



International Coffee Organization  
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Executive Board/  
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**Coffee Berry Borer – the need for a  
review of the status and knowledge of  
a serious coffee pest**

**Project proposal**

## **Background**

1. This document has been submitted by CABI and contains a proposal for a comprehensive review of the pest status of the Coffee Berry Borer including an ICO workshop with expert inputs from the most affected countries.
2. The proposal has been circulated to the Virtual Screening Committee (VSC) for assessment and will be considered by the Executive Board in September 2007. A copy of the full project proposal is available in English upon request.

## **Action**

The Executive Board is requested to consider this proposal together with the recommendations of the VSC and, if appropriate, to recommend approval by the Council.

## PROJECT SUMMARY

<b>Project title:</b>	Coffee Berry Borer (CBB) – the need for a review of the status and knowledge of a serious coffee pest
<b>Duration:</b>	6 months
<b>Location:</b>	Colombia and UK
<b>Nature of project:</b>	To carry out a comprehensive review of the pest status of the Coffee Berry Borer including an ICO workshop with expert inputs from the most affected countries
<b>Brief description:</b>	This project aims to: i) provide an update of current knowledge about the pest (what is known – what is not known); ii) identify the current severity of the problem, with delegates presenting estimates of total economic costs due to CBB; iii) case history(ies) from one or more countries (e.g. India) that seem to have the problem under control; iv) review of possible new control initiatives (e.g. breeding, mass release biologicals, trapping, mechanization); v) discussion of options over a range of timescales, including diversification in areas that will become inevitably more marginal due to climate change; and vi) development of a plan for practical activities in countries over the short, medium and long term, including training, dissemination and research.
<b>Estimated total cost:</b>	US\$159,000
<b>Financing sought from the Fund:</b>	US\$120,000
<b>Mode of financing:</b>	Financing is expected as a grant
<b>Co-financing:</b>	Contributions are expected from other donors
<b>Mode of co-financing:</b>	Co-financing will be by grant/in-kind
<b>Counterpart contributions:</b>	Government or private coffee bodies and others (in-kind)

**Project**

**Executing Agency (PEA):** CABI

**Supervisory body:** International Coffee Organization (ICO)

**Estimated starting date:** to be confirmed

**Problem statement**

1. The CBB is the most significant and widespread insect pest affecting coffee. It is not easy to control, living most of its life inside the berry, making it difficult to target with either chemicals or biologicals, including predators and microbial.

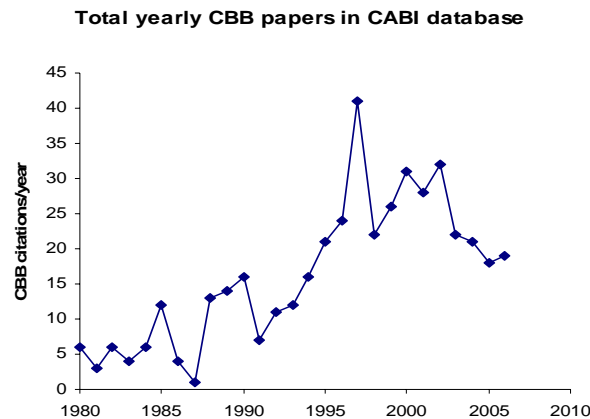
2. The CBB is now present in all coffee-producing countries except Hawaii and Papua New Guinea (PNG). As it is now so near to the border, it is very likely that the CBB's presence in PNG will be reported by 2008; and with the generally poor condition of many smallholder coffee farmers there, the pest may well cause considerable difficulties in the country.

3. In some countries where the CBB is already well established, and despite decades of research and control activities, the problem seems to be getting worse. The reasons for this have not been well established, but may include one or more of the following postulates:

- A secular decline in coffee prices has squeezed the costs of control, which have a large labour cost component.
- In producer countries there has been a change in allocation of scarce resources, away from traditional extension and dissemination activities and towards certification and compliance i.e. from cost control to market access and added value.
- Chemical control is increasingly ineffective and unacceptable, due to an increased list of restricted products, possible emerging resistance and stricter market requirements.
- Climate change is creating more favourable conditions due to increased temperatures that speed up the insect's life cycle. Increasingly volatile patterns of wet and dry periods or seasons are a likely factor too; in El Niño years the CBB survives well in dry conditions in fallen berries, whereas in wet La Niña years these berries rot away and the CBB suffers higher losses.

Whereas in former times Niño-Niña events were rare, they are now becoming more frequent and farmers are not used to adapting their management actions to these new weather patterns.

4. At the same time, institutional research efforts seem to have peaked around the year 2000 (Fig. 1) and this may reflect a broader decline in funding and activity for this pest.



**Figure 1**

5. Despite many previous studies, there is a significant knowledge gap and we need to understand better why this is so. For instance the CFC/ICO/02 Integrated management of the Coffee Berry Borer project developed a range of techniques and practices, centred around participatory research<sup>1</sup> and integrated pest management field pilots. It also introduced and established new biocontrol agents<sup>2</sup> in all countries and carried out significant socioeconomic studies<sup>3</sup>. Altogether a substantial body of knowledge was created and transferred to the participating institutions.

6. These actions in themselves were not enough to provide a simple and enduring solution, as the final report indicated<sup>4</sup>. The report affirmed that control of this pest would need a concerted effort, that the project had provided the approach, tools and training but could not itself bring about control.

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<sup>1</sup> **Bentley JW, Baker PS** (2002) *Manual for Collaborative Research with Smallholder Coffee Farmers*. The Commodities Press, 131pp.

<sup>2</sup> **Orozco Hoyos, J.** (2002) *A guide to the rearing of the parasitoid *Phymastichus coffea* for control of the Coffee Berry Borer*. Commodities Press, 19pp.

<sup>3</sup> **Duque H, Baker PS** (2003) *Devouring Profit – socioeconomics of the Coffee Berry Borer IPM*. Commodities Press, 106 pp.

<sup>4</sup> **Baker PS, Jackson JAF, Murphy ST** (2002) *Natural Enemies, Natural Allies*. Project completion report of the Integrated Management of Coffee Berry Borer Project CFC/ICO/02 (1998-2002), 130pp.

7. Within a year of termination of the project, which occurred at the height of the coffee crisis, more than 50% of the principal investigators involved in the project had left the employment of the participating coffee institutes.

8. From this we argue that:

- The CBB problem endures because market crisis conditions have forced institutions to reduce the long term integrated research and extension activities needed to keep on top of the pest.
- CBB management is becoming more difficult because of enduring changes in economic, environmental and social circumstances, which some producer countries have found difficult to resolve. Some of these factors may be specific to the CBB, however others are more generic and have relevance to broader coffee supply-side difficulties.
- It is time for a review of the CBB situation, to update current knowledge, to pinpoint reasons for resurgence, to review any new initiatives, to evaluate lessons learned from previous projects and campaigns, and to identify pathways for improved control in the future.

#### **Some recent reports about the CBB since mid 2006:**

**Jamaica:** *“The Coffee Berry Borer infestation for the present crop is at an alarmingly high level. In previous crops berry borer infestation was between five and six per cent, in this crop we are seeing infestation in the region of 15 to 18 per cent and in some situations it is as high as 25 per cent”.* [Senator Norman Grant]<sup>5</sup>

**Colombia:** *“There has been a new outbreak of Coffee Berry Borer in coffee farms in the municipalities of Manizales, Chinchiná and Palestina in the Department of Caldas, as well as in other areas in the Department of Risaralda”.* [National Federation of Coffee Growers of Colombia]<sup>6</sup>

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<sup>5</sup> 4 May 2007 [[www.radiojamaica.com/news/story.php?category=2&story=35544](http://www.radiojamaica.com/news/story.php?category=2&story=35544)]

<sup>6</sup> 13 March 2007 [[www.Portafolio.com.co](http://www.Portafolio.com.co)]

**Venezuela:** *“The problem of the Coffee Berry Borer affects all sectors involved in the coffee chain. If we want to have the best quality coffee, we must provide producers with the tools needed for a sustainable way to deal with this pest, which directly affects what is most valuable to them, namely the coffee bean.” [Leonardo Blasco, Representative of Marcelo & Rivero, a coffee processing firm in Madrid]<sup>7</sup>.*

**Papua New Guinea:** *“An insect which destroys coffee is sending agriculture and quarantine authorities in Papua New Guinea into a spin, following reports that the pest was found only fifty kilometres away across the border in the Indonesian province of Papua. The beetle, known as the “Coffee Berry Borer”, is considered the most devastating of pests which can attack coffee beans, making them useless for export. If the Coffee Berry Borer were to cross the border, it would pose a threat to PNG’s coffee industry, which is worth between K300 and K400 million kina a year, that’s between A\$132 million to A\$176 million”<sup>8</sup>.*

**Laos:** *“The spread of the Coffee Berry Borer and the coconut leaf beetle and growing demand for off-season vegetables in Thailand increases the likelihood that more pesticides will be used on export crops and crops for domestic consumption”<sup>9</sup>.*

## **Project objective**

9. The overall objective of the project is to provide comprehensive reviews of current pest status, current knowledge and the research state of the art that will inform an ICO workshop with expert inputs from the most affected countries. Specific activities are listed below:

## **Activities**

### **Pre-workshop**

- An update of current knowledge (and knowledge gaps) regarding CBB
- Assessment of the current severity of the problem, with delegates presenting estimates of total economic costs of the CBB
- Case history(ies) from one or more countries (e.g. India) where the problem appears to be under control
- Review of possible new control initiatives (e.g. breeding, mass release biologicals, trapping, mechanization)
- Draft report on above including review of current knowledge and research state of the art prepared for the conference

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<sup>7</sup> 20 March 2007 [<http://noticieroagropecuario.com/hora.ASP?ID=3732>]

<sup>8</sup> 2 August 2006 [<http://www.radioaustralia.net.au/pacbeat/stories/s1703768.htm>]

<sup>9</sup> Oct 2006 Lao People’s Democratic Republic (SPS) Management: Action Plan for Capacity Building. World Bank East Asia and the Pacific Region Agriculture and Rural Development Department.

A substantial amount of the pre-workshop work would be carried out in Colombia with the consultant, with side visits to Jamaica, Central America, and/or another country for data gathering. Countries involved will be invited to contribute in-kind.

### Workshop

- Presentation of findings of pre-workshop activities
- Presentations by delegates from the most affected countries
- Discussion of options over a range of time scales, including diversification in areas that will become inevitably more marginal due to climate change
- Discussion groups on future research and management strategies

### Post workshop

- Development of a plan for practical activities in countries over the short, medium and long term, including training, dissemination and research.
- Comprehensive report prepared, to include the findings and recommendations of the workshop and concept proposals for future activities and resource mobilization.

### Indicative budget

Section	Activity	Cost
Pre-workshop activities	Travel costs	US\$6,500
	Staff time	US\$30,000
	Materials, incidentals	US\$2,500
	Colombia costs	US\$40,000
Workshop	ICO conference/facilitation charges	US\$20,000
	Travel costs for experts/special invitees	US\$25,000
Post workshop	Report write up	US\$25,000
	Materials, printing CD costs	US\$10,000
	<b>Total</b>	<b>US\$159,000</b>

### Synopsis of expected outcomes

- A comprehensive status report of the CBB problem
- An interactive workshop
- A full report with recommendations for action over the short to long term, building on the methodologies developed in the original ICO-CBB project