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PILOT PROJECT ON PRICE RISK MANAGEMENT FOR COCOA FARMERS

PROJECT COMPLETION REPORT

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I. PROJECT SUMMARY

Project Title: Pilot Project on Price Risk Management for Cocoa Farmers

Locations: Côte d'Ivoire

Project Code: CFC/ICCO/13FA

Project Executing Agency: *Bourse du Café et du Cacao* (BCC)

Supervisory Body: International Cocoa Organization (ICCO)

Project duration: February 2006 – March 2008

Project financing: USD\$ 384,762 in total
USD\$ 272,622 grant from CFC
USD\$ 101,640 from BCC
USD\$ 10,500 from ICCO

II. INTRODUCTION

1. In the eighties, a wave of market liberalization programmes, endorsed by the International Monetary Fund and the World Bank, affected agricultural commodity markets in Africa. Admittedly these programmes increased competition. However, smallholder cocoa farmers became directly exposed to the fluctuations of international prices.

2. The increased volatility of farm-gate prices made it more difficult for farmers to plan production activities, to make long-term investments and to obtain credit. Furthermore, since farm income became more unpredictable and unstable, smallholder farmers faced increasing economic and financial problems.

3. To address these issues, the World Bank launched an International Task Force (ITF) on price risk management in 1998. The scope of the ITF's work was to assess the feasibility of using derivative contracts to mitigate the instability of prices. Cocoa was, among other agricultural commodities, identified as suitable for a test run of price risk management strategies.

4. In this context, the Secretariat of the International Cocoa Organization (ICCO) formulated a project proposal intended to reduce the exposure of smallholder cocoa farmers in Côte d'Ivoire to fluctuations in world market prices, thus making incomes from cocoa growing more secure.

5. The project proposal was approved by the Executive Board of the Common Fund for Commodities (CFC) at its thirty-ninth meeting held in April 2005. The project officially started in Abidjan (Côte d'Ivoire) in February 2006.

III. PROJECT OBJECTIVES AND COMPONENTS

6. The overall objective of the project was to develop and implement a price risk management strategy for cocoa farmers in Côte d'Ivoire. The specific objectives were:

- to reduce the exposure of smallholder cocoa farmers to price fluctuations on the international market; and
- to develop the capacity to enable small cocoa producers and organizations to make more rational production and investment decisions, based on more realistic assumptions and price expectations.

7. The project proposal identified a number of activities to be implemented under the following five components:

COMPONENT 1: PREPARATIONS FOR THE START OF PROJECT ACTIVITIES

8. The objective of this component was to consult the BCC, the CFC, cocoa co-operatives in Côte d'Ivoire, the hedging service providers and banks to establish a clear understanding on the procedures to be followed in the project.

COMPONENT 2: PREPARATIONS FOR THE HEDGING STRATEGY

9. The objectives of this component were to assess the price risk faced by cocoa co-operatives in Côte d'Ivoire; to select the appropriate hedging instruments; to train staff from the BCC, the cocoa co-operatives, exporters and local banks; and to draft the hedging contracts.

COMPONENT 3: IMPLEMENTATION OF THE HEDGING STRATEGY

10. The objective of this component was to execute the hedging contracts.

COMPONENT 4: EVALUATION OF RESULTS OF PILOT OPERATIONS

11. The objective of this component was to assess the results of the pilot project.

COMPONENT 5: MANAGEMENT, SUPERVISION AND MONITORING

12. The objective of this component was to provide management, monitoring and supervision to the project.

IV. PROJECT MANAGEMENT AND FINANCING

13. The Project Agreement between BCC, CFC and ICCO was signed in early February 2006. The signature of a grant agreement between ICCO and CFC followed soon after. The BCC was appointed Project Executing Agency (PEA), while the ICCO was made the Supervisory Body (SB).

14. The budget of the project amounted to USD\$ 384,762. The Common Fund for Commodities provided a grant of USD\$ 272,622, while the BCC and the ICCO contributed USD\$ 101,640 and USD\$ 10,400, respectively.

V. ESTIMATED BENEFITS AND BENEFICIARIES

15. The introduction of a market-based price insurance mechanism was of great benefit to cocoa farmers in Côte d'Ivoire. This was especially so for those smallholders who relied heavily on income from cocoa farming.

16. The market-based price risk management system helped smallholder cocoa farmers to make more efficient production plans and long-term investment decisions, by reducing downside price risk.

17. Local institutions in Côte d'Ivoire also benefited from the pilot operations. With the abolition of the *Caisse de Stabilisation des Prix des Produits Agricoles* (CAISTAB), the stabilization mechanism of cocoa prices in Côte d'Ivoire no longer existed. In this context, the project was a demonstration of a potential policy tool designed to provide cocoa farmers with a floor price.

VI. SUMMARY OF PROJECT IMPLEMENTATION

18. After the pilot project was officially launched in Côte d'Ivoire in February 2006, the first quarter was devoted to contracting consultancy services and to selecting participating cocoa co-operatives. Toward the end of April, however, it became clear that international and local banks as well as exporters were reluctant to participate in the project.

19. In an attempt to deal with this stumbling block, another consultancy group was engaged. As a result, the price risk management strategy was revised and a new procedure was developed. Specifically, the consultancy groups approached international cocoa exporters to explore their possible role in the pilot operations.

20. In October 2006, developments on the world cocoa markets forced a rethink of the approach. The minimum price set by the price risk management strategy was well below the farm-gate prices. Consequently, the strategy needed to be reformulated.

21. In February 2007, the ICCO requested CFC for an extension of the project for nine additional months. Such an extension would be budget neutral, i.e., no new funds would be required from CFC and activities would be implemented within the limits of the available funds. The CFC agreed to the requested extension.

22. In May 2007, intensive consultations took place in Abidjan between the BCC, the ICCO, five cocoa co-operatives and the project consultants. At the end of these meetings, a hedging agreement

was signed. The agreement envisaged to hedge 1,250 tonnes of cocoa beans using two different strategies. The first lot of 800 tonnes would be hedged with 80 lots of put options (70 lots with a strike price of 1,025 GBP per tonne and a premium of 65 GBP per tonne and 10 lots with a strike price of 1,000 GBP per tonne and a premium of 65 GBP per tonne) on the London terminal market. This strategy set a minimum farm-gate price in the range of 440-460 CFA francs per kg at a cost of 62.93 CFA francs per kg and a total outlay of 50,344,000 CFA francs. The remaining 450 tonnes were hedged with 45 lots of participatory option programmes (POPs) which guaranteed a minimum price of 1,703 USD per tonne on the New York terminal market. As the POP's premium depended on market developments, the providers of risk management services calculated that the maximum premium would be 46.6 CFA francs per kg with a total maximum outlay of 21,014,793 CFA francs.

23. The hedging strategies were implemented in August 2007 and expired in November 2007. Prior to the expiration of the put options – towards the end of November – cocoa was traded on the London terminal market at around 920 GBP per tonne. As a result, put options were in-the-money, that is, they had an intrinsic value. The cocoa cooperatives sold the 80 lots of cocoa futures contracts at their respective strike prices and bought them back at an average market price of 920 GBP per tonne, realizing an average gross profit of 105 GBP per tonne. This corresponded to a gross average profit of 92 CFA francs per kg, or to a net average profit of just over 29 CFA francs per kg, after deducting the put option's premium.

24. On the other hand, prior to the expiration of POPs – at the beginning of November – cocoa was trading above 1,900 USD per tonne on the New York terminal market, while the floor price was set at 1,703 USD per tonne. As a result, POPs were worthless and the cocoa co-operatives lost their premium of 46.6 CFA francs per kg or 21,014,793 CFA francs in total.

COMPONENT 1: PREPARATIONS FOR THE START OF ACTIVITIES

25. In February 2006, the project was officially launched in Côte d'Ivoire. Officials from cocoa co-operatives, banks and institutions and project consultants were invited to attend a preliminary meeting to introduce the project and to provide participants with the necessary explanations.

COMPONENT 2: PREPARATIONS FOR THE HEDGING STRATEGY

26. After the launch of the project and the ensuing meetings, 21 out of 42 co-operatives were selected to attend a three-day training session on price risk management strategies. At the end of the training, a test was carried out. The best five co-operatives were then selected to participate in the project.

27. Subsequently, project consultants and representatives from both ICCO and BCC had intensive consultations with local and international banks as well as cocoa exporters to explore their possible role in the pilot operations. At the end of this process, it became clear that banks were reluctant to provide a blanket support to the co-operatives.

28. Implementation of this deal was to start in December 2006. However, developments on the world market forced a rethink of this approach. More specifically, the international market had moved upwards with spot prices above GBP 900 per tonne. At this level, the minimum farm-gate price

proposed to cocoa farmers (350 CFA francs per kg) did not seem attractive anymore, as prices paid in Côte d'Ivoire at that time matched or exceeded CFA francs 350 per kg. The direct impact of this would have been to set a new, higher minimum farm-gate price which in turn would have resulted in a higher premium and a larger funds transfer by BCC.

29. In December 2006, the ICCO secretariat carried out a mission to discuss these developments with the BCC and to reassess the situation. After consultations, it became clear that the project could not be pursued in its original format.

30. In January 2007, following a request by the ICCO Secretariat, the Common Fund for Commodities agreed to an extension of project implementation by nine months, taking its completion date to March 2008.

31. In May 2007, the ICCO Secretariat, the BCC, the project consultants, two basic co-operatives and three export co-operatives held intensive consultations in Abidjan to arrive at a satisfactory deal. The agenda of the meeting included important aspects concerning the implementation of the hedging strategy and its financial cover. The deal involved the five co-operatives selected delivering a total of 1,250 tonnes (250 tonnes each) to cocoa exporters based in Abidjan by the end of March 2007. The price risk management strategy would guarantee a minimum farm-gate price of 350 CFA francs per kg against the payment of a premium of 65 CFA francs per kg for buying the put option. The two basic co-operatives decided to hedge 250 tonnes, each using exclusively put options. The three export co-operatives, being more skilled and having better market knowledge than the basic co-operatives, decided to each hedge 100 tonnes of their allotment with put options and the remaining 150 tonnes with the more sophisticated approach offered by participatory option programmes (POPs).

32. At the end of these consultations, all parties involved signed an agreement, which outlined the financial cover and the time frame for the payments. Considering the novelty of the strategy, its relative sophistication for the co-operatives and the level of export taxes paid by cocoa farmers, it was decided that the coffee and cocoa agencies in the country would, exceptionally, subsidize a large share of the premium, paying 50 CFA francs per kg while the co-operatives would be responsible for the remaining 15 CFA francs per kg. On that basis, the BCC agreed to transfer 65 million CFA francs to the hedging service providers' accounts while the co-operatives transferred 12 million CFA francs to the BCC for the share in the costs of the puts. In this context, the project consultants agreed to formulate draft hedging contracts and to consult with hedging service providers on the possibility of providing the co-operatives with trade financing.

COMPONENT 3: IMPLEMENTATION OF THE HEDGING STRATEGY

33. The implementation of the hedging strategies was delayed because of some technical problems with the transfer of funds from the BCC to the project consultants. Specifically, CaféCacao, Paris, received its funds from the BCC towards the end of July, whereas CPM group, New York, only received the funds towards the end of August.

34. The hedges with put options on the London International Financial Futures and Options Exchange (Euronext-LIFFE) were put in place on two different dates, as requested by an export co-operative. On August 3, 2007, Cargill/Alltrade bought 70 cocoa put options (strike price

GBP 1,025 per tonne and a premium of GBP 65 per tonne). The total outlay was 44,343,382 CFA francs or 63.34 CFA francs per kg. The remaining 10 cocoa put options (strike price GBP 1,000 per tonne and a premium of GBP 65 per tonne) were bought on August 9, 2007. The total cost was 6,000,718 CFA francs or 60.01 CFA francs per kg.

35. It is worth noting that both lots of put options had the same premium, but different strike prices, related to moments in the market between the dates of buying put options. As a result, the first lot – the one with higher strike price – would guarantee a higher farm-gate price than the second one. It was reckoned that the put option strategy would set minimum farm-gate prices in the range of 440-460 CFA francs per kg.

36. Later, on August 28, 2007, 450 tonnes of cocoa were hedged on the New York Board of Trade, now called InterContinental Exchange (ICE), using POPs. Such a strategy entailed the purchase of 45 puts (strike price of USD 1,700 per tonne and a premium of USD 45 per tonne), 45 calls (strike price USD 1,800 per tonne and premium of USD 80 per tonne), and the simultaneous sale of 45 calls (strike price USD 1,700 per tonne and premium of USD 118 per tonne). As the POP's premium depended on market developments, the providers of price risk management services calculated that the maximum premium would be 46.6 CFA francs per kg with a total maximum outlay of 21,014,793 CFA francs

37. The POPs implemented in New York expired worthless, as the December 2007 cocoa futures contract was trading above USD 1,703 per tonne, whereas cocoa put options in London were “in-the-money”, that is, they had an intrinsic value. As a result, their subsequent liquidation or exercise yielded an average gross profit of around GBP 105 per tonne. This corresponded to an average gross profit of 92 CFA francs per kg, or to an average net profit of just over 29 CFA francs per kg, after deducting the cost of the premium.

COMPONENT 4: EVALUATION OF RESULTS OF PILOT OPERATIONS

38. Project evaluation was based on six-month progress reports submitted to the ICCO, by the BCC and the project consultants.

COMPONENT 5: MANAGEMENT, SUPERVISION AND MONITORING

39. Day-to-day management of the project was carried out by the BCC in its capacity as Project Executing Agency whereas the ICCO took on the role of Supervisory Body. The BCC visited co-operatives and held meetings with them in Abidjan. The Secretariat of the ICCO and the consultants travelled to Abidjan three times to review progress and discuss remedial actions in project implementation.

VII. CONSTRAINTS AND OBSTACLES ENCOUNTERED

40. The project was very ambitious in its objectives and encountered a number of problems and constraints from the start.

41. The first constraint was that both local and international banks based in Côte d'Ivoire did not support the pilot project. The local banks lacked the financial experience to provide co-operatives with hedging services and cocoa trading facilities. On the other hand, the international banks, which had the required skills and know-how, were reluctant to provide their financial assistance. In this connection, it is worth noting that the hedging strategy was implemented through the intermediation of international traders who required higher brokerage fees and the up-front payment of the premium.

42. The second constraint was the cost of the hedging strategy. It is estimated that the option premium ranged between 12% and 20% of the farm-gate price in Côte d'Ivoire. These high percentages were directly related to the export taxes levied in Côte d'Ivoire. Considering that smallholder cocoa farmers in Côte d'Ivoire live just above or around the poverty line, such a premium would have been too high for them. Hence the decision of the coffee and cocoa sector agencies to offer a subsidy to the cocoa co-operatives. The prevailing situation in Côte d'Ivoire fully justifies such a subsidy, although its level could and should in future be lower than in the pilot hedging.

43. The third constraint was the residual exposure of cocoa farmers to the basis risk and to the exchange rate risk. The basis risk is due to the fluctuations of the price differential between the cocoa terminal markets and the spot market in Côte d'Ivoire. The exchange rate risk arises because the cocoa price is nominated in CFA francs on the Ivorian spot market, while it is traded in GBP and USD on the London and New York terminal markets, respectively. The basis risk could not be hedged because cocoa exporters were not willing to fix the price differential. The exchange risk was not hedged because it would have increased hedging costs.

VIII. OVERALL ACHIEVEMENTS OF THE PROJECT

44. Despite the constraints outlined above, the project achieved its ambitious objectives.

- Training materials on price risk management were developed;
- Representatives of local institutions and cocoa co-operatives received appropriate training on price risk management strategies;
- Sources of price risk at the farm-gate were identified;
- Hedging instruments mitigating these sources of risk were adequately selected;
- Hedging contracts were drafted and approved by all the parties involved in the project;
- Hedging strategies were implemented on the London and New York cocoa option markets; and
- Effective coordination and exchange of information were realized by the BCC as Project Execution Agency and by the ICCO as the Supervisory Body.

IX. CONCLUSIONS AND RECOMMENDATIONS

45. The Pilot Project on Price Risk Management for Cocoa Farmers was an opportunity for institutions and co-operatives in Côte d'Ivoire to test the feasibility of using market-based price insurance schemes to mitigate the short-term fluctuations of cocoa prices at the farm-gate level. With the abolition of the CAISTAB, a price stabilization mechanism for cocoa prices was warranted for smallholder cocoa farmers in Côte d'Ivoire, most of whom live near or below the poverty threshold.

46. These pilot operations also highlighted the superiority of put options over POPs. Firstly, everything else equal, a POP is on average more expensive than a put option strategy. Secondly, the brokerage fees to implement a POP are higher than those for a put option strategy. Thirdly, the implementation of a POP can be hampered by a lack of liquidity on the cocoa options markets. As a result, put options appear to be the most cost-effective instruments to implement a price risk management strategy.

47. A major conclusion of the project is that price risk management can be an effective tool to stabilize farm-gate cocoa prices. Authorities in Côte d'Ivoire could improve access to the cocoa terminal markets by modernizing the financial and legal institutions. Direct access to futures and options markets would have allowed cocoa co-operatives to have cocoa trading financial facilities and lower brokerage fees. In this connection, it is worth noting that cocoa exporters participating in the pilot project asked for brokerage fees that were ten times higher than would have been the case otherwise, if the BCC had met the requirements of an international bank's due diligence process.

48. The results of the pilot project showed that, with some adjustments to meet local specificities, price-risk instruments could be a valuable tool to help cocoa farmers in guaranteeing them a minimum income and protecting their revenues.

49. The authorities in Côte d'Ivoire are keen to expand the experience on a larger volume while the ICCO is formulating a follow-up proposal to test the feasibility of implementing the project in Cameroon and in Nigeria.