

ABSTRACT

H Evaluation Abstract (Do not exceed the space provided)

ABSTRACT

The evaluation sought to provide some responses to the issues arising from the mid term evaluation mainly related to the project's financial sustainability. Therefore, the purposes of the evaluation were defined as follows:

To conduct a financial cash flow analysis from the farmer's perspective for representative or typical individual farms (cooperatives) to determine if production of new crops introduced under the project were viable and profitable once the project's assistance ends. The analysis focused on a sample of CLUSA activities in organic coffee and organic vegetables.

To carry out an economic analysis from the perspective of the project as a whole to determine the economic rate of return to the overall project investment using standard techniques of cost-benefit analysis. This should include any non-quantifiable aspects of the analysis such as positive and negative externalities.

To carry out a sensitivity analysis taking into account price fluctuations for non-traditional agricultural export products, calculating the cash flow at high and low price assumptions.

To determine whether the project increased farmers' income and whether the financial cash flow will motivate them to continue production of new crops/technologies introduced once the project ends.

Conclusions and Recommendations

For the sample of cooperatives producing organic coffee and organic vegetables, the results of the cash flow analysis show that with the introduction of the organic production technique, they obtain profits and are financially sustainable. In fact, the NPV and the B/C ratio have been positive in all cases analyzed.

For the project as a whole, the economic evaluation shows that the project has a positive impact on the economy since it contributes to exports, wages, employment generation, etc.

Other positive externalities of the project include protection of the environment since production using the organic technique avoids the use of chemical pesticides and insecticides that pollute the environment.

From the financial analysis, it is clear that the organic production contributes to reduce production costs due to the low prices of organic inputs.

The organic production should be promoted at a national level taking into consideration the positive impact of this project from the financial, economic, and environmental perspectives.

In order to promote diversification of exports and organic crops in El Salvador, it is necessary to improve economic and social infrastructure in the rural areas, which implies greater investments in these areas. This should also include improvements in human capital formation with education and training for the rural population as a key element that would allow them to take full advantage of technical assistance and to better identify market opportunities for their crops.

In El Salvador, it is important to promote new production, marketing, and organization approaches in the agricultural sector. In this context, the organic production offers an excellent opportunity for new crops, markets, etc.

COSTS

I Evaluation Costs

Name	1 Evaluation Team	Contract Number OR TDY Person Days	Contract Cost OR TDY Cost (U.S. \$)	Source of Funds
Lic. Raul Huezo	Independent consultant		\$8,750	Project Funds
2 Mission/Office Professional Staff Person-Days (Estimate) <u>3</u>		3 Borrower/Grantee Professional Staff Person-Days (Estimate) <u>10</u>		

A I D EVALUATION SUMMARY - PART II

SUMMARY

J Summary of Evaluation Findings Conclusions and Recommendations (Try not to exceed the three (3) pages provided)

Address the following items

- | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> ● Purpose of evaluation and methodology used ● Purpose of activity(ies) evaluated ● Findings and conclusions (relate to questions) | <ul style="list-style-type: none"> ● Principal recommendations ● Lessons learned |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|

Mission or Office
Strategic Objective #1,
Economic Growth

Date This Summary Prepared
May 14, 1998

Title And Date Of Full Evaluation Report
Econ and Financ Evaluation of the Non-Trad
Agricultural Production and Marketing Project

A I D Evaluation Summary Part II

This document is an economical/financial evaluation of the Non Traditional Agricultural Export Production and Marketing Project (519 0392) which falls under Strategic Objective #1 Economic Growth Results Package # 3 Expanded Equitable Access to Financial Technological and Marketing Services by the Rural Poor The implicit Intermediate Result which applies to this project includes "Increased Coverage of Sustainable Secondary Level Organizations Providing Technological and Marketing Services

The project is currently being implemented by the Cooperative League of the USA (CLUSA the overseas component of the National Cooperative Business Association NCBA) The original concept for the project grew out of an initial pilot effort begun by CLUSA in August 1988 which proved to be successful and which was funded as a full scale project in June 1991 The original PACD was scheduled for June 1996 but was extended for two additional years until June 1998 The original five year Cooperative Agreement was funded at US\$ 9 0 million and the extension added an additional US\$ 1 9 million for a total USAID contribution of US\$ 10 9 million Added to this was the NCBA s counterpart contribution of over US\$ 3 6 million which brought the total value of the project to over US\$ 14 5 million for the seven year life of the project

The evaluation was carried out during the period February April 1998 A methodological process was undertaken for the preparation of this study with the following stages i) research and data gathering including field trips and interviews to project personnel and producers ii) data processing and calculations iii) financial and economic analysis and iv) elaboration of draft and final reports including USAID comments and revisions

i) Research and Data Gathering

Documents provided by USAID and CLUSA regarding NTAEs organic production in El Salvador and CLUSA s previous evaluation were reviewed to become familiar with the project s framework and environment

Interviews with project personnel were held to explain the purposes of this study and the way the information was required to carry out the financial and economic evaluation of the project

To complete information provided by CLUSA and in order to get a better perception of project s activities and of the variables to be evaluated field trips were carried out in the cooperatives selected as the project s sample Four cooperatives had to be selected according to the terms of reference however five of the total were visited two for coffee one for vegetables and two for fruits

The cooperatives visited were San Rafael and Santa Adelaida for organic coffee Los Planes for vegetables and Cara Sucia and Guayapa for fruits in addition PROXSAL was also visited in order to become familiar with the export import and distribution process of the production of CLUSA assisted cooperatives Interviews were held with cooperative producers the provided information was complemented with technical project staff frequent consultations when necessary to check the accurateness and completeness of the data provided for the financial and economic evaluation

ii) Financial and Economic Analysis

To carry out the financial and economic analysis for each individual cooperatives and for the project as a whole the Gittinger methodology for project evaluation has been utilized This methodology provides discount techniques of the value of a particular project

According to Gittinger methodology the evaluator identifies and values costs and benefits that will arise with the proposed project and the comparison to the situation as it would be without the project Therefore the situation "before" and "after" the project is not compared since it fails to account for changes in production that would occur even without project and thus leads to an erroneous statement of the benefit attributable to the project investment

This approach permits the calculation of the net present value (NPV) which is the most direct discount measure of a cash flow of a project s value This is the present value of the incremental net benefit or the incremental stream of the cash flow

ii)IV Economic Analysis

Technical assistance cost was estimated according to figures provided by CLUSA The applied rate is 73 colones per m² per month In addition a scenario was constructed using an increment of 50% in technical assistance Every product has its own timing Some of them need 3 months of technical assistance and others four six or twelve months Estimations have been made accordingly

Input prices were adjusted by 12% in order to correct distortions in market prices Direct taxes were also removed The purpose of the drawback the exporters receive is to compensate them for other kind of taxes they pay in the production activity For calculations the drawback value is presented in the form of negative duties and indirect taxes

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FINAL REPORT

**FINANCIAL AND ECONOMIC ANALYSIS OF THE NON-
TRADITIONAL AGRICULTURAL EXPORTS AND
MARKETING ACTIVITY**

PRESENTED BY

**Raúl Huevo
Consultant**

April 10, 1998



LIST OF ACRONYMS

B/C	Benefit/Cost
CLUSA	Cooperative League of the USA
DIVAGRO	Diversificación Agrícola
EPA	Environmental Protection Agency
FOB	Free On Board
LB	Pound
MZ	Manzana = 0.7 hectare
NTAEs	Non-Traditional Agricultural Exports
NPV	Net Present Value
NY	New York
OCIA	Organic Certification International Association
PROEXAL	Productores y Exportadores de El Salvador
QQ	Quintal or Hundred weight
USAID	United States Agency for International Development

FINANCIAL AND ECONOMIC ANALYSIS OF THE NON-TRADITIONAL AGRICULTURAL EXPORTS (NTAEs) AND MARKETING ACTIVITY

I BACKGROUND

1.1 Purposes of this Study

The "Non Traditional Agricultural Exports Production and Marketing Project" funded by USAID through a Cooperative Agreement with CLUSA, has been on execution since July 1991, after a pilot phase lasting from August 1988 to June 1991. The project aims to increase the production and marketing of non-traditional agricultural exports (NTAEs) of cooperatives and other small Grower Group organizations. During this period, CLUSA has provided technical assistance to a total of 58 primary and secondary level organizations, maintaining the NTAEs focus. The project is expected to end on June 1998.

During October 1995, a mid-term evaluation of the project was carried out, from which important conclusions and recommendations were derived, most of them related to project's sustainability from the institutional, management, technical and financial perspective.

This study seeks to provide some responses to the issues arising from the mid-term evaluation mainly related to the project's financial sustainability. Therefore, the purposes of the study have been defined as follows:

- i) To conduct a financial cash flow analysis from the farmer's perspective for representative or typical individual farms (cooperatives) to determine if production of new crops introduced under the project will be viable and profitable once the project's assistance comes to an end. The analysis will focus on a sample of CLUSA activities in organic coffee and organic vegetables.
- ii) To carry out an economic analysis from the perspective of the project as a whole, to determine the economic rate of return to the overall project investment, using standard techniques of cost-benefit analysis. This should include any non-quantifiable aspects of the analysis such as positive and negative externalities.
- iii) To carry out a sensitivity analysis for i) and ii) taking into account prices fluctuations for non-traditional agricultural export products, calculating the cash flow at high and low price assumptions.
- iv) To determine whether the project increases farmers income and whether the financial cash flow will motivate them to continue production of new crops/technologies introduced once the project ends.

1.2 Non-Traditional Agricultural Export Products

Promotion of NTAEs in El Salvador has been a growing trend since the decade of 1980, particularly due to the decline in exports of traditional agricultural products such as coffee, cotton and sugar, and by the fact that no banks credit nor technical assistance were available.

for farmers. Fruits and vegetables are the most important non-traditional agricultural products whose production has been promoted with USAID support through several projects.

The main destination of NTAEs is the USA market and to a lesser extent Honduras and Guatemala. Trade is concentrated on a small number of products, even though a variety of fruits and vegetables are being exported. Such products are okra, frozen beans and other frozen vegetables that comprise 96% of exports value and 97% of volume, while pineapples, lemons and honey dew melons make up 93% of fruits exports value and 99% of volume. 1/

Comparing the first semester of 1996 with that of 1997, exports of vegetables and fruits and its derivatives had an increase of 15.6% in terms of value, while exports of fruits decreased in 29.9%. However, imports of vegetables and fruits had a strong growth rate during the period January-June 1997, as a result, the trade balance for fruits and vegetables was negative. 2/

Competitiveness in the international market for fruit and vegetables has grown stronger, being important promotion of internal marketing of these products rather than exports, given the level of imports of El Salvador for the same.

1.3 Organic Production in El Salvador

Certified organic production in El Salvador started in 1992 with CLUSA support. This was facilitated because the period of the armed conflict no synthetic chemicals were applied to many agricultural areas and plantations that were semi-abandoned.

Organic agriculture has been popularized among home growers and small producers that can be classified as non-formal or non-certified organic producers. The Organic Crop Improvement Association (OCIA) is the most utilized certification agency in El Salvador. OCIA has certified to more than 25 farms, 8 processing plants and 5 exporters in El Salvador. Currently, there are more than 5,000 mzs devoted to produce organic crops, the cooperatives of the Agrarian Reform are the most frequent participants in organic agriculture in the country.

Area, production and productivity of organic crops in El Salvador are shown in table No 1. As it can be seen, the main organic crops are coffee, cashew nuts, sesame and plantain. Organic coffee is being produced in 17 cooperatives and by several individual producers, with three processing plants with capacity to absorb more production, the main destination of the organic coffee production for 1996/1997 were the markets of the European Union (35%), the USA (24%), Japan (24%) and Sweden (17%). The cashew nut is cultivated in the Departments of La Unión, San Miguel and San Vicente and its markets are the USA, Europe and Australia. Sesame is mainly exported to the USA, Canada and Germany.

Production of organic fruits and vegetables being produced include strawberry, lettuce,

radish, plantain, carrot, bunch onion, potatoes and spinach. The production areas are located in Chalatenango. The production is entirely traded by PROXSAL and is destined exclusively to the domestic market.

Among other organic products being cultivated are hibiscus tea and flowers with 2 mzs each. There are good perspectives for a greater diversification of organic production.

CHART No 1

CULTIVATED AREA, PRODUCTION AND PRODUCTIVITY OF ORGANIC CROPS IN EL SALVADOR

CROP	CULTIVATED AREA (MZ)	PRODUCTION QQ	YIELD QQ/MZ
Coffee	2,128.50	17,265.00	8.50
Cashew	1,410.00	13,395.00	9.50
Sesame	1,392.00	10,301.00	7.40
Strawberry	0.36	43.00	119.20
Lettuce	4.29	771.00	179.80
Radish	0.53	21.00	39.10
Plantain	52.00	11,627.00	223.60
Carrot	0.71	77.00	108.50
Bunch onions	0.63	99.00	156.60
Potatoes	4.34	1,092.00	251.60
Spinach	0.14	3.00	22.00

Source: Informe de Coyuntura, Octubre 1997, Ministerio de Agricultura y Ganadería.

1.4 Methodology of the Study

The present study has been carried out during the period February-April 1998. A methodological process was undertaken for the preparation of this study, with the following stages: i) research and data gathering, including field trips and interviews to project personnel and producers, ii) data processing and calculations, iii) financial and economic analysis, and iv) elaboration of draft and final reports, including USAID comments and revisions.

i) Research and Data Gathering

Documents provided by USAID and CLUSA regarding NTAEs, organic production in El Salvador and previous evaluation of CLUSA's project were reviewed to become familiar with the project's framework and environment.

Interviews with project personnel were held to explain the purposes of this study and the way the information was required to carry out the financial and economic evaluation of the project.

To complete information provided by CLUSA and in order to get a better perception of project's activities and of the variables to be evaluated, field trips were carried out in the cooperatives selected as the project's sample. Four cooperatives had to be selected, according to the terms of reference, however five of the total were visited: two for coffee, one for vegetables and two for fruits.

The cooperatives visited were San Rafael and Santa Adelaida for organic coffee, Los Planes for vegetables, and Cara Sucia and Guayapa for fruits, in addition, PROEXSAL was also visited in order to become familiar with the export, import and distribution process of the production of CLUSA assisted cooperatives. Interviews were held with cooperative producers, the provided information was complemented with technical project staff frequent consultations when necessary to check the accurateness and completeness of the data provided for the financial and economic evaluation.

ii) Data Processing and Calculations

With the data provided by CLUSA staff and the information gathered during the field trips, the financial analysis for San Rafael, Santa Adelaida, Los Planes and Cara Sucia was carried out. To this end, information on production, productivity, prices and costs per mz was utilized to calculate the stream of income and costs and therefore the cash flow for each cooperative during the years 1995/1996 to 1998/1999. The financial and economic analysis for the project as a whole was carried out using the information provided by CLUSA regarding total areas cultivated with organic crops and prices, production, productivity and costs per mz for type of crop and groups of cooperatives cultivating the same crop.

Even though CLUSA's assistance started since 1988, the evaluation takes the situation without project for the period 1995/1996 and from then until 1998/1999 the analysis includes the project's intervention, using real data for some variables and projections for others, as explained in the respective chapter.

iii) Financial and Economic Analysis

To carry out the financial and economic analysis for each individual cooperatives and for the project as a whole, the Gittinger methodology for project evaluation has been utilized. This methodology provides discount techniques of the value of a particular project.

The discount techniques allow to determine acceptance of a project that has different patterns over time, that is when costs and benefits fall during project's life and differ from each other. The most common way to do it is subtracting costs from benefits every year to obtain the stream of incremental net benefit, known as cash flow, which includes the situation without project for the first year (95/96) and with project for the remaining period (96/99).

According to Gittinger methodology, the evaluator identifies and values costs and benefits

that will arise with the proposed project and the comparison to the situation as it would be without the project. Therefore, the situation “before” and “after” the project is not compared since it fails to account for changes in production that would occur even without project and thus leads to an erroneous statement of the benefit attributable to the project investment.

This approach permits the calculation of the net present value (NPV), which is the most direct discount measure of a cash flow of a project's value. This is the present value of the incremental net benefit or the incremental stream of the cash flow.

The NPV can be interpreted as the present value of the income flow generated by an investment. In the financial analysis, this is the present value of an income stream of a farm or an enterprise that are periodically added. In the economic analysis this is the present value of the incremental national income generated by an investment.

When Gittinger methodology is used, the internal rate of return (IRR) has no sense, because investment cost are not considered, which are necessary in determining the flow of cost that are used for IRR calculations.

Another discount measure is the benefit cost analysis, which is obtained calculating the present value of the stream of costs and benefits separately and then dividing the present value of benefits between the present value of costs (benefit-cost ratio). Even though this is a discount measure, it is not a discount technique of the cash flow, since the flow of benefits and costs are subtracted separately instead of subtracting year by year.

If the value of the benefit-cost ratio is less than one, this means that the present value of costs given a discount rate, has exceeded the present value of benefits and therefore the initial expenditures and investment of the project will not be recovered.

For the present study, the NPV and the benefit-cost ratio are used for the financial analysis of the cash flow at the cooperative level and for the economic evaluation at the project level. For each situation the incremental cash flow was calculated.

The discount rate utilized in the analysis is 12%, considering that this is the minimum rate that resources can be placed as fixed term deposits, representing then the opportunity cost of the project's investment.

The economic evaluation is based on the financial analysis for the project as a whole, and it includes adjustments in order to estimate benefits and costs using efficiency prices.

II DESCRIPTION OF THE PROJECT

2 1 Project Objectives and Components

Project objectives are a) to increase and improve the production and export marketing of NTAEs, b) to improve and expand NTAE marketing systems, c) to develop and strengthen linkages between producers, processors, and exporters of NTAE products, and d) to promote investment in NTAE production and marketing

The NTAE production and marketing project has four components

- a) To bring about technology transfer by technical assistance and training of NTAE producers, linking the producers and processors, and by developing a network of agricultural service enterprises
- b) To strengthen the marketing capability of exporters and processors by working in collaboration with DIVAGRO, to create the in-country capability for quality control inspection and certification of exports, and by creating a quality assurance service for all products exported To help exporters become familiar with US Customs regulations and other requirements for exporting to the United States, to help design packing/loading systems to reduce handling damage to fresh products, and to carry out marketing feasibility studies
- c) To carry out a modest but aggressive investment promotion campaign to identify foreign joint venture partners and link them to the Salvadoran NTAE sector, and
- d) To strengthen the administrative, organizational, and financial management capacity of Salvadoran cooperatives In this regard, CLUSA is expected to help the enterprises to action plans for the overall enterprise, to design and install accounting systems, to help bring about a functional management structure, to develop business procedures and administrative controls, and finally, to assist in the development of second-level Cooperative Associations

2 2 Area of Action and Target Beneficiaries of the Project

The pilot project focused exclusively on Agrarian Reform cooperatives, and was broadened to include any of the approximately 474 agricultural cooperatives in El Salvador as well as small producer groups satisfying certain criteria

Target beneficiaries are cooperative members, along with small/medium producers meeting CLUSA's selection criteria. The project directly targets some 8,000 producers members of agricultural cooperatives, and up to 25 private growers with no cooperative affiliation

The following targets were set for the current project a) 36 cooperatives, and possibly a few individual farms, providing 533,000 person days of employment in non-traditional crop production, b) an increase in production of 26,146,000 pounds of NTAE products will be

produced by CLUSA – assisted enterprises, c) a total of 5,773 additional hectares will have been planted in selected NTAE crops by the end of the project

2.3 Area of Intervention of this Study and Products being Analyzed

This study is carried out at two levels at the cooperative level and at the project level. It focuses then on the four cooperatives selected as the project's sample for the financial analysis of the project and total number of cooperatives assisted by CLUSA for the economic evaluation at the project level.

As mentioned before, the cooperatives selected for the financial analysis are San Rafael and Santa Adelaida for organic coffee, located in Los Naranjos, Sonsonate, Los Planes for vegetables (organic carrot and organic lettuce), located in Las Pilas, Chalatenango, and Cara Sucia, located in Ahuachapan for fruits (honey dew). The criteria applied is that these cooperatives are representative of the different type of organic and none organic conventional crops introduced as a result of CLUSA's intervention.

The economic analysis includes the project as a whole, which comprise 17 cooperatives assisted by CLUSA with a total cultivated area of organic crops of 3,469.15 mzs. Among the crops are coffee, sesame, honeydew, watermelon, strawberry, black eyed pea, cocoa, lettuce, carrot, spinach, bunch onions and radish.

III FINANCIAL EVALUATION

3.1 Financial evaluation at the cooperative level Assumptions

i) San Rafael Cooperative

- 1 CLUSA has promoted certificated organic coffee production in the San Rafael farm. For evaluation purposes the area to be considered is the portion assisted by Clusa which is of 30 mz. The without project situation is other portion of the farm cultivated under conventional techniques.
- 2 During the annual period 96/97 the production of the farm was severely affected by adverse climatic conditions. The rainfall during November 96, when the crop was ripe and ready to be harvested, caused the loss of almost all production. In order to not affect the analysis outcome, this period is not taken in consideration.
- 3 In previous years, the farm had successful results. Profits were distributed among members of the cooperative, and financial reserves were increased. During this period the cooperative did not need to obtain bank credits. All the expenditures were covered by own funds. However, in the period 96/97 they had to finance the production costs using credits.
- 4 For the without-project situation, an average annual production was estimated. In spite of previous years characterized by high yields, the resulting average was 23 qq per mz.
- 5 Cooperative members estimate that organic coffee productivity is inferior to that of conventional coffee in approximately 3 qq per mz. With this criterion, average productivity for organic coffee was established in 20 qq per mz.
- 6 Production and prices for the baseline year was an average estimated from the previous years, also considered to determine production level. For 97/98 production and prices correspond to real data.
- 7 The analysis period was established for 15 years, which closely represents the optimal productive life of a coffee plant in El Salvador.
- 8 Production costs are considered at constant prices of 1997 since inflation levels in the country are low with a tendency to be stable.

Project analyses are normally done at constant prices since we are concerned with the real return when we are looking at the financial analysis and with the real, not monetary, impacts when we turn to economic analysis. Thus, it is common practice to assume general inflation will exert the same relative impact on both costs and benefits and to work in constant prices.

Projects can also be analyzed using current prices. In this case, the whole project analysis is done in current prices. This has the advantage that all costs and benefits shown would be estimates of what the real prices will be in each year of the project life.

- 9 The cash flow analysis is in USA dollars, the exchange rate utilized of 8.75 Colones per US\$1
- 10 Interest payments are estimated as a proportion applicable to the cultivated area considered in the analysis
- 11 A drawback of 6% applied to NTAEs has been deducted from total costs. In financial analysis, duties and other indirect taxes are a cost which the individual entity must pay before arriving at the amount available to recover its capital and to compensate it for the use of its capital – that is, its incremental net benefit or incremental cash flow. Hence, duties and other indirect taxes are a cost just like any other expenditure and are deducted in order to arrive at the net benefit before financing. This stream then becomes the remuneration for all resources engaged in the project at market prices without regard to financing.
- 12 Income taxes are calculated according to a formula tied to internal prices rather than on net income. Internal prices are calculated by subtracting an estimated \$34/qq from the FOB price stated in qq. This difference of \$34 includes allowances for transformation costs, fees and exporter margin. The tax is assessed as follows:

If prices in Colones is	Income tax is
From 0.00 to 800.00	2%
From 800.01 to 1,100.00	5%
From 1,100.01 to 1,300.00	7%

- 13 Forecasts of prices starting second year (97/98) for organic and traditional coffee are based on the NY prices for other milds. A trend line was calculated using the historic growth rate of prices for cocoa, coffee and tea of 0.63%.
- 14 Forecast of the premium for organic coffee is calculated assuming that the premium varies along with the price. When NY price of coffee falls, the price of organic coffee also falls, but not as much, similarly, when the NY price increases to over \$2/lb, the premium falls to maybe \$0.20/lb, approximately 10% over the NY price (“An Analysis of Organic Production in El Salvador, CLUSA, May 5 1997”). The resulting price/lb estimates for traditional coffee and the variation in the premium for organic coffee are as follows:

Prices for Traditional Coffee

Year	98/99	99/00	00/01	01/02	02/03	¾	04/05	05/06	06/07	07/08	08/09	09/10
Price	1.37	1.38	1.38	1.39	1.40	1.41	1.42	1.43	1.44	1.44	1.45	1.46

Premium for Organic Coffee

Prices	Years 1 – 12	Years 13 – 20
Price >\$1 80/lb	15%	10%
Between \$1 2 & \$1 8/lb	25%	20%
Between \$0 8 \$ \$1 2/lb	40%	35%
Less than \$0 8/lb	50%	45%

- 15 Productivity for the baseline year was calculated taking an average of the last four crop periods. Productivity measured in qq/mz was assumed to increase at a fixed annual rate during the period 98/2011, with two assumptions: the first assumed an equal rate of productivity of 3%, afterwards, a differential rate of growth was used, with 3% annual for organic coffee and 4% for traditional coffee.

ii) Santa Adelaida Cooperative

- 1 General conditions described in the San Rafael Cooperative apply in Santa Adelaida. Consequently, in this section only particular conditions of Santa Adelaida are explained.
- 2 CLUSA has promoted production of organic coffee. For evaluation purposes the area to be considered is the portion assisted by Clusa which is of 100 mz. The without project situation is other portion of the farm cultivated under conventional techniques.
- 3 Production prices for the baseline year was an average (22 43 qq/mz) estimated from the previous years, also considered to determine production level. For 97/98 production and prices correspond to real data.
- 4 Productivity for the baseline year was calculated taking an average of the last four crop periods. Productivity measured in qq/mz was assumed to increase at a fixed annual rate during the period 98/2011, with two assumptions: the first assumed an equal rate of productivity of 3%, afterwards, a differential rate of growth was used, with 3% annual for organic coffee and 4% for traditional coffee.

iii) Cara Sucia Cooperative

- 1 This cooperative cultivates sugar cane, maize and honeydew melon for export. CLUSA has provided technical assistance in the production and marketing of honeydew melon. The cultivated area for this crop is 143 mzs. Even though it is not a crop that uses organic production technology, organic IPM technology and inputs approved by the USA EPA are used.
- 2 Production for the without project situation is that of the initial year without CLUSA technical assistance. Under these conditions, productivity of honeydew melon was estimated in 700 boxes per mz.

- 3 With CLUSA technical assistance, productivity has increased to a maximum of 1,200 boxes per mz, however, for the baseline year a ratio of 784 boxes per mz was taken and the historical productivity or suggested by CLUSA's technical staff for the following years
- 4 Production costs are assumed at constant prices due to the price stability or low inflation in the country
- 5 All income originates from exports of honeydew melon. Quantities sold in the domestic market are negligible
- 6 The currency unit used in the analysis are Salvadoran Colones
- 7 Data on financial costs are available for the overall cooperative, therefore, calculations were made to identify the proportion corresponding to honeydew melon production
- 8 A drawback of 6% is applied to NTAEs has been deducted from total costs

iv) Los Planes Cooperative

- 1 This cooperative consists of 18 members, each producing 1 mz of, organic vegetables, being the most important carrot and lettuce. These two crops are considered since they reflect the conditions that can be applied to the other products. Figures and details are in the annex section
- 2 In the analysis for lettuce the reference product for the without project situation is cabbage, since no information on conventional production of lettuce was found and it is the crop cultivated in the same geographical area.
- 3 Productivity for the without project situation is 14,438 units of cabbage per mz. With the project, productivity is 20,438 lbs per mz. For comparative purposes, standardization of units to qq was done
- 4 Due to prevalent price stabilization in recent years, production costs are considered at constant prices for the period being analyzed
- 5 The currency unit used in the analysis is Salvadoran colones
- 6 Data on financial costs are available for the overall cooperative, therefore, calculations were made to identify the proportion corresponding to carrot and lettuce production

3.2 Economic analysis at the project level

- 1 According to the scope of work the benefit cost analysis should be undertaken from the

perspective of the project as a whole summing over the stream of costs and benefits for all cooperatives participating on this analysis, and incorporating the cost of the project (including costs that cooperatives do not pay because such costs are grant-funded) Therefore the costs of technical assistance have been provided by CLUSA's staff is the following

The expenditures estimated by CLUSA for technical assistance, cost of training, administrative costs, vehicles and perdiems

Total estimated amount is $\$50,000/6,000=\8.3 per month * $\text{¢}8.73 = \text{¢}72.74$ (approximately $\text{¢}73$ per month)

Organic coffee $\text{¢}73$ per manzana per month * 12 = $\text{¢}876$

Organic cocoa $\text{¢}73$ per manzana per month * 12 = $\text{¢}876$

Organic sesame $\text{¢}73$ per manzana per month * 3 = $\text{¢}292$

Watermelon $\text{¢}73$ per manzana per month * 3 = $\text{¢}292$

For financial analysis purposes, a scenario will be constructed assuming an increment of 50% in technical assistance

2 The calculation of the summing for the total stream inflows considers the universe of crops, which includes the following groups of cooperatives and crops

a Group 1

San Rafael, Las Lajas, Santa Adelaida organic coffee

b Group 2

La Violeta, El Milagro, San Mauricio, Las Marias, El Gigante organic coffee

c Group 3

Central region, San Jose de Luna sesame

d Group 4

Eastern region, Normandia sesame

e Group 5

Los Achiotales watermelon

f Group 6

La Carrera, San Arturo black eye pea

g Group 7

Nueva Guayapa, Cara Sucia Honey dew melon

h Group 8

La Carrera organic cocoa

i Group 9

Los planes organic carrot and lettuce

3 All the information that were elaborated by CLUSA' staff the following unit measures was converted

- area	manzanas	=	6,989 mts ²
- yields	quintales per manzana	=	100 lbs per manzana
- prices	colones	=	¢8 75 x \$1 00

4 The purpose of introducing two organic coffee groups is due to the differentiation in productivity, which differs from 15,5 to 3 qq/mz in the without-project situation. This difference is explained mainly by the poor quality of the soil. The impact of the project was evidenced with an increment of the yield difference of 20 8 qq/mz in the first group, 3 1 qq/mz in the second one, (3 1 qq/mz). Annex No 5 shows the areas and prices for the analyzed period.

5 Organic cocoa figures are also showed in Annex No 5. The area during the analyzed period is the same, but in the with-project situation the yields performance decreased from 11 3 to 8 qq/mz. This reduction was compensated with higher prices.

6 For the organic sesame two groups were included during the analyzed period. The difference between them is mainly were production costs. Data for both groups is showed in Annex No 5,6.

7 One of the weakness in this analysis is the availability of the information, specially in the without -project situation. For watermelon and honey dew melon the total value reported instead of detailed data was included, with its respective outflows. Black eye pea either inflows and outflows were not included, due to the lack of information.

8 Watermelon is a not an organic crop, but was included in this analysis because the recognized effort in the promotion of non traditional agricultural products, specially this product introduced by CLUSA. All the information is presented in Annex No 6. It is evident that the increase obtained in yields and prices, is an impact due to the influence of the project.

9 Organic black eye pea data for the period of analysis is presented in Annex No 6. In the with-project situation a considerably reduction in the cultivated area and productivity is showed from 1997 to 1998, with the same prices. The comparison for the without-

project situation is a conventional black eye pea is considered

- 10 Another non organic crop included in the analysis is the honey dew melon. The reason to incorporate it is similar to the watermelon case, which is the significant amount of melon exported during CLUSA' strategy in the country. Data is showed in Annex No 6
- 11 Organic carrot and lettuce were included as examples of organic vegetables. Increases in yields and better prices for the with- project situation are presented in Annex No 7. The comparison for the without –project situation for organic carrot is conventional carrot and for organic lettuce is conventional cabbage
- 12 In the stream of outflows was considered the production and marketing costs per manzana. Every crop has been analyzed in an individual manner

IV ECONOMIC ANALYSIS

- 1 Technical assistance cost was estimated according to figures provided by Clusa. The applied rate is 73 colones per mz per month. In addition a scenario was constructed using an increment of 50% in technical assistance. Every product has its own timing. Some of them need 3 months of technical assistance, and others four, six or twelve months. Estimations have been made accordingly.
- 2 Input prices were adjusted by 12% in order to correct distortions in market prices. Direct taxes were also removed. The purpose of the drawback the exporters receive is to compensate them for other kind of taxes they pay in the production activity. For calculations, the drawback value is presented in the form of negative duties and indirect taxes.

4.1 Financial indicators at cooperative level

Cooperative	Net Present Value	Benefit/Cost
San Rafael	119,416	3.86
Santa Adelaida	158,102	2.98
Los Planes	68,363	2.60
Cara Sucia	980,378	2.13

Under the above mentioned assumptions and relying on the data provided, these indicators reflect the capability of the cooperatives to be self sufficient and profitable. When NPV is positive, it indicates that, in the period of analysis, revenues at present value are bigger than outflows at present value. On the other hand, the benefit/cost ratio represents the level of profitability. If this ratio is equal to 1, the firm is not having profits nor losses. If bigger than 1 it means that the firm is having profits. If lower than 1, loses.

San Rafael has the best benefit/cost ratio. In part is explained by the administrative organization of the cooperative and the high productivity of land and quality of coffee.

Santa Adelaida is in good standings, and seems to be profitable enough to be self sufficient.

Los Planes has good indicators. However the possibilities to grow are limited by the marketing capacity. They depend on Proexsal in this area.

Cara Sucia is in good condition, but, similarly to Los Planes, they are limited by the marketing process.

Even though the financial analysis is referred to real revenues and expenses, an exception has been made to gauge the impact of technical assistance in the efficiency indicators. Under this consideration, the outcome is as follows:

Cooperative	Net Present Value	Benefit/Cost
San Rafael	116,428	3.64
Santa Adelaida	155,231	2.91
Los Planes	67,912	2.56
Cara Sucia	948,134	1.96

Based on data provided by Clusa on technical assistance, the impact of charging this cost to producers is not significant. The reduction of profits is not relevant. In consequence, those farms having profits can afford to pay for it.

In the scenario # 2, the cost of technical assistance increases in 50%. The reason to do this is to approximate to real costs incurred by CLUSA during the project life. The rates obtained are the followings:

Cooperative	Net Present Value	Benefit/Cost
San Rafael	114,934	3.54
Santa Adelaida	143,162	2.70
Los Planes	66,017	2.48
Cara Sucia	812,600	1.83

In comparison with the scenario #1 the variation of the NPV and the benefit cost ratio is not significant, which means that the financial load for the cooperatives is minimum and therefore they would be able to cover the cost of such technical assistance.

4.2 Financial and economic indicators at the project level

It is conclusive that Clusa has been successful in providing technical assistance to farmers. It also can be said that the sustainability in coming years is quite probable. The main issue is related to the marketing process. Even though the contribution of CLUSA on this area has been very important, it is necessary to promote better conditions to improve the marketing system in the country. For instance better access to market information, better communication infrastructure, among others.

The result of the analysis shows profitability in both cases, financial and economic evaluation, as it is showed in the following table:

	Net Present Value	Benefit/Cost
Financial evaluation	6,898,364	2.14
Economic Evaluation	6,101,194	1.87

The benefit/cost ratio is better in the economic evaluation. It can be explained by the reduction of costs, because taxes the coffee growers pay are deducted.

The scenario # 2 includes an increase of 50% in the cost of technical assistance, and the results obtained are presented in the following chart

	Net Present Value	Benefit/Cost
Financial evaluation	5,672,477	1 76
Economic Evaluation	5,697,416	2 32

V CONCLUSIONS AND RECOMMENDATIONS

- 1 For the sample of cooperatives producing organic coffee and organic vegetables, the results of the cash flow analysis show that with the introduction of the organic production technique, they obtain profits and are financially sustainable. In fact, the NPV and the B/C ratio have been positive in all cases analyzed.
- 2 For the project as a whole, the economic evaluation shows that the project has a positive impact on the economy since it contributes to increment exports, wages, employment generation, etc.
- 3 Other positive externalities of the project include protection of the environment since production using the organic technique, avoids the use of chemical pesticides and insecticides that pollute the environment.
- 4 From the financial analysis is clear that the organic production contributes to reduce production costs due to the low prices of organic inputs.
- 5 The organic production should be promoted at a national level taking into consideration the positive impact of this project from the financial, economic and environmental perspectives.
- 6 In order to promote diversification of exports and organic crops in El Salvador it is necessary to improve economic and social infrastructure in the rural areas, which implies greater investments in these areas. This should also include improvements in human capital formation, with education and training for the rural population as a key element that would allow them to take full advantage of technical assistance and to better identify market opportunities for their crops.
- 7 In El Salvador it is important to promote new production, marketing and organization approaches in the agricultural sector. In this context, the organic production offers an excellent opportunity for new crops, markets, etc.

VI TABLES AND ANNEXES

TABLE	NAME
#	
1	San Rafael - Financial Analysis
1 A	San Rafael - Scenario 1
1 B	San Rafael - Scenario 2
2	Santa Adelaida - Financial Analysis
2 A	Santa Adelaida - Scenario 1
2 B	Santa Adelaida - Scenario 2
3	Cara Sucia - Financial Analysis
3 A	Cara Sucia - Scenario 1
3 B	Cara Sucia - Scenario 2
4	Los Planes - Financial Analysis
4 A	Los Planes - Scenario 1
4 B	Los Planes - Scenario 2
5	Project as a Whole - Financial Analysis
5 A	Project as a Whole - Financial Analysis - Scenario 1
5 B	Project as a Whole - Financial Analysis - Scenario 2
6	Project as a Whole - Economic Analysis
6 A	Project as a Whole - Economic Analysis - Scenario 1

ANNEX	NAME
#	
1	Los Planes - Financial Analysis - Carrot
2	Los Planes - Financial Analysis - Carrot - Scenario
3	Los Planes - Financial Analysis - Lettuce
4	Los Planes - Financial Analysis - Lettuce - Scenario
5	Coffee, Cocoa, Sesame - Calculations
6	Sesame, Watermelon, Black eye pea, Honey dew melon - Calculations
7	Carrot, Lettuce - Calculations

CUADRO 1

SAN RAFAEL - COOPERATIVE OF COFFEE PRODUCERS FINANCIAL ANALYSIS Incremental Net Benefit

Item	without project	with project															
	95/96	96/97	97/98	98/99	99/00	00/01	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	
Inflow (gross benefit)																	
value of output	80 199	93 600	180 630	186 049	181 630	197 379	203 301	209 400	215 682	222 152	228 817	235 681	242 752	250 034	257 535	265 261	
Total inflow	80 199	93,600	180 630	186 049	181,630	197,379	203 301	209 400	215 682	222 152	228 817	235 681	242 752	250 034	257 535	265,261	
Outflow (gross cost)																	
Cash operating expenses	31 818	28 095	28 095	28 095	28 095	28 095	28 095	28 095	28 095	28 095	28 095	28 095	28 095	28 095	28 095	28 095	
Duties & indirect taxes		5 616	10 838	11 183	11 498	11 843	12 198	12 564	12 941	13 329	13 729	14 141	14 565	15 002	15 452	15 916	
Total outflow	31 818	22 479	17,257	16 932	16 597	16 252	15 897	15 531	15 154	14 765	14 366	13 954	13 529	13 093	12 642	12 179	
Financing																	
Interest payments			3 535	3 535	3 535	3 535	3 535	3 535	3 535	3 535	3 535	3 535	3 535	3 535	3 535	3 535	
Income taxation																	
Income taxes paid	4 010	6 552	12,644	12 644	12 644	12 644	12 644	12 644	12 644	12 644	12 644	12 644	12 644	12 644	12 644	12 644	
Value added taxes	7 819	9 126	17 811	18 140	18 684	19 244	19 822	20 416	21 029	21 660	22 310	22 979	23 668	24 378	25 110	25 863	
Gran Total Outflow	43 647	38 157	51 047	51,251	51 460	51 676	51 898	52 126	52 362	52 605	52 854	53 112	53 377	53 650	53 931	54,221	
total incremental	36 552	55 443	129 583	134 798	140 170	145 704	151 403	157 273	163 320	169 548	175,962	182 569	189 375	196 384	203 604	211 040	
net incremental		18 892	74 139	5 216	5 372	5 533	5 699	5 870	6 046	6 228	6 415	6 607	6 805	7 009	7 220	7 436	
NET PRESENT VALUE (NPV)																	
Actualization factor 12%		1 0000	0 8929	0 7972	0 7118	0 6355	0 5674	0 5066	0 4523	0 4039	0 3606	0 3220	0 2875	0 2567	0 2292	0 2046	
Net Incremental at present value		18 892	66 196	4 158	3 824	3 517	3 234	2 974	2 735	2 515	2 313	2 127	1 956	1 799	1 655	1 522	
NPV	119 416																
BENEFIT/COST																	
Income at present value		93 600	161,277	148 317	136 399	125 438	115 358	106 088	97 563	89 724	82 514	75 883	69 785	64 178	59 020	54 278	
Costs at present value		38 157	45 578	40 857	36 628	32 841	29 448	26 409	23 686	21 246	19 060	17 101	15 345	13 771	12 360	11 096	
benefit/cost ratio	3 86																

CUADRO 1 A

**SAN RAFAEL - COOPERATIVE OF COFFEE PRODUCERS
FINANCIAL ANALYSIS - SCENARIO #1 INCLUDING TECHNICAL ASSISTANCE
Incremental Net Benefit**

Item	without project	with project														
	95/96	95/96	97/98	98/99	99/00	00/01	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11
Inflow (gross benefit)																
value of output	80 199	93 600	180 630	186 049	191 630	197 379	203 301	209 400	215 682	222 152	228 817	235 681	242 752	250 034	257 535	265 261
Total Inflow	80 199	93 600	180 630	186 049	191 630	197 379	203 301	209 400	215 682	222 152	228 817	235 681	242 752	250 034	257 535	265 261
Outflow (gross cost)																
Cash operating expenses	31 818	28 095	28 095	28 095	28 095	28 095	28 095	28 095	28 095	28 095	28 095	28 095	28 095	28 095	28 095	28 095
consulting & management fees		2 988	2 988	2 988	2 988	2 988	2 988	2 988	2 988	2 988	2 988	2 988	2 988	2 988	2 988	2 988
Duties & indirect taxes		5 616	10 838	11 163	11 498	11 843	12 198	12 564	12 941	13 329	13 729	14 141	14 565	15 002	15 452	15 916
Total outflow	31 818	25 487	20 245	19 920	19 585	19 240	18 885	18 519	18 142	17 753	17 354	16 942	16 517	16 081	15 630	15 167
Financing																
Interest payments			3 535	3 535	3 535	3 535	3 535	3 535	3 535	3 535	3 535	3 535	3 535	3 535	3 535	3 535
Income taxation																
Income taxes paid	4 010	6 552	12 644	12 644	12 644	12 644	12 644	12 644	12 644	12 644	12 644	12 644	12 644	12 644	12 644	12 644
Value added taxes	7 819	9 126	17 611	18 140	18 684	19 244	19 822	20 416	21 029	21 660	22 310	22 979	23 668	24 378	25 110	25 863
Gran Total Outflow	43 647	41 145	54 035	54 239	54 448	54 664	54 886	55 114	55 350	55 593	55 842	56 100	56 365	56 638	56 919	57 209
total incremental	36 552	52 455	126 595	131 810	137 182	142 716	148 415	154 285	160 332	166 560	172 974	179 581	186 387	193 396	200 616	208 052
net incremental		15 904	74 139	5 216	5 372	5 533	5 699	5 870	6 046	6 228	6 415	6 607	6 805	7 009	7 220	7 436
NET PRESENT VALUE (NPV)																
Actualization factor 12%		1 0000	0 8929	0 7972	0 7118	0 6355	0 5674	0 5068	0 4523	0 4039	0 3606	0 3220	0 2875	0 2567	0 2292	0 2046
Net Incremental at present value		15 904	66 196	4 158	3 824	3 517	3 234	2 974	2 735	2 515	2 313	2 127	1 956	1 799	1 655	1 522
NPV		116,428														
BENEFIT/COST																
Income at present value		83 600	161 277	148 317	136 399	125 438	115 358	106 088	97 563	89 724	82 514	75 883	69 785	64 178	59 020	54 278
Costs at present value		41 145	48 246	43 239	38 755	34 740	31 144	27 923	25 037	22 453	20 137	18 063	16 204	14 538	13 044	11 706
benefit/cost ratio		3 64														

CUADRO 1 B

**SAN RAFAEL - COOPERATIVE OF COFFEE PRODUCERS
FINANCIAL ANALISIS - SCENARIO #2 INCLUDING TECHNICAL ASSISTANCE (with increment of 50%)
Incremental Net Benefit**

Item	without project	with project														
	95/96	95/96	97/98	98/99	99/00	00/01	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10 11
Inflow (gross benefit)																
value of output	80 199	93 600	180 630	188 049	191 630	197 379	203 301	209 400	215 682	222 152	228 817	235 681	242 752	250 034	257 535	265 261
Total inflow	80 199	93 600	180 630	188 049	191 630	197 379	203 301	209 400	215 682	222 152	228 817	235 681	242 752	250 034	257 535	265 261
Outflow (gross cost)																
Cash operating expenses	31 818	28 095	28 095	28 095	28 095	28 095	28 095	28 095	28 095	28 095	28 095	28 095	28 095	28 095	28 095	28 095
consulting & management fees		4 482	4 482	4 482	4 482	4 482	4 482	4 482	4 482	4 482	4 482	4 482	4 482	4 482	4 482	4 482
Duties & indirect taxes		5 616	10 836	11 163	11 498	11 843	12 198	12 564	12 941	13 329	13 729	14 141	14 565	15 002	15 452	15 916
Total outflow	31 818	28 611	21 739	21 414	21 079	20 734	20 379	20 013	19 636	19 247	18 848	18 436	18 011	17 575	17 124	16 661
Financing																
Interest payments			3 535	3 535	3 535	3 535	3 535	3 535	3 535	3 535	3 535	3 535	3 535	3 535	3 535	3 535
Income taxation																
Income taxes paid	4 010	6 552	12 644	12 644	12 644	12 644	12 644	12 644	12 644	12 644	12 644	12 644	12 644	12 644	12 644	12 644
Value added taxes	7 819	9 126	17 611	18 140	18 684	19 244	19 822	20 416	21 029	21 660	22 310	22 979	23 668	24 378	25 110	25 863
Gran Total Outflow	43 647	42 639	55 529	55 733	55 942	56 158	56 380	56 608	56 844	57 087	57 336	57 594	57 859	58 132	58 413	58 703
total incremental	36 552	50 961	125 101	130 316	135 688	141 222	146 921	152 791	158 838	165 066	171 480	178 087	184 893	191 902	199 122	206 558
net incremental		14 410	74 139	5 216	5 372	5 533	5 699	5 870	6 046	6 228	6 415	6 607	6 805	7 009	7 220	7 436
NET PRESENT VALUE (NPV)																
Actualization factor 12%		1 0000	0 8929	0 7972	0 7118	0 6365	0 5674	0 5066	0 4523	0 4039	0 3606	0 3220	0 2875	0 2567	0 2292	0 2046
Net Incremental at present value		14 410	66 196	4 168	3 824	3 517	3 234	2 974	2 735	2 515	2 313	2 127	1 956	1 799	1 655	1 522
NPV		114 934														
BENEFIT/COST																
Income at present value		93 600	161 277	148 317	136 399	125 438	115 358	106 088	97 563	89 724	82 514	75 883	69 785	64 178	59 020	54 278
Costs at present value		42 639	49 580	44 430	39 818	35 689	31 991	28 680	25 713	23 056	20 676	18 544	16 633	14 921	13 387	12 012
benefit/cost ratio		3 54														

CUADRO 2
SANTA ADELAIDA COOPERATIVE OF COFFEE PRODUCERS
Incremental Net Benefit
FINANCIAL ANALYSIS

Item	without project	with project														
	96/97	96/97	97/98	98/99	99/00	00/01	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11
Inflow (gross benefit)																
value of output	302 446	269 029	382 222	393 689	405 499	417 664	430 194	443 100	456 393	470 085	484 187	498 713	513 674	529 085	544 957	561 306
Total inflow	302 446	269 029	382 222	393 689	405 499	417 664	430 194	443 100	456 393	470 085	484 187	498 713	513 674	529 085	544 957	561 306
Outflow (gross cost)																
Cash operating expenses	107 774	87 274	87 274	87 274	87 274	87 274	87 274	87 274	87 274	87 274	87 274	87 274	87 274	87 274	87 274	87 274
Duties & indirect taxes		16 142	22 933	23 621	24 330	25 060	25 812	26 586	27 384	28 205	29 051	29 923	30 820	31 745	32 697	33 678
Total outflow	107 774	71 132	84 341	63 653	62 944	62 214	61 462	60 688	59 890	59 069	58 223	57 351	56 454	55 529	54 577	53 596
Financing																
Interest payments		8 356	8 356	8 356	8 356	8 356	8 356	8 356	8 356	8 356	8 356	8 356	8 356	8 356	8 356	8 356
Income taxation																
Income taxes paid	21 171	18 832	26 756	27 558	28 385	29 237	30 114	31 017	31 948	32 906	33 893	34 910	35 957	37 036	38 147	39 291
Value added taxes	29 488	26 230	37 267	38 385	39 536	40 722	41 944	43 202	44 498	45 833	47 208	48 625	50 083	51 586	53 133	54 727
Gran Total Outflow	158 434	124 551	136 719	137 952	139 222	140 529	141 876	143 264	144 693	146 165	147 681	149 242	150 850	152 507	154 213	155 971
total incremental	144 012	144 478	245 503	255 737	266 278	277 135	288 318	299 836	311 700	323 920	336 507	349 471	362 824	376 578	390 744	405 335
net incremental		466	101 024	10 234	10 541	10 857	11 183	11 518	11 864	12 220	12 587	12 964	13 353	13 754	14 166	14 591
NET PRESENT VALUE (NPV)																
Factor de actualizacion (12%)		1 0000	0 89290	0 79720	0 71180	0 63550	0 56740	0 50700	0 45200	0 40400	0 36100	0 32700	0 28700	0 25700	0 22900	0 20500
Net Incremental at present value		466	90 205	8 159	7 503	6 900	6 345	5 840	5 363	4 937	4 544	4 239	3 832	3 535	3 244	2 991
NPV	158 102															
COST/BENEFIT																
Income at present value		269 029	341 286	313 849	288 634	265 426	244 092	224 652	206 290	189 914	174 792	163 079	147 425	135 975	124 795	115 068
Costs at present value		124 551	122 077	109 975	99 098	89 306	80 501	72 635	65 401	59 050	53 313	48 802	43 294	39 194	35 315	31 974
Benefit/cost ratio	2 98															

12
13

CUADRO 2A
SANTA ADELAIDA COOPERATIVE OF COFFEE PRODUCERS
Incremental Net Benefit
FINANCIAL ANALYSIS SCENARIO #1 TECHNICAL ASSISTANCE INCLUDED

Item	without project	with project														
	96/97	96/97	97/98	98/99	99/00	00/01	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11
Inflow (gross benefit)																
value of output	302 446	269 029	382 222	393 689	405 499	417 664	430 194	443 100	456 393	470 085	484 187	498 713	513 674	529 085	544 957	561 306
Total inflow	302,446	269 029	382,222	393,689	405 499	417 664	430,194	443 100	456 393	470 085	484 187	498 713	513 674	529 085	544 957	561 306
Outflow (gross cost)																
Cash operating expenses	107 774	87 274	87 274	87 274	87 274	87 274	87 274	87 274	87 274	87 274	87 274	87 274	87 274	87 274	87 274	87 274
consulting & management fees		9 960	9 960	9 960												
Duties & indirect taxes		16 142	22 933	23 621	24 330	25 060	25 812	26 586	27 384	28 205	29 051	29 923	30 820	31 745	32 697	33 678
Total outflow	107 774	81 092	74 301	73 613	62 944	62 214	61 462	60 688	59 890	59 069	58 223	57 351	56 454	55 529	54 577	53 596
Financing																
Interest payments		8 356	8 356	8 356	8 356	8 356	8 356	8 356	8 356	8 356	8 356	8 356	8 356	8 356	8 356	8 356
Income taxation																
Income taxes paid	21 171	18 832	26 756	27 558	28 385	29 237	30 114	31 017	31 948	32 906	33 893	34 910	35 957	37 036	38 147	39 291
Value added taxes	29 488	26 230	37 267	38 385	39 536	40 722	41 944	43 202	44 498	45 833	47 208	48 625	50 083	51 586	53 133	54 727
Gran Total Outflow	158 434	134,511	146,679	147 912	139,222	140 529	141 876	143 264	144 693	146 165	147 681	149 242	150 850	152 507	154 213	155 971
total incremental	144 012	134 518	235 543	245 777	266 278	277 135	288 318	299 836	311 700	323 920	336 507	349 471	362 824	376 578	390 744	405 335
net incremental		9 494	101 024	10 234	20 501	10 857	11 183	11 518	11 864	12 220	12 587	12 964	13 353	13 754	14 166	14 591
NET PRESENT VALUE (NPV)																
Factor de actualizacion (12%)		1 0000	0 89290	0 79720	0 71180	0 63550	0 56740	0 50700	0 45200	0 40400	0 36100	0 32700	0 28700	0 25700	0 22900	0 20500
Net Incremental at present value		9 494	90,205	8 159	14 593	6 900	6 345	5 840	5 363	4 937	4 544	4 239	3 832	3 535	3 244	2 991
NPV	155 231															
COST/BENEFIT																
Income at present value		269 029	341 286	313 849	288 634	265 426	244 092	224 652	206 290	189 914	174 792	163 079	147 425	135 975	124 795	115 068
Costs at present value		134 511	130 970	117 915	99 098	89 306	80 501	72 635	65 401	59 050	53 313	48 802	43 294	39 194	35 315	31 974
Benefit/cost ratio	2 91															

h.c.

CUADRO 2B
SANTA ADELAIDA COOPERATIVE OF COFFEE PRODUCERS
Incremental Net Benefit
FINANCIAL ANALYSIS SCENARIO #2 TECHNICAL ASSISTANCE INCLUDED (with increment of 50%)

Item	without project	with project														
	96/97	96/97	97/98	98/99	99/00	00/01	01/0	02/0	03/0	04/0	05/0	06/0	07/0	08/0	09/10	10/11
Inflow (gross benefit)																
value of output	302 446	269 029	382 222	393 689	405 499	417 664	430 194	443 100	456 393	470 085	484 187	498 713	513 674	529 085	544 957	561 306
Total inflow	302 446	269 029	382 222	393 689	405 499	417 664	430 194	443 100	456 393	470 085	484 187	498 713	513 674	529 085	544 957	561 306
Outflow (gross cost)																
Cash operating expenses	107 774	87 274	87 274	87 274	87 274	87 274	87 274	87 274	87 274	87 274	87 274	87 274	87 274	87 274	87 274	87 274
consulting & management fees		14 940	14 940	14 940	14 940	14 940	14 940	14 940	14 940	14 940	14 940	14 940	14 940	14 940	14 940	14 940
Duties & indirect taxes		16 142	22 933	23 621	24 330	25 060	25 812	26 586	27 384	28 205	29 051	29 923	30 820	31 745	32 697	33 678
Total outflow	107 774	86 072	79 281	78 593	77 884	77 154	76 402	75 628	74 830	74 009	73 163	72 291	71 394	70 469	69 517	68 536
Financing																
Interest payments		8 356	8 356	8 356	8 356	8 356	8 356	8 356	8 356	8 356	8 356	8 356	8 356	8 356	8 356	8 356
Income taxation																
Income taxes paid	21 171	18 832	26 756	27 558	28 385	29 237	30 114	31 017	31 948	32 906	33 893	34 910	35 957	37 036	38 147	39 291
Value added taxes	29 488	26 230	37 267	38 385	39 536	40 722	41 944	43 202	44 498	45 833	47 208	48 625	50 083	51 586	53 133	54 727
Gran Total Outflow	158 434	139 491	151 659	152 892	154 162	155 469	156 816	158 204	159 633	161 105	162 621	164 182	165 790	167 447	169 153	170 911
total incremental	144 012	129 538	230 563	240 797	251 338	262 195	273 378	284 896	296 760	308 980	321 567	334 531	347 884	361 638	375 804	390 395
net incremental		14 474	101 024	10 234	10 541	10 857	11 183	11 518	11 864	12 220	12 587	12 964	13 353	13 754	14 166	14 591
NET PRESENT VALUE (NPV)																
Factor de actualizacion (12%)		1 0000	0 89290	0 79720	0 71180	0 63550	0 56740	0 50700	0 45200	0 40400	0 36100	0 32700	0 28700	0 25700	0 22900	0 20500
Net Incremental at present value		14 474	90 205	8 159	7 503	6 900	6 345	5 840	5 363	4 937	4 544	4 239	3 832	3 535	3 244	2 991
NPV	143 162															
COST/BENEFIT																
Income at present value		269 029	341 286	313 849	288 634	265 426	244 092	224 652	206 290	189 914	174 792	163 079	147 425	135 975	124 795	115 068
Costs at present value		139 491	135 417	121 885	109 732	98 801	88 978	80 209	72 154	65 086	58 706	53 688	47 582	43 034	38 736	35 037
Benefit/cost ratio	2 70															

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CUADRO 3

CARA SUCIA COOPERATIVE FINANCIAL ANALYSIS Incremental Net Benefit HONEY DEW MELON

Item	without project	with project			
	1995/1996	1995/1996	1996/1997	1997/1998	1995/1996
Inflow (gross benefit)					
value of output	1,571,570	2,262,260	2,413,840	2,582,809	2,763,605
home consumed production					
family labor					
Total inflow	1,571,570	2,262,260	2,413,840	2,582,809	2,763,605
Outflow (gross cost)					
Cash operating expenses					
fertilizer	589,875	681,824	749,320	749,320	749,320
Equipment	214,500	247,819	272,415		
wages	268,125	309,881	340,626	340,626	340,626
selling, general & adm Expenses	26,455	34,320	29,744	29,744	29,744
training & research					
Land Improvement					
Duties & indirect taxes		-67,925	-72,358	-72,358	-72,358
Total outflow	1,098,955	1,205,919	1,319,747	1,047,332	1,047,332
total incremental	472,615	1,056,341	1,094,093	1,535,477	1,716,273
net incremental		583,726	37,752	441,384	180,797
NET PRESENT VALUE (NPV)					
Actualization factor (12%)		0.8929	0.7972	0.7118	0.6355
Net Incremental at present value		521,209	30,096	314,177	114,896
NPV		980,378			
COST/BENEFIT					
Income at present value		2,019,972	1,924,313	1,838,443	1,756,271
Costs at present value		1,076,765	1,052,102	745,491	665,579
Benefit-cost ratio	2.13				

CUADRO 3 A

CARA SUCIA COOPERATIVE **FINANCIAL ANALYSIS SCENARIO #1 TECHNICAL ASSISTANCE INCLUDED** **Incremental Net Benefit** **HONEY DEW MELON**

Item	without project	with project			
	1995/1996	1995/1996	1996/1997	1997/1998	1995/1996
Inflow (gross benefit)					
value of output	1,571,570	2,262,260	2,413,840	2,582,809	2,763,605
Total inflow	1,571,570	2,262,260	2,413,840	2,582,809	2,763,605
Outflow (gross cost)					
Cash operating expenses					
fertilizer	589,875	681,824	749,320	749,320	749,320
Equipment	214,500	247,819	272,415		
wages	268,125	309,881	340,626	340,626	340,626
consulting & management fees		125,268	125,268	125,268	
selling, general & adm Expenses	26,455	34,320	29,744	29,744	29,744
Duties & indirect taxes		-67,925	-72,358	-72,358	-72,358
Total outflow	1,098,955	1,331,187	1,445,015	1,172,600	1,047,332
total incremental	472,615	931,073	968,825	1,410,209	1,716,273
net incremental		458,458	37,752	441,384	306,065
NET PRESENT VALUE (NPV)					
Actualization factor (12%)		0.8929	0.7972	0.7118	0.6355
Net Incremental at present value		409,357	30,096	314,177	194,504
NPV		948,134			
COST/BENEFIT					
Income at present value		2,019,972	1,924,313	1,838,443	1,756,271
Costs at present value		1,188,617	1,151,966	834,657	665,579
Benefit-cost ratio	1.96				

CUADRO 3 B

**CARA SUCIA COOPERATIVE
FINANCIAL ANALYSIS**

SCENARIO #2 TECHNICAL ASSISTANCE INCLUDED (with increment of 50%)

Incremental Net Benefit

HONEY DEW MELON

Item	without project	with project			
	1995/1996	1995/1996	1996/1997	1997/1998	1995/1996
Inflow (gross benefit)					
value of output	1 571 570	2,262 260	2 413,840	2 582 809	2 763 605
home consumed production					
family labor					
Total inflow	1 571 570	2 262 260	2 413 840	2 582 809	2 763 605
Outflow (gross cost)					
Cash operating expenses					
fertilizer	589 875	681,824	749 320	749 320	749 320
Equipment	214,500	247,819	272,415		
wages	268 125	309 881	340,626	340,626	340 626
consulting & management fees		187,902	187 902	187 902	187 902
selling, general & adm Expenses	26,455	34,320	29,744	29,744	29 744
training & research					
Land Improvement					
Duties & indirect taxes		67 925	72 358	72 358	72 358
Total outflow	1 098 955	1,393 821	1,507,649	1 235 234	1 235 234
total incremental	472 615	868,439	906 191	1,347 575	1 528 371
net incremental		395,824	37,752	441 384	180 797
NET PRESENT VALUE (NPV)					
Actualization factor (12%)		0 8929	0 7972	0 7118	0 6355
Net Incremental at present value		353,431	30 096	314 177	114 896
NPV		812 600			
COST/BENEFIT					
Income at present value		2 019 972	1 924 313	1 838 443	1 756 271
Costs at present value		1 244 543	1 201 898	879 240	784 991
Benefit cost ratio	1 83				

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CUADRO 4

LOS PLANES COOPERATIVE FINANCIAL ANALYSIS Incremental Net Benefit

Item	without project		with project		
	1,996	1,996	1 997	1,998	1 999
Inflow (gross benefit)					
value of output	38,759 0	70,545 5	93,959 5	114,630 6	139 849 3
home consumed production	388 0	753 0	946 0	1 073 6	1 264 1
family labor	4,138 0	6,350 0	6,350 0	6,350 0	6 350 0
Total inflow	43,285 0	77,648 5	101,255 5	122,054 2	147 463 5
Outflow (gross cost)					
Cash operating expenses					
fertilizer	12,338 0	24 993 0	22,243 0	22 243 0	22 243 0
wages	10,540 0	12,174 0	11,807 0	12 267 0	12,267 0
selling, general & adm Expenses	1,614 0	1,718 0	1,718 0	1,718 0	1,718 0
Land Improvement		14,600 0			
Duties & indirect taxes					
Total outflow	24,492 0	53,485 0	35,768 0	36,228 0	36,228 0
total incremental	18,793 0	24,163 5	65,487 5	85,826 2	111,235 5
net incremental		5,370 5	41,324 0	20,338 6	25,409 3
NET PRESENT VALUE (NPV)					
Actualization factor (12%)		0 8929	0 7972	0 7118	0 6355
Net Incremental at present value		4,795 3	32,943 5	14,477 0	16,147 6
NPV		68,363 5			
COST/BENEFIT					
Income at present value		69,332 3	80,720 9	86,878 2	93,713 0
Costs at present value	-	47,756 8	28,514 2	25,787 1	23,022 9
Benefit/cost ratio	2 6				

CUADRO 4 A

**LOS PLANES COOPERATIVE
FINANCIAL ANALYSIS SCENARIO #1 Technical Assistance included
Incremental Net Benefit**

Item	without project		with project		
	1,996	1 996	1,997		1 999
Inflow (gross benefit)					
value of output	38,759 0	70,545 5	93 959 5	114 630 6	139 849 3
home consumed production	388 0	753 0	946 0	1 073 6	1 264 1
family labor	4,138 0	6,350 0	6,350 0	6,350 0	6 350 0
Total inflow	43 285 0	77 648 5	101,255 5	122 054 2	147 463 5
Outflow (gross cost)					
fertilizer	12,338 0	24,993 0	22,243 0	22,243 0	22,243 0
wages	10,540 0	12,174 0	11,807 0	12,267 0	12,267 0
consulting & management fees		1,752 0	1,752 0	1,752 0	
selling, general & adm Expenses	1,614 0	1,718 0	1,718 0	1 718 0	1,718 0
Land Improvement		7,300 0			
Duties & indirect taxes					
Total outflow	24,492 0	55,237 0	37,520 0	37,980 0	36,228 0
total incremental	18,793 0	22,411 5	63,735 5	84,074 2	111 235 5
net incremental		3,618 5	41,324 0	20,338 6	27,161 3
NET PRESENT VALUE (NPV)					
Actualization factor (12%)		0 8929	0 7972	0 7118	0 6355
Net Incremental at present value		3,230 9	32,943 5	14,477 0	17,261 0
NPV		67,912 5			
COST/BENEFIT					
Income at present value		69,332 3	80,720 9	86,878 2	93,713 0
Costs at present value		49,321 1	29,910 9	27,034 2	23,022 9
Benefit/cost ratio	2 56				

CUADRO 4 B

**LOS PLANES COOPERATIVE
FINANCIAL ANALYSIS**

**SCENARIO #2 Technical Assistance included (with increment of 50%)
Incremental Net Benefit**

Item	without project	with project			
	1 996	1 996	1 997		1 999
Inflow (gross benefit)					
value of output	38 759 0	70 545 5	93 959 5	114 630 6	139 849 3
home consumed production	388 0	753 0	946 0	1 073 6	1 264 1
family labor	4 138 0	6 350 0	6 350 0	6 350 0	6 350 0
Total inflow	43 285 0	77 648 5	101 255 5	122 054 2	147 463 5
Outflow (gross cost)					
Cash operating expenses	0 0	0 0	0 0	0 0	0 0
fertilizer	12 338 0	24 993 0	22 243 0	22 243 0	22 243 0
wages	10 540 0	12 174 0	11 807 0	12 267 0	12 267 0
consulting & management fees		2 628 0	2 628 0	2 628 0	2 628 0
selling general & adm Expenses	1 614 0	1,718 0	1 718 0	1 718 0	1 718 0
training & research	0 0	7,300 0	0 0	0 0	0 0
Land Improvement		7 300 0			
Duties & indirect taxes					
Total outflow	24 492 0	56 113 0	38 396 0	38 856 0	38 856 0
total incremental	18 793 0	21 535 5	62 859 5	83 198 2	108 607 5
net incremental		2 742 5	41 324 0	20 338 6	25 409 3
NET PRESENT VALUE (NPV)					
Actualization factor (12%)		0 8929	0 7972	0 7118	0 6355
Net Incremental at present value		2 448 8	32 943 5	14 477 0	16 147 6
NPV		66 017 0			
COST/BENEFIT					
Income at present value		69 332 3	80 720 9	86 878 2	93 713 0
Costs at present value		50 103 3	30 609 3	27 657 7	24 693 0
Benefit/cost ratio	2 48				

CUADRO 5

THE PROJECT AS A WHOLE: FINANCIAL EVALUATION Incremental Net Benefit

Item	without project	with project			
	95/96	95/96	96/97	97/98	98/99
Inflow (gross benefit)					
value of output	9,409,662	18,937,316	17,882,027	17,882,027	17,882,027
total inflow	9,409,662	18,937,316	17,882,027	17,882,027	17,882,027
Cash operating expenses					
fertilizer	2,626,246	1,673,300	1,845,851	1,845,851	1,845,851
wages	2,862,203	4,188,219	5,180,686	5,180,686	5,180,686
selling, general & adm Expenses	437,122	555,879	616,749	616,749	616,749
Interest payments	138,575	226,138	250,452	250,452	250,452
Duties & indirect taxes	0	-564,580	-1,136,239	-1,072,922	-1,072,922
Income taxes	75,044	140,961	194,285	194,285	194,285
Total outflow	6,139,189	6,219,917	6,951,783	7,015,101	7,015,101
total incremental	3,345,517	12,717,399	10,930,244	10,866,927	10,866,927
net incremental		9,371,882	-1,787,155	-63,317	0
NET PRESENT VALUE (NPV)					
Actualization factor (12%)		0.8929	0.7972	0.7118	0.6355
Net Incremental at present value		8,368,153	-1,424,720	-45,069	0
NPV		6,898,364			
COST/BENEFIT					
Income at present value		43,893,108			
Costs at present value		20,547,170			
Benefit/cost ratio		2.14			

CUADRO 5.A

THE PROJECT AS A WHOLE FINANCIAL EVALUATION Scenario #1: Technical Asistance included Incremental Net Benefit

Item	without project	with project			
	95/96	95/96	96/97	97/98	98/99
Inflow (gross benefit)					
value of output	9,409,662	18,937,316	17,882,027	17,882,027	17,882,027
total inflow	9,409,662	18,937,316	17,882,027	17,882,027	17,882,027
Cash operating expenses					
fertilizer	2,626,246	1,673,300	1,845,851	1,845,851	1,845,851
wages	2,862,203	4,188,219	5,180,686	5,180,686	5,180,686
consulting & management fees	0	960,279	960,279	960,279	960,279
selling, general & adm Expenses	437,122	555,879	616,749	616,749	616,749
Interest payments	138,575	226,138	250,452	250,452	250,452
Duties & indirect taxes	0	-560,347	-1,130,601	-1,066,044	-1,064,531
Income taxes	75,044	140,961	194,285	194,285	194,285
Total outflow	6,139,189	7,184,429	7,917,700	7,982,258	7,983,771
total incremental	3,270,473	11,752,887	9,964,327	9,899,770	9,898,257
net incremental		8,482,414	-1,788,560	-64,557	-1,513
NET PRESENT VALUE (NPV)					
Actualization factor (12%)		0.8929	0.7972	0.7118	0.6355
Net Incremental at present value		7,573,947	-1,425,840	-45,952	-962
NPV		6,101,194			
COST/BENEFIT					
Income at present value		43,893,108			
Costs at present value		23,482,424			
Benefit/cost ratio		1.87			

CUADRO 5 B

THE PROJECT AS A WHOLE FINANCIAL EVALUATION
Scenario #2 Technical Asistance included (with increment of 50%)
Incremental Net Benefit

Item	without project	with project			
	95/96	95/96	96/97	97/98	98/99
Inflow (gross benefit)					
value of output	9 409 662	18 937 316	17 882 027	17 882 027	17 882 027
total inflow	9 409 662	18 937 316	17 882 027	17 882 027	17 882 027
Cash operating expenses					
fertilizer	2 626 246	1 673 300	1 845 851	1 845 851	1 845 851
wages	2,862 203	4,188,219	5,180,686	5 180 686	5 180 686
consulting & management fees	0	1 440 419	1 440 419	1 440,419	1 440 419
selling general & adm Expenses	437 122	555 879	616 749	616 749	616 749
Interest payments	138,575	226 138	250 452	250,452	250 452
Duties & indirect taxes	0	560 347	1 130 601	1,066,044	1 064 531
Income taxes	75 044	140 961	194,285	194 285	194 285
Total outflow	6,139,189	7 664 568	8,397 840	8 462,397	8 463 910
total incremental	3,270,473	11,272 747	9,484 188	9,419,630	9,418,117
net incremental		8 002 274	1 788,560	64 557	1 513
NET PRESENT VALUE (NPV)					
Actualization factor (12%)		0 8929	0 7972	0 7118	0 6355
Net Incremental at present value		7,145 231	1 425,840	45 952	962
NPV		5 672 477			
COST/BENEFIT					
Income at present value		43,893,108			
Costs at present value		24 940 800			
Benefit/cost ratio		1 76			

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CUADRO 6

THE PROJECT AS A WHOLE ECONOMIC EVALUATION Incremental Net Benefit

Item	without project	with project			
	95/96	95/96	96/97	97/98	98/99
Inflow (gross benefit)					
value of output	9 409,662	18,937,316	17,882,027	17 882,027	17,882 027
total inflow	9,409,662	18 937 316	17 882 027	17 882 027	17 882 027
Cash operating expenses					
fertilizer	2,344,862	1,494,018	1,648 081	1 648,081	1 648 081
wages	2,862,203	4,188,219	5,180,686	5,180,686	5,180,686
consulting & management fees	0	960,279	960,279	960,279	960,279
selling, general & adm Expenses	437,122	555,879	616,749	616,749	616,749
Interest payments	138,575	226,138	250,452	250,452	250 452
Duties & indirect taxes (Drawback)	0	-560,347	-1,130,601	-1,066,044	-1,064,531
Total outflow	5,782,761	6,864,186	7,525,646	7,590,203	7,591,716
total incremental	3,626,901	12,073,130	10,356,382	10,291,824	10,290,311
net incremental		8,446,229	-1,716,748	-64,557	-1,513
NET PRESENT VALUE (NPV)					
Actualization factor (12%)		0 8929	0 7972	0 7118	0 6355
Net Incremental at present value		7,541,638	-1,368,591	-45,952	-962
NPV		6,126,133			
COST/BENEFIT					
Income at present value		16,909,129	14,255,552	12,728,427	11,364,028
Costs at present value		6,129,032	5,999,445	5 402,707	4,824,536
Benefit/cost ratio	2 47				

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ANNEX 1

**LOS PLANES COOPERATIVE
FINANCIAL ANALYSIS
Incremental Net Benefit
CARROT AND ORGANIC CARROT**

Item	without	with			
	project	project			
	1,996	1,996	1 997	1,998	1 999
Inflow (gross benefit)					
value of output	13,125 0	20,268 0	24,816 0	30,275 5	36 936 1
home consumed production	132 0	250 0	255 0	230 0	235 0
family labor	2,069 0	2,930 0	2,930 0	2,930 0	2 930 0
Total inflow	15,326 0	23,448 0	28,001 0	33,435 5	40,101 1
Outflow (gross cost)					
Cash operating expenses					
fertilizer	6,714 0	5,860 0	5,860 0	5,860 0	5,860 0
wages	4,595 0	5,407 0	5,040 0	5,500 0	5,500 0
selling, general & adm Expenses	1,250 0	1,500 0	1,500 0	1,500 0	1,500 0
Land Improvement		7,300 0			
Duties & indirect taxes					
Total outflow	12,559 0	20,067 0	12,400 0	12,860 0	12,860 0
total incremental	2,767 0	3,381 0	15,601 0	20,575 5	27,241 1
net incremental		614 0	12,220 0	4,974 5	6,665 6
NET PRESENT VALUE (NPV)					
Actualization factor (12%)		0 893	0 797	0 712	0 636
Net incremental at present value		548 2	9,741 8	3,540 9	4,236 0
NPV		18,066 9			
COST/BENEFIT					
Income at present value		20,936 7	22,322 4	23,799 4	25,484 3
Costs at present value		17,917 8	9,885 3	9,153 7	8,172 5
Benefit/cost ratio	2 05				

ANNEX 2

**LOS PLANES COOPERATIVE
FINANCIAL ANALYSIS SCENARIO #1 Technical Assistance included
Incremental Net Benefit
CARROT AND ORGANIC CARROT**

Item	without	with			
	project	project			
	1,996	1 996	1,997	1 998	1 999
Inflow (gross benefit)					
value of output	13,125 0	20,268 0	24 816 0	30 275 5	36 936 1
home consumed production	132 0	250 0	255 0	230 0	235 0
family labor	2,069 0	2,930 0	2,930 0	2,930 0	2,930 0
Total inflow	15,326 0	23,448 0	28,001 0	33,435 5	40 101 1
Outflow (gross cost)					
fertilizer	6,714 0	5,860 0	5 860 0	5,860 0	5 860 0
wages	4,595 0	5,407 0	5,040 0	5 500 0	5,500 0
consulting & management fees		876	876	876	
selling, general & adm Expenses	1,250 0	1,500 0	1,500 0	1,500 0	1,500 0
Land Improvement		7,300 0			
Duties & indirect taxes					
Total outflow	12,559 0	20,943 0	13,276 0	13,736 0	12,860 0
total incremental	2,767 0	2,505 0	14,725 0	19,699 5	27,241 1
net incremental		-262 0	12,220 0	4,974 5	7,541 6
NET PRESENT VALUE (NPV)					
Actualization factor (12%)		0 893	0 797	0 712	0 636
Net Incremental at present value		-233 9	9,741 8	3,540 9	4,792 7
NPV		17,841 4			
COST/BENEFIT					
Income at present value		20,936 7	22,322 4	23,799 4	25,484 3
Costs at present value		18,700 0	10 583 6	9,777 3	8,172 5
Benefit/cost ratio	1 96				

ANNEX 3

LOS PLANES COOPERATIVE FINANCIAL ANALYSIS

Incremental Net Benefit CABBAGE AND ORGANIC LETTUCE

Item	without project	with project			
	1 996	1,996	1,997	1,998	1 999
Inflow (gross benefit)					
value of output	25,634 0	50,277 5	69,143 5	84 355 1	102 913 2
home consumed production	256 0	503 0	691 0	843 6	1 029 1
family labor	2,069 0	3,420 0	3,420 0	3,420 0	3,420 0
Total inflow	27,959 0	54,200 5	73,254 5	88,618 6	107,362 3
Outflow (gross cost)					
fertilizer	5,624 0	19,133 0	16,383 0	16,383 0	16,383 0
wages	5,945 0	6,767 0	6,767 0	6,767 0	6,767 0
selling, general & adm Expenses	364 0	218 0	218 0	218 0	218 0
Land Improvement		7,300 0			
Duties & indirect taxes					
Total outflow	11,933 0	33,418 0	23,368 0	23,368 0	23,368 0
total incremental	16,026 0	20,782 5	49,886 5	65,250 6	83,994 3
net incremental		4,756 5	29,104 0	15,364 1	18,743 7
NET PRESENT VALUE (NPV)					
Actualization factor (12%)		0 8929	0 7972	0 7118	0 6355
Net Incremental at present value		4,247 1	23,201 7	10,936 2	11,911 6
NPV		50,296 6			
COST/BENEFIT					
Income at present value		48,395 6	58,398 5	63,078 8	68,228 8
Costs at present value		29,838 9	18,629 0	16,633 3	14,850 4
Benefit/cost ratio	2 98				

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ANNEX 4

LOS PLANES COOPERATIVE

FINANCIAL ANALYSIS SCENARIO #1 TECHNICAL ASSISTANCE INCLUDED

Incremental Net Benefit

CABBAGE AND ORGANIC LETTUCCE

Item	without project	with project			
	1,996	1,996	1,997	1,998	1,999
Inflow (gross benefit)					
value of output	25,634 0	50,277 5	69,143 5	84,355 1	102,913 2
home consumed production	256 0	503 0	691 0	843 6	1 029 1
family labor	2,069 0	3,420 0	3,420 0	3,420 0	3,420 0
Total inflow	27,959 0	54,200 5	73,254 5	88,618 6	107,362 3
fertilizer	5,624 0	19,133 0	16,383 0	16,383 0	16,383 0
wages	5,945 0	6,767 0	6,767 0	6,767 0	6,767 0
consulting & management fees		876	876	876	
selling, general & adm Expenses	364 0	218 0	218 0	218 0	218 0
Land Improvement					
Duties & indirect taxes					
Total outflow	11,933 0	34,294 0	24,244 0	24,244 0	23,368 0
total incremental	16,026 0	19,906 5	49,010 5	64,374 6	83,994 3
net incremental		3,880 5	29,104 0	15,364 1	19,619 7
NET PRESENT VALUE (NPV)					
Actualization factor (12%)		0 8929	0 7972	0 7118	0 6355
Net Incremental at present value		3,464 9	23,201 7	10,936 2	12,468 3
NPV		50,071 1			
COST/BENEFIT					
Income at present value		48,395 6	58,398 5	63,078 8	68,228 8
Costs at present value		30,621 1	19,327 3	17,256 9	14,850 4
Benefit/cost ratio	2 90				

ANNEX 5

	ORGANIC COFFEE		
	W/O P	96/97	97/98
Area manzanas	380	380	380
qq per mz	15	21	21
Prices	990	1,325	1,433
TOTAL REVENUES	5,755,860	10,472,800	11,326,432
Fertilizer	3,105	1,269	1,433
Wages	3,700	4,645	5,428
Consulting & management fees		876	876
Selling, general & adm Expenses	663	961	1,109
Interest payments			
Duties & indirect taxes			
Income taxes	147	304	447
TOTAL EXPENDITURE	2,837,840	2,945,380	3,361,480

	ORGANIC COFFEE 2		
	W/O P	96/97	97/98
	436 0	436 0	436 0
	3	3	3
	975	1 288	1 205
	1,275,300	1,695,935	1,628,678
	972	229	335
	772	835	1,223
		876	876
	244	173	254
	44	58	56
	885,952	946,709	1,196,393

	ORGANIC COCOA		
	W/O P	96/97	97/98
Area manzanas	191 0	191 0	191 0
qq per mz	9 0	11 3	8 0
Prices	352	380	465
TOTAL REVENUES	605,088 0	822,331 4	710,520 0
Fertilizer	1,400 0	165 0	61 0
Wages	1,049 0	1,127 0	2,294 0
Consulting & management fees		876	876
Selling, general & adm Expenses	210 0	205	201
Interest payments			
Duties & indirect taxes			
Income taxes			
TOTAL EXPENDITURE	507,869 0	453,243 0	655,512 0

	ORGANIC SESAME		
	W/O P	96/97	97/98
	100 0	180 0	180 0
	7 0	6 4	9 0
	240	349	380
	168,000 0	402,048 0	615,600 0
	450	34	147
	850	929	1250
		219	219
	50	58	84
	135,000 0	223,200 0	306,000 0

ANNEX 6

ORGANIC SESAME 2			
	W/O P	96/97	97/98
Area manzanas	108 0	140 0	140 0
qq per mz	8 0	9 0	8 0
Prices	240	340	340
TOTAL REVENUES	207,360 0	428,400 0	380,800 0
Fertilizer	486	174	214
Wages	1420	1479	1817
Consulting & management fees		219	219
Selling, general & adm Expenses	80	87	107
Interest payments			
Duties & indirect taxes			
Income taxes			
TOTAL EXPENDITURE	214,488 0	274,260 0	329,980 0

WATERMELON			
	W/O P	96/97	97/98
	25 0	25 0	26 0
		745 0	601 1
		38	48
	12250	707778 5	750,172 8
	3500	6519	9087
	3243	6907	6396
		292	292
	211	239	111
	681	1200	1030
	190875	394082	439,816 0

BLACKEYE PEA			
	W/O P	96/97	97/98
Area manzanas		224 0	146 0
qq per mz		61 0	50 0
Prices		98	98
TOTAL REVENUES		1,339,072 0	715,400 0
Fertilizer		865	694
Wages		2113	8164
Consulting & management fees			
Selling, general & adm Expenses			
Interest payments		283	262
Duties & indirect taxes			
Income taxes			
TOTAL EXPENDITURE		730,464 0	1,331,520 0

HONEY DEW MELON			
	W/O P	96/97	97/98
	143 0	146 0	146 0
		281 3	242 0
	9,420	73	47
	1,347,060 0	2,998,415 1	1,660,466 8
	3900	4299	4908
	4400	5495	2019
	850	901	1270
	1,308,450 0	1,561,470 0	1,196,762 0

ANNEX 7

	ORGANIC CARROT		
	W/O P	96	97
Area manzanas	0 24	0 24	0 24
qq per mz	437	422	517
Prices	125	200	200
TOTAL REVENUES	13,110 0	20,256 0	24,816 0
Fertilizer	6714	5860	5860
Wages	4595	5407	5040
Consulting & management fees		219	219
Selling, general & adm Expenses	1250	1500	1500
Interest payments			
Duties & indirect taxes			
Income taxes			
TOTAL EXPENDITURE	12559	12986	12619

	ORGANIC LETTUCE		
	W/O P	96	97
	1 93	1 93	1 93
		105 9	129 8
		246	276
	25634	50279 202	69141 864
	5624	19133	16383
	5945	6767	6767
		219	219
	364	7518	
	11933	33637	23369

CUADRO 6-A

THE PROJECT AS A WHOLE ECONOMIC EVALUATION
Scenario #1 50% Increment in Technical Assistance
Incremental Net Benefit

Item	without project	with project			
	95/96	95/96	96/97	97/98	98/99
Inflow (gross benefit)					
value of output	9,409 662	18 937,316	17,882 027	17 882,027	17 882 027
total inflow	9,409 662	18 937,316	17 882 027	17 882 027	17 882 027
Cash operating expenses					
fertilizer	2 344 862	1 494,018	1 648 081	1 648 081	1,648 081
wages	2,862 203	4 188,219	5,180 686	5 180 686	5,180,686
consulting & management fees	0	1 440 419	1 440 419	1 440 419	1 440,419
selling, general & adm Expenses	437,122	555,879	616,749	616 749	616,749
Interest payments	138 575	226,138	250,452	250,452	250,452
Duties & indirect taxes (Drawback)	0	560 347	1,130,601	1,066,044	1,064 531
Total outflow	5 782 761	7,344 326	8,005,785	8 070,343	8 071 856
total incremental	3,626,901	11,592,990	9,876,242	9,811,685	9,810,171
net incremental		7,966,089	1,716,748	64,557	1,513
NET PRESENT VALUE (NPV)					
Actualization factor (12%)		0 8929	0 7972	0 7118	0 6355
Net Incremental at present value		7,112,921	1 368,591	45 952	962
NPV		5,697 416			
COST/BENEFIT					
Income at present value		16 909,129	14,255,552	12 728,427	11,364,028
Costs at present value		6,557,748	6,382,212	5,744,470	5,129 664
Benefit/cost ratio	2 32				