



Standards and Trade  
Development Facility



## SPS CAPACITY BUILDING IN AFRICA TO MITIGATE THE HARMFUL EFFECTS OF PESTICIDE RESIDUES IN COCOA AND TO MAINTAIN MARKET ACCESS

“COCOA SPS AFRICA PROJECT”  
Project STDF/PG/298

Project Completion Report  
January 2011 – December 2013



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## PROJECT INFORMATION

<b>Title</b>	<b>SPS Capacity Building in Africa to Mitigate the Harmful effects of Pesticide Residues in Cocoa and to Maintain Market Access</b>
<b>Implementing Agency</b>	Fonds Interprofessionnel pour la Recherche et le Conseil Agricole (FIRCA), Côte d'Ivoire
<b>Partners</b>	EDES/COLEACP CropLife Africa UNIDO Ministry of Agriculture and Rural Development, Cameroon Ministère de l'Agriculture, Côte d'Ivoire Quality Control Company Limited (QCCL), Ghana Federal Ministry of Trade and Industry, Nigeria Coordination Centrale des Filières Café-Cacao (CCFCC), Togo International Cocoa Organization (ICCO), London, UK
<b>Start Date</b>	January 2011
<b>End Date</b>	December 2013
<b>Beneficiary</b>	Cameroon, Côte d'Ivoire, Ghana, Nigeria and Togo
<b>Budget – Project Value</b>	US\$6,237,229
<b>Budget – STDF Contribution</b>	US\$593,460

## **LIST OF ABBREVIATIONS**

CABI	Commonwealth Agricultural Bureau International
CAN	Cocoa Association of Nigeria
CCFCC	Coordination Centrale des Filières Café-Cacao
COLEACP	European Africa Caribbean Pacific Liaison Committee
ECOWAS	Economic Committee of West African States
EEC	European Economic Community
EU	European Union
FAO	Food and Agricultural Organization
FFS	Farmer Field Schools
FIRCA	Fonds Interprofessionnel pour la Recherche et le Conseil Agricole
GAP	Good Agricultural Practices
GTM	Good Transport Management
GWP	Good Warehousing Practices
ICCO	International Cocoa Organization
LANADA	Laboratoire d'appui au Développement Agricole
LBC	Licensed Buying Company
MHLW	Ministry of Health, Labour and Welfare
MINADER	Ministère de l'Agriculture et du Développement Rural
MRLS	Maximum Residue Levels
NAFDAC	National Agency for Food, Drugs Administration and Control
NEPC	Nigerian Export Promotion Council
NPIA	National Project Implementation Agency
NSC	National Steering Committee
PEA	Project Executing Agency
QCCL	Quality Control Company Limited
SAG	Self-Assessment Guide
SPS	Sanitary and Phytosanitary Standards
STCP	Sustainable Tree Crops Programme
STDF	Standard and Trade Development Facility
ToT	Training of Trainers
TV	Television
UNIDO	United Nations Industrial Development Organization
USA	United States of America

## **1. EXECUTIVE SUMMARY**

The project was designed to address concerns expressed by some cocoa importing countries on food safety issues involved in the production and trade of cocoa beans. These concerns led to promulgation of legislation and regulations that set maximum residue levels for some active ingredients used in the manufacture of pesticides used on cocoa. Some contaminants and other harmful substances are also introduced into cocoa as a result of bad post-harvest management practices in cocoa production. As a result, the rationale for the project was to meet the food safety requirement of cocoa importing countries to avoid disruption of cocoa trade that would deprive smallholder farmers and their governments of much needed revenues. Cocoa export revenues contribute significantly to the economies of the participating countries and this can only be maintained or even improved upon by the continued access to export markets for income generation.

The objective of the project was to enhance the capacity of five African cocoa producing countries to comply with SPS requirements and maintain and improve market access. . This was to be achieved by introducing measures to improve the understanding of the various stakeholders along the cocoa supply chain on food safety issues related to the production and trade of cocoa, as well as to enhance their capacity to apply GAP and GWP, and their ability to adhere to and monitor compliance with international regulations in SPS standards.

The project was implemented in Cameroon, Côte d'Ivoire, Ghana, Nigeria and Togo and involved the following main activities: i) Creating awareness among cocoa farmers and other stakeholders along the cocoa supply chain about SPS standards in cocoa; ii) Enhancing the capacity of relevant stakeholders to apply the rational pesticide use component of GAP and GWP; iii) Enhancing the in-country capacity to monitor and enforce adherence to SPS standards in cocoa; iv) Strengthening regional collaboration to enhance capacity in individual countries on SPS standards in cocoa; and iv) Result evaluation and dissemination workshop.

Awareness of cocoa producers and traders on the implications of practices that could lead to the introduction of harmful substances in cocoa is the first major step in addressing the food safety concerns along the cocoa value chain. The project disseminated information on the nature of food safety concerns in cocoa and their implication for cocoa trade. In particular, a number of publications on the efficacy of pesticides and their applications have been published and disseminated to stakeholders through posters, flyers, trade exhibitions, as well as thru TV and radio programmes. A project website was also set up as a platform for sharing information on project activities and to constantly update all stakeholders on general and specific food safety standard issues as related to cocoa.

The capacity of participating countries was enhanced through emphasis on a self-assessment guide system developed to assist the countries to assess SPS risks at every stage of production, harvesting, transport, packaging, processing and distribution. This increases the capacity of stakeholders to comply with SPS regulatory requirements as well as with product quality requirements. As a result, training modules on GAP and GWP were developed and trainers were trained. The trainers serve as resource persons in cascade model along the supply chain to ensure that good practices are followed by all concerned. In addition, the project has improved the capacity of the countries to carry out pesticide

residues tests as well as tests for other harmful substances and contaminants in cocoa through acquisition of laboratory equipment and training of laboratory personnel.

The project also addressed the problem of illegal trade in counterfeit and obsolete pesticides Awareness workshops were conducted and training of law enforcement agents, especially at the border posts, were carried out. The project provided a regional forum for addressing the cross border trade in illegal agro-chemicals.

Project implementation encountered a number of constraints which led to a one year budget neutral extension. Despite the extension, all project activities could not be completed by 31 December 2013 due to delays in starting the project in some participating countries, resulting in delays in the release of counterpart contribution in cash and difficulties in securing the required external co-financing funds for some activities. However, the project recorded significant achievements and whilst funding from the STDF grant has stopped, implementation of some project activities will continue with the support of EDES/COLEACP, CropLife Africa and financial contributions from the participating countries.

The general conclusion is that the project has proved to be a catalyst for initiatives focusing on cocoa SPS issues in the five participating countries, and has provided an adequate framework for coordination at national and regional levels. The project has succeeded in improving the capacity of the five participating countries to address cocoa SPS related issues. The signs of this improvement are visible on the ground and include increased awareness and willingness of the stakeholders along the supply chain to produce cocoa that complies with international standards, and efforts being put in place to address the food safety concerns. The impact of the project is expected to be assessed through an evaluation study to be carried out in future to establish the state of pesticide selection and use in Africa. It is hoped that this could be done through updating the survey conducted by CABI in 2006-2008 on pesticide use in West Africa.



## **2. BACKGROUND**

Cocoa is of vital importance to the economies of Cameroon, Côte d'Ivoire, Ghana, Nigeria and Togo; contributing a major proportion of their foreign exchange earnings and providing employment to millions of people. Cocoa constitutes the largest part of the agricultural sector for these countries except Togo. For Cameroon, Côte d'Ivoire and Ghana, it is the largest sector of the whole economy. It is therefore evident that threats to cocoa marketing would have a significant economic impact and this has led the authorities of these countries to prioritize access to consumer markets as being of national importance.

In many cocoa importing countries, consumers are becoming increasingly aware of food safety concerns, with a perception that the use of chemicals and other substances in the production and processing of cocoa might be detrimental to their health. As a result, some countries have enacted legislative and regulatory measures and established SPS standards that have to be met for imported food or food substances. New regulations, in the EU, the USA and Japan have the potential, if not properly adhered to, of disrupting cocoa trade and consequently depriving smallholder farmers and governments in producing countries, of much needed revenues. For example, in Japan, since new legislation on maximum residue limits (MRLs) came into effect in May 2006, several consignments of cocoa beans have been denied entry into the country. The rejected consignments were found to have exceeded the MRLs set by the Japanese Ministry of Health, Labour and Welfare (MHLW). Considerable concern has been expressed by chocolate manufacturers in the EU and USA regarding reports of lots that exceeded permitted MRLs, including obsolete pesticides.

Such disruption clearly has the potential to harm the welfare of the farmers and affect the countries' poverty alleviation programmes. After a thorough investigation of the SPS situation in the countries concerned, major gaps were identified in: i) quantification of the levels of risk from contaminants affecting the cocoa supply chain; ii) specific information on pesticide science, at all levels, in producer countries and iii) infrastructure to monitor and enforce sanitary standards. This formed the basis on which the "Cocoa SPS Africa" project was developed and implemented in Cameroon, Côte d'Ivoire, Ghana, Nigeria and Togo.

The project focused on the issues identified above by strengthening national capacity in the five participating countries to address SPS standards and also by developing regional co-operation, especially by collaborating with existing in-country and international initiatives on SPS related matters. The idea of a regional project was adopted as the participating countries have contiguous borders and face similar problems and constraints, that are best addressed through a regional approach.

The proposal for the project was developed by the ICCO Secretariat through a Project Preparation Grant facility provided by the Standards and Trade Development Facility (STDF). It consisted of a large umbrella programme composed of several standalone components. The STDF contributed to the programme through a grant of US\$ 539,460. Other contributions were provided by the EDES/COLEACP, CropLife Africa and UNIDO. In addition, each participating country provided counterpart contributions in cash and in kind. The project commenced in January 2011.

### **3. PROJECT GOAL**

The main goal of the project was to maintain and improve market access for cocoa beans from Africa through enhancing the capacity of cocoa producing countries to comply with SPS requirements. The project had five specific and immediate objectives as follows:

1. To collect information on SPS standards and other relevant issues and to ensure that it is available to all stakeholders along the cocoa supply chain (via websites, workshops, publications, etc.).
2. To ensure that the relevant stakeholders (farmers, cooperatives, middlemen, warehouse managers and other agencies) use recommended procedures and practices such as Good Agricultural Practices (GAP) and Good Warehouse Practices (GWP), both along the cocoa supply chain and in the supply of inputs such as pesticides. Emphasis was placed on issues related to: (a) pesticide availability (in stores, cross-border movement, abatement of illegal products, etc), quality, user-selection and application, (b) drying methods for cocoa beans.
3. To create/strengthen national laboratories (equipment, training, accreditation, etc.) for analyses and monitoring of pesticide residues and other harmful substances.
4. To raise awareness of farmers, middlemen and warehouse managers on suitable and unsuitable pesticides and their application (addressing concerns about cost effectiveness).
5. To strengthen intra and inter country capacity and expertise to adequately provide advice on SPS issues that might arise, thereby reducing potential disruption to trade from non-compliance.

The project was expected to make three major impacts on the cocoa sector. These include:

1. Broaden farmers' and other stakeholders' knowledge and understanding regarding the effect of the use of harmful substances in cocoa production and trade;
2. Improve safety and quality of cocoa produced through adoption of GAP and GWP; and
3. Strengthen domestic regulatory and legislative provisions on SPS standards, adapting them to international standards, and improve their enforcement.

### **4. PROJECT MANAGEMENT**

The project was designed to be implemented as a regional project. This regional approach was adopted because the five participating countries have contiguous borders with each other and faced similar challenges in production and trade of cocoa. One particular challenge with regards to food safety issue is the cross border trade in illegal, obsolete and counterfeit pesticides. Therefore, the project focused on developing regional collaboration to aid institutional capacity in each country to comply with SPS standards in cocoa as well as to share and exchange information and material on addressing SPS issues. In this respect, some project activities were implemented at national levels and some activities were implemented and coordinated at regional level.

Project implementation experienced delays in the first two years of the project as a result of two major reasons. The first was the delay in the provision of the required counterpart contribution in cash by the participating countries and the second was the decision by EDES/COLEACP not to implement its activities simultaneously in all the participating countries, but to implement them first in Ghana. However, the non-availability of counterpart contribution in cash by the countries affected the project the most. It is suggested that in future, participating countries should provide evidence backed commitment to ensure that funds pledged are made available in the amount and at the time required to ensure the smooth operation of the project.

The project was managed at national and regional levels. At the national level, the project was implemented by a National Project Implementing Agency (NPIA) in each participating country. The NPIA was assisted by a National Project Steering Committee (NSC) composed of key stakeholders in the cocoa supply chain in the country and charged with the responsibility to guide project implementation to achieve its objectives. In addition, Ghana set a Project Steering Committee constituting a smaller group of experts that met more regularly to discuss project implementation. This arrangement proved to be very successful as it helped in accelerating decision making with regards to project implementation. This perhaps explained partly why the project recorded more achievements in Ghana.

At regional level, the project was managed by the Project Executing Agency (PEA) – Fonds Interprofessionnel pour la Recherche et le Conseil Agricole (FIRCA) and supervised by the ICCO as the supervisory body. The PEA and the ICCO were assisted in their role by an International Project Consultant. The consultant provided backstopping and troubleshooting services to the project. He also provided technical advice and material and he was involved in supervisory missions to the participating countries.

The project implementation structure and management arrangement put in place for the project worked well although had some limitations that affected the smooth running of the project. Lessons were also learnt that could have improved the efficiency and effectiveness of the project implementation. To strengthen the capacity of the participating countries in the area of project management, some project activities had been assigned to be implemented at national level. This arrangement proved difficult in some countries as they did not provide the required resources on time to implement the activities. There is also the problem of adequate expertise to carry the activities. It is proposed that in future, national-led implementation activities should have longer time-frame and should be more closely guided through strict monitoring framework and audit system.

In the course of project implementation, some constraints were encountered that affected the realization of the project objectives. Regular backstopping provided by the ICCO and the international expert assisted in implementing timely corrective measures. However, more broadly, one lesson to be learned is that mid-term reviews half way during project implementation or in some cases in much earlier stage can prove useful to review assumptions on which a project was designed vis-à-vis the current situation of things during implementation. This would allow for a change in the direction of the project if necessary and also to reallocate budget lines as required.

## **5. IMPLEMENTED ACTIVITIES AND RESULTS**

### **Summary of Project Implementation and Results**

The STDF grant agreement for the project was signed in September 2010. Project implementation was to start in January 2010 and continue for two years until December 2012. However, the project was officially launched at a regional workshop held from 7 – 10 June 2011 in Yaoundé, Cameroon. The project experienced a number of constraints which led to delays in project activities in the participating countries. Consequently, the STDF granted a one-year budget neutral extension bringing the project completion date to 31 December 2013.

The summary of the results achieved during project implementation are outlined below.

## **5.1      Objective 1: Creating Awareness among Cocoa farmers and other Stakeholders along the Cocoa Supply Chain about SPS Standards in Cocoa**

A number of activities were planned to achieve this objective (see logframe annexed to this report). Main Results Achieved under this objective are highlighted below

### **Output 1: Dedicated website set up and running**

A dedicated website dubbed “Cocoa SPS Africa Website” ([www.icco.org/sps](http://www.icco.org/sps)) was set up as a forum for disseminating and sharing information on SPS standards on cocoa and other food safety issues. The website also provided a direct link to other websites that provide information on specific and general SPS issues. In particular, the website is linked to a “Blog” page created and constantly updated by the international consultant to the project. The Blog can be accessed at <http://dropdata.org>. The website contains information on project activities and other related activities in the participating countries and other stakeholders. The website will continue to be run by the ICCO and will be changed to “Cocoa SPS Platform” as it will cover cocoa SPS issues and activities in all cocoa producing regions of the world. Figures 1 and 2 show pages from the website and the blog.

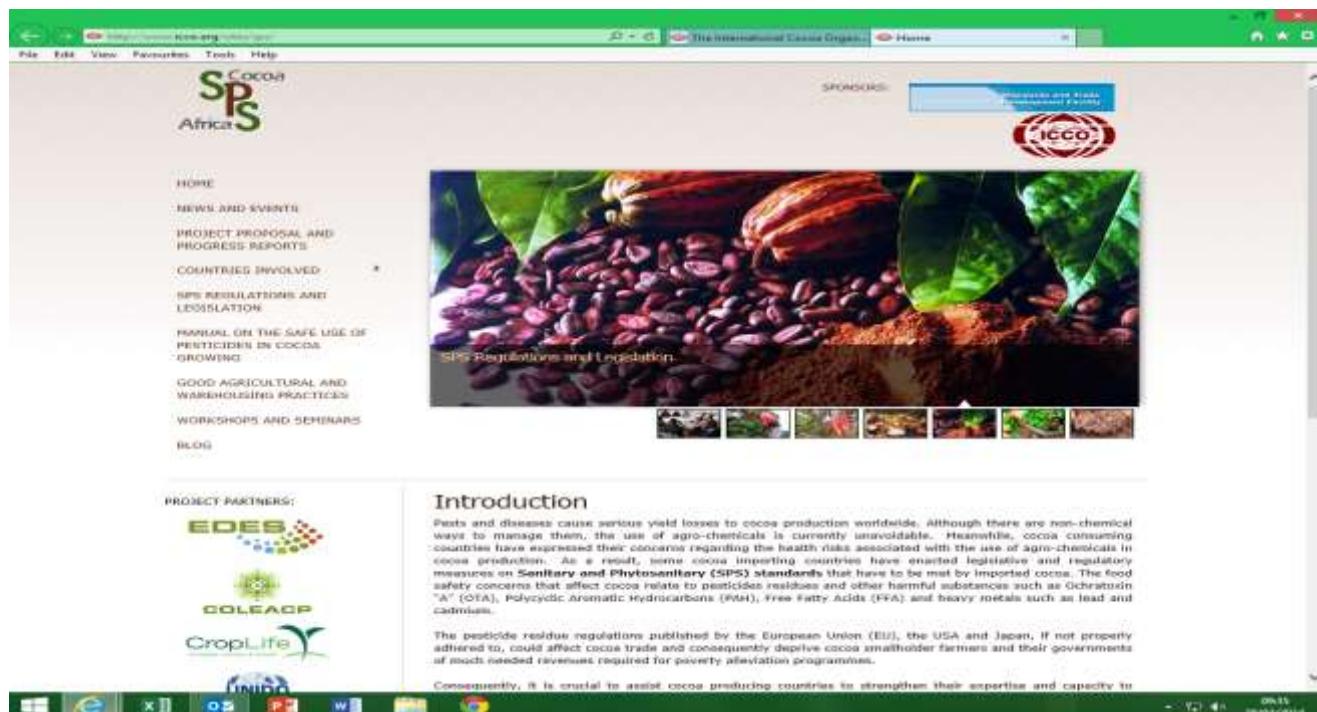


Figure 1 – Home page of the website



Figure 2 – Blog page

## Output 2: Regional workshops organized to raise awareness on cocoa SPS issues

In line with the objectives of the project, the ICCO Secretariat organized an international workshop on the Safe Use of Pesticides in Cocoa and Harmonized Legislation for Food Safety. The workshop was held in **Kuala Lumpur, Malaysia** from 25 – 27 January 2011. The workshop was attended by more than 200 participants from 18 countries representing cocoa producers, traders, exporters, processors, chocolate manufacturers, chemical manufacturers, wholesalers and retailers, governmental and non-governmental organizations, research institutions and universities. The workshop adopted seventeen recommendations focusing on four areas including legislation on food safety and analytical methods, safe use of pesticides, alternatives to pesticides, and perspectives on pesticide legislation from key stakeholders. More details on the workshop can be accessed at [www.icco.org/sites/spes/workshops.html](http://www.icco.org/sites/spes/workshops.html).

A regional workshop was held from 7 – 10 June 2011 in **Yaoundé, Cameroon** to raise awareness on international SPS standards and regulations applied by the cocoa importing countries and their impact on cocoa trade with producing countries. The workshop also reviewed constraints faced by the stakeholders along the cocoa supply chain in meeting international SPS requirements and measures to address them in the countries that are participating in the project. About 200 participants from Cameroon, Côte d'Ivoire, DR Congo, Ghana, Nigeria, Togo, Senegal, Germany, Australia, Belgium, United Kingdom, Switzerland and Trinidad and Tobago attended the workshop. The major stakeholders in the area of cocoa SPS issues that participated actively in the workshop were the STDF, EDES/COLEACP, UNIDO, CropLife Africa Middle East and various national agencies from the participating countries in charge of food safety issues and border control. Figure 3 are pictures taken during this workshop.



Figure 3 – Regional workshop on Cocoa SPS Africa Project

#### **Output 3: National workshops and events organized to create SPS awareness**

National awareness workshops were held in Cameroon, Côte d'Ivoire, Ghana, Nigeria and Togo. In Ghana, the national workshop was held in September 2011. In addition, there were various media activities around cocoa producing regions of the country to raise awareness on SPS standards in cocoa production and trade.

In **Nigeria**, a sensitization meeting was held on 5 May 2012 in Akure, Ondo State. The objectives of the project and the activities to be implemented were presented to about 100 farmers in attendance. At the same forum, good pesticides application practices were explained to the farmers and were presented with a list of approved pesticides for use on cocoa. Also in May 2012, the Cocoa association of Nigeria (CAN) organized a national conference on “Institutional Responsibility for the Use of Pesticide”. The conference focused on food safety and harmful substances in cocoa. A national sensitization workshop was organized on 8 March 2013 bringing together all the stakeholders along with high level presence of the Federal Government. The workshop was also attended by the National Coordinators of the project in Cameroon, Côte d'Ivoire, Ghana and Togo as well as a representative of the ICCO. On 15 August 2013, a farmers' sensitization workshop was held at Akure, Ondo State for cocoa farmers and traders on cocoa SPS issues and the government strategy to address them.

In **Cameroon**, a national sensitization workshop took place on 30 May 2013 where the project was officially launched with all the major stakeholders in attendance. The workshop was opened by the Minister of Agriculture and Rural development in the presence of other top dignitaries. The workshop was used to disseminate information on SPS issues, in particular about GAP in cocoa production and processing.

In **Côte d'Ivoire**, the national workshop was organized on 25 July 2013. The workshop attracted about 200 participants from different institutions in the country. In June 2013, there was a workshop organized to validate the “Phytosanitary Catalogue” which contains the list of pesticides approved on cocoa. Another workshop was held from 4 to 6 December 2013 in Yamoussoukro to raise awareness among policy makers on issues related to pesticides (Directors of the Ministries of Agriculture and Commerce in different regions of the country, local officials, customs, police, etc...). The topics covered were phytosanitary legislation in Côte d'Ivoire, label recognition and authorized products, the fight against counterfeit pesticides, safe use of pesticides, pesticides and related risks.

In **Togo**, the project was officially launched at a national workshop on 30 September 2011. The workshop was attended by the representatives of Ministry of Trade, Ministry of Agriculture, CCFCC,

producers' organizations, input suppliers, exporters, Plant Protection Service, and other stakeholders in the country. The first round of sensitization of farmers was done during the general farmers' meeting marking the end of 2010/2011 cocoa campaign year. During this occasion, farmers were provided with the lists of permitted and banned pesticides..

The level of awareness on cocoa SPS standards has improved greatly in all the participating countries and there is increasing commitment among major stakeholders to adhere to international regulations to enhance their access to cocoa export markets.

#### **Output 4: Scientific paper and other information materials developed and disseminated**

A scientific paper on "Use of Pesticide in Cocoa" was prepared by the project consultant and reviewed by three peer reviewers. The paper which analysed pesticide efficacy and risks will be published in the *Pest Management Science* journal. Excerpts from the paper will be developed into pamphlets and distributed to stakeholders along the cocoa supply chain especially farmers and traders. A position paper on "Possible Implications of the EU Moratorium on neo-nicotinoids and change in use for phenylpyrazole products in cocoa" was prepared by the project consultant. The paper reviewed the implications of the proposed EU ban on neo-nicotinoids and its impact on cocoa production. The position paper concluded that registration authorities in cocoa producing countries should remain vigilant and maintain their on-going review of registered pesticide products appropriate to 21<sup>st</sup> century needs. The position paper recommends policy makers to foster a strategy for sustainable intensification. This would mean maintaining a diversity of appropriate and efficacious range of active substances in various modes of action for control of key cocoa pests.

#### **GHANA**

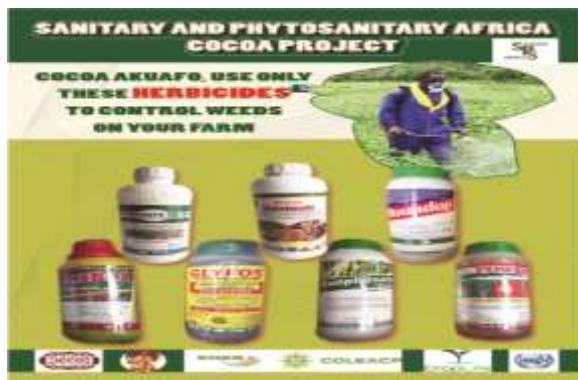
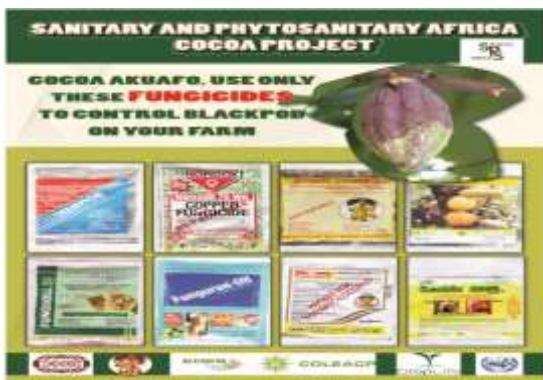
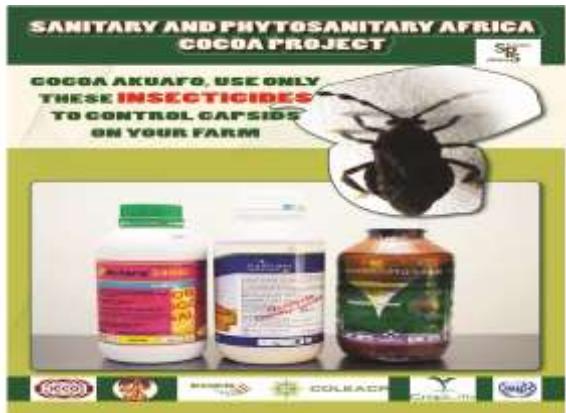
A comprehensive list of pesticides and agro chemicals permitted for use in cocoa production was developed and approved by appropriate authorities. The list was distributed widely among all stakeholders and was equally published in print media.

A campaign to raise awareness and sensitize was embarked on. Media materials such as posters, leaflets and flyers were developed and presented alongside radio and TV discussion programmes. This was followed by development of content for sensitization on the media, and the planning of regional, district and community sensitization workshops.

Nine thousand and five hundred (9500) copies of each of the following sensitization materials were printed;

- posters showing the pictures packaging of approved pesticides for cocoa,
- posters on safety precautions during pesticide application,
- posters on Dos and Don'ts in the warehouse,
- posters on good warehouse practices,
- posters and flyers on hygiene,
- flyers on timing of spraying and pre harvest interval (PHI),
- leaflets on fermentation and drying; and
- posters and flyers on good and hygienic transport management.

Below are some samples of the flyers and pamphlet.



**SANITARY AND PHYTOSANITARY AFRICA  
COCOA PROJECT**

**WAREHOUSE KEEPERS  
OBSERVE  
THE FOLLOWING**

Warehouse should be rain proof  
Keep only cocoa in the warehouse  
Warehouse should be well ventilated  
Keep warehouse and its surroundings clean and tidy always  
Stack cocoa away from walls  
Cocoa bags should always be placed on wooden gratings (platforms)  
Use only seasoned wood for gratings  
Gratings should be at least 3 inches (7.6cm) high  
Do not apply any pesticides on your own  
DO NOT LIVE IN THE WAREHOUSE UNDER ANY CIRCUMSTANCES!

SPS Africa  
ECOO  
EDPS  
COLEACP  
CropLife  
UNDP

Figure 4-Samples of Flyers and Posters (Sensitization materials)

## CAMEROON

A comprehensive map of cocoa producing areas in Cameroon was developed to indicate routes of cocoa movements and stakeholders involved in the supply chain. Posters, leaflets and flyers were

produced and distributed to farmers for sensitization and to improve their knowledge on pesticide use and application and drying of cocoa beans. Education materials were produced and distributed at the workshop to the stakeholders. These materials include list of products approved for use on cocoa, leaflets and pamphlets of pesticide application etc.

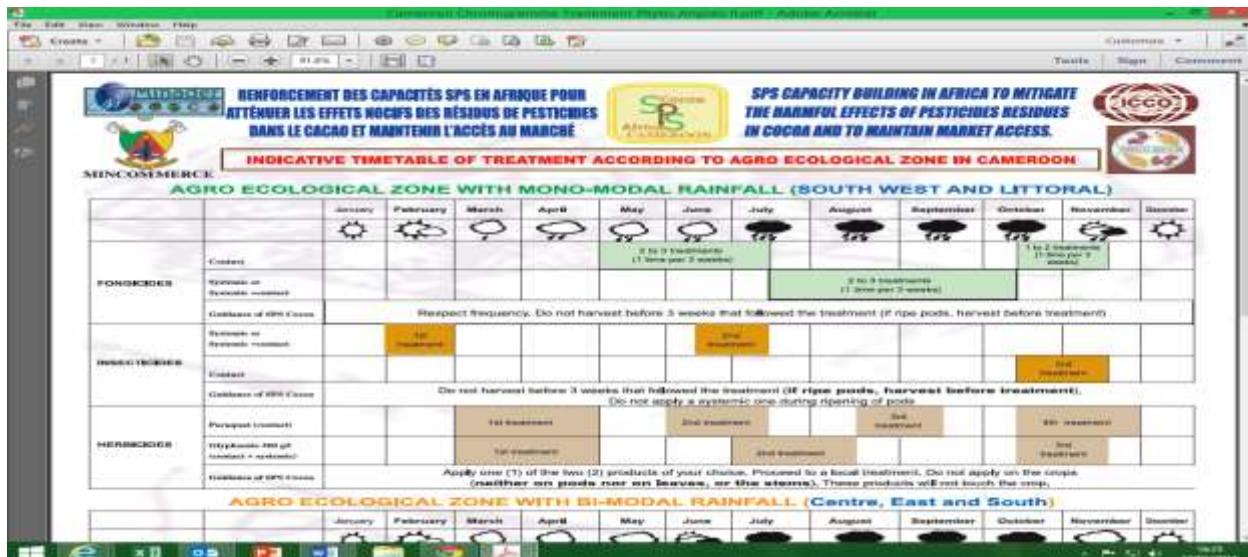


Figure 5: Agro-ecological zones map in Cameroon

## COTE D'IVOIRE

A comprehensive list of all pesticides, herbicides and other agrochemicals used in the country was compiled and published as "Phytosanitary Catalogue 2011". The catalogue was published in December 2011 and was widely distributed to all stakeholders during 2012. In addition, a phytosanitary guide on cocoa production in Côte d'Ivoire was prepared and about 2000 copies were produced and distributed. The document contains best practices for the selection and use of pesticides authorized for use on cocoa, including advice on appropriate apparatus and equipment for treatments. The project also designed and published a newsletter for dissemination of information on SPS related activities in the country, in collaboration with CropLife Africa Middle-East.

## NIGERIA

A list of permitted and approved pesticides and agrochemical was produced and distributed among all stakeholders. The communiques for the national sensitization workshop and farmer's sensitization workshop and other activities of the project were broadcasted on radio, TV and printed in the various print media in the country.

## TOGO

The government published a presidential decree in May 2012 establishing a national SPS Committee and charged with the responsibility for adherence to international SPS standards. Whilst this was not a project activity, the decree was in line with the provision of necessary framework to support the implementation SPS measures in the country and basis for coordination of activities to comply with international requirements for export of cocoa beans. A list of approved pesticides and agrochemicals has been distributed to farmers' organizations, farmers and pesticide dealers.

## **5.2      Objective 2: Enhancing the capacity of relevant stakeholders to apply the rational pesticide use component of Good Agricultural Practices (GAP) and Good Warehousing Practices (GWP)**

A number of activities were planned to achieve this objective (see logframe annexed to this report). Main Results Achieved under this objective are highlighted below

### **Output 5:    Self-assessment guide developed and applied**

A self-assessment system was developed for the cocoa sector in Ghana. The self-assessment system comprised a self-assessment guide for food business operators, and the control guide for the regulatory authorities. Initially, a workshop was organized for stakeholders to launch the self-assessment system. Both public and private stakeholders actively participated in the workshop which focused on food safety legislation, cocoa production and processing protocols, risk assessment, risk management and risk communication, official controls, and business operations. A brochure was prepared for surveys in the major cocoa growing areas to collect and collate information on cocoa production, primary processing, transportation, etc. The Technical Committee for the Self-Assessment Guide on Cocoa and Project Steering Committee finalized the self-assessment exercise and produced a draft document. The draft Self-Assessment Guide on Cocoa in Ghana was reviewed at a workshop held in May 2013.

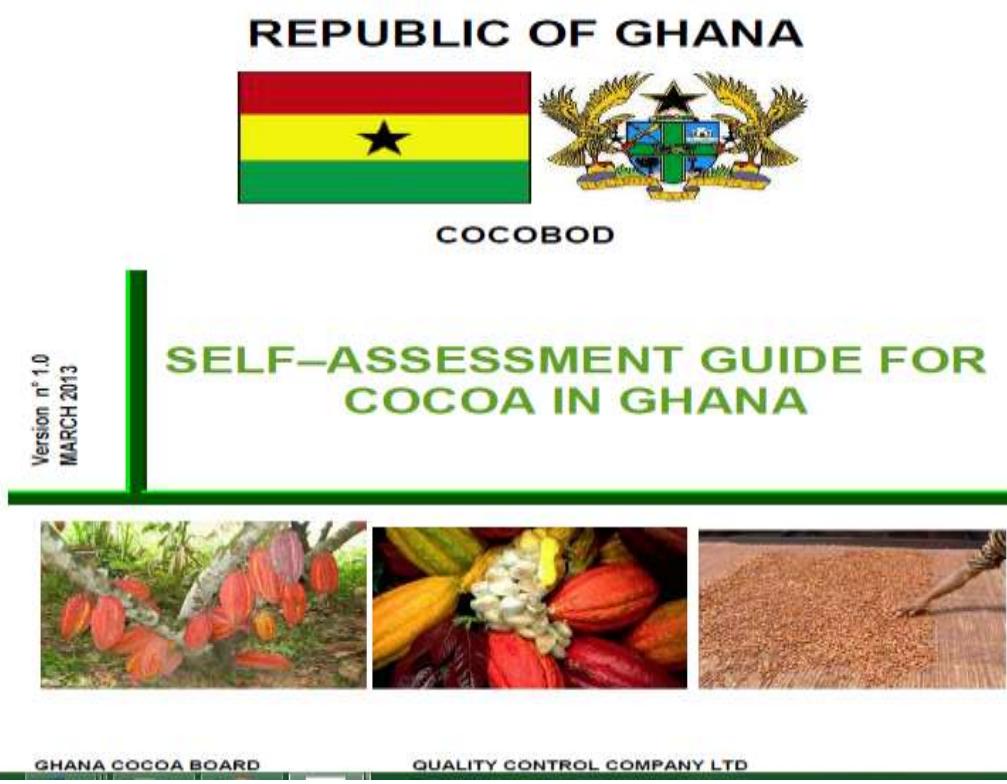


Figure 6: Self-assessment guide for cocoa in Ghana

In addition, the process to start the development of a self-assessment guide system for Côte d'Ivoire and Cameroon was initiated during the life of project. Preliminary meetings with the relevant authorities were held and technical committees set up to work on the details.

### **Output 6: Training modules in SPS measures covering pesticide selection and application developed and adapted for local use**

A set of training modules developed by CropLife Africa and Middle East were reviewed and adapted for use in the project's participating countries. The training modules covered the following areas: Notification of final regulatory action for a banned or severely restricted chemical; proposal for a severely hazardous pesticide formulation; import responses for a listed number of chemicals; and obligations related to the export of chemicals.

#### **Output 7: Training modules on GAP and GWP developed and adapted for local use**

21 training modules on GAP and GWP were developed by the EDES/COLEACP in consultation with experts from the project's participating countries. The training modules cover four broad categories as follows: from plantation to harvest; treatments after harvest and transport; throughout the process: traceability; and good use of plant protection products. The detail of the modules under each category is as indicated in the table below.

<b>1. From plantation to harvest .....</b>	<b>13</b>
C1 – Crop association .....	14
C2 – Plantation monitoring principles and knowledge of pests and disease cycles .....	22
C3 – Application technique: calculating the volume of spray mixture to be prepared using a practical method .....	28
C4 – Application technique: dosing and preparing the spray mixture.....	36
C5 – Application technique: calibrating the sprayer and treating correctly .....	44
C6 – Cocoa pod harvesting and breaking.....	52
<b>2. Treatments after harvest and transport.....</b>	<b>61</b>
P1 – Fermentation of cocoa beans .....	62
P2 – Drying and storing fermented cocoa beans .....	70
P3 – Preventing the introduction of foreign bodies in the beans during fermentation, drying, sorting, grading and packaging .....	80
P4 – Transport of cocoa beans .....	86
<b>3. Throughout the process: traceability .....</b>	<b>93</b>
T1 – Importance of traceability for food safety .....	94
T2 – Passing on information: the importance of a written record .....	100
T3 – Correct structuring of information: saving time and improving food safety.....	106
<b>4. Good use of plant protection products .....</b>	<b>113</b>
U1 – Avoiding operator contamination while preparing the mixture and rinsing the sprayer .....	114
U2 – Using gloves for protection.....	122
U3 – Recommended use of a mask to protect the respiratory system .....	134
U4 – Importance of personal protective equipment during preparation, application and..... cleaning of sprayers	144
U5 – Cleaning and rinsing the container, the atomiser, the sprayer and disposal of containers.....	152
U6 – First aid in case of poisoning by plant protection products .....	160
U7 – Reading labels and selecting the right personal protective equipment.....	166
U8 – Storage of products off the living quarters .....	174
<b>References .....</b>	<b>180</b>

Figure 7: Training modules on GAP and GWP

The training modules and materials required have been in as much as possible adapted to local conditions for more effective training and transfer of knowledge to farmers and stakeholders.

**Output 8: Training of Trainers (ToT) on SPS measures, GAP and GWP conducted to strengthen capacity of the participating countries**

**GHANA**

Two Training of Trainers (ToT) were organized on food safety issues and (GAP). The first training session was held from 7 -20 November 2011 and the second training session took place from 21 November to 2 December 2011. A total of 20 trainers were trained. The training covered food safety, pesticide efficacy and risks, importance of pesticides selection and application, drying of cocoa beans and cocoa quality. The trainings were conducted by EDES/COLEACP.

Two staff of Quality Control Company of Ghana Cocoa Board (QCCL) attended a 5 day workshop from 28 November to 2 December 2011 in Limuru, **Kenya** organized by EDES/COLEACP on Self-Assessment Methods and GAP. The workshop provided participants with improved skill to analyse SPS systems, build self-assessment guides and self-monitoring systems and to evaluate quality assurance systems, etc. The workshop covered the following topics: the regulatory context and role of private operators; self-monitoring principles and sector self-assessment guide concept; EDES methodology and facilitation techniques; process analysis and diagnosis; audit and sampling plans in the context of self-monitoring; risk analysis; traceability in the context of self-assessment; and preparation, distribution and management of a sector self-assessment guide.

Crop Life Africa organized and sponsored a ToT workshop on anti- counterfeit pesticides from 6 – 7 October 2011. Participants to the workshop were drawn from pesticide suppliers, pesticide dealers, farmer groups, plant protection and regulatory services division of the Ministry of Agriculture, environmental protection agency, Ghana Standards Authority, Ghana Cocoa Board, Police, Custom Services, Immigration and representatives of the Bar and the Bench. The training provided the participants with insight to nature of pesticides, how to read and recognize labels, the motivation for trading in counterfeit and illegal pesticides and their consequences, and usage and what should be looked for on shipping documents on pesticides.

EDES/COLEACP organized a (ToT in October 2013 at Bunso Cocoa College, Ghana for Ghana and Nigeria. There were seven participants from Nigeria and eight from Ghana. The workshop trained trainers to effectively train all the operators in the cocoa industries on best practices using practical hands on and adult learning approach. Areas covered during training workshop included Good Agronomic Practices, Safe Use of Plant Protection Products, Harvesting and Pod breaking, Drying, Storage, Transportation, Record keeping, and Traceability etc. The college's demonstration farms, fermentary, drying area, storage facility and transport were used for practical demonstrations during the workshop

**COTE D'IVOIRE**

CropLife Africa organized training sessions in October 2011 for key officials from Customs, Quarantine Agency, Immigration Service and Plant Protection Agency. This first training focused on problems with pesticide products and anti-counterfeit measures and how to detect fake, obsolete and banned substances. The training was conducted on 14 October in Aboisso and 28 October in Abengourou. In November 2011, CropLife trained 72 agro-dealers in handling of pesticides and their

responsibilities to supply quality pesticides to farmers. From 26 – 30 November 2012, CropLife Africa organized a workshop to train stakeholders on pesticide use and phytosanitary laws and regulations. The workshop was held at Grand-Bassam with 72 participants attending from Ministry of Agriculture, pesticide dealers, cocoa cooperative organizations and farmers.

CropLife Africa also organized a workshop for 27 customs officers operating in San Pedro and south west coast cocoa growing area. The workshop took place on 19 December 2012 and focused on problems with pesticide products and anti-counterfeit measures and how to detect fake, obsolete and banned substances.

CropLife Africa collaborated with the project to design and publish a “Cocoa SPS Africa” Newsletter for dissemination of information on SPS related activities in the country. A sample is shown below.



#### NEWSLETTER N° 01/13/SPSCACAO-RCI

**INFORMATION N°1 :** CropLife Côte d'Ivoire et la coopération technique Allemande au Développement (GIZ) mettent en œuvre des Centres des Services d'Affaires (CSA) pour promouvoir des intrants de qualité dans la cacaoculture.



Dans le cadre d'un Partenariat entre CropLife Côte d'Ivoire et la Coopération technique allemande au Développement, à travers son programme de développement durable du Cacao (GI2/Sustainable Cocoa Business), quatre (04) Centres des Services d'Affaires (CSA) ont été créés dans les zones cacaoyères du pays, notamment à Abengourou (Est), Daloa (Centre-Ouest), San-Pédro (Sud-Ouest) et Soubéré (Centre-Ouest, première zone de production actuelle).



#### NEWSLETTER N° 01/13/SPSCACAO-RCI

**INFORMATION N°3 :** CropLife Côte d'Ivoire forme 15 formateurs pour former des spécialistes de l'application des pesticides en cacaoculture

Dans le cadre de la mise en œuvre de son plan d'action dénommé PERSUAP (Pesticide Evaluation Report and Safer Use Action Plan), l'African Cocoa Initiative (ACI), à travers la Fondation mondiale du Cacao (WCF), a financé la formation de 15 formateurs, du 18 au 23 mars 2013 et du 21 au 25 avril 2013 à Grand-Bassam, ville balnéaire située à 30 kilomètres au Sud-Est d'Abidjan.



La formation des 15 formateurs s'inscrit dans le déroulement du programme de formation des spécialistes de l'application des pesticides que CropLife appelle SSP, c'est-à-dire Spray Service Provider (en anglais), ou « Service Spécialisé en Protection Phytosanitaire du Cacaoyer ». C'est un nouveau concept créé par CropLife Afrique Moyen-Orient et qui concerne les applicateurs de pesticides, les revendeurs et les agriculteurs leaders. CropLife a développé le concept SSP.

Figure 8: Cocoa SPS Africa Newsletter

EDES/COLEACP organized a ToT in July 2013 in Grand-Bassam, Côte d'Ivoire for Côte d'Ivoire, Cameroon and Togo. There were eight participants from Côte d'Ivoire and three each from Cameroon and Togo. The training focused on GAP, post-harvest treatment and transport, traceability through the supply chain, and safe use of phytosanitary products. The following pictures show some of the training sessions.





Figure 9: ToT in Côte d'Ivoire

## CAMEROON

EDES/COLEACP trained key official from relevant authorities in Cameroon on Self-Assessment Guide for Coffee. The acquired capacity and expertise would be used for the cocoa sector. CropLife Cameroon and the Cocoa SPS Africa project published a list of approved pesticides on cocoa distributed by its members. The list also included information on how to recognize the approved pesticides from the fake ones available in the market. CropLife Cameroon trained pesticide retailers and farmers on anti-counterfeit measures. Two trainings were conducted in 2012 and plans have been developed to conduct further trainings in 2013. The Ministry of Agriculture has trained several staff of the MINADER-Crop Protection Directorate with the support of CropLife Cameroon and CropLife Africa and Middle East.

Farmer Field School training modules developed by the Sustainable Tree Crops Programme (STCP) have been reviewed by incorporating more cocoa focus modules to be used for training. Preparations have started to carry out training of trainers on GAP and GWP.

## NIGERIA

In July 2011, the NEPC and CAN organized a two-day national conference on Pesticide Residues and other harmful Substances in Cocoa. The objective of the conference was to enhance institutional capacity and to promote responsible pesticide use in cocoa production and trade in Nigeria. In May 2012, the CAN organized another national conference on “Institutional Responsibility for the Use of

Pesticide". The conference which was attended by all major stakeholders in the cocoa sector focused on food safety and harmful substances in cocoa.

The EDES/COLEACP Training of Trainers Workshop in Ghana was attended by seven experts from Nigeria. On their return to Nigeria, these experts referred to as Master Trainers adapted the EDES/COLEACP training manuals to Nigerian training manual. Thereafter, a localToT Workshop was organized in Akure and Ikom simultaneously from 6 to 10 January, 2014. The Master Trainers trained 32 agricultural extension workers and lead cocoa farmers in Akure and 22 in Ikom. The trainees would in turn train farmers through various Farmers Field Schools (FFS), Farmers Cooperatives and Farmers group across cocoa producing states. Each trainee would train at least between 10 to 15 farmers. This way, about 2000 farming families would be trained. The knowledge and expertise would continue to cascade down to farmers in remotest locations

#### **Output 9: Training on SPS measures, GAP and GWP cascaded down to farmers and other stakeholders**

#### **GHANA**

The districts in the seven cocoa producing regions in Ghana were clustered into zones and sensitization workshops organised in each zone for farmers, Licensed Buying Companies (LBCs), Transporters, Inspectors (QCC staff) and Agrochemical dealers. This programme started in February 2012 and ended in September, 2013. During each workshop, the need for and the benefit of the project were elucidated to the operators and appropriate sensitization materials were distributed. Practical examples of businesses that had collapsed due to the operators not adhering to their clients/customers' concerns were used as case study and discussed into details. In addition, topics like GAP, GWP, Food Safety, GTM, Record Keeping and Traceability were treated into details with the respective operators. In total 8925 farmers, 1320 LBC agents, 753 inspectors (QCC staff) and 325 transporters were reached.

These trainings and workshops have imparted awareness of food safety issues to operators, atleast to the extents that all operators along the value chain are aware of these issues and are taking steps to addressing them. It is estimated that this has led to a significant reduction in higher pesticide residues.

The Quality Control Company Ltd and other units of the Ghana Cocoa Board organized several campaigns in several districts of cocoa growing regions to sensitize professional agricultural organizations on the importance of right choice of pesticides and their use, effective methods of drying cocoa beans, and dissemination of essential information and awareness on SPS standards in cocoa. Five radio programmes each with an average of 200 participants were organized on food safety, safe use of agrochemicals and SPS standards.

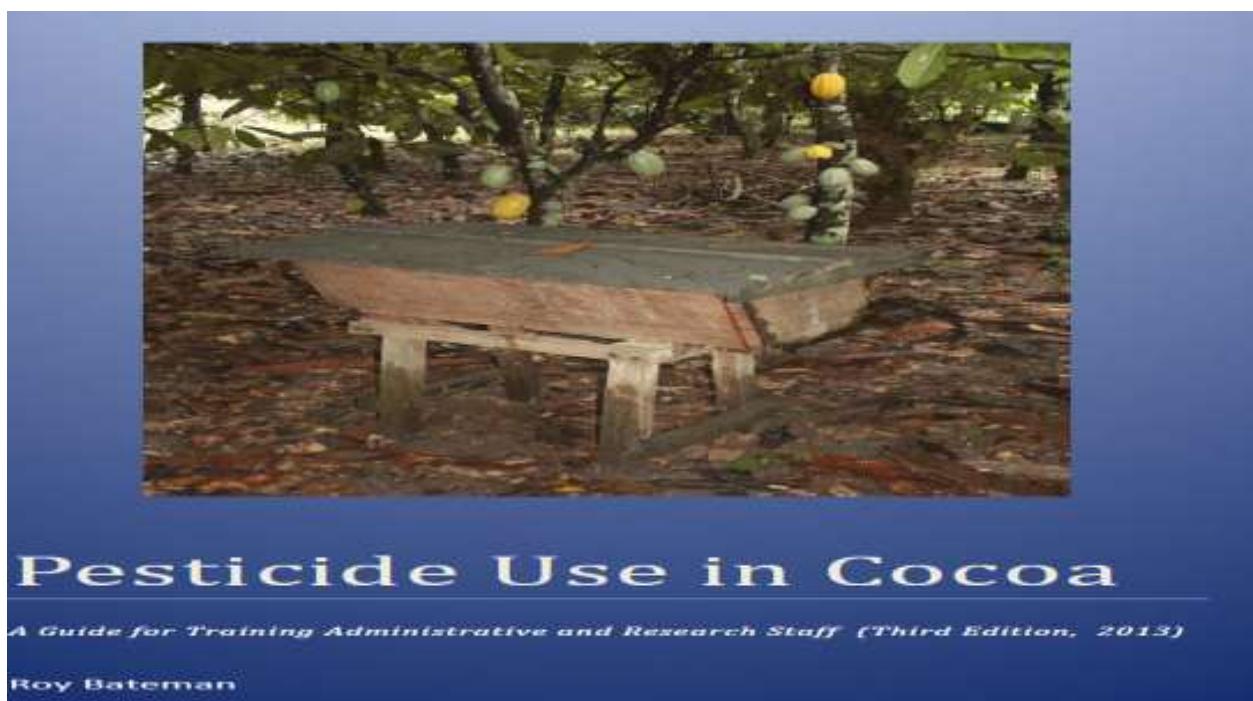
In other countries, Côte d'Ivoire, Togo, Nigeria, the cascade down approach could not take place during the project life due to initial delay. Countries plan to undertake cascade trainings at a later stage.

#### **5.3 Objective 3: Enhancing institutional capacity in-country to monitor and enforce adherence to SPS standards in cocoa**

A number of activities were planned to achieve this objective (see logframe annexed to this report). Main Results Achieved under this objective are highlighted below

**Output 10: ICCO guidelines on Best Known Practices in the Cocoa value Chain, and the Manual on safe Use of Pesticides reviewed and distributed for wider use**

The ICCO document on “Best Known Practices along Cocoa Value Chain” was distributed to stakeholders in the participating countries. The third edition of the “Manual on Responsible Pesticide Use” was produced. The manual is a training tool and provide information on the following issues regarding pesticide application and use – administrative and technical issues with pesticides; information for research and extension staff on pesticide science; road map for establishing good crop pest control, storage and distribution practices for bulk cocoa; chemical compounds that are, or may be used on cocoa and emphasis on product selection and application by smallholders; characteristics of good quality cocoa; best known practices in cocoa production; etc. Below is the cover page of the manual.



**Figure 10: Manual on safe Use of Pesticides**

At the time of preparing this report, the manual was being translated into French.

**Output 11: Domestic regulatory and legislative provisions on SPS standards reviewed and adapted to international requirements**

The National Resource Institute of the Greenwich University, London was engaged by EDES/COLEACP to review the legislation covering food safety system in Ghana in order to make recommendations for regulatory reforms. The review also covered pesticide registration and application. The review identified four areas in which legislations would need to be improved. These are:

1. it should be made illegal for suppliers to advise farmers to use pesticides that are not recommended for cocoa;
2. legislation should oblige competent authorities to take samples from farms for analysis and stipulate the number to be analysed per annum;
3. farmers should be obliged to keep records of any pesticides applied to their crops; and

4. and pesticide companies should not be able to market “lookalike” versions of a quality brand of insecticide. An example is given in the picture below where a copy “Condifor” could easily be confused for the original “Confidor”.



Figure 11: Marketing “lookalike” insecticide

The broad conclusions of the study were that cocoa is a relatively low-risk crop as related to food safety issues, compared to fruits and vegetables. While legislation may need to be strengthened, the weak link in food safety is often that legislation is not sufficiently enforced; new issues are expected to emerge to which legislation will need to adapt; and National Food Safety control systems will need to demonstrate equivalence of risks. Similar assessments are to be carried out for Cameroon, Côte d’Ivoire, Nigeria and Togo with the same methodology used for Ghana.

**Output 12: Production of technical materials for law enforcement agencies at the border and training of officers from the Custom, Immigration, quarantine services and plant protection departments especially relating to fake and obsolete substances**

### **GHANA**

CropLife organised a training workshop on counterfeit and illegal pesticides at Airport West Hotel on the 7th October, 2011. Participants were drawn from Ghana Cocoa Board, Environmental Protection Agency, Ministry of Food and Agriculture, Agro-chemical dealers, Police Service, Ghana Bar Association, the Bench, Ghana Immigration Service, and Custom Excise and Preventive Services. The objectives of this workshop were to help participants read, understand and interpret information on a pesticide label, distinguish between genuine/legal and counterfeit/ illegal pesticides, recognize counterfeit and illegal pesticides, and appreciate the consequences of the use of counterfeit and illegal pesticides. In all about 40 participants from regulatory bodies received this training to improve their capacity order to properly regulate pesticide trade and usage in Ghana. The participants were trained in such a way to also train their colleagues.

## **COTE D'IVOIRE**

From 26 – 30 November 2012, CropLife Africa organized a training workshop for stakeholders on pesticide use and phytosanitary laws and regulations. The workshop was held at Grand-Bassam with 72 participants attending from Ministry of Agriculture, pesticide dealers, cocoa cooperative organizations and farmers. CropLife Africa also organized a workshop for 27 customs officers operating in San Pedro and south west coast cocoa growing area. The workshop took place on 19 December 2012 and focused on problems with pesticide products and anti-counterfeit measures and how to detect fake, obsolete and banned substances.

A ToT workshop organized by EDES / COLEACP from 15 to 20 July 2013 in Grand-Bassam trained 3 extension agents from ANADER and 3 trainers from cocoa cooperatives. The EDES methodology and tools were adapted and incorporated into training curricula and extension activities of ANADER. A program of Cascade training was proposed.

## **CAMEROON**

CropLife in Cameroon worked with the project to train pesticide retailers and farmers on anti-counterfeit measures. Two trainings were conducted in 2012 and plans have been developed to conduct further trainings in 2013. The Ministry of Agriculture has trained several staff of the MINADER-Crop Protection Directorate with the support of CropLife Cameroon and CropLife Africa and Middle East.

### **Output 13: Enhanced capacity of national laboratories to carry out product and residue analyses**

## **GHANA**

UNIDO had identified three laboratories (QCC Research Laboratory, Food Research Institute Laboratory and Ghana Standard Authority Pesticide Laboratory) that required strengthening in terms of material and human resources. These laboratories have received a few trainings and will in due course take delivery of some equipment and consumables. Additionally, some of these laboratories are earmarked for accreditation, and UNIDO experts have already conducted gap audits for that reason. Quality Control Research Laboratory has through this intervention built enough capacity and is effectively carrying out pesticide residue analysis on cocoa beans.

## **NIGERIA**

The National Agency for Food and Drug Administration and Control (NAFDAC) had acquired gas chromatography machine for pesticides residue analysis at its Central Laboratory in Oshodi, Lagos. The NAFDAC Laboratory was also accredited in the area of residue analysis. This facility enabled the Project to train 10 laboratory personnel from relevant Agencies of Government in pesticides residue analysis. Training on Cocoa Pesticides Residue Analysis held at the National Agency for Food, Drugs Administration and Control's (NAFDAC), Central Laboratory, Oshodi, Lagos, from 11<sup>th</sup> – 19<sup>th</sup> November 2013.

## **COTE D'IVOIRE**

National laboratories were assessed to establish training and equipment needs to conduct tests on commercial lots of cocoa to determine pesticide residues and other contaminants. The required laboratory equipment have been procured and delivered to the *Laboratoire d'Appui au Développement Agricole* (LANADA). Training of the laboratory technicians to build their capacity to conduct tests on cocoa is planned to take place in 2014.

## 5.4 Objective 4: Strengthening regional collaboration to enhance institutional capacity in individual countries on SPS standards in cocoa

A number of activities were planned to achieve this objective (see logframe annexed to this report). Main Results Achieved under this objective are highlighted below

### Output 14: Enhanced capacity of relevant authorities to enforce regulations in cross border trade in pesticide products

CropLife Africa trained several officials of the Custom, Immigration and local authorities on fake and obsolete pesticides. CropLife Africa is actively and effectively working in the region and has brought most of the countries together to combat illegal trade in pesticide products. Below are some pictures of the trainings that were conducted.

#### « LES FRONTIÈRES NE SONT PAS DES BARRIÈRES »



# **FORMATION SENSIBILISATION EDUCATION POUR....**

**...LA POLICE/INTERPOL**



**....LES DOUANES**



Figure 12: Training on fake and obsolete pesticides

## **5.5 Result evaluation and dissemination workshop**

To achieve this objective, a final workshop was planned at the end of the project to evaluate and disseminate the results of the project to other relevant stakeholders

### **Output 15: Result evaluation and recommendations**

A final project evaluation workshop was organized in Abidjan, Côte d'Ivoire from 10 – 13 December 2013. The workshop reviewed the results of the project, constraints encountered during implementation and proposed the following recommendations for the cocoa sector to build on the achievements of the project.

- a. Each cocoa-producing country should review the various SPS initiatives being implemented in the country with a view to harmonizing and adapting them to the specific training needs of the country.
- b. The relevant authorities in the cocoa-producing countries should strengthen their efforts in raising the awareness of farmers and other stakeholders in the supply chain in relation to SPS issues, using the most appropriate information dissemination technology.
- c. The ICCO should develop an interactive web-based platform accessible to all stakeholders that will provide relevant information and updates on SPS matters at global level.
- d. The Self-Assessment Guide (SAG) developed for the cocoa sector in Ghana with the support of EDES/COLEACP was acknowledged as a very useful approach that involved all stakeholders in the value chain to ensure adequate implementation of food

safety measures. In this respect, cocoa-producing countries are to review the guide developed in Ghana and adapt it to reflect their own local conditions, seeking the support of EDES/COLEACP as necessary.

- e. It was acknowledged that some training kits provided by EDES/COLEACP may not be readily available at the local level, and should therefore be adapted to suit local conditions, with the support of EDES/COLEACP, bearing in mind minimum requirements.
- f. An information exchange system should be implemented between countries to share data and materials developed for awareness raising and training.
- g. The survey carried out in 2006-2008 by CABI on pesticide use and selection in West Africa has provided a solid basis for decision-making. The ICCO should seek funding to update information on current pesticide use and review progress made so far in this respect.
- h. Pesticides used on cocoa should be classified into four categories as follows, (a) strategic (b) for use with great care (c) experimental and (d) unsuitable for use in cocoa. This classification, adopted in the second edition (2010) of the *Guidelines for Pesticide Use in Cocoa*, continues to be a helpful basis for classification of the suitability of individual active substances.
- i. The third edition of the *Guidelines for Pesticide Use in Cocoa* includes a new chapter on pesticide application techniques. In most countries, more than 90% of smallholders use manual sprayers fitted with variable cone nozzles. These are impossible to calibrate accurately which therefore has profound implications for the farmers' ability to treat cocoa with an accurate dosage. This issue should be addressed in future training sessions.
- j. It was acknowledged that: (a) Insecticides remain the most effective way of controlling pests such as cocoa mirids; (b) research into alternative methods should continue while noting that the most likely role for pheromones would be for monitoring rather than managing pest populations; (c) the introduction of modern pesticides as a replacement for cheap, generic compounds has increased the cost of individual treatments. The most likely way to mitigate these increased costs is by more efficient application and thus optimization of dosages.
- k. Cocoa-producing countries are advised to adjust legislation to include the expressed prohibition of the import and manufacture of sprayers that do not comply with FAO minimum requirements for the quality of application equipment. There must be a means for evaluating sprayers' compliance with these standards using the FAO *Minimum Requirements for Agricultural Pesticide Application Equipment*, Volume 1 (2001).
- l. *Codex Alimentarius* MRLs for pesticides in cocoa and the methods for testing are often used as a reference. Stakeholders in the cocoa sector, including governments of cocoa producing and consuming countries, industry associations and ICCO, are invited to co-ordinate in order to establish the need to revise them, enabling more harmonized and standardized residue tolerances worldwide.

- m. Cocoa-producing countries are encouraged to strengthen their efforts to create a database of information on tests carried out on chemical compounds used in cocoa pesticides, as well as to participate in the meetings of standard-setting bodies and the WTO SPS Committee.
- n. Cocoa-producing countries need to establish a strategic surveillance system to ensure the food safety of local consumers and to respond adequately to their needs.
- o. ECOWAS and other regional bodies are encouraged to finalize the process of harmonizing pesticide registration.
- p. Cocoa-producing countries are invited to strengthen their efforts to enforce existing national laws and regulations on SPS issues for cocoa while taking into account developments at the regional and international levels.
- q. Cocoa-producing countries are advised to strengthen law enforcement at the border to fight against counterfeit chemical pesticide products and to develop strategies and methodologies to manage seized products.
- r. There is a need to improve the management of recycling of chemical pesticide containers.
- s. The efforts underway to accredit more laboratories in the region should continue, to ensure that capacity in this area is enhanced.
- t. Collaboration between laboratories for testing residue levels and other contaminants in cocoa-producing countries in the region should be reinforced.
- u. Collaboration between national structures on law enforcement (customs, laboratories and regulation institutions) should be reinforced.

## **6. FINANCIAL OVERVIEW**

The table below provides an overview of the overall resources allocated to the umbrella programme Cocoa SPS Africa. A financial report annexed to this report details the disbursement related to STDF funded activities.

	<b>STDF (US\$)</b>	<b>In kind / Other (US\$)</b>	<b>Total (US\$)</b>
Total project budget (US\$)	593,460	5,670,649	6,264,109
Total amount received to date (US\$)	296,724	3,500,000	3,796,724
Total expenditure to date (US\$)	249,265	3,500,000	3,749,265
Unspent funds (US\$)	344,195	2,170,649	2,514,844

The total cost of the project in the five participating countries was US\$6,264,109 out of which the STDF was to provide a grant of US\$593,460, representing about 10% of the total cost of the project. The remaining US\$5,670,649 was to be sourced from external co-financing and counterpart contribution in cash and in kind.

In sourcing for the external co-financing requirements, ICCO approached EDES/COLEACP (a Europe-Africa-Caribbean-Pacific Liaison Committee), CropLife Africa and UNIDO for financial assistance. They provided assistance in the form of in-kind contribution by implementing a number of project activities in the participating countries as part of their own programmes. The value of activities to be implemented by EDES/COLEACP was US\$2,998,000 and that of CropLife Africa was US\$100,000. The five participating countries were expected to provide US\$1,698,249 and US\$628,700 in cash and in kind respectively.

## **7. OVERALL PROJECT RESULTS AND LESSONS LEARNED**

The project recorded the following main achievements.

- (i) The project proved to be a catalyst for initiatives focusing on cocoa SPS issues in the five participating countries, and provided an adequate framework for coordination at national and regional levels. The project has succeeded in improving the capacity of the five participating countries to address cocoa SPS related issues.
- (ii) There has been a substantial increase in awareness among all stakeholders on cocoa SPS issues and their impact on cocoa trade resulting from the project activities. Several regional and national workshops were organized to raise awareness and to highlight national and international SPS standards in cocoa production and trade. A number of publications on the efficacy of pesticides and their applications were published and disseminated to stakeholders through posters, flyers, trade exhibits, as well as TV and radio programmes. A project website was set up to exchange information and to constantly update all stakeholders on general and specific food safety standard issues, as related to cocoa. The stakeholders in the cocoa value chain that were targeted by the project included policy makers, plant quarantine services, agricultural extension services, cocoa farmers, traders, customs, immigration, pesticide sellers, laboratory technicians and warehouse managers.
- (iii) In cooperation with EDES/COLEACP, the project developed a methodology for conducting a Self-Assessment Guide (SAG) for cocoa. This is a set of measures based on risk assessment which have to be implemented to ensure that, at every production stage, harvesting, transport, packaging, processing and distribution, the cocoa produced complies with SPS regulatory requirements as well as with product quality requirements. The cocoa should also meet traceability and monitoring requirements to ensure compliance with specifications. A SAG was successfully developed for the cocoa sector in Ghana and is currently being put into use. Efforts have been initiated and preparatory arrangements have advanced to develop SAG for Cameroon, Côte d'Ivoire, Nigeria and Togo.
- (iv) With assistance provided by the EDES/COLEACP, the project developed 21 training modules on GAP and GWP. In addition, several training modules on pesticide selection and application were developed through cooperation with CropLife Africa. Where necessary, the modules were adapted to local conditions for training purposes. Several training sessions ToT were conducted and, in total, 200 trainers are now available to implement the cascading of training on the application of GAP down to

the farmers' level. The capacity of the five participating countries has been strengthened to train cocoa farmers and traders on best practices to ensure that cocoa meets international SPS standards.

(v) A study on "Assessing the strengths and weaknesses in pesticide usage" was conducted in Ghana in 2012 under the framework of the EDES programme. It provided an assessment of legislative provisions on SPS issues for adaptation to international pesticide residue standards. The broad conclusions of the study were that cocoa is a relatively low-risk crop as related to food safety issues, compared to fruits and vegetables. While legislation may need to be strengthened, the weak link in food safety is often that legislation is not sufficiently enforced; new issues are expected to emerge to which legislation will need to adapt; and National Food Safety control systems will need to be improved for more effectiveness. Similar assessments are to be carried out for Cameroon, Côte d'Ivoire, Nigeria and Togo with the same methodology used for Ghana.

(vi) The third edition of the manual on "Pesticide Use in Cocoa: A Guide for Training Administrative and Research Staff" was completed and will be made available in English and in French to all stakeholders.

(vii) CropLife Africa trained a significant number of stakeholders from customs, immigration services, plant quarantine services, agricultural extension services, agronomists, pesticide suppliers and pesticide dealers on pesticide use and phytosanitary rules and regulations. The training focused on problems with pesticide products and anti-counterfeit measures and how to detect fake, obsolete and banned substances.

(viii) A list of pesticides approved for use in cocoa production and the institutions responsible for food safety issues was compiled for each of the participating countries. This reinforced transparency in relation to the responsibilities of the food safety institutions in each country and the necessary steps required to address SPS issues on cocoa.

(ix) With the assistance of UNIDO, the capacity of the five participating countries to carry out residue tests and tests for other harmful substances and contaminants in cocoa was assessed. UNIDO is now assisting 21 laboratories in West Africa to gain accreditation. Through the project, laboratory testing equipment was purchased for Côte d'Ivoire, Ghana and Nigeria. Nigeria and Ghana carried out separate training for their laboratory technicians, to enhance the capacity of these countries to test for MRLs and other harmful substances in cocoa.

(x) At the final evaluation workshop for the project, held in Abidjan, Côte d'Ivoire from 10–13 December 2014, the five participating countries strongly expressed their willingness to pursue the efforts initiated during the project. Indeed, they have decided to continue to collaborate, exchange their experiences and meet on a regular basis to review progress in this respect, and ICCO was requested to facilitate this process.

### **Constraints and Obstacles encountered**

The project was designed on the outcome of a need assessment carried out in the Africa region that identified key gaps in the capacity of the five participating countries to comply with international regulations on SPS standards on cocoa production and trade. After three years of project implementation, not all activities were fully implemented. The main reasons for this underachievement were a number of problems and constraints encountered which impeded on the speed and level of progress achieved. Some these problems and constraints are highlighted below.

The first constraint was the regional nature of the project. Although this was initially thought to be an advantage to the project, it turned out that the large number of countries involved in the project made the project difficult to manage. In addition, substantially large financial resources were required to implement the project in the five participating countries.

At the time of submitting the Project Grant application for this project to the STDF, the maximum amount of grant usually approved by STDF to a project was US\$600,000 and mostly for a single country project. Therefore, for the five participating countries in this project, the STDF approved a US\$593,460 grant. The implication is that the percentage share of the STDF grant for each country was very low, resulting in the need to source for more funding to implement the project. It is recommended that the STDF considers the possibility of approving more funds for multiple country projects.

The second constraint was the difficulty in securing the required amount of co-financing needed to implement the project. The ICCO had approached several potential donors for assistance to provide co-financing in cash and in kind. At the end, only two institutions agreed to contribute to the project. These were the EDES/COLEACP of the EU and CropLife Africa. Even so, the assistance provided by them were all in-kind in the form of implementing several project activities as part of their own overall programmes. This made it extremely difficult for the Project Executing Agency and the Supervisory Body to have full control of project implementation. Although this arrangement yielded good results, the non-availability of cash funding affected the timing and scale of implementation of some project activities, including indemnities for project coordinators. However, this arrangement has contributed to the sustainability or continuity of the project as the two donors have agreed to continue working on the project even at its completion.

A third important constraint was a relatively weak project management structure put in place in some participating countries, affecting project implementation. Project implementation requires a strong and effective management structure to manage and coordinate project activities to achieve its objectives.

The constraint that affected the project most was the inability of the participating countries to meet on time their obligations in providing counterpart contribution in cash to the project. Although, during the project development stage, all the countries pledged and provided written commitments to make available the necessary counterpart contribution in cash and in kind, only Ghana provided the counterpart contribution on time. As a result, the project started very late in other countries and fell behind in implementation schedule.

## **8. CONCLUSIONS AND RECOMMENDATIONS**

### **Specific conclusions and recommendations**

The project confirmed the need to address a number of SPS concerns in the production and trade of cocoa so as to increase access to export markets. Although, time and financial constraints limited the achievements of the project, it has proven to be a catalyst for initiatives focusing on cocoa SPS issues in the five participating countries, and has provided an adequate framework for coordinating them at national and regional levels. The project has succeeded in improving the capacity to address cocoa SPS related issues in the five participating countries. The signs of this improvement are visible on the ground and include enhanced awareness and willingness of stakeholders along the supply chain to produce cocoa that complies with international standards and increased efforts to address food safety concerns. It is expected that an evaluation study will be carried out in the future to assess the impact of

the project and to establish the state of pesticide selection and use in Africa. It is hoped that this could be done through an update of a 2006-2008 survey conducted by CABI on pesticide use in West Africa.

The five participating countries have strongly and collectively expressed their willingness to follow up on the project and will continue to collaborate, share experiences and meet on regular basis to review progress. ICCO is requested to facilitate this process and to help establish a Working Group to coordinate activities in the countries. A number of technical and strategic recommendations and follow-up actions were made by stakeholders and experts at the end of the project, these include:

**Recommendation 1:** Efforts to enhance capacity for compliance with SPS standards should be encouraged and commitments made to invest in infrastructure development and other SPS activities

Legislative and infrastructural frameworks must be put in place to ensure that SPS standards are complied with. The cocoa producing countries, the cocoa industry and international development agencies should provide more funding to activities that enhance the capacity of the stakeholders along the cocoa supply chain to adhere to good practices, in line with national and international SPS standards.

**Recommendation 2:** Information about SPS issues related to cocoa should continuously be disseminated to all stakeholders.

The relevant authorities in the cocoa-producing countries should strengthen their efforts to raise awareness of SPS issues among farmers and other stakeholders in the supply chain, using the most appropriate information dissemination technology. The ICCO should develop an interactive web-based platform that is accessible to all stakeholders and that can provide relevant information and updates on SPS matters at a global level. An information exchange system should be developed in order to share data and materials between countries for training and awareness-raising purposes.

**Recommendation 3:** GAP and GWP should be adapted to local conditions to ensure greater ownership and better uptake

It was acknowledged that some of the training kits provided by EDES/COLEACP may not be readily available at local level, and should therefore be adapted to suit local conditions, keeping in mind GAP and GWP's minimum requirements. Pesticides used on cocoa should be classified into four categories as follows: (a) strategic; (b) for use with great care; (c) experimental and; (d) unsuitable for use in cocoa. This classification, adopted in the second edition (2010) of *the Guidelines for Pesticide Use in Cocoa*, is a helpful basis for classifying the suitability of individual active substances. The third edition of the *Guidelines for Pesticide Use in Cocoa*, prepared under this project, includes a new chapter on pesticide application techniques. In most countries, more than 90% of smallholders use manual sprayers fitted with variable cone nozzles. These are impossible to calibrate accurately, which has severe implications for farmers' ability to treat cocoa with accurate dosages. This issue should be addressed in future training sessions.

**Recommendation 4:** Environmentally friendly approaches to control cocoa pests and diseases should be developed and encouraged

It was acknowledged that: (a) Insecticides remain the most effective way of controlling pests such as cocoa mirids; (b) research into alternative methods should continue, while bearing in mind that the most likely role for pheromones will be for monitoring rather than managing pest populations; (c) the

introduction of modern pesticides as a replacement for cheap, generic compounds has increased the cost of individual treatments. The most likely way to mitigate these increased costs is by more efficient application / optimization of dosages.

**Recommendation 5:** Strong and effective legislation is required to strengthen compliance with SPS standards.

Cocoa-producing countries are advised to adjust legislation so as to expressly prohibit the import and manufacture of sprayers that do not comply with FAO minimum requirements for the quality of application equipment. They must also ensure that sprayers' compliance with these standards is evaluated using the FAO Minimum Requirements for Agricultural Pesticide Application Equipment, Volume 1 (2001). Codex Alimentarius MRLs for pesticides in cocoa and corresponding testing methods are often used as a reference. Stakeholders in the cocoa sector – including governments of cocoa producing and consuming countries, industry associations and the ICCO – are invited to co-ordinate in order to promote their revision, with a view to establishing more harmonized and standardized residue tolerances worldwide. Cocoa-producing countries are encouraged to strengthen their efforts to create a database of information on tests carried out on chemical compounds used in cocoa pesticides, as well as to participate in the meetings of standard setting bodies including the WTO SPS Committee. ECOWAS and other regional bodies are encouraged to finalize the process of harmonizing pesticide registration. Cocoa-producing countries are invited to strengthen efforts to enforce existing national laws and regulations on cocoa-related SPS issues, while taking into account developments at the regional and international levels.

**Recommendation 6:** Effective monitoring and border controls should be put in place to combat illegal trade in pesticides

Cocoa-producing countries need to develop a strategic surveillance system to ensure food safety for local consumers. Cocoa-producing countries are advised to strengthen law enforcement at the border in order to limit the introduction of counterfeit chemical pesticide products. Strategies for the management of seized products are also required. The recycling of chemical pesticide containers, moreover, must be managed with increased efficiency. The efforts underway to accredit more laboratories in the region should continue, to ensure that capacity in this area is enhanced. Collaboration between laboratories for testing residue levels and other contaminants in cocoa-producing countries in the region should be reinforced. Collaboration between national law enforcement structure (customs, laboratories and regulation institutions) should be strengthened.

## General conclusions and recommendations

Some lessons were learnt during the implementation of this project that could inform future STDF activities as well as future donor programmes more broadly. Recommendations in this regard include:

**Recommendation 1:** Multi-donor programmes are a great tool for aligning interventions around an agreed set of actions. However, funding should be secured before the start of implementation in order to avoid disruptive delays in disbursement.

This project was designed as an umbrella programme, encompassing a range of far-reaching activities that address SPS issues in the cocoa sector, mainly with respect to food safety. It was envisioned as a platform for gathering technical assistance providers around a common action plan to enhance capacities in the cocoa sector. Various components of the programme were designed to be independent

of each other, to avoid delays due to the different disbursement schedules of the various donors. Nevertheless, whilst these arrangements proved very successful in enhancing coordination amongst donors, challenges were encountered with regards to the timing of interventions in the various countries. Similar multi-donor funded programmes will require intensive pre-implementation preparation and constant fund-raising efforts during implementation to ensure seamless achievement of project's activities.

**Recommendation 2:** When project implementation is led nationally, longer timeframes should be foreseen and close guidance should be provided.

The project suffered some delays mainly in those areas where implementation was delegated to national institutions. While the implementation of a donor support programme by a national institution may be a capacity building exercise in and of itself, it may require more time and closer guidance from international organizations, through strict monitoring frameworks and audit systems, for example.

**Recommendation 3:** Contributions to capacity building projects by the beneficiaries can ensure national ownership and sustainability. However, strong commitments should be made to disburse the pledged funds before implementation starts.

Another explanation for the delays encountered in project activities is the non-disbursement of funds committed by some of the participating countries to the project. It is suggested that, in future, participating countries provide evidence of their commitment to ensure that pledged funds are made available in the amount and at the time required to ensure the smooth operation of the project.

**Recommendation 4:** Mid-term evaluations of projects allow implementing entities to introduce corrective measures as well as necessary modifications to the project's orientation.

Generally, projects are designed on the basis of prior needs assessments. However, a long period of time can elapse between project formulation and implementation, during which needs may evolve and new constraints may appear. It is advisable to undertake a thorough review of planned project activities half-way through the project in order to confirm that the assumptions on which the project was founded still hold and/or to introduce any change in orientation that may be required.

**Recommendation 5:** The STDF should envisage increasing its contribution towards regional projects in order to ensure that sufficient budget is allocated to national activities.

The STDF ceiling for funding is the same regardless of whether it is a single-country project or a multiple-country project. While the STDF encourages regional projects which address common challenges and foster synergies and collaboration between institutions in a given region, implementing national activities in regional projects may prove challenging due to the low contribution per country. The STDF should consider increasing the amount of funding for regional projects that require both regional and national activities.

## 9. ANNEXES

### 9.1 Logical Framework

	Project description	Measurable indicators	Sources of verification	Assumptions and risks
<b>Overall objectives (goals)</b>	To enhance the capacity of cocoa producing countries in Africa to meet the SPS Standards of cocoa consuming countries and thereby helping to maintain and improve market access for exported cocoa beans.	Production and trade of cocoa that meet the food safety regulations of the EU, USA, Japan and that of other cocoa consuming countries	Statistics from importing countries showing the absence of rejected cocoa consignments	Harmonized systems of analysing cocoa samples for adherence to SPS standards
<b>Immediate objectives (purpose)</b>	<ol style="list-style-type: none"> <li>1. To create awareness among cocoa farmers and other stakeholders along the cocoa supply chain on SPS standards of the international cocoa market, including the issues of pesticide residues and other harmful substances.</li> <li>2. To enhance the capacity of cocoa farmers to apply Good Agricultural Practices (GAP) and Good Warehousing Practices (GWP).</li> <li>3. To enhance institutional capacity in-country to monitor and enforce adherence to SPS standards in cocoa. This would include strengthening domestic regulatory and legislative provisions on SPS standards, adapting them to international standards for better market access</li> </ol>	<ol style="list-style-type: none"> <li>1. Increase in farmers' knowledge and understanding regarding the effect of the use of harmful substances in production</li> <li>2. GAP and GWP fully adopted and sustained by farmers</li> <li>3. Strengthened domestic regulatory and legislative provisions on SPS standards, adapting them to international standards</li> </ol>	<ol style="list-style-type: none"> <li>1. Survey of farmers' knowledge</li> <li>2. Survey of production and post-harvest practices by farmers</li> <li>3. Improved legislation and inter-country agreements; SPS working groups fully operational by year 2</li> </ol>	<p>Active involvement of stakeholders along the cocoa supply chain and key collaborators (e.g. ECOWAS, STCP and <i>CropLife</i> associates) in the project.</p> <p>Risks associated with supply, delivery and maintenance of expensive equipment.</p>
<b>Expected results</b>	<ol style="list-style-type: none"> <li>1. Enhanced SPS awareness among key stakeholders in the cocoa supply chain</li> <li>2. Enhanced capacity of relevant stakeholders to apply GAP/GWP</li> <li>3. Enhanced institutional capacity to implement SPS measures in-country</li> <li>4. Increased regional collaboration to aid institutional capacity in SPS measures</li> </ol>	<ul style="list-style-type: none"> <li>• Increase in farmers' knowledge and understanding regarding the effect of the use of harmful substances in production</li> <li>• GAP and GWP fully adopted and sustained by farmers</li> <li>• Strengthened domestic regulatory and legislative provisions on SPS standards, adapting them to international standards</li> </ul>	<ul style="list-style-type: none"> <li>• Survey of farmers' knowledge</li> <li>• Survey of production and post-harvest practices by farmers</li> <li>• Improved legislation and inter-country agreements; SPS working groups fully operational by year 2</li> </ul>	<p>Active involvement of stakeholders along the cocoa supply chain and key collaborators (e.g. ECOWAS, STCP and <i>CropLife</i> associates) in the project.</p> <p>Risks associated with supply, delivery and maintenance of expensive equipment.</p>
<b>Activities</b>	<ol style="list-style-type: none"> <li>1. Creating SPS awareness among cocoa farmers and other stakeholders along the cocoa supply chain</li> <li>2. Enhancing the capacity of relevant stakeholders to apply the rational pesticide use component of GAP and GWP</li> <li>3. Enhancing institutional capacity in-country to monitor and enforce adherence to SPS standards in cocoa</li> <li>4. Strengthening regional collaboration to support institutional capacity in individual countries to apply SPS standards in cocoa</li> </ol>	<ol style="list-style-type: none"> <li>1. Publication of information on pesticide efficacy and risks and made available to the public</li> <li>2. Set up of Farmer Field Schools (FFS) to incorporate rational pesticide use protocols into GAP and GWP</li> <li>3. Establishing and /or enhancing the capacity of national laboratories to carry out product and residues analyses</li> <li>4. Create an appropriate framework where participating countries can address cross border issues</li> <li>5. The estimated total cost of the project is US\$5,306,354</li> </ol>	<ul style="list-style-type: none"> <li>• Six monthly progress report</li> <li>• Mid term project evaluation report</li> <li>• Final project impact evaluation</li> </ul>	Financing from all sources is made available on a timely basis in line with proposed activities

**SPS Capacity Building in Africa to Mitigate the Harmful Effects of Pesticide Residues in Cocoa and to Maintain Market Access**

**Cocoa SPS Africa Project - STDF/PG/298**

**FINANCIAL REPORT as at 31st May 2014**

<b>A INCOME</b>		<b>US\$</b>
Project Grant	First and second instalment payments	296,724
Payment for ICCO oversight services	First instalment payment for ICCO monitoring activities	35,608
<b>TOTAL INCOME</b>		<b>332,332</b>

<b>B EXPENDITURE (Project Grant)</b>	<b>US\$</b>
1 I Personnel Services	Activity 1.1 Project website development and maintenance 2,563
	Activity 3.1 Manual preparation and adaptation 15,724
	Activity 3.5 Laboratory training workshops for Ghana and Nigeria 28,500
	Activity 6.1 Consultancy fees and other logistics for the Project Consultant 28,535
	Activity 6.2 Management allowance for Regional Coordinator 15,000
2 II Travel	Activity 1.2 Pre project launch meeting in Ghana and project inception workshop in 83,631
	Activity 5.1 Final project evaluation workshop in Côte d'Ivoire 47,418
	Activity 6.2 Regional coordination of project activities 17,320
3 III Training	- -
4 IV General Operating Expenses	Activity 3.2 Updating national SPS regulations for Ghana 10,000
	Miscellaneous Document translation and bank charges 575

<b>C EXPENDITURE (ICCO Oversight Services)</b>	<b>US\$</b>
Monitoring and supervision of project activities by ICCO	30,434

**TOTAL EXPENDITURE (Project Grant + ICCO Oversight Services) 279,699**  
**BALANCE (Total Income - Total Expenditure) 52,633**

Mr. Laurent Pipitone  
 Director of Economics and Statistics Division



01/06/2014

Date

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