



International Coffee Organization
Organización Internacional del Café
Organização Internacional do Café
Organisation Internationale du Café

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Development of a network of focal points and of a web based consortium to identify and exploit potential uses for low grade coffee and by-products in Central America facilitating dissemination of the associated technologies

Project proposal

Background

1. This document has been submitted by the International Centre for Science and High Technology (ICS) of UNIDO and contains a summary of a Fast-Track request submitted as a first step of the main project proposal entitled “Use of coffee by-products and alternative uses for low-grade coffee”, contained in WP-Board No. 942/03, which was approved by the Council in principle in 2003.
2. This Fast-Track proposal is aimed at developing a network of focal points and a web based consortium to identify and exploit potential uses for low grade coffee and by-products in Central America facilitating diffusion of the associated technologies.
3. A copy of the full proposal is available in English upon request.

Action

The Executive Board is requested to note this document.

PROJECT SUMMARY

1. **Project Title:** Development of a network of focal points and of a web based consortium to identify and exploit potential uses for low grade coffee and by-products in Central America facilitating dissemination of the associated technologies
2. **Duration:** Two years
3. **Location:** Central America and Italy
4. **Nature of project:** This project aims at developing a fully functional online database to disseminate the uses of low-grade coffee and by-products for:
 - Collection and classification of regional technology research relevant to the industrial use of coffee by-products and low-grade coffee;
 - Efficiency in disseminating the technology, by means of an interactive online database;
 - Validation of generic technology: establishment and roll-out of the technology and achievement of proposed economic, commercial and environmental goals; and
 - Validation and generic technology experiences transferred, promoted and accepted.
5. **Brief description:** The project aims to develop a consortium to promote the use of coffee by-products and alternative uses of low grade coffee
6. **Estimated cost:** US\$150,000
7. **Financing from the fund:** US\$120,000
8. **Type of financing:** US\$120,000 (Grant)
9. **Co-financing:** -
10. **Counterpart Contribution:** US\$30,000 (partially in kind)
11. **Project Executing Agency (PEA):** International Centre for Science and High Technology (ICS) of UNIDO

- 12. Collaborating institutions:** University of Trieste, Department of Biology, Italy
Promecafe, Costa Rica
Asociación Nacional del Café (ANACAFE), Guatemala
Consejo Salvadoreño del Café (CSC), El Salvador
Instituto Hondureño del Café (IHCAFE), Honduras
Nicaraguan Union of coffee growers, Nicaragua
Consejo Dominicano del Café (Codocafe), Dominican Republic
Coffee Industry Board, Jamaica
- 13. Supervisory body:** International Coffee Organization (ICO)
- 14. Estimating starting date:** September 2006

PROJECT PROPOSAL

Commodity background and strategy

Despite the tremendous importance of coffee, it has faced a serious setback in terms of sustainable development as a result of the world coffee crisis. According to ICO reports, the loss of income (an estimated US\$25 billion since the crisis began in 1998/99) has had an impact on the economic and social development of many producing countries, and has placed severe constraints on developing alternative economic activities. The crisis has also highlighted the urgency of addressing the problem of economic sustainability and ensuring that coffee production does not continue to entail losses to growers. Although it may be argued that production should be concentrated in a few main areas or countries, apart from the immense social costs arising from such an approach, this would potentially lead to a severe loss in quality and variety, which could pose a serious threat to sustained consumption. Solutions proposed include creating an environment that facilitates economic diversification, and measures designed to restore some balance in the market by increasing demand. On the supply side some market-oriented measures are possible:

- introducing extra income for the growers by reusing coffee by-products;
- improving quality by eliminating low grade beans;
- alternative uses of low grade coffee (for instance mushroom production) to give extra income;
- new jobs connected with value-added products rather than traditional bulk commodity exports;
- using the experience of the coffee crisis to create awareness through the powerful mass-media.

In view of the above, promoting value-added products and using potential by-products of coffee is very important. The relative importance of coffee growing in producing countries has meant that the crisis in the industry has had considerable repercussions for the economies in the region. The impact of the crisis is also being felt in various areas linked to coffee production, notably: trade, transport, warehousing and the financial system. Therefore, this project considers the following points:

- (1) creating a positive, distinct image of coffee in the producing region;
- (2) establishing and implementing standards for producing countries to use and exploit the potential of low-grade coffee/by-products of coffee;
- (3) establishing environmental standards is essential for good positioning in the world coffee trade;
- (4) dissemination through seminars, CD-Roms, and the Internet of models for re-using waste and low grade coffee.

Environmental aspects are a key feature of the project; identifying and promoting the region's coffees, and the international preference of roasters and traders for the latter will enhance conditions for negotiating better coffee trade prices, thereby generating income for the coffee industry in the region. In addition, the project will also develop a consortium for the sustained use of materials generated.

Objectives of the project in relation to ICO strategy

This project was formulated to alleviate poverty among coffee farmers, with the aim of identifying and subsequently developing alternative industrial uses for coffee by-products and low grade coffee, to generate additional income; to reduce the cost of coffee production and processing; to promote industrial processing which is less harmful to the environment; to ensure compliance with ICO Resolutions 407 and 420 and to help to create a positive image for promoting coffee. In addition, the project is also aimed at developing a consortium, to act as a platform for coffee growers/industry to provide up-to-date information and exploit the potential of coffee by-products in addition to disseminating information about alternative uses for low grade coffee. A web portal with interactive features will ensure free access to all the information to coffee growers/industry around the world.

Objectives

General objective:

The general objective of the project is to develop a web based consortium to identify and exploit potential uses for coffee by-products and alternative use of low grade coffee in order to generate additional income for coffee growers with the following specific objectives.

Specific objectives:

- (a) Collecting and cataloguing the alternative uses of coffee wastes and by-products from various countries.
- (b) Identifying potential viable uses for coffee by-products through critical evaluation.
- (c) Design, development and propagation of an online database on the alternative uses of coffee.
- (d) Promoting industrial techniques, which are less harmful to the environment and which will reduce pollution arising from agro-industrial processes.
- (e) Adoption of appropriate technology.
- (f) Creating a positive image to assist with promoting coffee globally.

Related projects and previous experience:

The International Centre for Science and High Technology [ICS] operates under the aegis of UNIDO, and is known for its outstanding performance in promoting sustainable industrial development through the transfer of know-how in the fields of science and technology. Target beneficiaries are developing and transition economy countries. A partial list of publications and online databases from the Department of Environment, ICS-UNIDO is attached to the full proposal (**available in English upon request**).

In addition, the ICS also has a team of experts for developing online resources and necessary infrastructure.

Benefits and beneficiaries

The direct beneficiaries of the project will be the coffee growers and the coffee industry in general, and each country involved in executing the project as follows:

- (a) Direct access to an extensive compendium of alternative technologies for the industrial use of coffee by-products and low-grade coffee.
- (b) Selected generic technology models which can be adapted to specific conditions in each country.
- (c) Technology validation experiences. Validation will ensure achievement of the project's economic, commercial and environmental goals, namely:
 - Possible application for the reduction in agricultural fertilization costs and energy costs of coffee processing.
 - Possible generation of additional income through the development of new commercial activities.
 - Promotion of cleaner, more environmentally-friendly processes.
 - A greener, better quality image for the coffee supplied by the region.
- (d) Diffusion of the techniques to other coffee producing countries such as African countries and India.

Secondly, the Central American community will benefit from a reduction in environmental pollution as a result of a cleaner, more environmentally-friendly industrial process.

Project and finance costs:

See Annex I.

PROJECT AND FINANCE COSTS

No	Particulars	Amount in USD				
		Component 1	Component 2	Component 3	Component 4	Total
	Period	[6 months]	[6 months]	[6 months]	[6 months]	[24 months]
1	Travel (including internal trips of national focal points for seminars)	6,000	4,000	3,000	8,000	21,000
2	Consultant emoluments	12,000	12,000	12,000	12,000	48,000
3	Payments for persons conducting surveys in the participating countries	12,000	12,000			24,000
3	Payments for persons presenting the seminars and the dissemination material			6,000	12,000	18,000
4	Infrastructure for computer and web server hosting	6,000	0	0	2,000	8,000
5	Production of dissemination material, library consultations, phone, consumable goods	1,600	2,000	3,000	7,000	13,600
	Total	37,600	30,000	24,000	41,000	132,600
	Overhead charges [13%]					17,400
	Total expenses of the project					150,000
	Counterpart contribution *	8,000	7,000	7,000	8,000	30,000
	CFC Financing					120,000

* *Partially in kind*

LOGICAL FRAMEWORK

Title of project	:	Development of a network of focal points and of a web based consortium to identify and exploit potential uses for low grade coffee and by-products in Central America facilitating dissemination of the associated technologies
Scheduled commencement date	:	September 2006
Scheduled conclusion date	:	September 2008
Date of this summary	:	March 2006

SUMMARY DESCRIPTION	VERIFIABLE INDICATORS	MEANS OF VERIFICATION	KEY HYPOTHESES
<p>General objective: Development of a network of focal points and of a web based consortium to identify and exploit potential uses for low grade coffee and by-products in Central America facilitating dissemination of the associated technologies.</p>	<p>» A fully functional online database disseminating the uses of low-grade coffee and coffee by-products</p>	<p>» Studies on agricultural production and coffee processing costs. » Coffee marketing reports submitted to the ICO. » Operational reports issued by the environmental agency in each participating country.</p>	<p>» Efficiency in diffusion of technology » Good agricultural practice applied to coffee production. » New market niches interested in the quality of the region's coffee production. » Compliance with existent environmental standards. » Reduction in pollution caused by agro-industrial processing of coffee.</p>
<p>Specific objectives: Survey, collection and cataloguing the alternative uses of coffee by-products from various countries;</p>	<p>» Field visits to coffee industries where technology being studied has been applied. » Compilation of research documents in each country. » Progress reports and acquisition of technology identification experience.</p>	<p>» Compilation of field visits and interviews with experts. » Progress reports</p>	<p>» Technological transparency among countries. » Institutional and copyright barriers and other difficulties in obtaining the essential information do not exist. » Determining which documented technology alternatives and/or functioning technology alternatives exist.</p>
<p>Identifying the potential and viable uses of coffee by-products by critical evaluation;</p>	<p>» Interviews with and opinions of experts. » Modelling, simulation and re-design details for most viable alternatives documented and published. » Specific observations on country adaptation documented and published. » Roll-out of validated technology. » Details of validations documented and published</p>	<p>» Published document on modelling, simulation, re-design and detailed engineering of the generic technology. » Printed document on conditions for country adaptation of technology. » Published document on validation of the technology. » Functioning team, and technical and/or commercial process.</p>	<p>» Adaptation of technology to the natural and socio-environmental potential of each participating country. » Roll-out of the technology and technical, operational and commercial improvements in the region. » Reduction in pollution. » Improved quality coffee supply. » Higher marketing price for coffee.</p>

SUMMARY DESCRIPTION	VERIFIABLE INDICATORS	MEANS OF VERIFICATION	KEY HYPOTHESES
Specific objectives: Design and development of an online database	» A functional prototype with interactive interface » Documentation of all the features of the database	» Online verification of the prototype » Progress report	» Evaluation of the prototype
Propagation and validation of the database to the potential users ensuring the implementation of the end uses	» Functional database with query based features » Regional and local seminars to present the project results. » Local workshops to promote the validated technology. » Documentation and publication of the technology transfer.	» Online verification and search engine ranking » Printed proceedings of seminars and workshops held. » Documents, videos, plans, designs and other technology training and consultancy resources.	» Efficiency in disseminating the technology » Viability, strength and credibility in the project execution process and the presentation of results of the latter. » Acceptance of and commitment towards technologies by other participating countries.
Results:	» A compendium of technology research compiled in the region under study. » Documentation concerning the design and interface of the database with technological validation on achievement of the following economic, commercial and environmental goals. » Proceedings of promotional seminars and workshops	» A compilation of the technological validation: » Reports submitted to the ICO. » Operational reports. » Proceedings and teaching materials to promote the technology generated. » Online verification and search engine ranking	» Overcoming of the obstacles in gathering knowledge and information on the processes. » Validation and achievement of economic, commercial and environmental goals. » Efficiency in disseminating the technology » Acceptance of and commitment towards generic technology. » Reduction in production costs. » Reduction in environmental pollution arising from the agro-industrial process.