



International Coffee Organization
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Study of the environmental impact and efficiency use of natural resources – a comparative analysis between coffee and other crops in the agro-industrial sector

Background

1. This document outlines Terms of Reference to develop a study that will look at the linkages between international trade, the environment and socio-economic issues to compare the environmental impact and efficient use of natural resources between coffee and other crops in the agro-industrial sector.
2. The study will pay particular concern to the entire agro-industrial processing chain, i.e., from production through primary processing to preparation of the final consumer product, using both literature-based research and focused field visits.
3. It may be noted that the project proposal is defined within the context of the UNEP/ICO framework of studies on coffee, environment and international trade (EB-3723/99) and that the proposal was initially presented to the Executive Board at its meeting in September 2002 (see Item 8.2, paragraph 29 of document EB-3832/02 – Decisions Adopted).
4. This project proposal will be developed by the UK National Resources Institute (NRI), which is an internationally recognized multi-disciplinary centre for research, consultancy and education for the management of natural and human resources.

Action

The Board is requested to consider this project proposal and, if appropriate, to recommend it for approval by the Council.

Project Summary

Title of study:	Study of the environmental impact and efficiency use of natural resources – a comparative analysis between coffee and other crops in the agro-industrial sector
Duration:	Two months
Location:	NRI duty station in UK
Nature of the project:	The study will look at the linkages between international trade, the environment and socio-economic issues and the identification of potential industry initiatives to meet the challenge of compliance with such issues. The Life Cycle Approach (LCA) as it relates to the supply chain will be used wherever possible.
Brief description:	The study will provide data and comparisons on the environmental impact and efficient use of natural resources between coffee and other crops in the agro-industrial sector. It will pay particular concern to the entire agro-industrial processing chain, i.e., from production through primary processing to preparation of the final consumer product, using both literature-based research and focused field visits.
Total cost:	US\$20,000
Mode of financing:	Grant
PEA:	Natural Resources Institute (NRI)
Supervisory body:	International Coffee Organization
Estimated starting date:	N/A

1 Introduction

The International Coffee Organization's (ICO) Coffee Development and Action Programme has identified the promotion of a sustainable coffee economy as an industry priority for action. Many coffee producing countries have liberalised their coffee trading systems over the past decade which, whilst leading to increased competition, has, in some cases, led to the lowering of quality. Furthermore, the continuing excess of supply over demand has resulted in low producer prices, which militates against improving coffee quality.

The effect of market liberalisation and international trade on environmental and corporate social responsibility (CSR) issues has been emphasised as a major concern by international organizations such as the World Trade Organization (WTO), the United Nations Environment Programme (UNEP), the World Bank (WB) and the Organization for Economic Cooperation and Development (OECD). The requirement for coffee producing countries to comply with international agreements on environmental protection, together with the need to comply with responsible business practices with regard to socio-economic issues presents the coffee industry with substantial challenges.

The planning and implementation of appropriate national coffee policies, which develop and enhance the value of the sector at the same time ensuring environmental and socio-economic sustainability, requires creative and innovative approaches. In this context, the concept of CSR increasingly acknowledges the importance of companies applying a “triple bottom line” approach to business, whereby both environmental and social and economic performance are given equivalent status to financial performance. **There is a pressing need to understand the linkage between the international trade in coffee and the environmental and socio-economic issues involved together with how they impact on stakeholders in the industry.**

2 Background to the Study

The ICO and UNEP signed a Memorandum of Understanding (MoU) in 1999 (see document ED-1737/00) regarding cooperation on studies to increase knowledge and understanding of the linkages between coffee production and the environment and international trade. A study entitled “Environmental issues relating to the coffee chain within a context of trade liberalization through a Life Cycle Approach (LCA)”, has already been published. A further study entitled, “Environmental impact and efficient use of natural resources: a comparative analysis between coffee and other crops in the agro-industrial sector” has been approved and the Natural Resources Institute (NRI) has been invited to tender for this work.

3 Terms of Reference (TOR)

The NRI have been given the following key TOR for carrying out the study:

- To provide data and comparisons on the environmental impact and efficient use of natural resources between coffee and other crops in the agro-industrial sector.
- To pay particular concern to the entire agro-industrial processing chain, i.e., from production through primary processing to preparation of the final consumer product.
- To carry out the study using both literature-based research and focused field visits.

The various aspects of the agro-industrial processing chain requiring detailed description and analysis, under the TOR, are shown in Annex 1 and are referred to in the section on approach and methodology hereunder.

4 Overall Approach and Methodology

Overall Approach

We propose that the research is undertaken primarily as a UK based desk study, as the budget, see Costs (Section 8 hereunder) would be insufficient for us to undertake meaningful in-depth field work in coffee producing and consuming countries. However, our approach includes an action plan, which will recommend further focused study involving fieldwork in selected producing countries. In addition, as members of the research team travel frequently to countries on other work, efforts will be made to find time to address issues concerned in the study.

Our overall approach to undertaking the study is based on our knowledge and understanding of the tropical agriculture sector and the coffee sector in particular; the linkages between international trade, the environment and socio-economic issues; and the identification of potential industry initiatives to meet the challenge of compliance with such issues.

The key TOR of the study involve the comparison of the environmental impact and the efficient use of natural resources between coffee and other crops in the agro-industrial sector. Therefore the criteria for the selection of appropriate case studies, in terms of both crops and countries, is of paramount importance. For comparative purposes with coffee, we propose to focus on four other tropical perennial tree crops with large smallholder sectors, an export focus and a degree of secondary processing/value addition into important consumer goods. With regard to coffee, we have selected a major exporter in each of Africa, Asia, Latin America and the Pacific regions. In the case of both coffee and the core comparative crops, the country profiles will be placed in an overall global market context, and the supply chain followed to consumer product. The LCA, as it relates to the supply chain, will be used wherever possible. We have selected the crops for their potential to provide answers to cross-

cutting issues affecting the linkages between international trade and environmental socio-economic concerns. Time permitting, we will identify issues pertaining to other relevant crops in the agro-industrial sector.

Relevant countries will generally be chosen in different continents wherever parallel and pertinent cases can be made for the comparison of production, processing and marketing/consumption practices. Therefore, whilst not wishing to be too prescriptive at this stage, we suggest, provisionally, the following countries and contexts:

(1) **COFFEE:** Kenya, India, Colombia, and Papua New Guinea.

(2) **CORE COMPARATIVE CROPS:**

Tea: Kenya and Sri Lanka

Cocoa: Ghana and Indonesia

Rubber: Malaysia and Indonesia

Oil palm: Ghana and Papua New Guinea

(3) **OTHERS:**

Other comparative crops will be covered in less detail and chosen on the basis of having the potential to provide the coffee sector with lessons for future action, in terms of good practice, pitfalls to avoid etc. The list is not necessarily exhaustive and will depend on time available:

Fruit and vegetables

Horticulture

Grains

Edible nuts

Natural fibres

Spices

Methodology

A work programme, with some of the tasks involved running concurrently, will be undertaken based on the following methodology:

(1) Literature and secondary data review:

Conduct a literature review of relevant secondary data, including recent and ongoing commodity sector initiatives that have contributed to current knowledge and have had an impact on the linkages between the international trade in coffee and the other selected comparative crops and the environment and socio-economic issues.

Relevant data will be identified through our existing knowledge and resources, i.e. the NRI's own library and database, the internet, particularly donor and multinational company websites, and liaison with key stakeholders in the selected sectors. Information consulted will include:

- Commodity and environmental impact reviews.
- Socio-economic studies
- Multinational Company and other company policy statements and published accounts
- Donor consultancy reports.
- National and International Environmental legal and regulatory reports and gazette's
- Social and Welfare codes of practice, e.g., ILO, ETI

(2) Initial contact with stakeholders - to explain the scope and purpose of the study and elicit their cooperation in providing relevant information and environmental/socio-economic policy input. The following are indicative, and not necessarily exhaustive, of the type of stakeholders that will be approached:

- Government and their agencies
(e.g. Finance, Trade, Industry, Agriculture, Environment, Welfare, Employment, Standards Boards, Parastatals, Export and Promotion Boards);
- International Organizations/Donor agencies
(e.g., ICO, ICCO, The Tea Council, IRSG, WTO, UNEP, EU, USAID, WB/IFC);
- Private sector representative bodies
(e.g. Producer, trader, exporter and industry organisations, chambers of commerce, service sector organisations such as transport/financial/insurance/warehousing groups);
- Private sector companies
(e.g. MNC's and Small, Medium and Micro Enterprises (SMMEs), Retailers);
- Civil Society and NGOs
(e.g. organisations and individuals that represent both urban and rural poor, consumers, trade unions, women's groups, church and other religious groups together with NGOs involved in income generation, poverty reduction and environmental issues);
- Academic institutions, those with knowledge and research experience of the issues underlying the study.

(3) Baseline studies involving descriptions of sectors based on information gained in (1) and (2) above.

Some details of the following may be included:

- National coffee policies and the importance of coffee and comparative crops to the economies of selected countries.
- The supply chain-production; primary processing; domestic consumption; export; secondary processing and packaging; consumption.
- Current environmental protection initiatives at all stages of the supply chain.
- Current social and welfare conditions and initiatives, focussing on primary production and processing.

(4) Analysis of major environmental and socio-economic issues, to include:

- Environment:
Ecosystems, wildlife conservation, deforestation and biodiversity; soil conservation; water conservation and protection; energy conservation; waste management; pest and disease management; minimum pesticide residue limits; climatological issues; alternative production and processing techniques and their environmental impact; packaging legislation.
- Socio-economic factors:
Analysis will concentrate on the sustainable livelihoods approach to the impact of current practices on the social and economic welfare of producers and the benefits to local communities. Alternative enterprises and crop diversification will also be included.

5 Personnel Inputs

A small but skilled multidisciplinary study team is required in order to:

- (1) Identify and assess a range of crop sectors;
- (2) Make meaningful comparisons between the coffee and other agro-industrial sectors;
- (3) Analyse the linkages between international trade and the environment and socio-economic issues; and
- (4) Propose appropriate future action for meeting the ongoing challenges that will be posed by the study.

The team must be able to integrate international trade issues with environmental, poverty, economic, social, policy, and institutional and legal and regulatory issues.

6 Beneficiaries

The world coffee trade, coffee producers and coffee consumers.

7 Outcome and Outputs

The study is research oriented and will seek to increase the knowledge of the impact of international trade on the environment and sustainable livelihoods.

The study produced at the end of the assignment will identify key issues and recommend a plan for future action, including possible further focussed studies and pilot projects.

8 Costs/Study Implementation

It is proposed that the study is undertaken by the NRI at an all-in-rate of US\$20,000, which will cover fees, travel and incidental/sundry expenses.

A draft electronic version of the study will be submitted to the ICO within two months of exchanging contracts at the latest.

Terms of Reference

Please refer to Section 3 above.

Particular concern should be devoted to the entire agro-industrial chain, i.e. from production through primary processing up to preparation of the final consumer product, taking into consideration the following aspects:

- Description of proposed activity, plus analysis of need.
- Analysis of country selection procedure for case studies and alternative countries (the number and size of selected countries depends on the budget available).
- Baseline conditions/major concerns.
- Analysis of economic situation of exporting countries.
- Analysis of environmental impact for coffee and selected agro-industrial crops.
- Description of efficient use of natural resources and its effects on:
 - Biodiversity
 - Income
 - Employment
 - Infrastructure
 - Social (including health)
- Identification of viable economic activities (including not proceeding).
- Monitoring plans.
- Mitigation plans.
- Contingency plans for unpredicted impacts.
- Waste minimization.
- Public consultation programme.
- Plans to minimize release of adverse substances.
- Conclusions.