



INTERNATIONAL COFFEE ORGANIZATION  
ORGANIZACION INTERNACIONAL DEL CAFE  
ORGANIZAÇÃO INTERNACIONAL DO CAFE  
ORGANISATION INTERNATIONALE DU CAFE

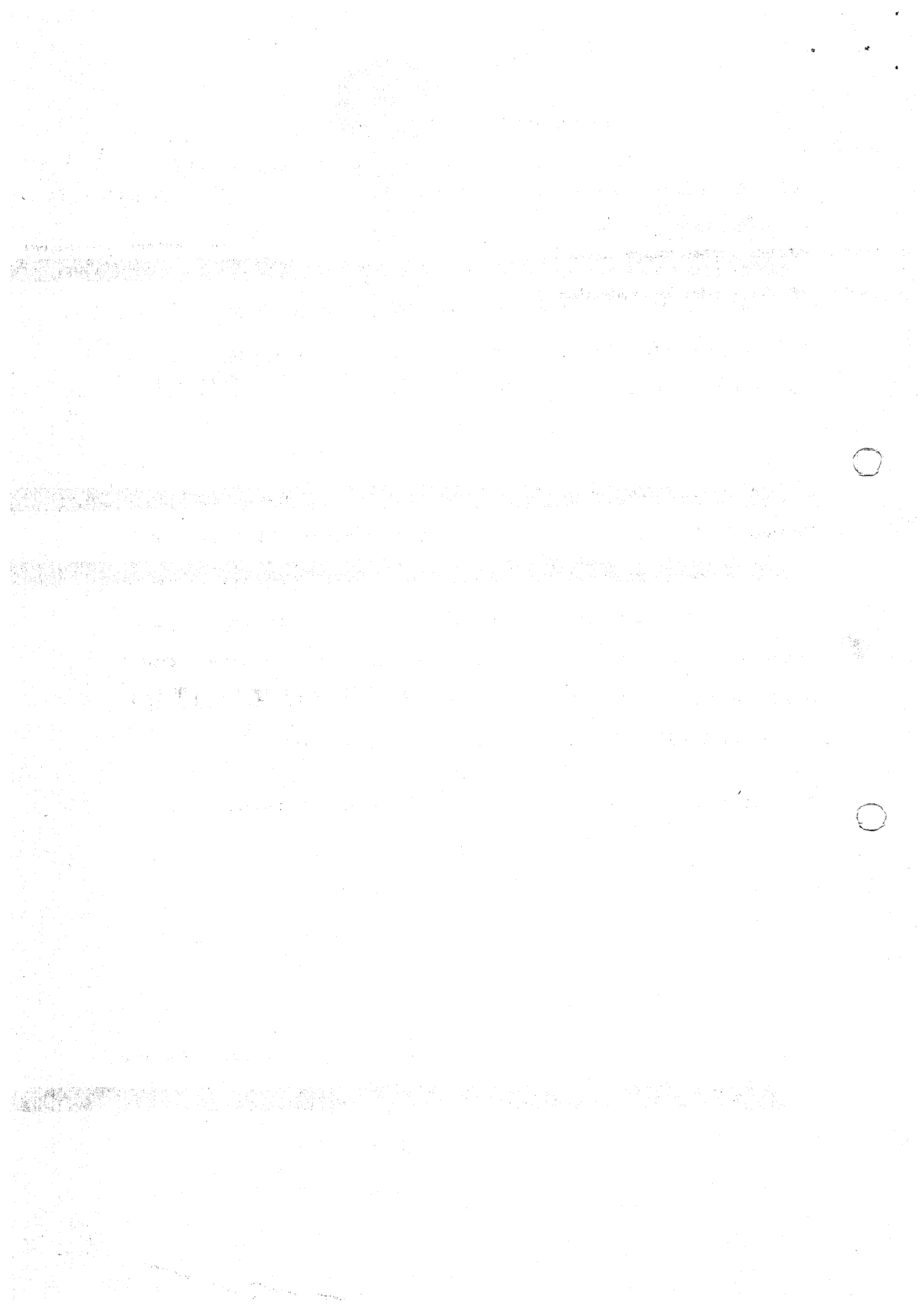
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ROBUSTA QUALITY IMPROVEMENT  
PROJECT PROPOSAL

Executive Board  
3 - 5 February 1997  
Bali, Indonesia



## **ROBUSTA QUALITY IMPROVEMENT**

### **PROJECT PROPOSAL**

1. The present document contains a revised Part One of a project proposal for submission to the Common Fund for Commodities entitled **Quality improvement by varietal selection of *Coffea canephora* and optimal use of coffee soil for the production of quality Robusta coffee**, submitted by the Interafrican Coffee Organisation (IACO). Further details and cost breakdowns are available to interested parties in English and French on request.

2. It may be noted that a first outline of this project was circulated as document EB-3603/96. At its meeting in September 1996, the Executive Board requested the Executive Director to continue the development process of this project, giving consideration to widening its scope to include plant health aspects, and improving coordination mechanisms (see paragraph 18 of Decisions Adopted number 230, document EB-3614/96). In addition, preliminary comments on the initial outline have been received from the Common Fund and have been used to develop the revised version.

3. The project is therefore resubmitted for consideration by the Executive Board.

THE UNIVERSITY OF CHICAGO

PHYSICS DEPARTMENT

PHYSICS 439

LECTURE 1

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1.2

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**PROJECT PROPOSAL  
TO THE COMMON FUND FOR COMMODITIES**

The International Coffee Organization (ICO), as the competent International Commodity Body (ICB), hereby submits the following project proposal with its recommendations for financing through the Second Account of the Common Fund for Commodities (CFC). The proposal was approved by the International Coffee Council on ..... 1997; the recommendation was made on ..... by the Executive Director of the International Coffee Organization.

1. Project title: **Quality improvement by varietal selection of *Coffea canephora* and optimal use of coffee soils for the production of quality Robusta coffee**
2. Duration: Phase 1: five years  
Phase 2: five years
3. Location: Robusta producing countries (Cameroon, Côte d'Ivoire, Madagascar, Togo and Uganda)
4. Nature of the project:
  - Varietal selection based on coffee quality;
  - Identification of optimal coffee soils and optimal soil use;
  - Identification of cultural practices favouring quality;
  - Preparation of a catalogue of Robusta coffees according to their characteristics.
5. Estimated total cost: **US\$ 5,247,100**
6. Financing from the Common Fund: **US\$ 2,653,700**
7. Co-financing: **US\$ 1,639,800**
  - Interafrican Coffee Organisation (IACO): **US\$ 88,500**
  - African Development Bank (ADB): **US\$ 1,001,300**
  - European Union/ Lomé Convention IV: **US\$ 450,000**
  - Centre for International Cooperation in Agricultural Research for Development (CIRAD): **US\$ 100,000**
8. Counterpart funds: **US\$ 953,600**

9. Project Executing Agency: 1) International executing agencies:  
- IACO  
- CIRAD  
2) Local executing agencies:  
- IDEFOR/DCC (Côte d'Ivoire)  
- IRA (Cameroon)  
- CENTRADERU/FOFIFA (Madagascar)  
- NARO (Uganda)  
- IRCC (Togo)
10. Supervisory Body: **International Coffee Organization (ICO)**
11. Estimated starting date: **1997**

## PROJECT PROPOSAL

### Quality improvement by varietal selection of *Coffea canephora* and optimal use of coffee soils for the production of quality Robusta coffee

#### PART ONE

##### A. Background and strategy

1. In terms of value, coffee is one of the world's most important commodities. There are two main species of economic importance: *Coffea canephora* which produces coffee known commercially as Robusta, and *Coffea arabica* which produces Arabica.
2. After the Second World War, demand for coffee grew at a steady rate and this has been maintained in recent years. Demand should continue to grow over the next few years given the increase in consumption in a number of countries in the European Union, the rapid expansion of the Asian market and the recovery of consumption in East European countries.
3. For developing countries producers of Robusta, coffee is an important factor in development, since it provides substantial foreign exchange earnings for the country and an indispensable income for farmers.
4. The demand for Robusta varies in consuming countries. It is particularly high in tea-drinking countries, where consumption of soluble coffee predominates, and in Mediterranean countries which have a preference for full-bodied coffee. Growth prospects for the coffee market are, therefore, mainly concentrated in countries falling into these categories: Southern Europe (strong coffee), Eastern Europe and Asia (tea drinkers).
5. The current image of Robusta coffee is poor or even non-existent. This image can only be acquired through production of a well defined quality coffee which roasters can obtain in regular supply.
6. It has been found that in general Robusta producers do not know enough of their product. In fact, unlike other coffee producers, Robusta producers do not have the liquoring expertise to assess their coffee for export to characterize its quality. Thus, they cannot effectively exercise strict quality control, competently market or promote their product successfully.
7. The ICO Promotion Committee had a market study carried out by the Agency NOP in Asian and East European countries. Demand for Robusta is high. However, to meet demand and fully benefit from market studies, it is essential to make an inventory of the Robusta "warehouse". The proposed project will help define a Robusta catalogue. The results of market studies can then be compared with this catalogue in order to know that coffee more acid is found in which country, strong coffee in another, etc.
8. The project will identify and improve the quality of Robusta coffee and also lay the foundation to increase awareness of the problems among everyone involved in coffee in the countries concerned, and will help them adopt a quality-orientated approach to the product. The current liberalization of marketing, which is desirable for producers, opens up prospects for a large number of private operators in the local coffee trade. It is very important that these new operators should know about coffee.

9. All these initiatives should make it possible to offer the market Robusta coffees which meet the demands of traders in regard to reliability of taste and regularity of supply. It should also make it possible to meet the needs of roasters who are developing products which refer specifically to an origin or label. This is very much in line with the APROMA project for the establishment of a quality label for African coffee.

10. Before indicating the measures to be taken to improve Robusta quality, three general remarks are pertinent:

- apart from the recent research conducted at CIRAD, no significant study has been carried out on varietal differences in *C. canephora* for the production of quality Robusta;
- the coffee market is extremely dynamic and produces numerous innovations: soluble, ground, decaffeinated, espresso and, recently, "ready to drink" coffee. Robusta has comparative advantages for certain types of beverage like the soluble. Adaptation to these new products is a potential market for Robusta;
- recent studies undertaken by CIRAD and IDEFOR/DCC prove that there are important differences between varieties and soils for the quality of coffee produced. These studies have shown that there are good opportunities to improve quality, including the aroma and taste.

11. These remarks and results lead us to propose a global varietal quality improvement strategy in African Robusta producing countries, principally through the African Coffee Research Network (ACRN). The aim of this strategy is to promote Robusta on the basis of quality for all Robusta producing countries listed in Annex I.

#### PROJECT OBJECTIVES

##### **B. General objectives**

12. The general objectives of the project are:

- to improve the performance of Robusta cultivation and above all its profitability and quality;
- to propose a common plan of action for all Robusta producing countries to identify and master the quality of its production;
- to define a catalogue of types of Robusta intended for buyers and producers (response to market studies), a catalogue which any Robusta producer can then use as a basis to establish itself in relation to the major criteria identified in the project;
- to identify varieties which are superior in quality and to make better use of coffee soils;
- not to increase production, but to improve the quality of production in smaller areas, thus allowing national agricultural extension services to orient farmers towards the cultivation of other farm crops as part of agricultural stabilisation;
- to increase the income of coffee farmers and foreign exchange earnings of producing countries.



### C. Immediate objectives

13. This project will take place in five African Robusta producing countries. The first phase will evaluate the potential of soils in each country and identify from the varieties propagated or apt for propagation, the most interesting ones for the quality criteria to be retained. A survey of coffee growers in selected localities will be done to indicate the minimal cultural practices which allow for a better remuneration without having negative results on the productivity and quality of coffee. The effect of blends for marketing will be studied: blend of coffees from different localities or produced from different varieties. Finally, the project will seek to ensure the continued genetic improvement of *C. canephora* for quality by evaluating the germplasm and ongoing selections of major improvement programmes for this species in Africa;

14. Concurrently, all the data will be compiled and processed by multivariate analysis to establish the inventory of types of coffee available and their major characteristics.

15. In the second phase, each country will compare its best varieties (five or six) with the best variety of each of the other countries. In addition to the enrichment of plant material in each country, this trial will make it possible to study the varietal stability of the agronomic and qualitative potential in different localities and countries.

16. The activities described here should be coordinated so that the methods used in each country for the preparation of samples are exactly identical. This coordination will be one of the key factors for the success of the project. This could be done through missions and seminars.

17. After the first phase (five years) an initial strategy concerning the propagation of varieties, use of soils and minimal cultivation techniques will be applied to:

- elimination of varieties producing poor quality coffee;
- modification of proportions of varieties propagated;
- identification in order to have separate sales of coffee from individual localities based on market requirements;
- reasonable blends of coffee from different locations;
- extension messages focused on minimal cultivation techniques indispensable for quality;
- preparation of a catalogue of different types of coffee found.

18. After the second phase (five years), this strategy can be refined by introducing varieties from neighbouring countries or by identifying variety-soil associations that are particularly interesting. There will be four criteria retained for evaluating the quality of coffee produced:

- quality of the coffee liquor: intensity and quality of the aroma, body, bitterness, acidity, astringency, particular tastes;
- physical and chemical qualities of the bean reaction to roasting (weight and volume), bean size, caffeine content, chlorogenic acid, sugars, etc.
- adaptation to specific consumption patterns; for example, extraction rate in respect of soluble coffee;
- agronomic aspects influencing quality, mainly cluster maturity.

19. Certain varieties can be identified only by one of these factors. A variety particularly adapted to the transformation into soluble coffee could, for example, be used on a specific market in agreement with a major trademark.

**D. Beneficiaries**

20. Benefits will go to coffee growers who will see their revenues rise as a result of better control of production costs and sale of quality coffee. Robusta producing countries will be the beneficiaries of this project. This project will have a positive influence on the global economy of countries for which coffee accounts for up to 80 percent of foreign exchange earnings.

21. Finally, buyers and consumers will also gain as they will have a catalogue to guide them in the choice of Robusta according to their needs.

**JUSTIFICATION OF THE PROJECT'S WIDER OBJECTIVES**

**E. Agreement with the policies of the Common Fund for Commodities**

22. The project aims to improve revenues from a commodity of primary importance to many developing countries: Robusta coffee derived from *C. canephora*. It therefore conforms to the type of programmes supported by the CFC.

23. The work envisaged in the project relates to the selection of varieties and the better management of soil potential in the chosen countries in order to improve the quality of the product exported (i.e. coffee). The CFC includes work of this nature in the list of activities which it supports.

24. The project proposal has the following characteristics:

- improvement of living standards of small farmers by providing them with a higher income;
- involves an important commodity to the least developed countries which makes a significant contribution to their economic development;
- increased export earnings of developing countries;
- benefit to a significant number of Robusta producing countries.

These characteristics are those supported by the CFC.

**- Agreement with the policies of the International Coffee Organization**

25. The project is in line with the international development strategy for coffee approved by the International Coffee Council (document EB-3531/95 Rev. 2).

**LIST OF POTENTIAL BENEFICIARY  
COUNTRIES FROM THE PROJECT**

Continent	Country	Type (*)	Exports (**)
Africa	Angola	R	52
	Benin	R	0
	Burundi	AR	541
	Cameroun	RA	972
	Central African Republic	R	145
	Congo	R	4
	Côte d'Ivoire	R	3,487
	Equatorial Guinea	R	2
	Gabon	R	3
	Ghana	R	26
	Guinea	R	58
	Liberia	R	0
	Madagascar	RA	626
	Nigeria	R	8
	Sierra Leone	R	66
	Tanzania	AR	848
	Togo	R	203
Uganda	RA	2,686	
Zaire	RA	1,035	
<b>Total</b>			<b>10,771</b>
Latin America	Brazil	AR	17,482
	Ecuador	AR	1,585
	Guatemala	AR	3,450
	Trinidad and Tobago	R	6
<b>Total</b>			<b>22,503</b>
Asia	India	AR	2,155
	Indonesia	RA	5,208
	Papua New Guinea	AR	990
	Philippines	RA	72
	Sri Lanka	RA	23
	Thailand	R	958
	Vietnam	R	2,358
<b>Total</b>			<b>11,765</b>
<b>TOTAL</b>			<b>45,038</b>
<b>WORLD</b>			<b>73,505</b>

(\*) R = Robusta; RA = Robusta (mainly) + Arabica; AR = Arabica (mainly) + Robusta.

(\*\*) 1990-95 average of total production in thousand bags.

