MEDIUM-SIZED PROJECT BRIEF

PROJECT SUMMARY

PROJECT IDENTIFIERS	
1. Project name: Promotion of Biodiversity Conservation within Coffee Landscapes	2. GEF Implementing Agency: The World Bank
3. Country or countries in which the project is being implemented: El Salvador	4. Country eligibility: El Salvador ratified the Convention on Biological Diversity on September 8, 1994
5. GEF focal area(s): Biodiversity	6. Operational program/Short-term measure: This proposal falls within two Operational Programs: Forests and Mountains. The project will promote biodiversity conservation within agricultural landscapes and in support of the Mesoamerican Biological Corridor.
7. Project linkage to national priorities, action plans, and programs: The national environmental strategy ("El Desafío Salvadoreño: de la Paz al Desarrollo Sostenible") identifies biodiversity conservation, watershed protection, and erosion control as critical elements to achieve sustainable development. Within this strategy, the maintenance and improvement of forest cover in coffee plantations is singled out as a high priority for the nation because of its many biodiversity and other environmentally positive aspects. This proposal addresses these critical goals. It also address global environmental objectives through the maintenance of biodiversity-friendly habitats and the provision of biological corridors at both national and regional levels.	
8. GEF national operational focal point and date of country endorsement: Cesar Funes Abrego - GEF Operational Focal Point - Ministry of Environment and Natural Resources, March 9, 1998.	
PROJECT OBJECTIVES AND ACTIVITIES	
9. Project rationale and objectives: The project seeks to conserve critical biodiversity in El Salvador through the maintenance and enhancement of habitats within shade-coffee plantations in the biological corridor linking El Imposible and Los Volcanes protected areas. El Salvador is a country where severe environmental degradation has taken place. Only 2% of original forest cover remains under natural conditions, and many remaining lands are degraded or eroded because of unsustainable land use practices. Therefore, the establishment of additional protected areas is not a viable alternative for conserving biodiversity over large areas. Restoring degraded lands and enhancing productive landscapes for biodiversity conservation are therefore necessary steps for achieving biodiversity conservation.	Indicators: (a) Extent of forest cover (biodiversity habitat) in coffee farms maintained or increased over the baseline (b) Number of threatened species surviving within shade-coffee plantations over the baseline

10. Project outcomes:	Indicators:
Project outcomes include:(a) increase of the area cultivated under shade coffee using biodiversity friendly practices from the current baseline; (b) initiate the establishment of a biological corridor of shade coffee habitats linking the El Imposible and Los Volcanes (Cerro Verde) protected areas; and (c) creation of incentives for biodiversity conservation through the creation of a biodiversity friendly coffee export industry in El Salvador. The Corridor would cover roughly 75,000 ha, and has been identified as one of the most important national corridors in terms of biodiversity, as well as a strategic link in the regional Mesoamerican Biological Corridor. (Possible expansion of the program to other areas would be assessed during supervision.)	(a) Surface area of shade coffee farms certified as biodiversity friendly in El Salvador (ha 8,000 or 4% of coffee area). (b) Surface area of El Imposible-Los Volcanes biological corridor under certified coffee (ha 4,000 or 5% of the corridor). (c) Price premium received by farmers for biodiversity friendly coffee (5%). Percentage of El Salvador coffee exports that are certified as biodiversity-friendly (2%).
11. Project activities to achieve outcomes (including cost in US$ or local currency of each activity): 1. Strengthening of extension services by means of training on the concept of biodiversity-friendly coffee. (Total Cost $384,250, Baseline $198,000, GEF $186,250) 2. Development of a certification program for "biodiversity-friendly coffee" and training of the certifiers (Total Cost $946,750, Baseline $638,000, GEF $308,750) 3. Marketing study for "bird-friendly coffee", domestic public awareness campaign, and international promotion campaign (Cofinanced by Enhancing Competitiveness TA Project of the World Bank) (Total Cost $2,015,250, Baseline $1,904,000, GEF $111,250) 4. Biological and socio-economic monitoring, including but not limited to: area cultivated by shade coffee category; value of different regimes as biodiversity habitat; variation in yields, profits, employment opportunities by regime; quantities of "biodiversity friendly" coffee certified and exported; etc. (Total Cost $453,750, Baseline $335,000, GEF $118,750)	Indicators: (1) Number and types of extension materials prepared; number of extension agents trained (20); number of farms reached by extension agents and environmental educators in the corridor (4,000). (2) Production of certification criteria; number of certifiers trained (10); number of farms certified in the corridor (200). (3) Data from marketing study; development of market test in the US; distribution of coffee; number of advertisements; number of retail outlets offering the coffee for sale (40). (4) Timely establishment of GIS and other monitoring systems (data from 40 representative plantations); key indicators will include: number of species of conservation concern which utilize different regimes as important habitat; number of migratory bird species present in shade coffee vs. sun coffee farms; area cultivated by shade-coffee category; variation in yields, profits, employment, by regime; quantities of "biodiversity-friendly" coffee certified and exported.
12. Estimated budget (in US$): The GEF would finance the incremental costs associated with enhancing biodiversity habitats within the coffee landscape. Substantial co-financing has been mobilized to finance baseline activities to support the development of the biodiversity friendly production system and exports (see Annex 1 for details).	

PDF A:	$25,000
GEF:	$725,000
Co-financing (ProCafe):	$169,000
Co-financing (Other Donors):	$2,916,000
TOTAL:	$3,835,000

INFORMATION ON INSTITUTION SUBMITTING PROJECT BRIEF

13. PROCAFE (Fundación Salvadoreña para Investigación del Café), a private sector non-profit organization responsible for coffee research and extension. The principal objective of PROCAFE is the modernization of the national coffee industry through the generation and transfer of technology to coffee producers. ProCafé has been working directly with El Salvador's coffee producers since its inception, and has a legislated mandate to provide extension services to the coffee sector. It is the only institution in El Salvador responsible for coffee research and extension, and is supervised by the government's Consejo Salvadoreño del Café.

14. Information on proposed executing agency (if different from above): Same as above

15. Date of initial submission of project concept: July 23, 1997

INFORMATION TO BE COMPLETED BY IMPLEMENTING AGENCY:

16. Project identification number:

17. Implementing Agency contact person: Paola Agostini - LCSES - ext. 458-2416, Christine Kimes - ENVGC - ext. 473-3689.

18. Project linkage to Implementing Agency program(s): The Project is consistent with the World Bank's Country Assistance Strategy for El Salvador, which identifies the destruction of forests as an issue of major importance for the country and gives top priority to improving natural resources management at the farm level and enhancing competitiveness of the country's export industries. Currently, the World Bank has two projects related to this proposal: (i) Competitiveness Enhancement TA Project, which has chosen the coffee sector as one of the sectors for analysis and support; and (ii) Agricultural Sector Reform and Investment Project, which supports the Government in agricultural research and extension for small farmers, with the exception of coffee, sugar and cotton, for which research and extension are private (PROCAFE, COPAL, INAZUCAR).

The World Bank is also supporting the Central American governments in their efforts to conserve and protect the Mesoamerican Biological Corridor (MBC). Currently, the WB/GEF is supporting national MBC projects in Honduras, Nicaragua, and Panama. The proposed Project would complement efforts in these neighboring countries by establishing an important corridor for migratory birds to overwinter.

PROJECT DESCRIPTION

PROJECT RATIONALE AND OBJECTIVES

El Salvador is a country where extreme environmental degradation has taken place. Only 2% of original forest cover remains under natural conditions, and the majority of remaining lands are degraded or eroded because of unsustainable land use practices. Given the small amount of natural habitats remaining in the country, the establishment of protected areas is not sufficient for conserving biodiversity over large areas. Restoring degraded lands and enhancing productive landscapes for biodiversity conservation are therefore necessary steps for achieving biodiversity conservation in El Salvador.

The coffee sector provides an excellent opportunity for integrating conservation in the productive landscape, as there are currently 196,000 ha (or 9% of the country) under coffee cultivation[1], about 95% of which occurs under varying degrees of shade. The presence of coffee grown under some types of shade offers important opportunities for biodiversity conservation and sustainable development in El Salvador, because the structural profile of some "shade" coffee farms resembles that of a natural forest, and provides important habitat for globally significant biodiversity.

El Salvador occurs within the Neotropical realm. Today, only small patches of Sierra Madre Moist Forest, Montane Forest, Pacific Dry Forest, and Pine-Oak Forest remain. However, the rich biodiversity that was once present is maintained to a surprisingly high degree within the traditional shade coffee system. In particular, shade coffee plantations are critical to both resident birds species and migrants from North America.

According to an analysis by Komar (Wilson Bulletin, in press), there are 509 bird species reported in El Salvador, of which close to 310 are Neotropical resident species. 128 species of birds are restricted to forest habitats and most of these species are found in shade coffee. For these species, shade coffee along altitudinal gradients provides important corridors for altitudinal migration. Of these, 2 species are considered threatened and 24 vulnerable at the global level. Thus, improvement and protection of forest-like habitat in El Salvador would benefit the large proportion of resident birds at risk that are restricted to forest habitats. In addition, there are over 420 species of birds that migrate from North America to the tropics, many of which are considered at risk because of rapid disappearance of habitats in both breeding and non-breeding areas. One hundred and ninety-three migratory species have been reported in El Salvador. The geographic position of El Salvador makes it important and strategic for these migrants, given that it receives populations "funneling" from both eastern and western North America. The great majority of migratory land birds only migrate as far as middle Central America and the Caribbean. Since many (if not most) of these migratory species show strong site fidelity, those specific populations migrating to El Salvador are unlikely to find alternative habitats elsewhere, especially because deforestation throughout Central America has been rampant. Approximately 40 species of migratory land birds that visit El Salvador are considered species of global concern by the Partners in Flight Program, an international cooperative program including academia, government agencies, and NGOs. The remaining shade coffee plantations in El Salvador are thus critical for these migratory species. Given the high degrees of deforestation in southern Mexico and northern Central America (where most migratory bird species over-winter), scientists believe that shade coffee is as important for migratory land birds as remaining undisturbed tropical forests. Addressing forest issues in El Salvador by maintaining or expanding shade-coffee cultivation would therefore represent an important contribution to providing migrant species with suitable wintering grounds.

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[1] According to the Ministry of Agriculture and Livestock, Office of Land and Cattle Economy (*Dirección General de Economía Agropecuaria*), 1996.

Shade coffee, however, is not only important for birds. It also provides important habitats for other Neotropical forest organisms with high degrees of endemism, including salamanders, beetles, bats, orchids, and other groups. Given the extreme degree of habitat degradation in El Salvador, coffee plantations under shade present the best opportunity for biodiversity conservation of national and global concern on a reasonable scale.

Therefore, the project seeks to conserve critical biodiversity in El Salvador through the maintenance and enhancement of habitats within shade-coffee plantations. Specific outcomes sought include:

(a) increase the extent of coffee plantations under biodiversity-friendly shade regimes to serve as habitats for globally significant biodiversity;

(b) initiate the establishment of biological corridors composed of shade coffee plantations; and

(c) promote the development of a "biodiversity-friendly" coffee production system in El Salvador, along with its certification and marketing abroad.

CURRENT SITUATION

COFFEE PRODUCTION SYSTEMS. Coffee plays an important role in the economy of El Salvador: it represents 3% of GNP, employs 134,000 people, and generates between 30-50% of agricultural export earnings. There are 20,000 coffee producers in El Salvador, and cultivated area planted to coffee totals 196,000 ha. Estimates of cultivation practices suggest that 95% of the cultivated area may be classified as shade coffee plantations. Within the shade coffee category, 4 types of shade coffee regimes can be identified, following a classification system developed in Mexico (see Figure 1).

(1) **Rustic to Traditional Polyculture.** Rustic shade coffee is grown under the shade of a natural forest where the understory is replaced by coffee shrubs but the native forest canopy remains more or less intact. Where selected shade tree species of high economic value have been inter-planted within forest, the system is known as Traditional Polyculture. Because of their complex canopy and mid-story tree structure and their high diversity of shade tree species, Rustic and Traditional Polyculture systems provide the best habitat for biodiversity conservation. Preliminary estimates based on aerial reconnaissance indicate that about 5% of El Salvador's shade coffee area falls into this category.

(2) **Diverse Commercial Polyculture.** In commercial polyculture systems, the canopy shade trees are mostly planted, rather than remaining from the original natural forest. In the Diverse Commercial Polyculture system, the diversity of shade trees is relatively high (well over 10 species), while canopy is usually at least 12-15 meters high and relatively uneven. This system provides good habitat for biodiversity conservation. It occupies roughly 20% of the shade coffee area in El Salvador, and is especially prevalent in the eastern portion of the country, although it also occurs in the western coffee-growing regions.

(3) **Simplified Commercial Polyculture.** In the simplified or "less diverse" commercial polyculture system, the diversity of shade trees and density of shade cover is considerably less, while the canopy is relatively short and even. This system provides suitable habitat for a much smaller number of animal and plant species; it is thus much less desirable from a biodiversity standpoint than the more diverse systems mentioned above. It occupies roughly 30% of El Salvador's shade coffee area and is particularly prevalent in the western portion of the country.

(4) **Specialized Shade.** This system is a virtual monoculture, with one (or very few) species of canopy tree species utilized. The shade trees used are relatively low-growing, often with considerable shadeless gaps between them. Among shade coffee systems, this system most closely approximates full sun coffee; it has minimal value from a biodiversity standpoint. About 40% of El Salvador's coffee area (primarily in the west) now uses this "technified" system.

Only shade regime types 1 and 2 could be considered as biodiversity friendly coffee habitats. Critical characteristics necessary for promoting biodiversity conservation have been distilled into certification criteria, which would be used as the basis for proposed project activities (see Annex 3).

Specialized shade and full sun coffee cultivation techniques were originally a response to the appearance of coffee leaf rust (Hemileia vastatrix). The package promoted to combat the disease ("technification") comprised the following elements: (i) replacement of traditional varieties of coffee with varieties that respond well to chemical fertilizers and pesticides; (ii) reduction of shade cover; (iii) increased coffee plant densities; and (iv) regular applications of fertilizers, herbicides, insecticides, and fungicides. Yields of sun coffee per unit area are frequently higher than for shade coffee regimes.

A 1997 study by the Central American business school, INCAE, reported that El Salvadoran shade coffee producers earn higher returns per hectare than do Costa Rican sun coffee producers, despite higher yields from sun coffee farms. Another study by a consultant working for PROCAFE demonstrated that biodiverisity-friendly shade coffee is more profitable for the small farmer than other types of coffee under most scenarios in El Salvador. Coffee grown under shade is of much higher quality and is preferred by consumers. In addition, studies in Central America have shown that these monoculture practices are also associated with unacceptable levels of pesticide use (which have resulted in negative impacts on human health) and with significantly higher soil erosion rates when compared with shade coffee. Sun coffee also does not provide the important timber and fuelwood benefits of shade coffee systems.

While in Latin America a trend is underway for coffee producers to shift from shade coffee to sun coffee, in El Salvador 95% of the coffee is still cultivated under shade, however not all of it is good for biodiversity conservation and the trend is from rustic shade coffee to specialized shade coffee. The cause driving the shift to less diverse shade systems in El Salvador appears to be higher coffee yields per hectare and the lack of information about the relative profitability of alternative production systems, when all inputs and outputs are compared (e.g., including non-coffee products such as fruit, fuelwood, timber, and ecotourism). Without the proposed GEF project intervention, it is expected that the trend would continue, resulting in the loss of cultivated area utilizing rustic polyculture and diverse commercial polyculture techniques and a corresponding increase of cultivated area utilizing less biodiversity-friendly techniques. As a result, the absolute amount of agroforestry habitats suitable for biodiversity conservation would shrink, and habitat fragmentation would accelerate. Without the GEF intervention, development of a "biodiversity-friendly" coffee industry would take place on a marginal scale, if at all.

Provision of Extension Services. ProCafé is the institution charged with the provision of extension services in El Salvador. Coffee producers contribute a mandatory $1.00 to ProCafé for every 100 lbs of coffee they export. (The Ministry of Agriculture and Livestock provides extension services to farmers generally but not to coffee producers.) Basic technical advice from ProCafé is available free of charge, but resources do not permit ProCafé's extension agents to visit all coffee producers. About 4000 producers (20-25% of producers) use ProCafé's services. Coffee producers also have access to monthly publications produced by two of the trade organizations; the combined readership is only 3000-4000 producers. Thus, the majority of coffee producers may not receive any technical advice on coffee production.

Domestic and International Coffee Trade. Coffee trade in El Salvador has relatively little government involvement, compared to Costa Rica and other coffee producing nations. There are approximately 90 processing plants ("beneficios") that buy coffee from the farmers. Many of these

processing companies are also exporters, and frequently belong to a union of exporters, such as the Unión de Exportadores (UNEX) and UCAFES. One cooperative organization, UCRAPROBEX, has created a brand name for exporting organic coffee from El Salvador, called Café Pipil, and another organization has united gourmet coffee producers in order to export a brand of gourmet coffee, called Café Itzalco.

FINANCIAL SERVICES AND CREDIT. The coffee producing sector of El Salvador absorbs, on average, 75% of the private sector credit aimed at the agricultural sector. However, its participation in the credit portfolio for the entire economy has diminished considerably in recent years. While in 1993, 13% of the total financing operations corresponded to the coffee sector, in 1994 this participation fell to 7%. In general, there are no private-sector credits for establishing new coffee plantations, and the producers are renewing their plantations with their own funds.

Other sources of credit are the processing plants ("beneficios"), unions, and the government's Multisectorial Investment Bank (MBI). The beneficios finance operation costs in coffee plantations, although the producers have to commit their harvest to the beneficio in order to obtain credit. UCAFES and other coffee unions provide loans to their members. The MBI offers low interest loans for environmental projects, including new organic coffee plantations, but due to strict requirements for obtaining these loans, no credit has been granted so far. However the Ministry of Environment and Natural Resources intends to negotiate credit lines with soft interest rates to promote biodiversity-friendly coffee plantations.

ORGANIC AND BIODIVERSITY-FRIENDLY COFFEE PRODUCTION. Until the early 1970s, all or most production in El Salvador was under shade, and much was organic. During the early 1970s there was a major transformation, in which nearly all plantations began to use agrochemicals. Many of the shade plantations were technified, involving the removal of shade trees in order to decrease humidity and prevent the spread of coffee rust. During the 1980s, the civil war caused some plantations to be partly or completely abandoned. Owners in conflictive zones hesitated to invest in the application of agrochemicals. Thus, the war aided the adoption of organic management practices in El Salvador. According to CLUSA, today there are 2,000 hectares of certified organic coffee, and another 2,000 hectares of organic coffee in transition to being certified (certification requires 3 years since the last application of agrochemicals). However, not all certified organic coffee plantations have enough shade trees to meet the criteria for biodiversity-friendly coffee.

As established during an expert workshop on certification of biodiversity-friendly coffee, held as part of preparation activities for the Project, plantations must have at least 40% shade cover in order to qualify as biodiversity-friendly. Informal estimates suggest that about 30 percent of the area cultivated with coffee in El Salvador can presently meet these and other criteria for biodiversity-friendly shade coffee. These plantations could become certified with a minimum of investment and within one year of requesting certification (see Annex 3 for certification criteria).

CERTIFICATION PROGRAMS FOR ORGANIC COFFEE PRODUCTION. At present, no certification program exists for organic or biodiversity-friendly coffee in El Salvador. The certification programs for organic coffee, such as the one operated by the Organic Coffee International Association (OCIA), are based outside El Salvador and send inspectors to the country at the producers'expense. The Rainforest Alliance, through its ECO-OK program, collaborates with certifiers in Guatemala and Costa Rica, and began discussions with SalvaNatura early in 1997 about creating a certification program in El Salvador, to improve the management of the buffer zones around and in between two major national parks. The project will provide the financial stimulus needed to spark that program. The certification procedures to be followed by the certifying organizations/teams are outlined in Annex 4.

AGRICULTURAL RESEARCH. Most agricultural research for coffee has been related to highly technified production systems. Research has focused around improving the management of sun coffee varieties, since these were originally selected for higher yield. Sun coffee has required greater investment, and thus

greater demand for research results on the part of the sun coffee producers. In Costa Rica, coffee research by CATIE has recently been focused on maximizing production in combination with crop diversification, specifically utilizing one species of timber to provide the shade necessary for non-sun varieties of coffee and additional revenues from the sale of timber.

Unfortunately, research to improve the productivity of coffee varieties adapted to dense shade is virtually or totally non-existent. ProCafé maintains a research plantation where they are interested in starting medium-term and long-term research to improve productivity in biodiversity-friendly and/or organic farms. Researchers at CATIE participated in preparation phase activities and indicated their interest in collaborating in "biodiversity-friendly" research.

SOCIO-ECONOMIC RESEARCH. In 1994, ProCafé began to build a data base on production costs and yields of coffee plantations according to size. The survey so far has been limited to a sample of producers with greater than 14 hectares of growing area. No other socio-economic data is available. During project preparation a financial analysis was conducted on the profitability of biodiversity-friendly coffee for the small farmer. The data were collected from a sample of 45 farmers and six different scenarios were analyzed. Under all scenarios biodiversity friendly coffee seems to be the most profitable option.

ECOLOGICAL RESEARCH AND MONITORING. As with other types of research in El Salvador, ecological research in coffee production zones of El Salvador has been very limited. However, bird surveys have been carried out at El Imposible National Park and at Los Andes National Park. Combined, these two national parks contain more than 300 bird species, of which nearly half are forest specialists and considered threatened in El Salvador. A visit during July 1997 to a forest remnant in the biological corridor (made up of coffee plantations and patches of forest remnants) that connects these two parks encountered many of the threatened species of birds, suggesting that the corridor is functional.

In the Sierra del Bálsamo, a coffee region some 20 km southeast of the Los Andes National Park, a preliminary bird survey at a biodiversity-friendly coffee plantation with a small, 40-hectare forest reserve, encountered 97 species of birds of which 30% are threatened forest specialists or endemic to northern Central America. Several endangered mammals (Cacomistle, Ocelot, and Mexican Porcupine) are resident in that coffee plantation. These data suggest that the potential role for coffee in biodiversity conservation is high.

EXPECTED PROJECT OUTCOMES

Project outcomes include: (i) increase the extent of coffee plantations under biodiversity-friendly shade regimes to serve as habitats for globally significant biodiversity; (ii) initiate the establishment of a biological corridor of shade coffee habitats linking the El Imposible and Los Volcanes (Cerro Verde) protected areas; and (iii) create a biodiversity friendly coffee export industry in El Salvador. Although some activities will be national in focus, targetted research and other activities will be focused in the corridor region mentioned above. At full development the corridor would cover roughly 75,000 ha, and has been identified as one of the most important national corridors in terms of biodiversity, as well as a strategic link in the regional Mesoamerican Biological Corridor.

ACTIVITIES AND FINANCIAL INPUTS

The project will be implemented over a three year period. In order to achieve project objectives and outcomes, the following activities will be implemented:

(1) Development of extension services promoting biodiversity-friendly coffee and environmental education to the coffee producers - US$384,250. ProCafé will develop a technical package that will demonstrate to producers how they can maximize production in a biodiversity-friendly manner. CLUSA will train extension agents and agriculture school teachers about how to manage organic and biodiversity-

friendly coffee plantations. The Association of Women Biologists will establish a pilot program of environmental education for resident and migrant farmworkers. The baseline costs for these activities are estimated at $198,000. The GEF incremental cost is the cost of training agricultural extensionists in "biodiversity-friendly" shade coffee production, estimated at $186,250.

(2) Development of a certification program for "biodiversity-friendly" coffee, at a total cost of $946,750. Working as the Salvadoran partner of the Rainforest Alliance's ECO-OK program, SalvaNatura will open the first coffee certifying office in El Salvador and will train the certifiers. With a view to attaining self-sustainability for the office, coffee farmers will be asked to contribute to the costs of certification. The baseline costs for these activities are estimated at $638,000. The GEF incremental cost is estimated at $308,750, and would cover the cost of (a) conducting ecological tests in the field to evaluate the validity of project certification criteria, and (b) reaching consensus on revisions to certification criteria (as necessary), based on the findings of the ecological tests (workshops, studies).

(3) Test marketing and market development for certified biodiversity-friendly coffee, at a total cost of $ 2,015,250. The Enhancing Competitiveness TA Project of the World Bank is providing financial support to the coffee sector with the goal of improving sector efficiency and competitiveness. A cluster study was recently completed with private sector participation which has defined a broad strategy for the coffee industry in El Salvador. Planned investment promotion and export promotion activities under the TA project will be targetted to improving the business environment (policies, regulations, incentives) and to facilitating coffee trade transactions, through support for a domestic public-awareness campaign. These project activities would be designed to benefit producers/exporters of biodiversity friendly coffee. Sustainable Harvest Coffee Importers and Rainforest Alliance will carry out a marketing study for organic coffee certified with the "Eco-OK" label. The Consejo Salvadoreño del Café will hire a permanent marketing coordinator to develop and support specific exporting strategies for biodiversity-friendly coffee, such that producers receive a premium price. The baseline costs for these activities are estimated at $1,904,000. The GEF incremental cost is the cost of carrying out a market study for biodiversity-friendly coffee in the United States, where consumer interest is thought to be high, especially among birdwatchers and others concerned about the ability of migratory birds to survive winters in the coffee plantations and forests of Central America. The GEF incremental cost is estimated at $111,250 .

(4) Biological and socio-economic monitoring for a total cost of $ 453,750. ProCafe will pay for satellite imagery (GIS), aerial photos, and ground truthing to monitor trends related to the different production systems being used in the coffee sector. FIAES will sponsor biodiversity studies, geographic analysis, and socio-economic monitoring of the financial results of biodiversity-friendly coffee production systems at the small farmer level. The baseline costs for these activities are estimated at $ 335,000. The GEF incremental cost is the cost of: (a) analyzing satellite imagery (GIS) to better understand the use of shade in coffee plantations, and (b) monitoring biodiversity in coffee plantations (ground checking). The GEF incremental cost is estimated at $ 118,750 .

Because successful promotion of shade coffee regimes is likely to be associated with incremental national benefits, substantial co-financing of proposed GEF MSP project activities has been mobilized ($ 3.1 million). MSP project costs exclude the cost of coffee production and processing, as this is considered a baseline cost. Production and processing costs will continue to be financed by producers, processors, and the banking system, under existing arrangements.

Sustainability Analysis and Risk Assessment

Factors for success:

At the international level, the rapid growth of global markets for specialty and organic coffee provides good opportunities for this project. US sales of roasted gourmet coffee (the US accounts for about half the global market) increased from $1 billion in 1990 to $2.5 billion in 1995. The market for "bird-friendly coffee" appears to be growing very rapidly, and there are already several organic coffee

companies offering "bird-friendly" coffee in the United States. El Salvador is a pioneer in this area, having established infrastructure for extension and certification of organic coffee. Establishing criteria for the creation of "bird-friendly" or "biodiversity-friendly" coffee will complement and build upon existing efforts.

At the farm level, traditional coffee farms under shade produce more than coffee, providing firewood, construction materials, fence posts, and fruits. Development of eco-tourism activities could provide additional revenues. These "non-coffee" products are an important source of additional income to small farmers, and can become an excellent "insurance" against variations in coffee production and world prices. Although coffee yields per hectare are lower than for sun plantations, production costs are also lower, there exists potential to earn a price premium, and the diversified coffee farm produces additional products.

Consequently, when net profits per hectare under shade regimes (coffee and non-coffee products combined) are compared with net profits per hectare from sun plantations, the returns to the producer may be higher for shade than for sun. Financial outlays are less under shade than for sun due to the reduced applications of fertilizers, pesticides, and fungicides. Dissemination of this information and demonstration of results through project activities is expected to lay the basis for sustainability after the project period.

Risk factors:

There are three principal risk factors. The project is designed to mitigate these risks.

The first is that farmers in El Salvador tend to suspect that new government-sponsored programs will not follow through on their promises. They are especially wary when asked to contribute financially, which may be necessary for the coffee certification program. To mitigate this risk the project will be administered and executed in the private sector, so that it does not take on the aspect of a government-provided program.

A second risk is the acceptance of the program by financial institutions, who will need to be educated about the biodiversity-friendly coffee production system, before they will be willing to expand credit for this purpose. This risk factor depends on the financial feasibility of the biodiversity-friendly production system. In order to mitigate this risk, financial farm models were prepared during the preparation phase to evaluate the profitability of the production system. This information (which demonstrated the financial attractiveness of the biodiversity friendly system) will be disseminated to the banking community as part of the domestic awareness campaign, and financial results from actual practice will continue to be shared with bankers during project implementation.

A third risk factor, and perhaps the most important, is the lack of an established product distribution system for "biodiversity-friendly" coffee. Even though ecological awareness is very high in many coffee-drinking markets, such as in the US and in Europe, many consumers have never been offered "biodiversity-friendly" coffee and their willingness to pay a premium price has not been established. For the this risk factor, the project will conduct a marketing test and market analysis in order to determine the best ways to stimulate market demand for biodiversity-friendly coffee.

STAKEHOLDER INVOLVEMENT AND SOCIAL ASSESSMENT

Stakeholder involvement:

Stakeholders include local farmers, coffee cooperatives, the coffee processing and exporting industry, NGOs, and government policy makers. Preparation funding from the GEF (Block A Grant $ 25,000) has been used for the conduct of 2 national workshops with representatives of all stakeholders, and one "expert workshop" for identification of the certification criteria for biodiversity friendly coffee.

Involvement of local farmers is critical to the success of the project. Project design ensures that maximum interaction is maintained with all stakeholders at all phases of the project. Procafe extension agents will receive training on how to manage biodiversity friendly coffee plantations and they would work close with the farmers to share this information. The project coordinator will organize fields visits, village meetings and workshops to integrate into the project all the concerns of the different parties.

An advisory board will be created representing all the stakeholder groups as well as all implementing organizations (subcontractors). A public involvement plan is attached as Annex 2.

Social assessment:

Evidence obtained during project preparation indicates that biodiversity-friendly coffee production (with heavier and more diverse shade) has slightly greater labor demands than other coffee systems. The maintenance and increase of biodiversity-friendly coffee, resulting from the project's activities, would increase rural employment opportunities. Also, health conditions would improve, through reduced and/or controlled use of agro-chemicals and reduced contamination of water sources. An environmental education campaign in biodiversity-friendly plantations will help assure that local workers have information on how to live cleanly and healthily.

Improved biodiversity may have a social impact in four or more ways: (1) Abundant fauna appeal to the aesthetic values of many campesinos, who appreciate living "close to nature." (2) Increased abundance of flora will provide more abundant and diverse food to local inhabitants, including harvests of fruits or other products. (3) More diverse ecosystems help prevent population outbreaks of pest animals or insects, and thus reduce the possibility of related human disease. And (4) increased shade cover in coffee plantations permits a greater use of medicinal plants, reviving cultural practices with positive social impacts.

Gender Issues:

Women's participation in the cycle of coffee production is very high (70-80%) and their activities differ significantly from those of men. For example, during the transplanting and planting cycle (Feb-June), men plant new seeds, while women carry small trees from the nursery to the *parcelas*. Fertilization activities are almost exclusively done by women. However, the task of pruning (*recortes*) the coffee plants and shade-providing trees are done mostly by men. Insecticides are sprayed by men, but women haul the water needed to make the appropriate mixtures. During harvesting season (Oct-Feb.) all family members participate. This is a difficult task for most women, especially in areas of deep ravines, because the harvest is carried on one's shoulders. Many must bring their children to help them. Women also tend to be the ones who select the grains for further processing, although selection of seeds is done exclusively by the producers.

Since with twenty five pounds of coffee, one gets about 6-7 colones, the opportunity cost for men to participate as much as women is high. They can secure work elsewhere and earn more. Women, who tend to have fewer options, turn to coffee production for security and because earnings are transferred to the household to cover school fees, school utilities, and basic foods.

The project addresses gender issues by encouraging less use of pesticides and exploring alternative harvesting techniques to reduce health risks to women. The extension services and the certification program will be particularly directed to women, to improve their technical knowledge and their earnings.

FINANCING PLAN AND INCREMENTAL COST ASSESSMENT

Total costs of implementing the medium size project are estimated at $3.8 million. IBRD, Pro-Cafe, local counterparts, international donors and local beneficiaries will contribute about $3.1 million, representing baseline investments and program management costs. GEF support would cover the incremental costs of the proposed project which are estimated at $725,000. GEF-supported activities would include training to promote "biodiversity-friendly" shade coffee production, technical assistance for developing a certification program, a marketing study , and biological monitoring and data analysis. A PDF Block A grant of $25,000 was approved to provide assistance in preparing this request (the Block A grant was used to organize the "expert workshop" for the definition of the biodiversity-friendly certification criteria and to do the financial analysis on the relative profitability of different coffee production regimes in El Salvador). Total GEF support for this project would total $750,000 (PDF + project grant).

	BASELINE SCENARIO US$000			PROPOSED ALTERNATIVE US$000	INCREMENT US$000
	ProCAFE	Other Donors	TOTAL	TOTAL	GEF
Preparation (P)					
Block A and others	1	9	10	35	25
Implementation (I)					
I. Strengthen extension services	149	49	198	384.25	186.25
II. Biodiversity Certification		638	638	946.75	308.75
Develop biodiversity certification		570	570	878.75	308.75
Train certifiers		68	68	68	0
III. Improve Marketing		1,904	1,904	2,015.25	111.25
Marketing Study		280	280	391.25	111.25
Domestic Campaign		750	750	750	0
International Campaign		874	874	874	0
IV. Biological and socio-economic monitoring	19	316	335	453.75	118.75
GIS Monitoring System	9	164	173	281.75	108.75
Socio-economic analysis	10	152	162	172	10
TOTAL Implementation	168	2,907	3,075	3,800	725
TOTALS (P+I)	169	2,916	3,085	3,835	750

The lessons learned from the medium size project activities in El Salvador, together with the other GEF-financed activities in the Mesoamerican Biological Corridor, will support the conservation and sustainable use of biological diversity in the Central American region.

IMPLEMENTATION BUDGET

Estimated Breakdown of Costs by Budgetary Component (US$000)

Components	GEF	World Bank	ProCafé	Others Donors	Total
Goods	32.5				32.5
Project mgt. and coordination	85.0		48.0	17.0	150.0
Technical Assistance	607.0	1,000.0	120.0	1,890.0	3,617.0
TOTAL	725.0	1,000.0	168.0	1,907.0	3,800.0

PROJECT IMPLEMENTATION PLAN

PROCAFE will execute the project in collaboration and partnership with many other organizations. PROCAFE will be responsible for providing extension services to coffee producers, financial administration, implementation of geographic analysis and monitoring, financial analysis of participating coffee plantations, and related agronomic research (with collaboration from CATIE Costa Rica). Sustainable Harvest (Coffee Importers) will implement marketing studies, in collaboration with Consejo Salvadoreno del Café, Rainforest Alliance, and exporters in El Salvador. SALVANATURA will implement certification of coffee farms, with technical and training support from RainForest Alliance Eco-OK Program. The Salvadoran Association for Biological Research will conduct ecological tests to confirm biodiversity value of the certification criteria, with collaboration from the University of Kansas Biodiversity Research Center, the University of El Salvador, and the University of Pisa. Environmental Education at the farm level will be provided by the Salvadoran Association of Women Biologists. Additional funding for biodiversity studies, geographic analysis and environmental education will be available from FIAES. CLUSA will provide promotion and outreach to the organic coffee sector and other sectors not served by Procafe's extension services. FUSADES will implement social and economic monitoring. Finally, the Ministry of Environment and Natural Resources will provide infrastructure for the coordination of all these activities, including offices and administrative support for the project coordinator. Farmers will participate in the certification program. The project structure allows for continuous consultation with local groups. In addition there will be six multisectoral workshops organized (two at the start, two in the middle and two at the end of the project).

MONITORING AND EVALUATION PLAN

Project monitoring and evaluation activities will be supervised by Bank supervision missions. Monitoring activities will include regular reporting on the activities related to each component of the project. An implementation completion report will be prepared to take stock of project performance and extract lessons. In depth and periodic biodiversity monitoring will be implemented through project component IV.

DURATION OF PROJECT (IN MONTHS): 36	
ACTIVITIES	PROJECT-MONTHS
	0 6 12 18 24 30 36
1. Development of extension services promoting biodiversity-friendly coffee and environmental education to the coffee producers (18 months)	----------]
2. Certification of biodiversity-friendly coffee, and ecological testing of certification criteria (36 months)	----------]
3. Test marketing and market development for certified biodiversity-friendly coffee (24 months)	----------]
4. Biological and socio-economic monitoring (36 months)	----------]

ANNEX 1: OTHER DONOR CONTRIBUTIONS[1]
(US$000)

Project Preparation (P)	**9**
	9 FUSADES
Project Implementation (I)	
I. Strengthen extension services	**49**
	49 CLUSA
II. Biodiversity Certification	**638**
Develop biodiversity certification	190 Farmers 150 FIAES 133 Rainforest Alliance 60 CATIE 22 University of Kansas 10 Consejo Salvadoreno del Cafe' 5 Ministry of Environment
Train certifiers	68 Rainforest Alliance
III. Improve Marketing	**1,904**
Marketing Study	250 World Bank Ln. 3946-ES 20 Sustainable Harvest 10 Rainforest Alliance
Domestic Public Awareness	750 World Bank Ln. 3946-ES
International Promotion Campaign	630 Consejo Salvadoreno del Cafe 213 Sustainable Harvest 20 Rainforest Alliance 11 Ministry of Environment
IV. Biological and socio-economic monitoring	**316**
Develop GIS Monitoring System	150 FIAES 14 Ministry of Environment
Socio-economic analysis	150 FIAES 2 Ministry of Environment
TOTAL (Implementation)	**2,907**
TOTAL (P + I)	**2,916**

[1] Not including ProCafe contributions.

ANNEX 2: PUBLIC INVOLVEMENT PLAN

Stakeholder Identification

Stakeholders can be divided into six groups: coffee producers, processors, exporters, farm workers, the Salvadoran public - represented by environmental interest groups, and the Salvadoran government - represented by the Ministry of Environment and Natural Resources and by the Ministry of Agriculture and Livestock. The latter Ministry is the caretaker for El Salvador's protected areas, while the former is responsible for El Salvador's environmental policies.

Coffee producers number roughly 20,000 in El Salvador. They are represented by the Asociación Cafetalera de El Salvador. This union maintains contact with many of the producers through local offices in each coffee-producing department, but they do not collect funds from members, and therefore do not maintain current addresses or frequent contact with all producers. Some producers are more easily contacted through cooperative unions, such as UCAFES and UCRAPROBEX. A fourth "Specialty Coffee" union has recently been formed. The unions have been invited to contribute ideas to the project design during the preparation phase, and they will be invited to participate in workshops during project implementation.

Coffee processors ("beneficiadores") and exporters can be combined into one group, since many processors are involved in exporting. Some of the people in this group are also coffee producers. This group is represented by ABECAFE, the Association of "Beneficiadores" and Exporters of Coffee in El Salvador. Through the National Competitiveness Program's analysis of the coffee cluster, ABECAFE has recognized "environmental coffee" as the chief competitive opportunity for El Salvador's coffee sector. ABECAFE will also be invited to send a representative to meetings and workshops. The Government of El Salvador's autonomous Consejo Salvadoreño del Café (CSC) represents processors and exporters, as well as producers. The CSC will also be invited to participate in the workshops. ABECAFE and the CSC have shown their support for the project by co-sponsoring the project's Expert Workshop on Certification Criteria, contributing approximately $2,000 and $5,000 respectively to cover travel costs of invited experts.

Farm workers can be divided into permanent (resident) workers and temporary (migrant) workers hired during the harvest season. Some farm workers are represented by cooperatives of the agrarian reform (UCRAPROBEX is a union of such cooperatives), but most workers have no formal representation, and depend on government programs and policies to assure their well-being. Despite this group's lack of formal representation, farm workers will benefit from improved environmental conditions on and near farms and coffee processing plants. Farm workers will send representatives to the different workshops that will be held during project implementation.

The Salvadoran public will be represented in the project by private-sector environmental interest groups (NGOs), who will execute many of the project's activities during the implementation phase. These groups include SalvaNatura (the environmental NGO with the largest membership base in El Salvador). SalvaNatura's Executive Director is also the President of CoAmbiente, a consortium of 25 environmental NGO's. In addition, the Ecological Entity of El Salvador (UNES), a consortium of 43 local environmental NGOs and a respected environmental watchdog group, will be invited to participate in the workshops. The economic interests of the Salvadoran public will be represented by FUSADES and PROCAFE, both of whom are non-profit foundations that will execute certain project activities, and are interested in the sustainable development of El Salvador's coffee sector.

The Salvadoran Government's involvement in the project is manifest in the coordination of the project through the office of the Minister of Environment and Natural Resources. Furthermore, the workshops will include the Minister, the GEF Focal Point (also located in the Ministry of Environment and Natural Resources), and one representative each from the Ministry of Agriculture and Livestock

Environmental Unit, the National Parks and Wildlife Service (PANAVIS), the National Center for Agricultural Technology (CENTA), the National Commission on Science and Technology (CONACYT), the National Biodiversity Commission (CNB), the National Environmental Fund (FONAES), the Initiative for the Americas Fund (FIAES), and the Consejo Salvadoreño del Café (CSC).

Information Dissemination and Consultation

Results of studies and progress in project activities will be presented during the workshops. Dissemination of information, progress and results will be publicized in the Procafe quarterly bulletin.

Social and Participation Issues

It should be noted that no formal organization exists in El Salvador to represent migrant coffee farm workers. Consequently, project activities have been designed to reach this stakeholder group at the farm level through the work of extension agents and NGO staff. Migrant coffee workers are expected to benefit from project activities, through improved environmental and health conditions on the farms where they work.

ANNEX 3: CRITERIA FOR CERTIFICATION OF BIODIVERSITY-FRIENDLY COFFEE IN EL SALVADOR

For coffee produced on his/her farm or plantation to receive certification as Biodiversity-Friendly Coffee, a Salvadoran coffee producer must meet the following basic requirements:

1. ESTABLISHMENT OR EXPANSION OF PLANTATIONS

1.1 Plantations may not be established on sites with primary forest or secondary forest over 15 years old, or in legally protected areas.

1.2 An environmental permit must be obtained from the competent authority before establishing any new agricultural development within two kilometers of a protected area.

1.3 Soil conservation systems must be established on sites where there is evident risk of erosion.

1.4 The organic topsoil must be preserved at the time the site is prepared, and organic material must be incorporated within the soil.

1.5 The producer shall be guided by the national rules for cleaning and disinfecting the land and for disinfecting the seed; in the absence of any such national rules, the pertinent international rules shall be followed: The chemical products harmful to biodiversity listed in Annex A shall not be used.

2. USE AND MANAGEMENT OF SHADE

2.1 The shade in the part of the farm devoted to coffee production must include as a minimum ten species of native trees, with a minimum density of one individual of each species per *manzana (0.7 ha)*.

2.2 The shade in the part of the farm devoted to coffee production must cover a minimum of 40% of the land with even distribution. At altitudes above 1,200 meters above sea level, average shade of 40% over the entire property is acceptable.

2.3 A minimum of 70% of the trees in the part of the farm devoted to coffee production must be evergreen species which maintain their foliage during the dry season.

2.4 Care must be taken to avoid removing epiphytes from the shade trees.

2.5 The section of the farm used for coffee production must have at least 20% of emergent trees of a minimum height of 15 meters. If the number of existing trees is insufficient, the farmer must plant the necessary number of native species in order to ensure compliance with this requirement in the medium term.

3. CONSERVATION OF FORESTS, SOIL AND BODIES OF WATER

3.1 Existing forests located in a 10-meter strip on either side of headwaters, rivers and/or permanent or winter creeks and within 50 meters of lagoons and/or lakes shall be protected. In the event that there are no forests in these special zones, it will be necessary to replace them by natural recovery or by planting, in such a way that the shade cover reaches a minimum of 80% and the diversity of tree species includes a minimum of ten species per *manzana* (actual, not average). In these exclusion zones no agrochemicals or tree-pruning will be permitted.

3.2 The existing natural forests on the farm must be preserved and steps should be taken to enhance their value for wildlife. These measures can include declaration of private wildlife sanctuaries, restoration programs, etc.

3.3 Live vegetation barriers are required on slopes of more than 25 degrees in order to reduce soil erosion, using existing techniques.

3.4 Reforestation and/or forest recovery programs shall be established in those areas of the farm that are not suited for growing coffee. Agricultural diversification is permitted, except in areas of evident and demonstrable ecological fragility.

4. USE AND MANAGEMENT OF BIODIVERSITY

4.1 Endangered species and species of special conservation interest, according to the wildlife authorities and/or the country's current legislation, shall be protected.

4.2 The removal of flora and fauna for commercial purposes is not permitted; only taking for scientific and/or pest-control purposes will be permitted, for which a feasibility study shall be made together with arrangements for ecological monitoring.

4.3 The farm workers and local people may take natural materials for subsistence purposes. This use must be controlled.

4.4 Sport and subsistence hunting are prohibited, as is the use of slingshots.

5. MANAGEMENT OF AGROCHEMICALS

5.1 Solely low-toxicity pesticides may be used. Chemical products prohibited in their countries of origin or not registered for use in coffee are prohibited in certified coffee plantations. All the chemical substances listed in Annex A are also prohibited.

5.2 Priority shall be given to biological alternatives for pest control and/or soil fertilization.

5.3 Agricultural practices based on the principles of Integrated Pest Management shall be promoted, leading to a reduction in the use of agrochemicals over time.

5.4 There shall be a permanent training program for the workers in the use, storage and application of agrochemicals.

5.5 On slopes draining into bodies of water, any fertilizer used should be worked into the soil in order to reduce runoff.

5.6 If application of rodenticides is necessary, their use shall be restricted to the processing plant and adjacent buildings. The products listed in Annex A shall not be used.

5.7 Certified coffee plantations must meet the national and international standards for application of agrochemicals. When pesticides are being applied, appropriate warning signs shall be posted in and around the area.

6. WASTE MANAGEMENT

6.1 The solid and liquid wastes generated by the agricultural activity and the worker population living on the farm shall be managed in a manner that prevents pollution of water sources and is in accordance with the national legislation.

7. COMPLIANCE WITH NATIONAL LEGISLATION

7.1 Certified farms must comply with the current legislation on health, wildlife conservation and protection of forests, watersheds and drinking water.

8. ENVIRONMENTAL EDUCATION AND TRAINING

8.1 Certified farms should have an environmental education and training program designed for workers and their families, including temporary workers, in areas such as:

- Forest, wildlife and water conservation;
- Safe handling of agrochemicals;
- Health and environment, including appropriate use of sanitary landfills and latrines.

9. DIRECT BENEFITS TO WORKERS

A certified coffee plantation should be able to demonstrate the existence of programs and plans designed to maintain or raise the standard of living of workers and their families.

9.1 The remuneration received by the workers shall be at least equivalent to the levels set by the national labor legislation for agricultural work.

9.2 The owner shall make efforts to ensure that every worker employed on his farm has appropriate housing, water suitable for human consumption and other basic services. He/she should also promote the use of fertilizer-generating latrines and wood-saving stoves.

9.3 Temporary workers shall be provided with appropriate accommodations.

10. POLLUTION CONTROL IN THE PROCESSING PLANTS

Although a farm can be certified once it meets the above-detailed requirements, the coffee produced on it may not be sold with certification unless it is processed in dry and/or wet processing plants that are also certified.

10.1 Wet-process processing plants must not discharge their wastes directly into river and creeks. The program promotes use of the pulp as a natural fertilizer.

10.2 The coffee produced must be processed in plants that have a waste-treatment and water-saving system that does not impair the quality of the coffee.

10.3 Due to their high cost, the water-treatment systems in the wet-process plants may be built in stages. Installation must be started in the first year of certification and the system must be functioning by the second year.

10.4 During both storage and shipment, the batches of certified coffee must be carefully separated from the non-certified batches, with adequate and clear identification.

OTHER RESOLUTIONS OF THE GROUP OF BIOLOGISTS

Resolved:

(1) That for a farm to be certified as biodiversity-friendly, it is not necessary that it also be certified as organic.

(2) That the biologists present at the December 1997 workshop (including agronomists) had duly considered in their analysis all of the certification criteria that had been proposed by ECO-OK, Conservation International and the Smithsonian Migratory Bird Center.

(3) That the shade criteria selected are provisional and subject to revision when the findings of further research on the impact of biodiversity value of different shade systems become available.

ANNEX A: AGROCHEMICAL PRODUCTS USE OF WHICH IS PROHIBITED IN CERTIFIED COFFEE PLANTATIONS

Aldicarb (Temik)
Aldrin
Clordimeform
DBCP and EDB
DDT
Dieldrin
2,4,5-T
Endrin
Heptachlorine
HCB/BHC
Metamidophos
Methyl Bromide
Methyl- and Ethyl-Parathion
Monocrotophos
Paraquat (including Gramoxone, Herquat, Atila and Cafesaquat)
Pentachlorophenol
Phosphamidon
Toxaphene

ANNEX 4: CRITERIA FOR CERTIFICATION ORGANIZATIONS AND FOR CERTIFICATION PROCESS

General:

1. Existence of an office established at the local level with international linkages.

2. Availability of adequate human, technical, financial and physical resources for the certification work.

3. Familiarity with an established system of certification standards and protocols.

4. Adequate experience in the field of biodiversity.

5. Knowledge of and adequate links with the international coffee market.

6. Extension kept separate from certification.

7. The certifying organization must be apolitical, independent and non-profit.

8 The organization must coordinate its activities with the national government authorities and work with PROCAFE and the Ministry of Agriculture and Livestock.

9. The organization must have the human and financial resources necessary for initiating the certification process.

Technical requirements to be met by the certification team:

The technical team shall be made up of at least two professionals, one of whom shall preferably be a biologist or ecologist, and the other an agronomist or industrial engineer. A sociologist with experience in topics of rural sociology can also be used as an external consultant.

Certification procedures:

The following are the basic steps in carrying out a certification:

Certification of Farms:

1. The owner must submit all information that is considered relevant, such as financial statements, management plans, agrochemical use records, payrolls, etc.

2. The certifying organization must analyze the information submitted and determine whether a visit to the farm will be needed before requesting the changes necessary to enable it to obtain certification. The certifying organization shall establish a database based on the information provided.

3. Once the necessary information has been obtained, a field visit to the farm will be made. (The points to be considered will depend on the requirements set by the group of biologists.)

4. The certifying organization shall prepare the recommendations necessary for the farm to be brought into alignment with the organization's criteria. To this end, a work program shall be prepared for the gradual implementation of the required changes.

5. Once it is verified that all the requirements have been met, the certification will be issued.

6. The certifying organization shall make at least two inspections per year to verify that compliance with the minimum certification requirements is being maintained.

7. During the harvesting and processing process the process of transporting the coffee from the farm to the consumer must be checked and controlled. A system of grading the coffee will need to be designed for this purpose.

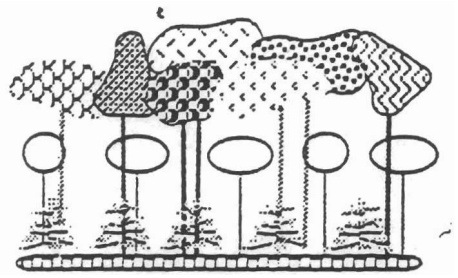
Certification of processing plants:

1. The certifying organization shall analyze the process used by each plant, with special attention to water use, waste management and separation of the certified coffee from other types of coffee.

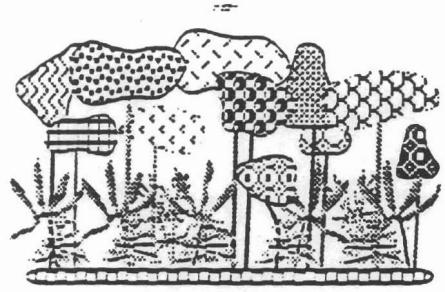
2. An inspection shall be made of each processing plant to make appropriate recommendations and to propose a work program for changing the plant's practices, as needed.

3. Once the recommendations are implemented, the plant will be certified. Random inspections shall be made during the coffee processing.

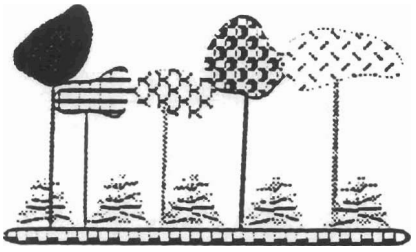
Figure 1: Shade gradient in coffee production systems

1. 

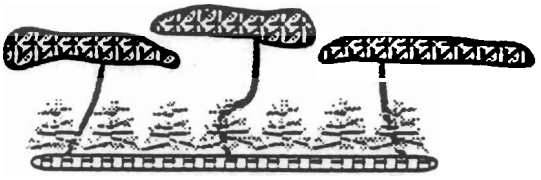
Rustic to
Traditional Polyculture

2. 

Commercial
Polyculture
(diverse)

3. 

Commercial
Polyculture
(less diverse)

4. 

Specialized
Shade

5. 

Unshaded
Monoculture

Source: after Moguel and Toledo, 1995

Photo: Sustainable Harvest Coffee Company (example of "Forest-Like" system

Biodiversity-Friendly Shade Coffee

Photo: Sustainable Harvest Coffee Company (example of "Open Sun" system

Open Sun Coffee

PROOF #2
9/8/97

IBRD 28987