

CROP PROTECTION PROGRAMME

IMPLEMENTATION OF COCOA IPM IN WEST AFRICA

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FINAL TECHNICAL REPORT

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Executive Summary

In West Africa, cocoa is produced almost exclusively on small family-owned farms that also produce food crops. In Ghana it the main export crop, maintaining directly or indirectly the livelihoods of over six million people. Pests and diseases are considered to be the major production constraints by producers in all the countries in West Africa as was highlighted by a regional IPM cocoa workshop (Vos & Neuenschwander, 2002). The most significant of these are mirids and cocoa black pod disease.

In previous projects, new technologies have been developed to help control mirids and black pod. These technologies have been disseminated in Ghana and other countries in the Region by means of farmer participatory research and farmer field schools (FFS). This project aimed to introduce innovative ways of facilitating uptake and adoption by farmers of cocoa IPM measures in West Africa using video and to promote further the use of pheromone traps for management of cocoa mirids in the Region.

A network of cocoa farmers and FFS facilitators, local media organisations, researchers from the Cocoa Research Institute of Ghana (CRIG), extension service providers from the public sector, producer organisations and the Sustainable Tree Crops Programme (STCP) was trained in production of videos. Two participatory training videos have been produced by and for cocoa growers – one on pruning of old cocoa trees and the other on control of black pod disease of cocoa. These outputs will make a significant contribution to knowledge dissemination in the Region

Also, pheromone traps have been introduced to cocoa farmers in Ghana and Cameroon for monitoring and control of cocoa mirids. Development of local production of the traps and lures has been initiated at CRIG so promoting more sustainable cocoa growing.

The outputs of the project will contribute towards increasing the productivity of cocoa grown by poor farmers in West Africa. This new approach to dissemination of research outputs has been established in Ghana and this approach will be adopted throughout the Region through the STCP as well as by other stakeholders such as national research organisations and co-operatives. The approach will also be used by CABI and its partners for dissemination of other research outputs in West Africa and in other cocoa producing regions. Pheromone technology has been introduced to farmers in Ghana and Cameroon and the basis established for further uptake in the Region by the STCP and local organisations.

Background

The current research & development short project extension “Implementation of Cocoa IPM in West Africa” (R8448; April 2005 – January 2006) aimed to evaluate and disseminate outputs from the previous DfID-funded project on cocoa IPM (R8313) in West Africa. The work represents a collaboration between CABI, NRI, Cocoa Research Institute Ghana (CRIG) and the USAID/industry funded Sustainable Tree Crops Programme (STCP).

Master trainer workshops have been previously held in Cameroon, Nigeria and Ghana, demonstrating methods, concepts and principles for cocoa Farmer Field Schools (FFS). The discovery learning cocoa manual developed and produced by CABI (Vos *et al.*, 2003) has been used as the basis for development of a farmer participatory learning curriculum for the extension of cocoa IPM throughout West Africa. As part of this, models developed previously for optimising management inputs to cocoa production in SE Asia and Central America are being adapted and validated for West Africa. Technical inputs have been made on rational use of pesticides and on improvement of spray techniques and equipment for use with both conventional fungicides and biological control agents against blackpod disease

(*Phytophthora* spp) (See previous Final Technical Report March 2005). Further work has also been carried out to optimise pheromone traps for cocoa mirids, *Sahlbergella singularis* and *Distantiella theobroma*, and these have already been incorporated into farmer field research (FFR) in Ghana.

Despite their undoubted efficacy, it is time consuming and costly to provide the training needed to implement FFS widely and to provide close follow-up support to FFS graduate farmers to consolidate their own knowledge and their capacity to share new information with other farmers. Not only during FFS, but also in new post-FFS activities such as farmer participatory research (FPR), farmer facilitators especially need access to credible sources of information and practical tools that can reinforce their own growing knowledge and provide technical standards. Video has the potential to reach many thousands of viewers yet has not been widely exploited to support and reinforce the discovery learning processes embodied within FFS and FPR programmes. Participatory video is already recognised and used by advocacy organisations to empower people. With participatory video, far more so than with written media, people themselves learn to take part in and assume ownership of the video production in their own development process. Modern digital technology has made this increasingly feasible. With a little training most people, regardless of education level, can learn to plan for and make videos and participate fully in PC-based editing.

The first output of the short project extension was therefore to provide three or more video episodes developed very closely with farmers themselves on priority topics from the FFS and FFR. The episodes tackle one major topic or theme and are aimed at the following audiences: (1) the majority of non-FFS participants who lack access to information about alternative cocoa management including cultural methods and reduced and safer pesticide application; (2) non-FFS participants who have informal contact with FFS participants whose efforts to share what they learn in FFS can be reinforced through the videos; (3) as a resource for use in training of extension and farmer FFS facilitators. Through providing a highly credible repository of farmer-validated technical information to these audiences and their networks, the videos will raise awareness of new management possibilities, illustrate underlying principles of cause and effect, describe how individuals have worked their way towards new understanding and success, and stimulate reflection that can be beneficial to the quality of training initiatives.

The second output aimed to provide an exit strategy for the work on pheromones of cocoa mirids from previous projects. Traps and lures need to be optimised and their potential for monitoring and control of these pests established. At present, the pheromone lures for this work are produced at NRI and the traps or materials for their construction purchased in the UK. The proposed activities focused on securing local production of the pheromone traps and lures in the Region. This is vital if the technologies and approaches developed and disseminated during the project are to be continued after the end of the project. It is also proposed to ensure that the technologies are validated in Ghana and disseminated throughout the Region. Widespread use will be important in encouraging local organisations to produce the traps and lures, and will also increase the impact of the project.

The immediate intended beneficiaries of the current project activities in Ghana are CRIG, Kuapa Kokoo and other groups of cocoa farmers, and the national programmes in Cameroon, Ivory Coast and Nigeria through the project's strategic alliance with STCP and other regional initiatives. There will be first-hand experience of the feasibility and applicability of participatory digital media for generation and propagation of locally relevant cocoa management knowledge. The pheromone technology developed during the project will be available and disseminated for further development and adaptation to their needs by the national programmes.

Ultimate beneficiaries will be cocoa farmers who will have new technologies for management of cocoa mirids and increased awareness, knowledge and skills of IPM on cocoa.

References

Vos, J.G.M. and Neuenschwander, P. (2002). Proceedings of the West African regional cocoa IPM workshop, Cotonou, Benin, 13-15 November (in English and French), 2001. CABI Bioscience, IITA and CPL Press, 204 pp.

Vos, J.G.M., Ritchie B.J. & Flood, J. (2003). Discovery learning about cocoa. An inspirational guide for training facilitators (in English, French, Vietnamese, Spanish). CABI Bioscience, 120 pp.

Project Purpose

The purpose of the project was the promotion of strategies to reduce the impact of pests and stabilise productivity of tree crops important to livelihood security of poor people in Forest Agriculture systems. The new knowledge sought concentrated on innovative ways of facilitating uptake and adoption by farmers of cocoa IPM measures in West Africa.

Research Activities

1.1. Hold video project inception meeting.

A project inception meeting was held in Kumasi Ghana at the Ghana office of STCP in November 2004 using collaborator funds (MasterFoods, World Cocoa Foundation and STCP) as indicated in the Project Memorandum before the start of the current project funding period.

The four-day meeting was attended by representatives from STCP, Kuapa Kokoo Research and Training Unit, ANS Media Ltd, Strategic Communications Africa Ltd (StratComm) and CABI Bioscience. CRIG was fully supportive of the video initiative but at the time of the workshop, however, no CRIG representative was able to attend.

The workshop was facilitated by CABI (Nick Nathaniels) with the media professionals StratComm and ANS Media. Discussions brought fuller understanding about participatory video and its potential within development to all participants and established partners' roles and responsibilities. The intended video episodes would primarily function as a form of farmer-to-farmer training. Through the efforts of the media professionals, farmers themselves would be assisted to plan, act in and edit, pre-test and refine video episodes about their own learning process.

The inception meeting included a visit to the cocoa farming community in Gyeninso in Amansie West District, Ghana. Four FFS had been conducted there by STCP in 2003 and there were many farmers to participate in the video production. After a lively meeting with approximately 130 farmers, the community agreed that taking part in a video production would be an excellent idea as a mouthpiece for their own achievements from the FFS of 2003. Five, later six persons (three men, three women) were selected by the community to be trained in video production. The local farmer FFS facilitator, in so far as his other duties permitted, would also participate in following the training so that he could, when called upon, also assist the farmer video team.

The inception meeting closed with an outline schedule of key tasks and who would be responsible (in parentheses). At the time, the production steps were expected to be implemented between end November 2004 to end February 2005.

1. Pre-training (ANS Media, StratComm and farmers)
2. Training (ANS Media and farmers)
3. Shooting (ANS Media and farmers)
4. Technical inputs (CRIG, STCP and partners, farmers)
5. Editing (ANS Media and farmers)
6. Pre-testing (ANS Media, Stratcomm, farmers, CRIG, STCP and partners)
7. Edit (ANS Media and farmers)
8. Final product
9. Overall coordination, process facilitation (CABI Bioscience)

1.2. Produce and validate video episodes.

There was a delay of almost three months (November 2004 – February 2005 inclusive) before the activities defined during the inception meeting above could be started. This reflected the need to ensure adequate funding from other collaborators in advance of the start of the current CPP project (April 2005).

In late February into March 2005, a 2-week video training course was organised by ANS Media for the cocoa farmer video team. This covered all stages of video production from story planning, basic camera use and editing. Already at this stage, farmers presented and discussed their ideas on priority topics they would like to film and communicate to other farmers, and refined ideas for obtaining the footage. Video equipment was rented locally by the collaborating media organisation and not purchased directly for the project as indicated in the Project Memorandum. This was undertaken in order to save costs.

The farmers' video production crew from Gyeninso in Amansie West near Kumasi, quickly mastered basic camera technique. Following their initial training in camera handling and video planning (Figure 1), they captured footage and directed the editing of a 12 minute digital video on the topic of pruning of old cocoa trees for improved yield. The production crew was assisted by ANS Media of Kumasi and StratComm Africa of Accra, whilst contact with the farmers and access to the FFS curriculum was facilitated by STCP Ghana pilot project field staff.

Pre-testing of the first video rough edit was organised in May 2005 in Gyeninso village by StratComm and ANS Media (Figure 2). The pre-test was attended by the media professionals, CABI, the farmers' video crew, and some 34 other cocoa farmers. The video in DVD format was shown in the village church on equipment powered by a generator and owned by a local entrepreneur who shows entertainment films in the local villages.

After the viewing, farmers aired their comments on the technical qualities of the film, the relevance and completeness of the coverage of the topics and the participatory nature of the production itself the production with the farmers' video crew and with interviewers from ANS Media, StratComm Africa and CABI. A report on the outcome was compiled by StratComm (Annex 1). The rough edit of the video was viewed by the complete CRIG scientific staff following a suggestion by the Dr Appiah (Executive Director CRIG), and by the STCP Regional Programme Coordinator and Ghana Pilot Project Manager. Valuable comments on content and further buy-in to the project were obtained through this pre-testing procedure.



Figure 1. Farmer video team being trained in camera use.
(Picture Sylvanus Agordorku, STCP, 2005)



Figure 2. Pre-test of Video 1 rough edit, Gyeninso Village, May 2005.
(Picture Nathaniels, CABI, 2005).

Following from this pre-test procedure, the farmers' video crew with ANS media reviewed the responses and a revised version of video 1 was developed. This took place with some delays owing to the demands of the ongoing farming season. However the revised version was ready by September 2005. This version was subjected to a final check by CRIG scientists prior to production of Master Copies and a few minor corrections mostly to do with credits made. Master copies of the first video on pruning of old cocoa trees were finally available in late October, early November 2005.

This cyclic procedure of planning meeting, filming, rough edit, pre-test and revision, followed by a final check by CRIG scientists was repeated for production of a second 20 minute duration two-part video on **control of black pod disease** of cocoa (caused by *Phytophthora* spp.). The production process for this video episode started in July 2005 with a planning meeting between the farmers, CRIG and media advisors. A rough edit was ready by early September 2005. The village review process involving 38 farmers was organised by ANS assisted by StratComm and CABI and was completed during October 2005 (Annex 2). Master Copies of the revised production were made in December 2005. There was some delay due to bereavement in the family of one of the farmer video team members and the involvement of the principal media advisor in other duties in October.

1.3. Produce training manual.

A training manual Master copy in English and French was to be produced for NGO/ Farmer Organisations. As the implementation of the project unfolded, many practical issues emerged to do with bringing diverse actors together to work in developing DV products that do not marginalize the opinions and voice of farmers. Therefore it was decided that, rather than produce a standard training manual, it would be of more benefit to write a more extensive guide highlighting pitfalls and options for initiating a participatory video process of the kind implemented under the current project. This step by step guide acknowledges the many different objectives that participants in such a process may hold, the different backgrounds and interests they represent, and suggests an approach for practical participatory video (Annex 3).

1.4. Develop a video delivery strategy.

Preliminary discussions were held with CRIG staff (Messrs Sarfo and Akrofi), The Directorate of Extension Services, Ministry of Food and Agriculture (MOFA) (Mr Kpor and Mr F Boadi-Asamoah), Kuapa Kokoo (Executive Director Mr Kuabena Omeheng-Tinyase and Head of Research & Training Unit, Mr N Adjei-Djan), and STCP (Stephan Weise and Isaac Gyamfi) to explore ideas on how the video products could be multiplied and used in educational programmes.

A video utilisation strategy document was commissioned by CABI and produced by StratComm (Annex 4). This has been distributed to cocoa research, extension and producer organisations and will serve to consolidate and add to the video use ideas already under consideration by these organisations. This contributes to exploring appropriate ways to ensure wide and relevant use of the video products in Ghana. This step works towards assuring the information in the videos becomes accessed and used.

Although the videos are intended for use as stand alone information products, some farmers/users will derive greater benefit if use of the videos is supplemented by some facilitation. It was therefore suggested that a small meeting between interested parties should be considered and convened by CRIG asap with resources sourced by CRIG and other stakeholders to keep costs to a minimum. The objective would be to bring stakeholders (COCOBOD, CRIG, MOFA, Kuapa Kokoo, STCP and media consultants) together to exchange and share ideas and define the ways in which their resources and competences in farmer education may complement each other. This idea was not implemented in 2005 however it will be an highly relevant activity for uptake or promotion in 2006.

1.5. Distribute and view video episodes.

This activity was to be conducted by collaborators and interested parties in Ghana and regionally (STCP) based on local knowledge about media networks and extension channels and using local resources. Additional media delivery ideas would be made available through a special video delivery strategy document commissioned by the Project as part of activity 4. However, owing to late finalisation of the videos, distribution of Master copies to key partners and stakeholders could take place only in November and December 2005, and clearly no significant actual distribution and viewing of the videos could be mounted in 2005. Preliminary discussions with interested cocoa parties (Directorate of Extension, MOFA) and project collaborators (CRIG, Kuapa Kokoo, STCP) have shown a high interest and concrete ideas for using the videos for specific events in 2006.

1.6. Assess Impact of videos.

This activity was not attempted owing to far later finalisation of videos than anticipated as already indicated. However, there are valuable early impressions of high interest amongst farmers in specific elements of the videos from the limited farmer surveys conducted as integral part of preview and pre-testing of videos (see Activity 1.2 above). In these surveys, which took place in May and in October for video 1 and 2 respectively, farmers' views about the videos were overwhelmingly positive. They said that the videos left a vivid impression on the memory, revealing details about cocoa management some farmers had not known about before. Farmers identified strongly with the scenes in the video, saying that these were true replicas of their community. They appreciated that their own people had made the videos, which showed that farmers could tackle their own problems. "

2.1. Plan and implement local production of traps and lures in Ghana.

Prof Hall visited CRIG in May 2005 and Dr Downham visited in September 2005. A paper was prepared by NRI and agreed with CRIG in an attempt to end the long-running concerns over intellectual property rights (IPR) over the pheromone components for cocoa mirids discovered by CRIG and NRI in previous phases of the project. This concluded that patenting of the pheromone was neither appropriate nor advisable. The preferred option would be for the partners to retain "know-how" over the pheromone, its production and its use.

It was also agreed that initially traps and lures would be produced by CRIG to retain the know-how and develop the market. An extensive survey of plastics manufacturers was undertaken by CRIG and NRI to find a supplier of suitable plastic sheet or "Correx" for production of the traps. None was found, but CRIG undertook to continue the search and also look for alternatives such as waxed cardboard. CRIG also undertook to explore possibilities of importing Correx sheet from the UK.

2.2. Train staff in quality control of traps and lures.

Mr Sarfo and his assistant at CRIG were trained in production of the pheromone traps.

Dr Lowor returned from his PhD studies in Australia in July 2005. He is a biochemist and his studies concerned identification of the pheromone of a mirid species attacking cotton in Australia. He also received training in various aspects of identification and application of pheromones at NRI during an earlier phase of the project. It was proposed that he should be responsible for production of lures for the cocoa mirids. NRI provided a manual describing how to make up the lures and details of suppliers of the various items necessary. He undertook to obtain supplies and make up 100-200 lures for checking by NRI.

2.3. *Participate in activities of R7960 on registration of pheromones.*

Project R7960 aimed to facilitate the registration of various biorational agents for use in pest management in West Africa. Assistance was given to the project leader in provision of existing toxicological and other data on typical insect pheromones.

2.4. *Validate use of traps for mirid control in FPR. Visit at least one other country in Region to disseminate pheromone technology*

Trap catch data from experiments on lure longevity, lure loading (pheromone release rate), pheromone blend and effect of trap density were processed. The experiment on the effect of different trap densities on mirid populations was continued at CRIG. New experiments on the effect of pheromone release rate on catches and on the longevity of the lures were started at CRIG with material supplied by NRI.

Traps and lures were provided by CRIG to farmers at STCP FFS sites around Kumasi and also to farmers at extension farms near Tafo. Their use in monitoring adult mirids was explained and farmers also trained in scouting for adults and nymphs on the cocoa.

Dr Downham visited the Institut de Recherche Agricole pour le Développement (IRAD) and STCP at Yaounde, Cameroon in October 2005. Although it had been planned that Mr Sarfo of CRIG would accompany Dr Downham, he had not been able to arrange visas and flights in time and he made a separate trip to Yaounde later in November. Farmers were supplied with pheromone traps and trained in their use. Plans were made to carry out on-station trials of pheromone blend and trap design in Cameroon.

Outputs

Output 1. Participatory digital video piloted and evaluated as a strategy for improving farmers' and service providers' access to credible information on sustainable cocoa production.

Through the agency of CABI, the current project successfully brought together cocoa research scientists (CRIG), cocoa training specialists (STCP), cocoa farmer FFS graduates and local Ghanaian media professionals between November 2004 and December 2005. Through two cycles of systematic interactions, the insights of the scientists and participatory trainers and the '*lived in*' experiences of the farmers were joined together to support production by the farmers themselves of two digital videos on two core topics from their FFS experience:- pruning of old cocoa trees (for rehabilitation and improved yield) and control of black pod disease by cultural and chemical methods.

The videos have been produced as a limited number of high quality Master Copies in DVD - (minus) format. These have been delivered to the Directorate of Extension Services, MOFA; CRIG; STCP and the farmer cooperative and licensed buying organisation Kuapa Kokoo. Having thus established and supported the development of Ghanaian national capacity to make participatory videos on cocoa topics that resulted in production of two DVDs, the piloting of participatory digital video as a video production process was considered partially achieved.

2. Distribution and viewing of video episodes was discussed with key cocoa video collaborators and interested parties in September and again in December 2005. The following specific events were presented for initial use of the two participatory cocoa DVD for 2006.

CRIG

- Farmers Education Rally – March-April
- CODAPEC (Cocoa Diseases and Pests Control) training of task force spraying team managers – Blackpod (May onwards)
- Visitors to CRIG (farmers)

Kuapa Kokoo

- Plan full season of visits to farmer members from February 2006 onwards. The procedure will be to call farmers to meetings through area managers who contact society representatives who assemble the members to training events run by Kuapa Kokoo's District based extension staff using the union's three video vans
- Use this to show the pruning and black pod videos.

Directorate of Extension Service, MOFA

- Include in programming for TV Agrolink programme in 2006.
- Copy and send to all RDA and DDA in cocoa growing areas.

STCP

- use in FFS programmes and adoption of the approach for new training and other countries.

CABI

- Planned use of the videos to farmers via projects (CRIG/CABI)
- Planned use of the videos to farmers in other regional projects
- Planned demonstration at international fora such as ICRC and others

3. Production of a Participatory Video training guide. This describes the process employed in the current project. It will be of use in future efforts to continue with production of additional key cocoa topics.

4. Publicity articles (newsletter, press and web-based).

Nathaniels N Q R (2005) Participatory Cocoa Video Project Ghana. Agricultural Research and Extension Newsletter 52, 8. URL: http://www.odi.org.uk/agren/papers/newsletter_52.pdf

Nathaniels N Q R (2005) Farmers turn filmmakers. A report by Nick Nathaniels of CABI Bioscience on a successful pilot project to develop video-based extension for cocoa farmers in Ghana. Coffee & Cocoa International Magazine p 29, November 2005. URL: <http://www.siemex.biz/coffee/default.asp>

Gymafi, I (2005). Developing a capacity for video based technical knowledge extension in cocoa – an innovative effort. STCP Newsletter Issue 10, p 5. IITA. URL: <http://www.worldcocoafoundation.org/Library/Newsletters/STCP/STCP%20Newslette%20Mar-Apr%2005.pdf>

World Cocoa Foundation (2005). Ghanaian Farmer Field School Graduates Produce Self Help Videos. WCF Newsletter Issue 22, November 2005. URL: <http://www.ecandy.com/newsletter.aspx?NewsLetterID=86> and GRO-Cocoa (2004). Methods make a difference. *Global Research on Cocoa, Issue 6*, p 7. December 2004. CABI Bioscience. (describes use of a modelling technique developed by Nathaniels for exchange, debate and reflection on cocoa management perceptions and understanding in the field).

Output 2. Pheromone traps and lures available and promoted in the Region.

2.1. Pheromone traps and lures available locally.

Agreement with CRIG was reached on IPR issues concerning the pheromone for cocoa mirids. This concluded that patenting of the pheromone was neither appropriate nor advisable. The preferred option would be for the partners to retain “know-how” over the pheromone, its production and its use.

It was agreed that CRIG will undertake production of traps and lures in the first instance.

Two CRIG staff members have been trained in production of pheromone traps.

It has not been possible to find a local supplier of plastic sheeting suitable for manufacture of the traps. CRIG staff are continuing to investigate this as well as supply of alternative materials such as waxed cardboard.

A member of CRIG staff has been assigned to undertake production of pheromone lures. He has been previously trained in pheromone technology at NRI and the University of New England, New South Wales, Australia. NRI have provided a manual giving full details of the method of lure production and suppliers of the equipment required.

2.2 Pheromone technology disseminated through FFS and FPR in Ghana and at least one other country in Region.

Data from trapping experiments carried out at CRIG was processed by NRI staff. Results are given in Annex 5 and are summarised as follows.

- Contrary to previous indications, attractiveness of lures decreases with age. Because of low populations at the start of the experiment, it is not possible to determine the critical age when unchanged lures become significantly less attractive than new lures, but it is probably after less than six weeks. Thus for maximum effectiveness, lures should be renewed at least every four weeks.
- Reducing initial loading of pheromone in the lures reduces attractiveness. This is consistent with the above result as the loading of pheromone will decrease with age.
- There were no obvious significant differences in the attractiveness of different blends of the diester and monoester pheromone components except that the monoester alone is relatively unattractive. There were no significant differences in attractiveness of any blend containing the diester.
- In the trap density experiment, the catch per trap was lower at the highest density (60 traps/acre), significantly so in 2003-2004. This could be because pheromone plumes from neighbouring traps were interfering with each other at the highest density (trap spacing approx 8 m), but a more optimistic interpretation would be that there was a

significant trapping out effect at this density. The latter interpretation would indicate the traps could have an effect on reducing populations of male capsids. Lures were not changed during the six-month periods of the experiments, so, in view of the above result, the effect could possibly be greatly improved by renewing the lures every month.

Pheromone traps and lures for cocoa mirids were distributed to 14 farmers in three STCP pilot villages around Kumasi and a similar number to farmers at two extension sites round Tafo. The farmers were trained in use of the traps and also in scouting for mirid adults and nymphs. Data provided by the farmers is being collected and processed by CRIG staff.

Traps and lures were provided to Godwin Kojo Ayenor who is working on cocoa IPM as his PhD topic, funded through a joint programme with Wageningen University and Research Centre, the Netherlands. He is being supervised locally by Dr Beatrice Padi, formerly of CRIG.

NRI and CRIG staff visited IRAD and the STCP in Yaounde, Cameroon. Farmers were trained in the use of pheromone traps and on-station experiments planned.

Contribution of Outputs to Developmental Impact

Benefits to poor people

In West Africa, cocoa is produced almost exclusively on small family-owned farms that also produce food crops. In Ghana it the main export crop, maintaining directly or indirectly the livelihoods of over six million people. Pests and diseases are considered to be the major production constraints by producers in all the countries in the Region. The most significant of these are mirids and cocoa black pod disease.

In previous projects such as R8313, new technologies have been developed to help control mirids and black pod and these technologies were disseminated in Ghana and other countries in the Region by means of farmer participatory research (FPR) and farmer field schools (FFS). (See FTR R8313, March 2005) but methods of getting the messages to a larger number of producers was required.

In this project innovative ways to engage with cocoa farmers were explored so as to deliver the results of new technologies directly to large numbers of cocoa producers. Thus, a network of cocoa farmers and FFS facilitators within Kuapa Kokoo, local media organisations, researchers from CRIG, and extension service providers from the public sector (MOFA), producer organisations (Kuapa Kokoo) and STCP worked together with CABI to examine innovative methods of communication to as wide an audience as possible. The project has allowed these partners to gain an understanding for and experience in alternative use of digital media for development communication. Two participatory training videos have been produced by and for cocoa growers – one on pruning of old cocoa trees and the other on control of black pod disease of cocoa which will allow direct communication with cocoa producers. These videos were produced (in a local language) by the cocoa farmers themselves thus giving them ownership and involvement.

Pheromone traps have been introduced to cocoa farmers in Ghana and Cameroon for monitoring and control of cocoa mirids. Development of local production of the traps and lures has been initiated at CRIG.

Coverage

The interest shown by Kuapa Kokoo is of core relevance for ensuring the videos contribute to development impact after the end of the project period. The Kuapa Kokoo farmer's union has over 45,000 members organised in more than 1000 societies at village level in the five main Ghanaian cocoa growing Districts. Kuapa Kokoo's Training and Research Unit has taken delivery of the two farmers videos produced under this project. The enthusiasm of this Unit for the videos as educational products that capture core aspects of cocoa growing as seen by farmers, and their interest in adopting the process to new videos (purple bean has been mentioned in this regard), provides confidence that (a) the lessons from FFS farmers will be shared extremely widely in Ghana in 2006 and (b) the participatory video process will continue to be valued and put to use in ongoing and future cocoa development initiatives in Ghana.

As the leading cocoa research organisation in Ghana, CRIG has likewise benefited from the experiences of participating as technical support to a platform on which farmers acquire skills and opportunity to express cocoa production practice. Important cocoa production knowledge that CRIG has acquired over many years dedicated research can benefit from expression through the medium of those who have to grow cocoa if CRIG's wealth of knowledge is to have greater impact. CRIG's contribution to the ongoing STCP-facilitated FFS programme is one way to translate scientific knowledge into practical and valued farmer-owned knowledge. The participatory video process and products developed in this project and through the network of partners (CABI/STCP/CRIG etc) are another approach that can have major impact on how CRIG communicates with the wider cocoa growing public in future.

The development of participatory videos extends the portfolio of innovative knowledge transfer methodologies for cocoa developed by CABI and its partners.

Potential for wider scale impact

An important route for ensuring the continued relevance of the outputs of the current project and associated impact over the course of 2006 and beyond will be regional initiatives such as the STCP. This DFID funded project has allowed CABI and partners to make a substantial input into the STCP regional platform. Both nationally and regionally, STCP has plans not only to use the existing video products in the ongoing FFS training and for reinforcement of previously trained farmers (as part of previous DFID funded project) but also to benefit from the participatory video capacity existing in Ghana to develop new productions in 2006 through similar partnerships. In addition, the involvement of co-operatives like Kuapa Kokoo (with 45,000 members) will allow further in country uptake by producers. Further, the capacity developed within the project and the products of the project, will be used by CABI and its partners (in the NARS across West Africa) for the development of additional productions. Similar products will be developed in other cocoa growing areas through CABI's links with the national systems.

The pheromone technology has been introduced in Ghana and Cameroon and to the STCP who will assist in dissemination throughout the Region.

Future uptake

This project has trained farmers, extension and producer organisations and commercial companies in Ghana to continue participatory production of training videos for cocoa growers. The STCP proposes to continue use of the existing videos and sponsor production of further videos and should remain a platform for the partners involved here. DFID funding has allowed these productive partnerships to be formed and it is to be hoped that partners here could be brought together again for production of further videos. Farmer co-operatives such as Kuapa Kokoo have already taken delivery of the first two videos produced thus

ensuring further uptake to their members and CRIG's work with farmers will also give a mechanism for uptake. Similarly, with CABI's interaction with the NARS throughout the region will ensure uptake at a regional level.

As a result of this project CRIG and IRAD now have the capacity to extend the pheromone technology to growers in Ghana and Cameroon and to other countries in the Region through the STCP. CRIG also have the capacity to carry out semi-commercial production of lures and traps. Further development of the traps is required to establish their use for control of mirids. Application has been made to Cocoa Research UK for further work in Cameroon. A proposal has also been submitted to the Dutch Buffer Stock for funding to assist CRIG carry out the further development of pheromone traps.

ANNEXES

1. StratComm (2005a) Report on preview/pretest of participatory cocoa farmer video. Submitted to CABI Bioscience July 2005.
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