

## Introduction: Promotion of Biodiversity Conservation within Coffee Landscapes

Next 20 minutes, Case study would **demonstrate** through some **lessons learned** that could **contribute** relevant to achieving workshop objectives: namely to identify

**incentives that promote conservation and sustainable use of agricultural biodiversity;**

possible **mechanisms, both financial and social**, that **promote** integrated biodiversity-friendly **efforts** at the ecosystem level (particularly between agricultural and environmental “actors”).

Case study: **GEF-funded; EIS Promotion of Biodiversity Conservation within Coffee Landscapes; July 1998; 1<sup>st</sup> GEF project realted to sustainable agricultural systems; \$ 3 million/\$750K - GEF.**

### Background

As we all know, the importance of coffee as an export crop to Central American and Northern South American countries. Coffee remains an important export for all countries in the region and in some cases reach, e.g. in Costa Rica, exports totaling between 20 and 30 percent of total exports. Obviously, it remains a significant source of employment, in Colombia by one estimate, reach 23 percent of the to the agricultural labor force.

When coffee was introduced in the New World in the **18<sup>th</sup> century** it was grown as a **sun crop**. Overtime, evolved into a **shade-dominated farming system**. However, in the LAC region, beginning in the mid-1970s, there has been an on-going transformation of the management patterns of coffee production from a traditional to new, more intensified and supposedly productive regimes (**technification** or increasingly **modernization**). To understand what the significance of this transformation from a biodiversity point, it would be useful to briefly show a **typology** of existing management regimes characteristic of the region. Obviously, management regimes vary by topography, ecological zone, and rainfall and should be viewed more as a **continuum** rather than “types”. Nevertheless, work done several years ago by Mexican researchers who developed a topography generally built on **inverse relationship** between shade cover and intensified production, for our purposes could prove useful and are still valid today (**transparency - Profiles**).

Rustic – coffee production with little or no alternating of native species (coffee is the understory shrub

Traditional Polyculture – tends to mimic the natural structure with introduced species of some household use and may even be more species rich

Commercial Polyculture – Include several non-coffee products of commercial importance and/or local use,

Reduced/Specialised Shade – single canopy species with high maintenance with a familiar look (1 – 2 species).

Open-sun – Eliminate the over story completely (transparency of photo)

One of the major **driving forces** behind in the **conversion** to sun-coffee was a US AID. The basis of the programme was to provide subsidies to replace old coffee varieties with newer, “improved” varieties that respond well to chemical fertilizers. A major characteristic of the new system, was the elimination of shade on the basis that it would reduce the spread of **fungal disease (coffee leaf rust** which arrived in the New World in the mid- 1970s), and increase coffee yields. By the mid 1990s, of the estimated **2.8 million has** of coffee production in the region, an estimated **1.1 million million has** is considered to be sun coffee. The significance of this on-going process varies by country reaching its greatest predominance in Colombia and Costa Rica (**transparency- Pie charts**).

This process commonly called technification has its advantages and disadvantages (**transparency - Comparative Advantages Table 1**). From a biological diversity perspective however, the effects are all negative, the **main factor** being **reduction of the structural diversity** of the system resulting in greatly reduced habitat, niches, and species diversity (**transparency – Coffee plantations**). There are several supporting studies indicating the relative high biodiversity in native and **migratory bird species** in traditional coffee

systems in CA, and pilot activities elsewhere (Guatemala) in comparison to sun coffee system. **(transparency – Bird flight patterns) – 420 migratory species from NA of which 129 reach ELS.**

## The Project

### The Context- El Salvador

- 2 % of remaining forest remains in tact; much of the remaining landscape degraded conditions; small amount of natural habitat not sufficient to establish a large IPAS;

- consensus that the **focus of biodiversity efforts** need to include **environmental restoration** and in **promoting biodiversity existing productive landscapes.**

- these two factors, together with the **importance** of **EI.S coffee sector** represents an important candidate. **9 %** of the country **under coffee cultivation** of which some **95 % occurs under shade.** sufficient basis existed to justify a project to be submitted for funding under GEF:

### The Project

Project Objective: **(Project Outline - Table 2)** conserve critical biodiversity through the maintenance and enhancement of habitats within shade-coffee plantations.

#### Project Outcomes:

Increase the extent of coffee plantations under biodiversity-friendly shade regimes to serve as habitat for globally significant biodiversity;

Initiate the establishment of a biological corridor composed of shade coffee plantation (El Imposible and Los Volcans PAs **(transparency – EISalv. Map)** ; and

Promote the development of a biodiversity friendly coffee production system in ES along with its certification and marketing abroad.

#### Project Components:

**Development of extension services** promoting biodiversity-friendly coffee and environmental education to the coffee producers;

**Development of a certification programme** for biodiversity friendly coffee;

**Test marketing and market development** for certified biodiversity-friendly coffee; and

**Biological and socio-economic monitoring.**

#### Component Detail

Extension Services Development. ES coffee producers received extension services through a private sector non-profit organization (**ProCafe**) whose budget is based on a 1 US\$ tax on each 100 lbs of export coffee. Project support was for ProCafe to develop a **technical package** for producers to maximize biodiversity friendly coffee (include non-coffee products). Other activities **training of extension agents** and **environmental education.**

Certification Programme Development. Is no existing certification program in ES. However, there is an existing certification programme through an int. NGO (Rainforest Alliance) ECO-OK in Guatemala and CR. In collaboration with local NGO (SalvaNatura) initiate the country's first certification programme based on **hiring and training certifiers** (includes conducting **ecological tests in the field to evaluate validity of certification criteria** and reaching consensus of validity of criteria after initial test period).

Test Marketing and Market Development. Working with US-based NGO carry out a marketing study for ES coffee with an Eco-OK label. For the purpose of establishing a premium.

Biological and Socio-economic Monitoring. Primarily based on satellite imagery data ref. forest cover and on-the-ground studies to assess biodiversity richness.

### Assumptions in Project Design

**KEY assumption** of the project, that market forces could be “harnessed” to promote an ecologically-sustainable form of management regime for the production of coffee through giving consumers the choice to choose.

**Premium** (together with other non-coffee uses of traditional systems) will be significant **incentive** to keep lands in traditional production system

**Continued growth in organic, bird-friendly and other types of environmentally friendly coffee in world markets**

There won't be **label blurring** (gourmet, organic, fair trade, bird friendly and env. friendly)

### **Other Significant Factors**

ES already had **previous experience** in the field, due to the marketing of organic coffee (derived from significant lands that were chemical free due to the effects of the war and the disuse of inputs and use of former coffee production lands)

Prior experience in **Guatemala** with **exporting of environmentally-friendly coffee**.

Two national workshop that involved **stakeholders workshops** (local farmers, coffee cooperatives, processing and exporting industry, NGOs, and government policy makers).

**Expert workshop on certification procedures** which brought different actors together to agree on certification criteria.

Estimated **30 % of ES coffee production qualifies** already met these criteria (of which **40 % shade cover** perhaps the most important) presently grown under rustic to traditional polyculture and diverse commercial polyculture (**Selection Criteria - Table 2**).

GEF (together with co-financing institutions) cover cost of “**risk**” to market new product

### **Possible Workshop Relevant Lessons-Learned**

(transparency – Lessons learned)

**Relevance to COB – Decision III/11** (transparency Sally's points)

### **Policy Framework**

**No developed market** for existing shade coffee

**Lack of established product distribution** systems

Need to **demonstrate financial feasibility** - pilots

Need to **educate financing institutions** ref. the value/opportunities of environmental friendly coffee ref. **credit**)

**Lack of data** (environmental, social and comparative economic studies of shade coffee agro-ecosystems)

**Lack of training** in sustainable, organic agriculture

Importance of **collaborative project design** (ref. criteria)

**GEF** as a financing mechanism

**(Other possible relevant facts to remember)**

Estimated 8,000 ha (or 4 % of ES coffee area) certified over LOP

Biological corridor of El Imposible-Los Volcanes corridor 4,000 ha under certified coffee

Price premium 5 % over normal price

Production figures: modern (1,397 kg/ha); semi-modern (some shade, some agro-chemicals) (953 kg/ha)  
traditional (317 kg/ha)

Production Costs/ha: modern (\$1,739); semi-modern (\$1,092); traditional (\$269)

GEF criteria of 509 speices of birds in ES, 310 are Neotropical residents of which 128 are restricted to forest habitats and most found in shade coffee. Of these 2 arc threated and 24 vulnerable.

Also 420 speicies of migratory birds that migrate from NA of which 129 reach ES.

Marketing Chain (Sustainable Harvest – importer; certified exporters)

3 year project ; \$ 725 K; Other cofinanciers and national couterpart = \$ 3,075 K

Little govt. involvement, 90 processing plants that buy from farmers. Coffee absorbs 75 % of private sector credit for ag sector.

Most ag research in ES (and the region) focused on intensive systems and virtually non on dense shade production. Similarly no socio-economic rescarhc. as was ecological research.

US accounts for about half of global market for specialty and organic which reached estimated \$2.5 billion of roasted gourmet coffce.

Coffce selection: traditional varietals of arabica; organis of low agro-chemical use; careful selection ref. taste quality.

**POSSIBLE LESSONS LEARNED TO CONSIDER IN WORKSHOP**

Status of development of target market

Status of product distribution system

Need to demonstrate economic feasibility (pilot)

Need to educate financing institutions (credit)

Data constraints

Training constraints

Importance of collaborative project design

**PROPOSED CRITERIA CATEGORIES FOR CERTIFICATION**

**ESTABLISHMENT OR EXPANSION of PLANTATIONS**

**USE and MANAGEMENT of SHADE**

**CONSERVATION OF FORESTS, SOILS and**

Maximizing the benefit and minimizing the risk of decentralization with community based planning and decision making procedures where the needs of local people are reflected in management decisions; and Reducing government failures leading to rent-seeking (including corruption) or, perverse subsidies or price regulations.

These are components of the forest policy tool box for the expanded consideration of forest values. The ability and willingness to use these tools, and the ability to account for and to collect revenue from the provision of non-timber goods and services varies across types of services and within and across nations.

The option to turn non-market values into marketed goods and services through markets has some potential that needs to be exploited. However, as it is presently the case, expanding markets for new goods and services must be balanced with pr

M-SIZED PROJECT BRIEF

<b>PROJECT IDENTIFIERS</b>	
<p>1. Project name: Promotion of Biodiversity Conservation within Coffee Landscapes</p>	<p>2. GEF Implementing Agency: The World Bank</p>
<p>3. Country or countries in which the project is being implemented: El Salvador</p>	<p>4. Country eligibility: El Salvador ratified the Convention on Biological Diversity on September 8, 1994</p>
<p>5. GEF focal area(s): Biodiversity</p>	<p>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.</p>
<p>7. Project linkage to national priorities, action plans, and programs: The national environmental strategy ("El Desafio 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.</p>	
<p>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.</p>	
<b>PROJECT OBJECTIVES AND INDICATORS</b>	
<p>9. Project rationale and objectives:</p> <p>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.</p> <p>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.</p>	<p>Indicators:</p> <p>(a) Extent of forest cover (biodiversity habitat) in coffee farms maintained or increased over the baseline</p> <p>(b) Number of threatened species surviving within shade-coffee plantations over the baseline</p>

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<p>10. Project outcomes:</p> <p>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.</p> <p>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.)</p>	<p>Indicators:</p> <p>(a) Surface area of shade coffee farms certified as biodiversity friendly in El Salvador (ha 8,000 or 4% of coffee area).</p> <p>(b) Surface area of El Imposible-Los Volcanes biological corridor under certified coffee (ha 4,000 or 5% of the corridor).</p> <p>(c) Price premium received by farmers for biodiversity friendly coffee (5%). Percentage of El Salvador coffee exports that are certified as biodiversity-friendly ( 2%).</p>
<p>11. Project activities to achieve outcomes (including cost in US\$ or local currency of each activity):</p> <ol style="list-style-type: none"> <li>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)</li> <li>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)</li> <li>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)</li> <li>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)</li> </ol>	<p>Indicators:</p> <p>(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).</p> <p>(2) Production of certification criteria; number of certifiers trained (10); number of farms certified in the corridor (200).</p> <p>(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).</p> <p>(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.</p>
<p>12. Estimated budget (in US\$):</p> <p>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).</p>	



PDF A.	\$25,000
GEF.	\$725,000
Co-financing (ProCafe):	\$169,000
Co-financing (Other Donors):	\$2,916,000
<b>TOTAL:</b>	<b>\$3,835,000</b>

**INFORMATION ON THE 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 ON THE COMPLETED IMPLEMENTATION SERVICES**

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.