. If this does not prove sufficient CACU believes that it can develop a nursery without any financial assistance from the project. The growers will receive technical assistance from the processing companies and the suppliers of genetic material under contract arrangements with the project. Assistance will be provided in all aspects of production, credit and marketing.

It is planned that passion fruit will be planted in small lots by many farmers. Therefore, the number of technicians on a per hectare basis would be higher than a crop such as cacao. The following is an estimated budget for the technical assistance of three professionals with experience in passion fruit:

Salary	Q55,000
Benefits	28,000
Support	200
Overhead	<u>16,700</u>
Total	Q99,900/person/month

This gives a total T.A. budget of passion fruit of Q18.0 million, including a 15% inflation factor.

4. Macadamia

In the second year of the project technical assistance will be

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provided by the nurseries. Presently there is a small nursery in Brasilia of the district of Dos Ríos in the canton of Upala. For 500 hectares it is anticipated that 2 technicians will be sufficient. The costs are shown below:

Salary	Ø55,000
Benefits	28,000
Support	200
Overhead	<u>16,700</u>
Total	Ø99,900/person/month

This gives a total T.A. budget for macadamia production of Ø11.7 million, including a 15% inflation factor.

5. Black Pepper

Technical assistance started under the NAIDP pilot project should continue under NZCP. Additional technical assistance will be needed during harvesting and post-handling to insure the quality necessary for the market.

Since it is expected that there might be as many as 100 farmers involved in this activity two horticulturalists will be needed to provide sufficient technical assistance. The cost will be:

Salary	Ø55,000
Benefits	28,000
Support	200
Overhead	<u>16,700</u>
Total	Ø99,900/person/month

This gives a total T.A. budget for this crop of Ø11.2 million, including a 15% inflation factor.

6. Summary

TABLE 12. Technical Assistance Requirements *

Crop	€/Unit/Month	No. Units	No. Years	Total (€ Million)
Cacao	99,900	7	3	30.0
Palm Heart	99,900	4	4	24.0
Passion Fruit	99,900	3	4	18.0
Macadamia	99,900	2	4	11.7
Black Pepper	<u>99,900</u>	<u>2</u>	<u>4</u>	<u>11.3</u>
Total		18		€95.0

* Includes a 15% annual inflation factor.