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Mid-term evaluation of the project "Disposal of persistent organic pollutants and obsolete pesticides and strengthening sound pesticide management in Cameroon"

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“Disposal of persistent organic
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**Project code: GCP/CMR/031/GFF
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Map of Cameroon



Source: United Nations Geospatial Information Section

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The evaluation team is composed of: Said Ghaout, Team Leader; Cyrille Ekoumou, Team Member; Tala Talae, Evaluation Manager from the FAO Office of Evaluation (OED).

Acronyms and abbreviations

AFAIRD	Association of African Honest Women for Research and Development
CEMAC	Central African Economic and Monetary Community
CNPCC	National Confederation of Cotton Producers of Cameroon
CREPD	Research and Education Centre for Development
FAO	Food and Agriculture Organization of the United Nations
FFS	Farmer field school
GEF	Global Environment Facility
IRAD	Institute of Agricultural Research for Development
NIP	National Implementation Plan (Stockholm Convention)
NGO	Non-governmental organization
NPC	National Phytosanitary Council
POP	Persistent organic pollutant
PSMS	Pesticides stock management system

Executive summary

1. Every year, large quantities of pesticides are legally imported into Cameroon to meet growing demand for the agriculture chemicals. Significant quantities of pesticides are also illegally introduced along borders with neighbouring countries through a growing smuggling market, encouraged by the fact that approved products are not always available in a timely manner or are sold at prohibitive costs not affordable for the average producer.
2. In addition, challenges in the management of pesticides and associated waste and the limited regulatory framework for pesticides at the national level lead to an accumulation of stocks of obsolete pesticides. To compound this, poor storage of obsolete pesticides has led to contamination of sites.
3. The project GCP/CMR/033/GFF *Disposal of persistent organic pollutants (POPs) and Obsolete Pesticides and Strengthening Sound Pesticide Management in Cameroon* grew out of the need to address the current stocks of pesticides, improve the regulatory framework and work with communities to develop alternatives to the use of chemical pesticides. With funding from the Global Environment Facility (GEF), the Food and Agriculture Organization of the United Nations (FAO) launched the project in July 2015 with GEF financing of USD 1 710 000 and in kind funding from co-financing partners.
4. CropLife International is an important partner of the Cameroonian government in the disposal of obsolete pesticides and the primary implementing agency for the project. The project also worked with the Ministry of Agriculture and Rural Development, the Ministry of Environment, Nature Protection and Sustainable Development, the Association of African Honest Women for Research and Development (AFAIRD) and the Research and Education Centre for Development (CREPD).
5. The Mid-term Evaluation was launched in early 2018, conducting data collection missions in Cameroon during February and March 2018. Visits to Edéa in the Littoral region and Garoua in the North, as well as working sessions with partners in Yaoundé constitute the geographic coverage of the evaluation, which also relied on interviews with key stakeholders, field observation and document review for data sources. The evaluation used multiple sources to triangulate data collected and verify for accuracy, and held a debriefing workshop at the end of the data collection mission in Yaoundé to present and discuss preliminary findings with stakeholders.
6. Project activities were found to be well defined and appropriate, both in terms of technical approach to pesticides removal and management while also aligning with the country's priorities and needs. However, implementation has been slow with the empty container management system and the promotion of alternatives (components 2 and 4 of the project, respectively) facing a number of delays.
7. The project, ending in one year, has only partially achieved 8 out of 15 outputs and it seems difficult to assume it will achieve all outputs by the current closure date. Slow decision-making is a weakness of the project, as the primary management organ, the project management unit, meets on an ad hoc basis rather than at regularly scheduled intervals. This compromises management's ability to address challenges as they arise. Likewise, project monitoring is conducted during the annual Steering Committee meeting rather than on an ongoing basis.
8. Capacities developed at the national level are a noted achievement of the project, in particular in the area of pesticide management. The project has contributed to training

national teams, developing capacities at the institutional and organizational level for enhanced technical knowledge and organizational effectiveness.

9. The gender analysis conducted by the evaluation highlights the limited involvement of women at the beneficiary level, although there are women involved in project management. Given the importance of women's role in pesticides used for crops, as well as their central role at the household level, future projects should actively target women, delivering tailored training on the use of chemical-free pesticide alternatives and in the handling of empty pesticide containers.
10. At present, the project will likely necessitate a no-cost extension to complete planned outputs. Key national actors, such as the National Federation of Cotton Producers of Cameroon, were not involved in the project and this could also have negative consequences on the sustainability of project activities. At present, there is no discernible exit strategy for the project after closure.

Conclusions

Conclusion 1. With regard to the project's relevance to the country's needs, its strategy and the resources for its implementation, the project deals with a subject of major interest for public health and the environment in Cameroon. It meets the country's need to solve the problem of obsolete pesticides, which is a matter of concern to the Cameroonian government and its people. The project is designed in a participatory manner with different stakeholders, combining four complementary components to eliminate obsolete pesticides and associated risks while avoiding further stockpile rebuilding. It aims to provide sustainable solutions to improve regulatory, institutional and technical capacity for pesticide life cycle management (management of obsolete pesticides and contaminated sites, management of pesticide waste, including empty containers, promotion of alternatives to conventional pesticides and communication strategy). Project activities are well defined, but implementation is slow. There are substantial delays in implementing the activities of the four components. These delays are significant for component 2 on the implementation of an empty container management system, and component 4 on the promotion of alternatives to reduce the use of conventional chemical pesticides.

Conclusion 2. In terms of the project's efficiency in achieving its objectives and internal management, including its monitoring and evaluation approach, the project ends in one year and no results or outputs expected by the project have been fully achieved. Only 8 outputs out of 15 are considered as partially completed. As a result, some indicators seem difficult to measure or achieve by the end of the project.

Conclusion 3. Sustainability and exit strategy are not taken into account by the project. It leaves out key actors, such as councils and the CNPCC. The visibility of the project is not sufficiently highlighted. There is little communication around the project, yet the project document requires the development of a communication strategy.

Conclusion 4. The effect of the project on marginalized groups, including women, are minimal as they are not very involved in the implementation of the project. According to the project, this situation is due to the small number of women who can benefit directly from the project's fallouts. Yet, in the field, women are the most important beneficiaries because they are involved in the handling of pesticides for agricultural activities and the use of empty containers. In addition, the project has the opportunity to involve vulnerable groups resulting from the political and terrorist crises in its Southwest and North sites in Cameroon.

Recommendations

Recommendation 1. The project management unit and FAO Cameroon should urgently develop an implementation strategy for the remaining activities to ensure their implementation over time, taking into account the project closure date. The strategy for implementing activities must be based on points such as FAO speed of decision-making, the lack of knowledge of FAO procedures by some key stakeholders and the lack of involvement of some key actors, such as councils and the CNPCC.

Recommendation 2. The project management unit should hold regular weekly or at least monthly meetings to enable members to monitor the proper implementation of the project and contribute effectively to accelerating the implementation of activities.

Recommendation 3. The project should design and rapidly implement a computerized monitoring and evaluation system to facilitate instant monitoring of the activities implementation.

Recommendation 4. The project management unit should develop a strategic note on the sustainability of the project's actions and its exit strategy.

Recommendation 5. The project must give greater consideration to gender by involving enough women in the implementation of the project.

Recommendation 6. The project must improve its visibility and develop a communication strategy to showcase the value of the work undertaken.

1 Introduction

1.1 Background information

1. The GCP/CMR/031/GFF project entitled "Disposal of POPs and Obsolete Pesticides and Strengthening Sound Pesticide Management in Cameroon", covered by the Mid-term Evaluation, is financed by the Global Environment Facility (GEF) and co-financed by other partners (Food and Agriculture Organization of the United Nations (FAO), CropLife International, Ministry of Agriculture and Rural Development, Ministry of Environment, Nature Protection and Sustainable Development, Research and Education Centre for Development (CREPD), Association of African Honest Women for Research and Development (AFAIRD)). The project runs from 1 March 2015 to 28 February 2019. It is implemented and supervised by FAO in collaboration with the government. The project was launched in July 2015 through a launch workshop involving project stakeholders.
2. This project, with a budget of USD 1 710 000, aims to support the government in the disposal of persistent organic pollutants (POPs) and obsolete pesticides and to build national capacity for their management at the community and institutional levels.
3. In Cameroon, agriculture is the driving force of the national economy. The main crops produced are: cocoa, coffee, bananas, plantains, food crops, fruit crops and vegetable products. Due to the prevailing climatic conditions, crop pests and diseases proliferate, causing considerable annual production losses.
4. Every year, large quantities of pesticides are legally imported to meet growing demand in Cameroon. Significant quantities of pesticides are also illegally introduced at the borders through a growing smuggling market. This is encouraged by the strong demand by farmers for efficient and cheaper products with little regard for health safety issues, such as the risk of food poisoning and environmental pollution.
5. The use of chemicals illegally introduced from neighbouring countries is encouraged by the fact that approved products are not always available in a timely manner and are sold at prohibitive costs that are not affordable for the average producer.
6. In addition, weaknesses in the management of pesticides and associated waste throughout their life cycle, combined with the inadequacy of the legal and regulatory framework for pesticides have led to an accumulation of stocks of obsolete pesticides. The poor storage of obsolete pesticides has also led to the contamination of sites.
7. Stockpiles of obsolete pesticides are a major concern of the government of Cameroon, which sought assistance from development partners to help dispose of these toxic chemicals. The project emerged from this concern.
8. CropLife International is one of the Cameroonian government's partners in this project. CropLife undertook extensive work to safeguard and dispose of obsolete stocks in Cameroon. In terms of co-financing the project preparation activities, CropLife disposed of more than 7 metric tonnes of POPs and safeguarded an additional 45 metric tons of obsolete pesticides that were stored at the Edéa collection centre. This project aims at eliminating 100 metric tonnes of obsolete pesticides, including 45 tonnes from the Edéa central warehouse and 55 tonnes still available from owners throughout across the country.

1.2 Scope and objective of the evaluation

9. This mid-term evaluation aims to measure project progress in terms of results achieved in set objectives and overall performance. It seeks to support the project team, FAO technical staff, the involved government departments and beneficiaries to identify the strengths and weaknesses of the project, facilitating necessary changes and learning. Specifically, the evaluation asked the following questions:

EQ 1. Does the project strategy and implementation resources respond to the country's needs?

EQ 2. How efficient was the project in achieving its objectives and how efficient was its internal management, including monitoring and evaluation of activities?

EQ 3. To what extent has the project built the country's institutional and technical capacity (including that of national partners) in the management of pesticides and empty pesticide containers?

EQ 4. To what extent does the project contribute to the adoption of alternatives to chemical pesticides on the main crops?

EQ 5. What is the impact of the project on marginalized groups, including women?

EQ 6. To what extent are the project activities sustainable? Is there an exit strategy and an effective partnership strategy in place?

1.3 Methodology

10. The evaluation was conducted in February and March 2018, covering the first two years of the project from launch in July 2015 to the end in 2017. The evaluation adopted a qualitative methodology, and a consultative and transparent approach with internal and external stakeholders throughout the evaluation process. The project management unit, in coordination with the FAO Office of Evaluation (OED) in Rome made relevant documents available to the mission (see Bibliography).
11. An evaluation matrix with key questions on expected results, indicators and investigation methods was developed (Appendix 2) to guide data collection.
12. Three complementary tools were used to evaluate the project's performance. These tools are: i) review of relevant project documents; ii) semi-structured interviews with key informants during field visits; and iii) observations made by consultants during field visits. These techniques are used to analyse and validate information collected, an essential step when using qualitative and/or semi-quantitative evaluation methods.
13. During the evaluation, the evaluation team carried out two field visits to Edéa in the Littoral region (2 and 3 March) and to Garoua (4 and 5 March) in the North region of Cameroon (see map of Cameroon).
14. In addition to the field visits, the evaluation team held working sessions with stakeholders in Yaoundé (Appendix 3). Those who could not be interviewed because of their absence or unavailability were sent a questionnaire prepared by the mission to gather their feedback on the project (Appendix 3).
15. At the end of the mid-term evaluation mission in Cameroon, a debriefing session presenting preliminary results of the mission was held at FAO Representation headquarters.

A checklist prepared for the occasion summarizing the key points of the mission as well as the strengths and weaknesses identified was also presented.

1.4 Limitations

16. The main limitation of the study was the time allocated for field visits. The data collection phase in the field lasted two days, i.e. one day in Edéa and one day in Garoua, and five days in Yaoundé to gather information on strategic relevance. For this reason, the evaluation team was unable to meet with the communities, a major beneficiary of this project.

1.5 Structure of the report

17. Following this Introduction, the report begins with a brief analysis of the project context in Chapter 2, followed by an analysis of the key evaluation questions in Chapter 3. In Chapter 4, entitled Conclusions and Recommendations, the report highlights the key points of the evaluation by identifying the main strengths and weaknesses of the project and makes recommendations for improving the intervention based on the results collected.

2 Context

18. Cameroon is an agricultural country where many food and industrial crops are produced on a large scale. Unfortunately, soil and ecological conditions aggravated by climate change favour the development and resurgence of many pests and crop diseases.
19. Large quantities of pesticides, including 25 000 tonnes of solid pesticides and 3 million litres of liquid pesticides, are imported annually to meet a growing demand. They are often overused to control the wide range of crop pests. This results in a massive accumulation of obsolete pesticide stockpiles throughout the country, with serious consequences for environmental pollution and a negative impact on people's health.
20. In addition, there is limited capacity for life cycle management of pesticides in the country. Pesticides are not properly inspected and controlled for compliance with FAO/World Health Organization (WHO) guidelines, and often used by farmers without appropriate training on safety measures.
21. Although persistent organic pollutant-based pesticides are banned, products such as Endosulfan and Lindane are illegally trafficked, sought after by farmers because of their proven effectiveness. Such illegal practices pose a threat to food quality and public health. They are furthermore a potential source of contamination of groundwater, surface water and various ecosystems.
22. Empty pesticide containers, recovered for uses such as storing water, milk, honey or other foodstuffs, are a source of contamination for human health. They are also a source of contamination for the environment as empty containers irresponsibly disposed contain pesticide residue that contaminates soil, groundwater and the ecosystem in general.
23. Significant efforts have been made by the Cameroonian government to protect public health and the environment from the risks posed by such hazardous chemicals. As part of these measures, the government ratified the Rotterdam (20 May 2002), Basel (9 February 2001) and Stockholm (19 May 2009) Conventions. It also completed the National Implementation Plan (NIP) in accordance with the Stockholm Convention. Cameroon's NIP, completed in December 2012, includes four priority areas and corresponding action plans: strengthening the institutional and regulatory framework; management and disposal of POPs and DDT; management and disposal of PCBs and PCB-containing materials; and reduction of unintentionally produced POP emissions, including PCBs.
24. In 1996, the government created the National Commission for the Approval of Plant Protection Products and the Certification of Processing Equipment (CNHPPCAT). A second body, the National Phytosanitary Council (NPC), was created in 2005, but has yet to convene.
25. At the subregional level, Cameroon is one of six member states of the Central African Economic and Monetary Community (CEMAC) that have adopted a Common Regulation on the Registration of Pesticides in Central Africa. The executive body is the Central Africa Inter-State Pesticides Committee (CPAC), whose secretariat is based in Yaoundé, Cameroon.

2.1 Project description

26. The GCP/CMR/031/GFF project "Disposal of POPs, obsolete pesticides and strengthening sound management of pesticides in Cameroon" is a national project whose objective is to

reduce emissions of persistent organic pollutants from obsolete pesticide stockpiles and contaminated sites and to strengthen capacity for the sound management of pesticides. The specific objectives of each component and the expected results are presented below:

Component 1: Safe disposal of POPs and other obsolete pesticides and remediation of contaminated sites.

Outcome 1 - Disposal of existing POPs and other obsolete pesticide stockpiles in an environmentally sound manner and remediation of sites contaminated by POPs and pesticides.

27. The focus of this component is the safe disposal of 45 tonnes of POPs and other obsolete pesticides stored at the Edéa central warehouse, part of the CleanFarms programme led by CropLife International in Cameroon. In addition to these 45 tonnes, SODECOTON holds 5 tonnes at Garoua. The safeguarding process showed that most of the 330 tonnes of obsolete stocks originally estimated in the 2009/2010 inventories were largely sold and used during the 2010/2013 interim period. According to stakeholders from Cameroon's agriculture and environment ministries, new obsolete pesticides are likely to have accumulated during 2010/2014 and are not included in the existing inventory. The project was therefore designed to include an awareness and communication programme, anticipating the disposal of Edéa stockpiles based on past experiences with CropLife's safeguarding project. It is expected that 45 to 50 additional tonnes of stocks will be added to the quantity of waste destined for export and disposal under this project, for a total of 100 tonnes. Hazardous stockpiles will be safeguarded, exported and disposed of in an environmentally sound manner by an international disposal company.

Component 2: Management of empty pesticide containers.

Outcome 2 - Minimization of risks to the environment and human health associated with empty pesticide containers, through the establishment and promotion of national container management systems.

28. This component aims to mitigate risks to public health and the environment posed by empty pesticide containers. Addressing the issue of management of empty pesticide containers entails support to Cameroon to finalize existing draft laws and develop legislation related to the environmentally sound management of containers. In addition, the project should pilot a container management system in the North and Southwest regions of Cameroon, two areas with high pesticide use in the cotton and coffee production sectors.

Component 3: Strengthening of the institutional and regulatory framework for pesticide management.

Outcome 3 - Strengthening of the regulatory framework and institutional capacity for the sound management of pesticides throughout their life cycle.

29. The project also focuses on building the capacity of involved institutions to enforce pesticide regulations, addressing inefficiencies in quality control and the inspection system and improving coordination between the various actors involved in pesticide management. Cameroon's laws on pesticides are dispersed among several instruments¹ with complex,

¹ Though there are a number of decrees and regulations, they are associated with the 2013 Plant Protection Law or the 1996 Environmental Protection Law. The Code recommends that pesticide management legislation be developed with its own regulations to avoid the (real) complex situation of overlapping and incomplete responsibilities between various stakeholders. At the same time, Cameroon is technically bound by the CEMAC Regional Regulation, which is not active.

overlapping responsibilities assigned to different institutions. To address this, pesticide management legislation and the registration system must be reviewed and improved in accordance with the Code. The National Phytosanitary Council was created in 2005 for this reason, but has never been operational. Moreover, the proposed composition of the Council does not include the Standards and Quality Agency (ANOR) or Customs, so the list of members should also be reviewed by the project. The Stockholm Convention Implementation Plan entails the activation of this Council under the primary responsibility of the Ministry of Agriculture and Rural Development. In addition, inspection services will be strengthened and equipped to fulfil their mission. Currently, about a hundred officials from the Ministry of Agriculture and Rural Development and other ministries such as the Ministry of Environment, Nature Protection and Sustainable Development and Ministry of Trade carry out inspections. However, most are not sworn in, which limits their mandate as inspectors. There is also a lack of availability and exchange of data on the quantities, use and impacts of pesticides, preventing an evidence-based approach to regulation and limiting the extent of political and financial influence on pesticide risk management. Strengthening the institutional and regulatory framework for pesticide management must include capacity building for the technical staff of the national laboratory, as well as for those in charge of carrying out registration in accordance with the Code of Conduct.

Component 4: Promotion of alternatives to reduce the use of conventional chemical pesticides.

Outcome 4 - Successful promotion of alternatives to conventional pesticides and reduced use of chemical pesticides and particularly hazardous pesticides.

30. The project plans to adopt an innovative analysis of agricultural systems, networks of cotton producers in the Sudano-Sahelian agro-ecological zone and horticulturists in the forest zone. This profiling facilitates the selection and field testing of priority alternatives to POPs, obsolete pesticides and PPDs. The most promising alternatives will be promoted among stakeholders through extension services and other communication channels.

3 Evaluation questions: key findings

31. To answer mid-term evaluation questions, the evaluation team developed sub-questions and indicators (see Evaluation Matrix in Appendix 2). The findings are presented in the following paragraphs.

3.1 EQ 1. Does the project strategy and implementation resources respond to the country's needs?

Key findings 1. The project is considered relevant given the public health and environmental concerns that pesticides pose throughout their life cycle. In addition, it aligns with the government policy on environmental protection, including pesticide management. The project design involved many, but not all, of the main stakeholders in pesticide management in the country and used lessons learned from previous pesticide management projects in Cameroon and Africa to define the project components and activities. Existing resources are properly used for the implementation of the project.

32. The project is in line with the country's main strategies. It is coherent with the policy and programmes of the Ministry of Environment, in particular the programme entitled *Fight against pollution, nuisances and toxic and dangerous chemicals*.
33. It aligns with priority area 1 of the Cameroon Country Programming Framework (CPF) 2013-2017, "Supporting the implementation of national strategies for strong and sustainable growth in the rural sector." The CPF aims to support national development objectives through development of the rural sector. The priority areas of the CPF are: strong and sustainable rural growth, increased agricultural employment opportunities and access to resources for rural youth and women; and increased resilience of rural households to natural disasters and crises.
34. Components 1, 2 and 3 of the project are positioned to priority area 1 of the CPF, in particular outcome 1.3.1 "Sustainable management of natural resources" by eliminating obsolete pesticides and building capacity to manage pesticides appropriately. In component 4 of the project, data from the farm typology will contribute to output 1.4.1 of the CPF, namely the improvement of plant protection techniques and the use of improved varieties and cultivated varieties.
35. In addition, this project aligns with the entry into force of the common regulations on pesticide registration in the CEMAC area. The project also envisions contributing to a revival of regional efforts to ensure the efficiency of this common registration.
36. This project is part of the implementation of the Stockholm Convention on POPs and the related National Implementation Plan. Cameroon completed its National Environmental Plan (NEP) in December 2012. The NEP aims to reduce the sources of POPs in Cameroon by 2028 to protect human health and the environment from the effects of these substances. The project contributes to the implementation of the NEP through all components, mostly by addressing the sources of POPs (obsolete stocks, contaminated sites and empty pesticide containers) under components 1 and 2. By placing particular emphasis on improving the legislative framework and disseminating alternatives, components 3 and 4 will support the sustainability of activities carried out in components 1 and 2.
37. The project remains consistent with Sustainable Development Goal (SDG) 7 on the environment through the elimination of serious contaminants from the environment and

- the improvement of pesticide management to reduce negative environmental impacts. It also aligns with SDG 1 on reducing hunger by reducing the use of pesticides and improving pest and pesticide management.
38. The project is consistent with GEF strategies in priority areas by contributing to the implementation of GEF Strategy-5 on chemicals. It focuses on CHEM-1, in particular the management, prevention and disposal of POP waste, and on the sound environmental management of contaminated sites.
 39. It is part of FAO Strategic Objective SO2 (Make agriculture, forestry and fisheries more productive and sustainable). The project stakeholders are diverse and have contributed to the design of the project. They include the Cameroonian government at the central and decentralized level of international and national non-governmental organizations (NGOs), the private sector, research institutions, universities and local communities.
 40. This project is a perfect response to the identified needs. It was designed in a participatory way by involving the main stakeholders in pesticide management in Cameroon, drawing from lessons learned of previous pesticide management projects. The project components are complementary and are able to meet the identified needs and mitigate public health and environmental concerns of the government and the population.
 41. Regarding the resources for the implementation of the project, the necessary human resources were made available by key partners (Ministries of Agriculture, Environment and Health). Existing tangible and intangible resources, including laboratory facilities and pesticide storage facilities, such as the Edéa warehouse, are also used as co-financing for the project requirement.

3.2 EQ 2. How efficient was the project in achieving its objectives and how efficient was its internal management, including monitoring and evaluation of activities?

Key findings 2. The outputs expected from component 1 on the disposal of POPs and the remediation of contaminated sites and component 3 on regulatory framework, are partially achieved, while those expected from component 2 on empty container management and from component 4 on pesticide alternatives are significantly behind schedule. Project management is moderately satisfactory since some stakeholders have not actually performed their role. project management unit meetings are not held regularly, whereas the project document recommends weekly meetings. However, financial resources are rigorously managed in accordance with FAO procedures. Monitoring and evaluation of the project is a missing component of the technical system in place. Since most of the activities contributing to the achievement of the expected outputs are at an early stage, some indicators seem difficult to measure or achieve by the end of the project.

3.2.1 Project management

42. Project management is carried out by a project management unit composed of a focal point representing each key ministry concerned (Agriculture, Environment and Health) and the National technical coordinator recruited on a full-time basis by FAO to ensure the day-to-day management of the project and the implementation of the annual work plans approved by the Steering Committee. The FAO Representation in Cameroon is responsible for the financial management of the project, and the FAO Representative is the Budget holder. A national project coordinator based at the Ministry of Environment, Nature Protection and Sustainable Development has been appointed. The project management unit is a virtual structure composed of the National project coordinator, the National

technical coordinator and the national focal points of the Ministry of Agriculture and Rural Development and the Ministry of Environment, Nature Protection and Sustainable Development. Project management unit members remain attached to their respective ministries and agencies. The National project coordinator convenes weekly meetings in her capacity as Head of the project management unit. The National technical coordinator acts as the Steering Committee secretary, organizes project meetings, workshops and training as required, prepares and submits all detailed Annual work plans and Budgets (AWP/B) per output to FAO and the Steering Committee, coordinates and monitors the implementation of approved AWP/B, prepares the semi-annual Project progress reports (PPRs) and provides inputs to enable FAO's Lead technical officer prepare the Annual Project Implementation Report (PIR) and ensures that all co-financing partners provide information on the co-financing disbursed during the year for inclusion in the annual PIR.

43. The National technical coordinator therefore has an operational role while the National coordinator provides overall supervision of the project.
44. The organizational chart, as indicated in the project document, is not respected since the National technical coordinator based in the Ministry of Agriculture and Rural Development, who ensures the day-to-day management of the project, reports to FAO and not to the National project coordinator. The latter is often not updated with the progress of the project's activities. As a result, he is at times unable to provide timely answers to questions from his superiors in the Ministry of the Environment and other government authorities about the progress of the project. It is recommended that although the Project coordinator is contracted by FAO, she should work closely with her National coordinator. Of note, however, is that coordination meetings, when held, are chaired by the National project coordinator.
45. In addition, project management unit members only meet on an ad hoc basis. Meetings can be up to two months apart, whereas the project document stipulates weekly meetings. This situation is likely to discourage project management unit members participation as they are not updated on the progress of project activities. Also, project implementation is not properly monitored, an example of which being the AFAIRD and CREPD Letters of Agreements which came to an end without the knowledge of the project team and without an assessment of results. As project resources were limited, field monitoring could not be carried out in optimal conditions. Follow-up missions and weekly coordination meetings on several occasions would have made it possible to reorient activities.
46. The Pesticide Risk Reduction Group (AGPMC) of the FAO Plant Production and Protection Division (AGP) oversees technical aspects of the project by supporting the National technical coordinator with implementation. The group has extensive experience in managing similar projects on a global scale, providing technical assistance to a number of countries. This promotes complementarity and synergy between the project and other related activities undertaken by AGPMC. The stakeholders met during the evaluation appreciated the technical assistance provided by the team through support and supervision missions as well as email exchanges. The only criticism addressed to the team is the delay in approving submitted technical reports, probably due to workload and the fact that the Lead technical officer was changed twice: following the retirement of the first and the change of function of his successor. The delay in hiring consultants due to FAO procedures was also cited as slowing implementation of activities. Although recruitment procedures are initiated in Yaoundé, they are validated at FAO headquarters.

47. The Project Steering Committee meets once a year as provided for in the project document. Two meetings of the committee have been held on time since the project began. These meetings mainly reviewed the status of project implementation and discussed the annual work plans and budget, making readjustments to the schedule of activities and budgets. The minutes of the two Project Steering Committee meetings held so far do not reveal any relevant decisions apart from strengthening the project management unit with a focal point from the Ministry of Health.

3.2.2 Implementation of the work plan

48. The project coordinator, in collaboration with project management unit members, develops an annual work plan defining the activities, timeline and budget of operations. The Steering Committee reviews the work plan during its annual meeting. Once adopted, the work plan becomes the dashboard for monitoring of activities. The work plans developed are realistic and of good quality, but adherence is sometimes difficult due to delays in recruitment of consultants or the technical validation of documents by project consultants.
49. Progress in implementing the work plan is summarized in the table below.

Table 1: Summary of progress in the completion of outcomes

Component 1: Safe disposal of POPs and other obsolete pesticides and remediation of contaminated sites		
Outcome	Indicators	Progress achieved
Disposal of existing POPs and other obsolete pesticide stockpiles in an environmentally sound manner and remediation of sites contaminated by POPs and pesticides.	<p>Up to 100 tonnes of POPs and other obsolete pesticides disposed of by the end of Year 2.</p> <p>50 percent reduced risk on two high-risk sites.</p>	<p>45 tonnes of obsolete pesticides inventoried and safeguarded by CropLife were transferred from the Edéa warehouse to the port of Douala, to be exported for disposal. This was carried out according to the required standards.</p> <p>A second phase of disposal is underway for a maximum of 55 tonnes. However, an inventory was carried out and only 30.9 tonnes of obsolete pesticides and related waste were found. The updating of the inventory (i.e. the process of taking into account new stocks of obsolete pesticides) and the awareness campaign have been fully implemented.</p> <p>A detailed study of the contaminated sites has been completed but remediation plans are being developed.</p> <p>In sum, the outputs expected from this component 1 have been partially achieved.</p>
Component 2: Management of empty containers		
Outcome	Indicators	Progress achieved
Minimization of risks to the environment and human health associated with empty pesticide containers, through the establishment and promotion of national container management.	<p>A national strategy/programme for the management of empty containers.</p> <p>35 percent of containers entering the market for use are triple rinsed and 25 percent recycled at the end of their useful life in the pilot sites.</p>	<p>The implementation of a management programme for empty pesticide containers depends on the development of new legislation and regulations. At the time of this evaluation, the regulatory framework for empty containers had not yet been improved. A text document on pesticide management has been prepared by a consultant, but the 2003 law on pesticides has not been revised.</p> <p>Pilot projects for the management of empty pesticide containers (collection, rinsing, transport, storage and recycling) are not being set-up, nor is the implementation of pilot projects for the management of empty pesticide containers in the North and South-West of Cameroon. FAO's delay in approving the reports of the two NGOs – AFAIRD and CREPD – that were to implement these projects, had a negative impact on the implementation of these activities. At the time of the evaluation, these reports were not approved.</p> <p>In sum, for component 2, no output has been achieved and the level of activities carried out remains substantially low.</p>

Component 3: Strengthening of the institutional and regulatory framework for pesticide management		
Outcome	Indicators	Progress achieved
Strengthening of the regulatory framework and institutional capacity for the sound management of pesticides throughout their life cycle.	<p>Legislative and regulatory texts cover the full life cycle of pesticides and are in compliance with the Code.</p> <p>A number of pesticide inspections and quality control analyses are conducted.</p> <p>Information is exchanged by compliance and enforcement institutions.</p>	<p>A text document on pesticide management has been prepared by a consultant, but the law itself has not yet been revised. The project plans to set-up a working group to validate the consultant's work with a view to revising the law in question.</p> <p>The National Phytosanitary Council is being reactivated through the services of a consultant.</p> <p>Training provided as part of capacity building: 15 agents trained on Rapid environmental assessment, 16 technicians on inventory techniques, 9 agents on the use of the pesticides stock management system (PSMS), 16 technicians on laboratory techniques, 14 agents on pesticide registration, and two are pursuing graduate studies at the University of Cape Town in South Africa for a period of two years on risks related to pesticides.</p> <p>In sum, the outputs expected from this component 3 have been partially achieved.</p>
Component 4: Promotion of alternatives to reduce the use of conventional chemical pesticides		
Outcome	Indicators	Progress achieved
Successful promotion of alternatives to conventional pesticides and reduced use of chemical pesticides and particularly hazardous pesticides.	<p>Number of registrations for cotton and cereal pesticides, extremely hazardous pesticides and biopesticides.</p> <p>Number of alternatives used by farmers' networks (e.g. LIR).</p> <p>Annual quantity of chemical pesticides and PPDs used in the project demonstration areas.</p>	<p>No results have been achieved for this component. Only two activities were carried out, namely the development of a farmers' network, data collection and analysis and the identification of possible plant protection products and/or other practices in lieu of alternatives. The reports of these activities are currently being reviewed.</p> <p>In summary, component 4 is significantly behind schedule and the level of activities carried out is low.</p>

Details and analysis of achievements per component

Safe disposal of POPs and other obsolete pesticides and remediation of contaminated sites (component 1)

50. The indicator mentions 100 tonnes of obsolete pesticides to be destroyed. The project's strategy was to first eliminate the 45 tonne stockpile in Edéa. A second phase of disposal is underway for a maximum of 55 tonnes. However, an inventory was carried out and only 30.9 tonnes of obsolete pesticides and related waste (including the 5 tonnes of obsolete

pesticides held by SODECOTON in Garoua) were found. The process of exporting them from Cameroon for disposal is ongoing. As a result, the inventory update and awareness campaign, the development and approval of environmental assessments and environmental management plans (EMPs) have been fully implemented. As regards the launch of the call for tenders and the award of the contract, the performance of the contract, the monitoring and surveillance of the contract, these activities concerned only the first 45 tonnes and will still have to be carried out to reach the expected 100 tonnes. A detailed study of the contaminated sites has been completed but remediation plans are still being developed.

51. According to the project document, emphasis should be laid on the safe disposal of 44.9 tonnes of POPs and other obsolete pesticides stored at the Edéa central warehouse as part of the CleanFarms programme led by CropLife International in Cameroon. In addition to these 44.9 tonnes, SODECOTON holds 5 tonnes at Garoua. The safeguarding process highlighted the fact that most of the 330 tonnes of obsolete stocks originally estimated in the 2009/2010 inventory were viable and largely sold and used during the 2010/2013 interim period. Stakeholders believe that new obsolete pesticides are likely to have accumulated during the period 2010/2014 and are not included in the existing inventory. With the ongoing stock identification activities, it is expected that 45 to 50 additional tonnes of stocks will be added to the quantity of waste destined for export and disposal under this project, for a total of 100 tonnes. Hazardous stockpiles will be safeguarded, exported when necessary and disposed of in an environmentally sound manner by an international disposal company.

Management of empty pesticide containers (component 2)

52. The outputs of this component include: i) development of the management programme for empty pesticide containers (collection, rinsing, transport, storage and recycling); ii) implementation of pilot projects on empty pesticide container management in the North and South-West of Cameroon; and iii) development of a national strategy for empty pesticide container management. The implementation of a management programme for empty pesticide containers (collection, rinsing, transport, storage and recycling) depends on the development of new legislation and regulations. At the time of the evaluation, the regulatory framework for empty containers was not improved, in particular the 2003 law on pesticides. A consultant prepared a text document on pesticide management, but the law itself had yet to be revised.
53. Indeed, the project plans to set-up a working group to review the consultant's work supporting revision of the law. The process involves the preparation of a note and its transmission to the Prime Minister, the President of the Republic and finally to the National Assembly. Since the project does not work on advocacy and lobbying issues with these institutions, it is uncertain that the project will obtain a conclusive result. It would be preferable to change this indicator by either preparing ministerial decrees or simply forwarding the revised documents to the agricultural administration, which will follow-up with the Prime Ministry and the Presidency of the Republic.
54. Pilot projects for the management of empty pesticide containers (collection, rinsing, transport, storage and recycling) in the North and Southwest of Cameroon have not been developed or implemented. FAO headquarters' delay in approving the reports on existing information/attitudes/practices and stakeholder communication in relation to the good practices recommended at national and international level for the management of empty pesticide containers by the FAO Code of Conduct and its directive associated with the pilot

project of the two NGOs (AFAIRD and CREPD) negatively impacted this component. Indeed, this work by NGOs was a prerequisite to popularize the good practices identified and promote the pilot project for the sustainable management of empty pesticide containers in the North and Southwest regions. According to FAO, the improvements requested in these reports are slowly being carried out by the two NGOs, which in turn delays approval and implementation of the activities. An awareness strategy on the management of empty pesticide containers should be validated in the pilot areas of the North and Southwest, and a national strategy for the management of empty pesticide containers should be developed. At the time of the evaluation, the report had not yet been approved. This delay is also attributed to the unavailability of the international consultant to review the report, associated with the Lead technical officer's departure from headquarters.

55. In addition, the contracts signed with AFAIRD and CREPD ended in November 2017 without the expected products being fully delivered and no evaluation to advise ongoing work. This activity remains blocked and has not yielded any output. As a reminder, AFAIRD and CREPD consultations also aimed at reducing the use of conventional chemical pesticides by promoting low-risk alternatives to hazardous pesticides. These consultations would provide a factual basis for alternatives by collecting relevant data on both available and actual products and practices, guide work on alternatives and encourage the promotion of Integrated Pest Management (IPM) techniques for adoption.

Strengthening of the institutional and regulatory framework for pesticide management (component 3)

56. The outputs of this component include: i) the revision and improvement of pesticide management legislation and a registration system in accordance with the Code and regional regulations; ii) support to the National Phytosanitary Council to coordinate life cycle management and control; iii) developing national capacities for pesticide inspection and post-registration control; iv) access to and exchange of information on registration, re-registration, de-registration and pesticide imports; v) capacity development of national laboratory technical staff and development of a sustainable operational plan; and vi) national capacity building to register in accordance with the Code of Conduct.
57. In terms of capacity development, the project carried out six training sessions on the following themes:
- i. Rapid environmental assessment;
 - ii. inventory techniques;
 - iii. the use of the pesticides stock management system (PSMS);
 - iv. laboratory techniques;
 - v. pesticide registration;
 - vi. pesticide risk management (two-year degree studies at the University of Cape Town in South Africa for two people).
58. Unfortunately, the evaluation did not have sufficient information to assess the quality of the training and adoption of their content by the targeted individuals. The paragraphs below provide additional information on capacity development.

Promotion of alternatives to reduce the use of conventional chemical pesticides (component 4)

59. The outputs of this component include: i) identification of possible alternative products and/or cotton pest control practices in the Sudano-Sahelian region of Cameroon; ii) identification of alternatives to Endosulfan, POPs and other obsolete pesticides tested

for their technical and economic feasibility at field level; iii) promotion of viable alternatives to Endosulfan, POPs and other obsolete pesticides.

60. Only two activities were carried out, namely the Development of a farmers' network, data collection and analysis, and the identification of possible Plant Protection Products (PPP) and/or other practices in lieu of alternatives. The related reports are not yet validated. Once completed, a stakeholder workshop should be held to agree on alternatives and the strategy for field-testing.
61. In short, at the current stage of project implementation, no results or outputs have been achieved. Of the 15 outputs expected, 8 can be considered as partially achieved. As a result, some indicators seem difficult to measure or achieve at the end of the project.

3.2.3 Financial resource management/co-financing

62. The project has an overall budget of USD 11 017 374, of which USD 1 710 000 represents GEF funding and USD 9 307 374 co-financing in the form of grants and in kind contributions, detailed in Table 2.

Table 2: Co-financing of the project by the various partners

Financial plan: GEF allocation	USD 1 710 000
Co-financing	
University of Ngaoundéré	USD 1 325 000
AFAIRD	USD 300 000
Ministry of Agriculture	USD 4 311 212
Ministry of Environment, Nature Protection and Sustainable Development	USD 480 000
CREPD	USD 1 000 000
CropLife	USD 1 721 162
Co-financing managed by FAO	USD 170 000
Co-financing subtotal	USD 9 307 374
Total Budget	USD 11 017 374

63. The FAO Representative in Cameroon is the Budget holder, and the budget is managed according to FAO procedures. The disbursement rate at the date of the mission, as reported by FAO Cameroon, is 45 percent, which is relatively low and accompanied by a low level of implementation of activities.
64. The project received co-financing in kind and in grants. The evaluation did not have any information on this subject to determine whether all of the co-financing stated was actually mobilized. However, given the involvement of the various stakeholders and the contributions they made to the implementation of this project, the evaluation considers that co-financing in kind was mobilized. An assessment of the co-financing necessitated evaluating financial data, which was not available to the evaluation team.

65. According to the project document, the Project coordinator is responsible for collecting the required information and reports on co-financing in cash and in kind provided by all co-financing partners. Co-financing reports are to be completed as part of the semi-annual and annual reports. According to this observation, the project coordinator should now be working on the preparation of this co-financing report.
66. In addition, the project is coherent with other projects managed by FAO, which should foster complementary actions and reduce duplication, maximizing impact at reduced financial cost.

3.2.4 Monitoring and evaluation

67. The decision to establish a monitoring and evaluation component six months after the start of activities, as provided for in the project document, did not materialize. The project management unit and the Steering Committee carry out monitoring and evaluation comparing progress against the annual work plan and stakeholder-agreed budget. The Project coordinator prepares semi-annual Project progress reports and the annual Project Implementation Review, according to FAO and GEF guidelines. These reports present progress towards project objectives and expected results. However, the Project Implementation Report is an internal FAO document that does not replace the monitoring and evaluation tools that the project was supposed to put in place six months after its start.

3.3 EQ 3. To what extent has the project built the country's institutional and technical capacity (including that of national partners) in the management of pesticides and empty pesticide containers?

Key findings 3. The project developed capacities in the area of pesticides management. The implementation of project activities is supported by the training of national teams, thus contributing to the strengthening of national capacities at both the technical and institutional levels. Existing national human resources were tapped to implement the project. The visibility of the project is not sufficient, whereas the project addresses a subject of public health and environmental concern.

68. The project consulted with stakeholders to identify training needs. Based on this, the project organized six training courses on the following topics: Rapid environmental assessment, inventory techniques, PSMS, laboratory chemical analysis techniques, FAO Pesticide Registration Toolkit and a two-year graduate course on pesticide risk management at the University of Cape Town in South Africa.
69. A total of 72 people from the Ministry of Agriculture and Rural Development, Ministry of Public Health, Ministry of Environment, Nature Protection and Sustainable Development, University and NGOs benefitted from the training provided so far. The number of participants by training theme is presented in the table below.

Table 3: Type of training and number of participants

Type of training	No. of Participants
Training on Rapid environmental assessment	15
Training on inventory techniques	16
Training on pesticides stock management system (PSMS)	09
Training on laboratory techniques	16
FAO pesticide registration toolkit relating to pesticide registration	14
Two-year graduate training course on pesticide risk management at the University of Cape Town in South Africa	02

70. As a result of the training of the staff of the National Laboratory for the Analysis and Diagnosis of Agricultural Products and Inputs on chemical analysis techniques, the project enabled the commissioning of some equipment acquired in 2012 from Cameroon's public investment budget, which had never previously been used (gas chromatography, spectrometer and centrifuge).
71. Capacity development of national staff is also carried out through the supervisory missions of the Pesticide Risk Reduction Group (AGPMC) and those of international experts. These missions oversee activities carried out at the national level in accordance with FAO guidelines and the International Code of Conduct on Pesticide Management, thus providing an opportunity for national partners to become familiar with them and apply them properly.
72. The project prioritized existing national human resources, in particular to carry out a situational analysis, the Rapid environmental assessment and the preparation of the environmental management plan. It represented an opportunity for these individuals to consolidate prior knowledge and gain experience.
73. In terms of communication, the evaluation team notes that there is little communication around the project, despite the fact that the project document requires the development of a communication strategy. According to the technical coordinator, several workshops organized by the project were covered by the media, but the only press release that the mission was able to verify and confirm (published in La Maritime on 14 December 2017) was that of the Ministry of Environment, Nature Protection and Sustainable Development announcing that it will remove the 45 tonnes of POPs and obsolete pesticides stored in the Edéa warehouse and that this operation will be coupled with an awareness campaign to inform the public about the dangers involved and the safety measures. The exchange of information amongst stakeholders on the progress of project activities has room for improvement. The need to develop a communication strategy is necessary.

3.4 EQ 4. To what extent does the project contribute to the adoption of alternatives to chemical pesticides on the main crops?

Key findings 4. The project is behind schedule for related activities on the promotion and adoption of alternatives to chemical pesticides. Only two activities were carried out, namely the development of a farmers' network, data collection and analysis and the identification of possible plant protection products and/or other practices in lieu of alternatives.

74. At mid-term, it is noted that no outputs have been achieved so far with regard to the promotion of alternatives to chemical pesticides. The activities carried out relate to: i) the development of a farmers' network, data collection and analysis; and ii) the identification of possible plant protection products and/or other practices in lieu of alternatives. These activities were carried out by a consultant during the mission to develop a plan for the establishment of farmer field schools (FFS) in the northern and southern regions of Cameroon. The Garoua Regional Delegate for Agriculture confirmed a mission to the region, to which the North Regional Chief of Service for Regulation and Quality Control of Agricultural Products and inputs was associated. This first mission enabled preliminary contact with producer groups in the sampled sites, making it possible to carry out participatory diagnoses to: i) raise community awareness and support for the existence of the project; ii) identify the speculations that are driving the project in the localities; iii) classify the production problems of these speculations; iv) plan the location and the managers of FFSs to be established in order to solve the problems of producers; v) identify the recurring problems of phytosanitary products in the localities; and vi) partially understand the operating systems.
75. However, the following actions have to be completed in order to fully finalize this activity:
 - i. A meeting to present the current results of the Project, and to harmonize the vision of the future steps.
 - ii. Validation of the FFSs to be implemented with protocols including alternatives to phytosanitary products.
 - iii. Recruitment of specialists in speculations to be implemented in the FFSs for support.
 - iv. Field visits for: i) further explanation on the FFS process; ii) identifying, validating and demarcating sites and parcels; iii) sharing responsibilities in the FFS process; and iv) selecting members of the producer group to participate in the FFS training.
 - v. Two training courses on the FFS process and the production routes of targeted speculations, one in the north and the other in the south with the establishment of central parcels.
 - vi. On-site support for the implementation of FFSs in localities, with the adoption of a monitoring schedule accompanied by evaluation indicators.
 - vii. Open days for the public to learn about the progress.
 - viii. Achieving results and mediating the process for producer membership in the regions.
 - ix. Development of training curricula. It will be more effective, after the validation of speculations, production issues and the sample of leading producers to participate in training. The participation of specialists in the production routes of the selected speculations is also essential.
76. Given the many activities to be carried out and the time allocated (one year before the end of the project), it would be desirable for FAO to identify an organization with the capacity

to manage farmers' organizations and fully entrust it with this activity under a letter of agreement.

3.5 EQ 5. What is the impact of the project on marginalized groups, including women?

Key findings 5. At mid-term, the project has not had real impact on marginalized groups. Women participate in all project activities on an equal basis with men, but their participation remains low.

77. Gender or gender equality was not taken into account while formulating the results and key indicators of the project outputs. The project's reports provide little data on gender.
78. The table below summarizes the participation of women in project activities including training. It appears that women participate in all project activities, but their participation is still low, estimated at about 25 percent (49 women and 151 men).

Table 4: Gender participation in project activities

Activities	Total Participants	No. of women	No. of men
Members of the project management unit	5	2	3
Members of the Steering Committee	16	2	14
Partners (NGOs)	2	1	1
Training on rapid environmental assessment	15	5	10
Training on inventory techniques	16	2	14
Training on pesticides stock management system (PSMS)	9	2	7
Training on laboratory techniques	16	3	13
FAO pesticide registration toolkit relating to pesticide registration	14	4	10
Two-year graduate training course on pesticide risk management at the University of Cape Town in South Africa	2	2	0
First stakeholder consultative workshop to review the status report on the legal and institutional framework for pesticide management in Cameroon	33	6	27
Second stakeholder consultative workshop to agree on a strategy to improve the legal and institutional framework for pesticide management in Cameroon	30	10	20

Activities	Total Participants	No. of women	No. of men
Project launch workshop	42	10	32

79. The project document states that the project will ensure that: women are represented in the activities of the project components, thereby increasing opportunities for professional women in the agricultural sector; and in particular target women through partnerships with civil society organizations on training and awareness activities, ensure women are aware of the risks posed by pesticides and empty pesticide containers that are used to harvest fruits and vegetables and for domestic purposes.
80. Given women's traditional roles and responsibilities, women are more vulnerable to the adverse effects of pesticides than men. Women make up the vast majority of the workforce in fruit and agricultural farms, and are exposed to high levels of pesticide residues when handling products. Women also produce food for family consumption but use the cheapest pesticides without complying with prescribed uses and conditions, exposing themselves and their families to high levels of pesticide residues. In addition, women often wash contaminated clothing with bare hands, while children play near or in fields where pesticides are present, unconsciously exposing themselves to the risk of contamination. According to an FAO/WHO/United Nations Environment Programme (UNEP) report, children are more exposed to pesticide poisoning than adults, requiring particular protection from these chemicals.
81. The project must adopt a gender-inclusive approach by identifying women farmers active in each project area and inviting them to participate in the implementation of the remaining activities, including FFS activities and the promotion of pesticide alternatives. Some areas such as the North and Southwest offer opportunities, including the involvement of vulnerable groups as they are subject to political and terrorist crises, in particular Boko Haram and the secessionist crisis.

3.6 EQ 6. To what extent are the project activities sustainable? Is there an exit strategy and an effective partnership strategy in place?

Key findings 6. The project reactivated the National Phytosanitary Council set-up in 2005 which supports sustainability of project gains. By placing particular emphasis on improving the legislative framework, developing and disseminating alternatives, components 3 and 4 will ensure that the activities carried out in components 1 and 2 are sustainable. Few local and regional authorities were involved in the project, either as technical partners for the implementation of activities or strategic and financial partners to ensure the sustainability of actions at the end of the project. The same goes for the National Confederation of Cotton Producers in Cameroon (CNPCC), a strategic organization through which the project can easily reach target communities using pesticides in the north and ensure the sustainability of actions. The project must sign a partnership agreement with this structure, the CNPCC, which manages a large number of households (09 federations of GIC Union, 48 Unions and 2020 GICs) using pesticides to guarantee the sustainability of the project's actions and guarantee an exit strategy for the project.

SUSTAINABILITY

82. The National Phytosanitary Council was created by decree in April 2005, charged with advising the government on matters relating to the sustainable development of

phytosanitary activity in Cameroon. However, the NPC has never been operational, and different ministries are responsible for various pesticide management measures. For the project to be able to review or rewrite the phytosanitary law, the National Phytosanitary Council had to be operational. The project tapped a consultant who prepared Terms of Reference for how the council should be organized. The first meeting of the NPC was scheduled for 11 March 2018.

83. The project trained 72 Cameroonians from the public sector, the private sector and NGOs. Training courses allowed the Diagnostic Analysis Laboratory, for example, to use equipment acquired in 2012, unused for at least five years.
84. Few local and regional authorities were involved in the project, either as technical partners for the implementation of activities or strategic and financial partners to ensure the sustainability of actions. The same goes for the CNPCC, a strategic organization through which the project can easily reach target communities using pesticides in the north and ensure the sustainability of actions.

PARTNERSHIPS

85. The project brings together partners from central and decentralized state institutions, national and international NGOs, the private sector, research institutions, universities and local communities.
86. Below is the list of these partners and their roles:
 - i. Ministry of Environment, Nature Protection and Sustainable Development is the main implementing partner for components 1 and 2. As the government agency responsible for developing and enforcing regulations for the management of hazardous waste, including obsolete pesticides, Ministry of Environment, Nature Protection and Sustainable Development is responsible for monitoring the compliance of safeguarding and disposal operations.
 - ii. Ministry of Agriculture and Rural Development is the main implementing partner for components 3 and 4 of this project. It coordinates the implementation of all activities of components 3 and 4, under the supervision of the Project Steering Committee.
 - iii. Ministry of Public Health participates in the project by appointing a member to the Project Steering Committee. This ministry is involved in finalizing the revision of pesticide laws and in monitoring the effects of pesticides and their empty containers on human health.
 - iv. The Institute of Agricultural Research for Development (IRAD) plays an important role through agricultural research activities related to pesticide handling. IRAD supports the design, deployment and evaluation of alternative methods to be piloted in component 4.
 - v. CropLife International has undertaken extensive work to safeguard and dispose of obsolete stocks in Cameroon.
 - vi. Pesticide unions, distributors and users, including CropLife Cameroon, Cameroon Development Corporation, pesticide distributors/resellers, individual plantations, farmers' organizations, large-scale plantations and agro-industries are involved through knowledge sharing activities, testing of alternative pesticide practices and capacity building activities.

- vii. Association of African Honest Women for Research and Development (AFAIRD) collaborates with the project to ensure that women's needs and roles are taken into account by the project, in particular by raising awareness on container management among affected women and by supporting the inclusion of women farmers in research and promotion activities for profiling alternatives.
 - viii. The Research and Education Centre for Development (CREPD) benefits from the improvement of technical capacity to monitor post-project activities. It contributes to the project by sharing experiences in promoting alternatives to pesticides.
 - ix. The University of Ngaoundéré contributes through laboratory analysis to determine pollutants and soil contamination levels as well as the amount of pesticide residues in crops.
87. The evaluation found that the Ministry of Health is not involved in monitoring the effects of pesticides and their empty containers on human health. This is due to the fact that traditionally the Ministry of Health only monitors potentially epidemic diseases. At the beginning, the project did not provide for a representative of the Ministry of Health within the project management unit and it was the Steering Committee that decided, at its first meeting, to add a focal point from this Ministry. IRAD is not yet participating in the project as planned, by supporting the design, deployment and evaluation of alternative methods, because component 4 is not yet implemented. Finally, the evaluation noted the participation of a new partner, the Soil Laboratory of the University of Dschang, not mentioned in the project document.
88. The evaluation noted the absence of a potentially major partner: The National confederation of cotton producers in Cameroon. Given its strategic position in the pesticide management cycle in the north, CNPCC's ability to carry out awareness activities was not sufficiently considered by the project.
89. The Cotton Development Company (SODECOTON) is reinforced and consolidated in the field by CNPCC. CNPCC is the umbrella organization of Cameroonian Farmer Organizations bringing together all farmers specialized in cotton production in synergy with food crops in the northern part of the country.
90. Thus, this macro farmer organization constitutes an enormous human potential of more than 200 000 rural households. These farming families use pesticides with the support of SODECOTON to effectively improve the production of their cash crops, while diversifying with cotton, food crops (maize, groundnuts, sorghum, millet, beans, rice, sesame and vegetable crops, etc.). These crops underpin food security in the project area. It is worth noting that those who engage in bad practices related to pesticide use, such as the misuse of empty pesticide containers, are at the household level and do so within the context of family units.
91. The project is urged to include CNPCC in the list of strategic implementation partners. This vision could be consolidated by the signing of a Letter of Agreement between FAO and CNPCC to support the sustainability of the actions and a good exit strategy for the project.

4 Conclusions and recommendations

4.1 Conclusions

Conclusion 1. With regard to the project's relevance to the country's needs, its strategy and the resources for its implementation, the project deals with a subject of major interest for public health and the environment in Cameroon. It meets the country's need to solve the problem of obsolete pesticides, which is a matter of concern to the Cameroonian government and its people. The project is designed in a participatory manner with different stakeholders, combining four complementary components to eliminate obsolete pesticides and associated risks while avoiding further stockpile rebuilding. It aims to provide sustainable solutions to improve regulatory, institutional and technical capacity for pesticide life cycle management (management of obsolete pesticides and contaminated sites, management of pesticide waste, including empty containers, promotion of alternatives to conventional pesticides and communication strategy). Project activities are well defined, but implementation is slow. There are substantial delays in implementing the activities of the four components. These delays are significant for component 2 on the implementation of an empty container management system, and component 4 on the promotion of alternatives to reduce the use of conventional chemical pesticides.

Conclusion 2. In terms of the project's efficiency in achieving its objectives and internal management, including its monitoring and evaluation approach, the project ends in one year and no results or outputs expected by the project have been fully achieved. Only 8 outputs out of 15 are considered as partially completed. As a result, some indicators seem difficult to measure or achieve by the end of the project.

92. The project's achievements at this stage are mainly developing national capacities in the field of pesticide management. The implementation of project activities is supported by the training of national teams, contributing to the strengthening of national capacities at both the technical and institutional levels. Existing national human resources are also developed by the project. The project also offers them an opportunity to gain experience.
93. As for project weaknesses, there are substantial delays in the implementation of activities due to slow decision-making (explained by procedural compliance), and infrequent meetings of project management unit members who do not closely monitor implementation.

Conclusion 3. Sustainability and exit strategy are not taken into account by the project. It leaves out key actors, such as councils and the CNPCC. The visibility of the project is not sufficiently highlighted. There is little communication around the project, yet the project document requires the development of a communication strategy.

94. The project has not yet had a real impact in the field. According to the evaluation, project implementation is not properly monitored; FAO procedures delay the progress of key activities, which are prerequisites for the implementation of other activities (progress in achieving outcomes against end objectives of the project can be seen on the matrix in Appendix 5).

Conclusion 4. The effect of the project on marginalized groups, including women, are minimal as they are not very involved in the implementation of the project. According to the project, this situation is due to the small number of women who can benefit directly from the project's fallouts. Yet, in the field, women are the most important beneficiaries because they are involved in the handling of pesticides for agricultural activities and the use of empty containers. In addition, the

project has the opportunity to involve vulnerable groups resulting from the political and terrorist crises in its Southwest and North sites in Cameroon.

4.2 Recommendations

Recommendation 1. The project management unit and FAO Cameroon should urgently develop an implementation strategy for the remaining activities to ensure their implementation over time, taking into account the project closure date. The strategy for implementing activities must be based on points such as FAO speed of decision-making, the lack of knowledge of FAO procedures by some key stakeholders and the lack of involvement of some key actors, such as councils and the CNPCC.

95. This strategy should focus on a Letter of Agreement (assigning the task to those who are capable of doing it well) approach. Prior to this, it will be necessary to ensure that FAO procedures do not constitute an obstacle to the implementation of these Letters. In addition, this strategy should highlight changes in the implementation of the project in terms of indicators, outputs and activities. At the end of this action, a new logical framework with SMART indicators must be developed and validated by the Steering Committee. Another option is a no-cost extension of the project since the disbursement rate is only 45 percent after 36 months of implementation.

Recommendation 2. The project management unit should hold regular weekly or at least monthly meetings to enable members to monitor the proper implementation of the project and contribute effectively to accelerating the implementation of activities.

96. Each weekly meeting should produce a summary note indicating the progress made on the basis of the work plan established, problems encountered, actions to be taken to resolve them and the responsibilities of each member. This note submitted to the National coordinator should be shared with stakeholders, inviting each party to take the necessary steps to address the issues and facilitate the implementation of blocked activities.

Recommendation 3. The project should design and rapidly implement a computerized monitoring and evaluation system to facilitate instant monitoring of the activities implementation.

97. Given time constraints, FAO must explore the various existing possibilities that can quickly meet this need based on its experience in managing similar projects.

Recommendation 4. The project management unit should develop a strategic note on the sustainability of the project's actions and its exit strategy.

98. This strategic note must be accompanied by an action plan that will make it possible to better address actions in terms of sustainability and exit strategy of the project. This exercise will help identify key actors, such as the CNPCC, and make them strategic partners. The same goes for some regional and local authorities. The project management unit must create bridges between the active GiZ COMPASSI project at SODECOTON and this project.

Recommendation 5. The project must give greater consideration to gender by involving enough women in the implementation of the project.

99. To do this, the project must identify active women farmers in each project area and invite them to participate in the implementation of remaining activities, including FFS activities and the promotion of pesticide alternatives.

Recommendation 6. The project must improve its visibility and develop a communication strategy to showcase the value of the work undertaken.

100. The visibility and communication of the project must be done in synergy with the communication units of partner ministries and their decentralized services. Events organized by the various partners can be used for this purpose. For example, World Food Day is an annual opportunity the project can use to showcase efforts to ensure healthy agriculture and food in a clean environment. The project management unit can also set-up a virtual platform accessible to all project partners and beneficiaries to share information. The idea is to share timely information on the implementation of the project.

Table 5: Summary of achievements with mid-term evaluation rating GCP/CMR/031/GFF

Rating		Description of achievements
Project strategy	N/A	This project aims at supporting the government in the disposal of persistent organic pollutants (POPs) and obsolete pesticides and to build capacity in their management at community and institutional level. The project was designed in a participatory manner with different stakeholders combining four complementary components in order to eliminate obsolete pesticides and associated risks while avoiding further stockpile rebuilding. The project activities are well defined, but slow to be implemented.
	Objective: Moderately Satisfactory	The first part of the POPs and obsolete pesticides that the project has successfully eliminated (45 tonnes) contributes to reducing the quantities of these hazardous products compared to the baseline. However, greater efforts still need to be made to address the delays in the implementation of many of the remaining activities.
	Outcome 1: Moderately Satisfactory	The project eliminated 45 of the 100 tonnes set as an indicator. A detailed study of the contaminated sites has been completed but remediation plans are being developed. The outputs expected from this component have been partially achieved.
	Outcome 2: Moderately Unsatisfactory	A text document on pesticide management has been prepared by a consultant. Pilot projects for the management of empty pesticide containers (collection, rinsing, transport, storage and recycling) are not being set-up, nor is the implementation of pilot projects for the management of empty pesticide containers in the North and South-West of Cameroon. For component 2, no output has been achieved and the level of activities carried out remains low.
Progress towards outcomes	Outcome 3: Moderately Satisfactory	A text document on pesticide management has been prepared but the law itself has not yet been revised. The project trained 16 technicians on laboratory techniques, 9 on PSMS and 14 on pesticide registration, among others. An evaluation of the non-operationality of the National Phytosanitary Council (NPC) has been conducted with a view to its reactivation and the holding of the first meeting of NPC is currently being prepared.

Rating		Description of achievements
	Outcome 4: Moderately Unsatisfactory	Only two activities were carried out, namely the development of a farmers' network, data collection and analysis and the identification of possible plant protection products and/or other practices in lieu of alternatives. The result is far from being achieved due to the delay in the implementation of its several activities.
Project implementation and Adaptive Management	Moderately Satisfactory	The main partners concerned are involved in the implementation of the project. However, the implementation of activities is delayed due to lengthy bureaucratic procedures. The visibility of the project is not sufficiently highlighted. The project lacks a communication strategy. The project management unit only holds meetings on an ad hoc basis.
Sustainability	Moderately likely	<p>The project has reactivated the National Phytosanitary Council set-up in 2005, which will contribute to sustainability.</p> <p>By placing particular emphasis on improving the legislative framework, developing and disseminating alternatives, components 3 and 4 will ensure that the activities carried out in components 1 and 2 are sustainable.</p> <p>The project should focus on an exit strategy involving key actors such as local authorities and the CNPCC.</p>

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Appendix 1. People interviewed

Surname	Name	Position
Abba	Abdoulaye Abou	Director of Agricultural Production, SODECOTON: Cotton Development Company
Aoudou	Joswa	National project coordinator; Stockholm Convention focal point, MINEPDED
Atanga	Felicitas	FAO, Officer in Charge
Belinga Mengue	Regine Nicaise	Project focal point, MINEPDED
Dawai	Haman Raymond	North Regional Delegate of Agriculture and Rural Development (Garoua)
Enoh	Peter	Basel convention focal point
Fombin	Valentine	Project focal point, MINADER
Hamani	Anatole	Program Officer, CREPD
Kenmogne	Nathalie	Association of honest women for research and development (AFAIRD)
Kingue	Arnauld	Croplife International
Kuepoud	Gilbert	CREPD Coordinator
Mboh	Hyancinthe	Director, DNC/MINEPDED
Ndikontar	Alice	National Technical Coordinator, GCP/CMR/031/GFF project
Nouhou	Hamadou	Executive Director, CNPCC: National confederation of cotton producers (Cameroon)
Nouokaghueu	Robert	Ministry of Public Health - MISANTE
Nya	Edouard	National Laboratory for the Analysis and Diagnosis of Agricultural Products and Inputs
Nying	Charles Shey	Director of Regulation and Quality Control of Agricultural Products and inputs, MINADER
Ougane	Wa	Chief of Service, Regulation and Quality Control of Agricultural Products and Inputs (North Garoua)
Tougoulou John	Gounes	Regional Delegate of Environment (Garoua)
People contacted by Skype		
Braun	Genevieve	FAO-GEF coordination unit at FAO
Morebotsane	Kuena	FAO-GEF coordination unit at FAO

Appendix 2. Evaluation matrix

Questions/sub-questions		Indicators	Sources	Method
1. Does the project strategy and implementation resources respond to the country's needs?				
	1.1 Are the design and implementation of the project adequate to achieve the expected effects?	Adequacy of the project design to the objectives pursued. Degree of alignment of the project with national priorities and strategies in the sector.	Project document. Government. National Strategy. Documents (laws, regulations, policies, etc.). Interviewees.	Interviews. Questionnaire. Literature review.
	1.2 Are the project resources adequate in relation to the set objectives?	The resources (means) available cover all programmed activities.	FAO. Reports.	Interviews. Questionnaire. Reports.
	1.3 Is the work plan for the project implementation realistic?	Work plan executed without delay in accordance with the planning.	Government. Partners. Progress reports.	Interviews. Questionnaire. Reports.
2. How efficient was the project in achieving its objectives and how efficient was its internal management, including monitoring and evaluating activities?				
	2.1 To what extent is the government and implementing partners committed? How much support do they put in?	The resources mobilized are in line with the commitments. Measures taken made it possible to support the project.	FAO. Government. Partners. Reports.	Interviews. Questionnaire. Reports.
	2.2 Has the disposal of POPs and obsolete pesticides been carried out in accordance with current standards?	Environmental assessment (EA) and environmental management plan (EMP) requirements are met.	Government. Partners. FAO Reports. PSMS data.	Interviews. PSMS. Field visits.

		No incident has been reported in the EA report. Absence/decrease of stockpiles in warehouses. Cleanliness of warehouses emptied of obsolete pesticides.	EA report. EMP. Notifications of basel exports. Certificate of destruction.	
	2.3 Have the risks associated with contaminated sites been identified?	At least two priority sites have been remediated. Number of workshops or awareness days.	Soil test results. Progress reports.	Interviews. Literature review. Field visits.
	2.4 To what extent have the project tools raised public awareness of the impact of pesticides, their containers and contaminated sites on health and the environment?	Number, types and quality of communication products. Awareness raising. Knowledge base of target audiences.	Government. NGOs. FAO. Partners. Farmers.	Interviews. Questionnaires. Literature review.
	2.5 Were the financial and human resources mobilized used wisely?	Financial situation. Disbursement rate.	FAO. Reports. Financial statement.	Interviews. Questionnaire. Reports.
	2.6 To what extent do monitoring and evaluation tools ensure the successful implementation of the project?	Monitoring period in line with the plan. Changes brought about by monitoring and evaluation.	Monitoring and evaluation tools. Monitoring and evaluation reports.	Interviews. Reports.
3. To what extent has the project built the country's institutional and technical capacity (including that of national partners) in the management of pesticides and empty pesticide containers?				

	3.1 Has the project contributed to the improvement of the regulatory framework, the inspection and control of pesticides and their quality?	New draft legislation and regulatory texts. National pesticide Information network (list of registered, re-registered and de-registered pesticides). Reinforced analytical laboratory. Number of people trained.	Government. FAO. Partners. Reports.	Interviews. Questionnaire. Literature review. Field visits.
	3.2 Has the project succeeded in implementing an empty container management system?	At least two pilot projects implemented.	Government. FAO. Partners.	Interviews. Literature review. Field visits.
	3.3 To what extent has the project contributed to reducing the adverse effects of pesticides on human health and the environment?	Reduction of poisoning cases recorded in health centres. Number of containers rinsed properly and grouped together.	Statistics and reports from the Ministry of Health. Ministry of Environment.	Interviews. Literature review.
	3.4 To what extent has the project contributed to national capacity building in obsolete pesticide and contaminated site management?	Capacity building: Number of trained active persons with expertise in the different fields related to pesticide management.	Government. FAO. Partners. Training documents. Reports.	Interviews. Questionnaire. Reports.
4. To what extent does the project contribute to the adoption of alternatives to chemical pesticides on the main crops?				

	4.1 Did the project identify alternatives to conventional chemical pesticides for agricultural use?	Number of alternative or technical products identified. Number of network members using alternatives.	Typological study. Seminar reports. Project progress reports. NGO reports.	Interviews. Questionnaires. Reports.
	4.2 To what extent has the project contributed to promoting the use of biopesticides and integrated pest management?	Number of training courses in Farmer Field Schools. Number of people trained.	Training reports. NGO reports.	Reports. Interviews.
5. What is the impact of the project on marginalized groups, including women?				
	5.1 Has the gender aspect been taken into account by the project, particularly in awareness raising and training activities?	Degree of women's involvement in the different fields.	Government. NGO. FAO. Partners. Farmers.	Interviews. Questionnaire. Reports.
	5.2 To what extent have marginalized groups benefited from the project?	Number of community awareness actions. Number of remediated sites in the communities.	Government. FAO. NGO. Partners. Villagers.	Interviews. Questionnaire. Reports.
6. To what extent are the project activities sustainable? Is there an exit strategy and an effective partnership strategy in place?				
	6.1 Are the products generated by the project sustainable?	Decree implementing the new legislation published and put into effect. Number of training courses on new techniques/skills held each year. Resources allocated to pesticide control and inspection structures registered in the financial law.	Government. FAO. Field observations.	Reports. Interviews.
	6.2 To what extent are the developed partnerships complementary and synergistic?	Number of developed partnerships. Mid-term co-financing status.	FAO. Project Team. Stakeholders. Project documents. Reports.	Literature review. Interviews.

Appendix 3. Questionnaire

Questionnaire for the mid-term evaluation of the project

DISPOSAL OF POPS AND OBSOLETE PESTICIDES AND STRENGTHENING LIFE-CYCLE MANAGEMENT OF PESTICIDES²

This questionnaire aims at collecting the basic information needed for the mid-term evaluation of the project according to the following criteria: relevance, efficiency, effectiveness, sustainability and impact. It also aims at identifying the strengths and weaknesses of the project, the opportunities to be seized and the challenges that may affect implementation. The questionnaire is kept short and requires only about fifteen minutes to complete.

Name and surname	
Position	
Email address	

Relevance

- 1) To what extent does the project meet the country's needs?
- 2) Are the project objectives clear and realistic?
- 3) To what extent are the interventions appropriate to achieve the expected results?
- 4) To what extent do the project activities promote capacity building at individual, organizational and environmental levels?

Efficiency

- 5) To what extent is the government and implementing partners committed? How much support do they put in?
- 6) How do you rate FAO as the executing agency of the project? Do you think it has a comparative advantage?
- 7) Are the human and financial resources adequate to achieve the expected results?
- 8) Is the work plan for the project implementation realistic?
- 9) If the project has experienced delays, are the causes identified and corrective measures taken?

Efficiency

- 10) Are the tangible outputs achieved so far by the project useful and used?
- 11) What changes are observed that can be attributed to the project interventions (in terms of capacity and institutional organization)?
- 12) To what extent do these changes contribute to progress towards the project objectives?

Sustainability / Partnerships

- 13) Are the products generated by the project sustainable? Please specify.
- 14) To what extent are the developed partnerships complementary and synergistic?

Strengths and weaknesses of the project

- 15) What are the strengths and weaknesses of the project?

Opportunities

- 16) What are the (external) opportunities to be seized?

Challenges

- 17) What are the (external) challenges that could affect the implementation of the project?

² Answers to this questionnaire should be sent to Mr Ghaout Said (sghaout@gmail.com) and Mr Cyrille Ekoumou (ekoumoucyrille@gmail.com).

Appendix 4. Logical framework

Objective								
Reduce POPs emissions from obsolete pesticide stockpiles and contaminated sites and to build capacities for the sound management of pesticides.								
Component 1: Safe disposal of POPs and other obsolete pesticides and remediation of contaminated sites								
Outcome 1	Result indicator		Baseline	Objective			Assumptions	
Disposal of existing POPs and other obsolete pesticide stockpiles in an environmentally sound manner and remediation of sites contaminated by POPs and pesticides.	i. Up to 100 tonnes of POPs and other obsolete pesticides disposed of by the end of Year 2. ii. 50 percent reduced risk on two high-risk sites.		i. Currently about 45 metric tonnes of obsolete pesticides in a warehouse at Edéa are being safeguarded as part of the work funded by CropLife. ii. FAO PSMS data on contaminated sites indicated 6 locations that require detailed studies under the project.	i. Safeguarding of all remaining pesticide wastes in the country and collection at the Edéa central warehouse by the end of year 1. ii. Environmentally sound disposal of obsolete pesticide wastes in Cameroon by the end of Year 2. iii. Detailed site studies completed on six target contaminated sites leading to priority ranking by the end of Year 1. iv. Restoration strategies developed by the end of Year 2. v. Pilot-scale remediation of two highest-risk sites completed by the end of the project.			i. Confirmed inventory data and all environmental assessment requirements are met in accordance with national and FAO standards. ii. Detailed site assessments confirm the volumes of waste and the appropriateness of remediation technologies at the site.	
Output	Indicator		Baseline	Target values			Data collection and reporting	
			Year 1	Year 2	Year 3	Year 4	Means of verification	In charge of data collection
Output 1.1 Development of a strategy for the disposal of up to 100 tonnes of obsolete pesticides and associated wastes.	Development and publication of national EAs and EMPs.	Availability of CropLife Clean Farms' inventory of safeguarded materials stored at Edéa.	Validation of CropLife inventory data and inclusion of any new stocks. Release and approval of EAs and EMPs.				Release of EAs and EMPs in FAO format.	Ministry of Environment, Nature Protection and Sustainable Development (MINEPDED) with international consultant.

Output 1.2 Disposal of about 100 tonnes of obsolete pesticides and associated wastes.	Up to 100 metric tonnes of obsolete pesticides destroyed in accordance with the Stockholm and Basel Conventions.	45 tonnes of obsolete stocks safeguarded under the CropLife Clean Farms project.	International tender call for the provision of waste management services launched based on revised data.	All wastes exported and destroyed in accordance with the Stockholm and Basel Conventions.			Contractual documents. Notifications of Basel exports. Certificates of destruction.	MINEPDED and possibly the waste management contractor.
Output 1.3 Priority contaminated sites remediated.	Detailed data on site studies disclosed at the national level. Risk associated with two high-risk sites reduced by 50 percent.	Initial site assessment data entered into the PSMS.	Detailed site studies completed and Conceptual Site Models (CSMs) developed.	Approval of risk-reduction strategies and remediation plans and options for local treatment at the site.	Pilot on-site remediation measures implemented at 2 high-risk sites.	Continuation of on-site remediation measures and risk reduction assessment on sites.	Publication of CSMs. Analytical results of the risk reduction assessment.	MINEPDED, international consultant, contractor.

Component 2: Management of empty pesticide containers								
Outcome 2		Result indicator		Baseline		Objective		Assumptions
Minimization of risks to the environment and human health associated with empty pesticide containers, through the establishment and promotion of national container management.		i. 35 percent of the containers entering the market for use are rinsed three times at the end of their life cycle. ii. 25 percent of the containers entering the market are recycled. iii. Cases of pesticide poisoning reported to hospitals and health centres in pilot areas, have been reduced.		i. PPG report on empty container management practices. ii. Existing programme implemented by the Cameroon Development Corporation (CDC) that collects empty pesticide containers in the South-West region of the country in the banana, rubber and oil palm production areas. iii. Container management systems developed by CDC and SODECOTON. iv. No consolidated data on food poisoning - but available from hospitals.		National pesticide management project developed on the basis of project results by the end of Year 4.		Existing container management projects disclose all information and funding of a national programme obtained from other sources (government, private sector).
Output		Indicator		Baseline		Target values		Data collection and reporting
				Year 1	Year 2	Year 3	Year 4	Means of verification
Output 2.1 Development of a management programme for empty pesticide containers (collection, rinsing, transport, storage and recycling).		Design of two pilot projects by year 2.	PPG report on the management of empty pesticide containers. Draft law on container recycling.	Updated assessment of empty pesticide container management in Cameroon, defining the actors operating in agro-ecological zones. Development of regulations related to container recycling.	Development of projects and action plans for the management of empty pesticide containers (per agro-ecological zone and type of container). Adoption of recycling regulations by national authorities.	Approval of container management projects and action plans by national and regional authorities.	Adoption of a law and national regulations on the management of pesticide containers.	Publication of legislation and regulations Publication of projects for give areas. Official Gazette.
								In charge of data collection
								MINEPDED and national consultant.

Output 2.2 Implementation of pilot projects on the management of empty pesticide containers in the North and South-West regions of Cameroon.	Two operational pilot projects. Percentage of containers sold and returned for recycling (see Target).	Existing container management projects organized by suppliers in cash crop (banana, tea, oil palm, etc.) production areas.	Development of a national awareness programme on the risks associated with the mismanagement of empty pesticide containers.	Implementation of the communication and awareness-raising strategy for vulnerable groups.	Authorization of new container recycling facilities. Implementation of pilot projects in two regions, including the triple rinsing campaign. 25 percent of returned containers.	Continued implementation and its review in two regions. 50 percent of returned containers.	Independent M&E reports.	Evaluators.
Output 2.3 Development of a national strategy for the management of empty pesticide containers.	Development of a national strategy for the management of empty pesticide containers by Year 4 of the project.	Law No. 89/027/1989 Law No. 96/12 of 5 August 1996 Draft law on the regulation of the empty pesticide container management in Cameroon.		Strengthening the regulatory and institutional framework for the management of empty pesticide containers.	Development of a management strategy for empty pesticide containers.	Approval of the national strategy by the Cameroonian government.	Report on the National Workshop.	MINEPDED, Ministry of Agriculture and Rural Development (MINADER), Pesticide industry, Farmers' associations

Component 3: The strengthening of the institutional and regulatory framework for pesticide management.									
Outcome 3		Result indicator		Baseline	Objective			Assumptions	
Strengthening of the regulatory framework and institutional capacity for the sound management of pesticides throughout their life cycle.		i. Legislative and regulatory texts cover the full life cycle of pesticides and are in compliance with the Code.		There is an environmental protection legislation, and not the CEMAC Pesticide Management Regulation, but it is not implemented in practice POPTT 1.4.2.3 regulations = 2 (<i>exists but it is not implemented</i>).	Year 1 and 2: Approval and legislation for all pesticides in accordance with the Code developed (A1) and consulted (A2). Year 3 and 4: Draft legislation approved and adopted; national work plans, budgets and reports available from the National Phytosanitary Council (NPC) POPTT regulations = 3 (<i>updated and implemented</i>).			The Cameroonian government is willing to review and amend its national legislation. The process was completed within the project deadline.	
		ii. A number of pesticide inspections and quality control analyses are conducted.		Data not available in compiled form (including customs, counterfeiting, etc.). Upgraded laboratory, but staff require regular training and sustainability of operations is not ensured.	Year 1 and 2: Capacity assessment and mandate review; training of inspectors. Years 3 and 4: Monitoring and evaluation, preparation of inspection reports and results.			Inspectors are in place as required by legislation/organizational charts. The FAO Inspection Manual is suitable for adaptation/use.	
		iii. Information is exchanged by compliance and enforcement institutions.		No formal exchange mechanism, for example the notification of new registrations. No publicly available list of registered pesticides.	Year 3 and 4: Set-up of a formal mechanism; sharing of registration decisions PSMS for the registration, re-registration and de-registration of pesticides (AP2).			Government and regulatory agencies perceive the value of the PSMS and the advantages of information exchange. Agencies are able to access the PSMS on the Internet.	
Output	Indicator	Baseline		Target values				Data collection and reporting	
				Year 1	Year 2	Year 3	Year 4	Means of verification	In charge of data collection
Output 3.1 Pesticide management legislation and registration system revised and improved in accordance with the Code and regional regulations.	Indicator 3.1 New comprehensive draft law and implementing regulations submitted and adopted by Parliament.	The 2003 Plant Protection Law and the 1996 Environmental Protection Law do not apply to pesticide management; they predate the 2006 CEMAC regional regulations, eight implementing		Consultation.	Draft legislation	Submittal to Parliament for approval.		Central Africa Inter-State Pesticides Committee (CPAC) report on pesticides in the Member States.	Legal Consultant.
	Indicator 3.2				Representatives of	Document			

	Countries/institutions contributing to the CEMAC document.	decrees ³ overlap, however, with incomplete institutional responsibilities. The CEMAC regulations 2006 are not in force in any country.		five other CEMAC States participate in the validation workshop.	finalized and distributed.			
Output 3.2 The National Phytosanitary Council coordinates the management and control of the life cycle.	Indicator 3.3 Members (operational level; and senior level) attend meetings.	Established by Decree 2005/0769/PM (6/4/05) but has never met The NIP assigns responsibility to MINADER, MINEPDED MINEPIA Ministry of Public Health (MINSANTE) and IRAD.	Eight operational level) ⁴ .	16 (8 operational members and 8 senior level) persons trained At least 25 percent improvement in pre-training and post-training evaluations.	16	16	Minutes of the Council meeting on TOR.	MINADER.
	Indicator 3.4 Budget and activities of the Council for the management of pesticides throughout their life cycle.	Draft action plan for pesticide management developed under the Gates Foundation-funded project.	General policy document outlining needs.	Draft action plan and budget approved and presented.	<i>Tbd based on the analysis.</i>	<i>Tbd based on the analysis.</i>	General policy document Annual report on pesticide management.	MINADER.

³ Decree No. 2005/0770/PM (Phytosanitary Control); Decree No. 2005/0769/PM (National Phytosanitary Council); Decree No. 2005/0772/Pm (approval); Joint order No. 004 MINEPDED/MINCOMMERCE (non-biodegradable containers); Order No. 002 MINEPDED (industrial wastes); Order No. 001 /MINEPDED of 15 October 2012 (environmental permit); Decree No. 2011/2581/PM (chemical substances); Decree No. 2011/2584/PM (soil and subsoil).

⁴ Members listed in the NIP, plus ANOR + Customs.

Output 3.3 Strengthened national capacity for pesticide inspection and post-registration control.	Indicator 3.5 A number of mandated and sworn pesticide inspectors.	About 100 MINADER staff members involved in the inspections. <i>Tbd by assessing regulatory capacity</i>	Review of mandates and legal status.	40 mandated and sworn inspectors. At least 25 percent improvement in pre-training and post-training evaluations.			Training reports Performance tests.	Trainer.
	Indicator 3.6 Many inspections have been carried out by pesticide inspectors.	The Ministry of Public Health carries out inspections; customs inspections, MINADER inspections. Unavailable data.	Baseline to be set.		10 percent higher than the baseline.	30 percent higher than the baseline.	Inspection reports.	MINADER, MINEPDED, MINCOMMERC E.
Output 3.4 Accessible and exchanged information on registration; re-registration, de-registration and imports of pesticides.	Indicator 3.7 Available data on quantities of imported pesticides; lists of registered, re-registered and de-registered products.	2 753 tonnes imported (MINADER 2007); or 4 451 tonnes (CropLife Cameroon, 2008) List of registered products not updated.	Prepare MINADER declarations. Declaration for all imports List of online registrations.	Customs submit import data to MINADER and NPC.				TC.
	Indicator 3.8 Data available on pesticide exposure incidents at least in the pilot areas covered by the management project for pesticide containers.	Exposures are reported to hospitals; there are poison control centres, but pesticides are not always the cause of incidents.		Review of available data.				TC, MINSANTE.
	Indicator 3.9 Mechanisms and volume (data and stakeholders) of information exchange.	Obsolete stocks in the PSMS The approval committee meets every six months.	<i>Tbd based on information review</i> and needs analysis, may include updates to the PSMS, e.g. registered pesticides or quality and imports; laboratory results; Ministry of Agriculture website; email logs and other information sharing tools.				Audit report.	MINADER.

Output 3.5 Capacities of the technical staff of the national laboratory strengthened and sustainable operational plan developed.	Indicator 3.10 Improvement of the ability to operate existing equipment.	14 technical staff members of the laboratory GC-MS Spectrophotometer; Atomic Absorption Spectrophotometer (AAS) and Kjeldahl apparatus available.		14 persons trained At least 25 percent improvement in pre-training and post-training evaluations.		14 persons trained At least 25 percent improvement in score.	Training reports. Performance tests.	Trainer, MINADER.
Output 3.6 Strengthened national capacities to carry out registration in accordance with the Code of Conduct.	Indicator 3.11 Members of the National Approval Commission trained; and a student is completing the programme of courses leading to the Master's Degree.	0		15 members of the commission trained.				

Component 4: Promotion of alternatives to reduce the use of conventional chemical pesticides				
Outcome 4	Result indicator	Baseline	Objective	Assumptions
Successful promotion of alternatives to conventional pesticides and reduced use of chemical pesticides and particularly hazardous pesticides.	i. Registrations for cotton and cereal pesticides, extremely hazardous pesticides and biopesticides.	27 herbicide formulations, 7 fungicide formulations and 44 insecticide formulations registered in Classes I and II Three formulations of aluminium phosphide and one of cyfluthrin for cereal storage Four registered biopesticides.	Year 1 and 2: TBD Year 3 and 4: 50 percent reduction in PPD approvals compared to the baseline Five registered biopesticides (+25 percent).	Some alternative methods are being effectively used by farmers within the network and can serve as examples to others. Producers are interested and willing to change current practices through the testing and introduction of less dangerous alternatives. Extension services are interested in alternatives and willing to help farmers use them.
	ii. Number of alternatives used by farmers' networks (e.g. LIR).	Three improved cotton varieties; spatial distribution, neem efficiency (National Coordination of Annual Crops; IRAD) Development of cultural techniques as alternatives (IRAD and PNVRA). Alternatives to Endosulfan identified.	Year 1 and 2: Scope and types of alternatives used and identification of needs by the study of typologies. Year 3 and 4: Effectiveness in the field of alternatives tested with farmers.	

	iii. Annual quantity of chemical pesticides and PPDs used in the project demonstration areas.	TBD during the study of typologies.	Year 1 and 2: Scope and basic chemical use developed by the study of typologies. Year 3 and 4: 30 percent reduction compared to the baseline.					
Output	Indicator	Baseline	Target values				Data collection and reporting	
			Year 1	Year 2	Year 3	Year 4	Means of verification	In charge of data collection
Output 4.1 Identification of possible alternative products and/or cotton pest control practices in the Sudano-Sahelian region of Cameroon.	Indicator 4.1 Proportion of members (M/F) of the profiling network using a) PPD/POP b) alternative methods of crop protection. Description of alternatives.	<i>Tbc in the database</i> Methodology piloted in Benin. Research on Integrated Crop Protection in the Forest Zone.	100 farmers participating in the profiling network study Baseline data collection.	<i>Continuation of data collection</i>	# using alternatives = 150 percent of Year 1.	# using alternatives = 200 percent of Year 1 0 use of PPD and/or POPs.	Study reports on typologies and data collection instruments.	MINADER.
	Indicator 4.2 Number and description of possible alternatives.	Alternatives to Endosulfan 2000-5 AfDB FFS Lake Chad Project Four approved biopesticides, Unauthorized imported biopesticides.		Ten alternatives identified The validation seminar selects those to be tested.	Development of the technical characteristics of proven alternatives.			
Output 4.2 Identified alternatives to Endosulfan, POPs and other obsolete pesticides are tested to ensure their technical and economic feasibility at	Indicator 4.3 Field experiments conducted.	Three varieties of tolerant, high-yield cotton (IRAD) Development of cultivation techniques and biopesticides by IRAD, PNVRA and other laboratories.	Planning and implementation of field tests and experiments.	150 farmers have visited experimental plots.	200 farmers and 100 professionals have visited a joint demonstration.		Photos Media coverage evaluation report LIR Strategies Report on the validation seminar.	MINADER.

the farm level.	Indicator 4.4 Cost per yield per ha/kg for the different alternatives.	Unavailable data, must be determined by profiling and testing.		Evaluation of field data.		Value chain assessment.		
Output 4.3 Promotion of viable alternatives to Endosulfan, POPs and other obsolete pesticides.	Indicator 4.5 Farmers and/or professional agricultural advisers (M/F) trained in the field of proven alternatives.	The National Agricultural Extension and Research Programme (PNVRA) with bases and phytosanitary brigades.		Develop training programmes on alternative methods.	Training of extension agents and others.	Training of extension agents and others.		MINADER.
	Indicator 4.6 Media coverage carried out.	Print media specialized in farmers (LA VOIX DU PAYSAN, CPAC Info Pesticides, ECOVOX, etc.); Agricultural extension and rural development programmes broadcasted over national and rural radio and TV channels MINEPDED-CREPD Collaboration.	Training and promotion strategy developed.	NGOs and civil society involved in the implementation of good practices.	Implementation strategies Training on strategy implementation. Media coverage.		Promotion strategy and action plan Communication tools, reports, programme recordings.	NGO network (AFAIRD, CREPD).

Appendix 5. Matrix of progress in achieving outcomes against end objectives of the project

Green=Completed

Yellow=Under completion

Red= Not in the process of completion

OBJECTIVE OF THE PROJECT: Dispose of existing obsolete pesticides, including POPs and related wastes, and build capacity for the sound management of pesticides to prevent further stockpile.

Project strategies	Indicators	Basic reference	Level at 1st PIR 2016	Mid-term target	End target of the project	Mid-term level & evaluation	Rating	Justification of Rating
Outcome 1. Disposal of existing POPs and other obsolete pesticide stockpiles in an environmentally sound manner and remediation of sites contaminated by POPs and pesticides.	Up to 100 tonnes of POPs and other obsolete pesticides disposed of by the end of Year 2. 50 percent reduced risk on 2 high-risk sites.	Currently about 45 metric tonnes of obsolete pesticides in a warehouse at Edéa are being safeguarded as part of the work funded by CropLife. PSMS data on contaminated sites indicated six locations that require detailed studies under the project.	A detailed inspection of the Edéa warehouse was carried out. The condition of the 45 tonnes has been confirmed as adequate for immediate shipment. An international call for tenders has been prepared. Rapid environmental assessment (REA) of pesticide-contaminated sites completed at 12 sites in 5 regions of Cameroon. A detailed study of six priority sites representing the greatest risk to health and the environment and the development of remediation plans will be completed by December 2016.	Disposal of 45 tonnes in a manner consistent with health and the environment Detailed investigations were conducted at the six targeted contaminated sites, resulting in prioritization. Remediation strategy developed.	Up to an additional 55 tonnes of obsolete pesticide wastes disposed of in an environmentally sound manner. Two pilot high-risk sites remedied, and risk reduced by 50%.	The project was able to eliminate 45 of the 100 tonnes set as an indicator. A detailed study of the contaminated sites has been completed but remediation plans are being developed.	MS	The outputs expected from this component have been partially achieved.

Outcome 2 Minimization of risks to the environment and human health associated with empty pesticide containers, through the establishment and promotion of national container management.	A national strategy/programme for the management of empty containers. 35 percent of containers entering the market are triple rinsed and 25 percent are recycled at the end of their life in pilot sites.	Empty container management systems developed by Cameroon Development Corporation (CDC) and Cotton Development Company SODECOTON.	A situation analysis that will guide the design of pilot container management systems in two areas (North and West Cameroon) is under way.	Unspecified	National pesticide container management system based on the results of the pilot project. 35 percent of containers triple rinsed, and 25 percent recycled.	A text document on pesticide management has been prepared by a consultant. Pilot projects for the management of empty pesticide containers (collection, rinsing, transport, storage and recycling) are not being set-up, nor is the implementation of pilot projects for the management of empty pesticide containers in the North and South-West of Cameroon.	MU	For component 2, no output has been achieved and the level of activities carried out remains low.
Outcome 3 Strengthening of the regulatory framework and institutional capacity for the sound management of pesticides throughout their life cycle.	Legislative and regulatory texts cover the full life cycle of pesticides and are in compliance with the Code. Number of pesticide inspections and quality control analyses carried out. Information is exchanged by	There is a legislation on environmental and phytosanitary protection, but not for pesticide management. There is a regulation on container management – Decree No. 2012/2809/PM of 29/09/2012. Low capacity for inspection and quality control. Insufficient number of inspectors.		Legislation and registration for all pesticides in accordance with the written code. Training plan for inspectors developed and its implementation initiated.	Legislation submitted to the government for approval. 30% more quality inspection compared to the baseline. Information exchanged as agreed.	A text document on pesticide management has been prepared but the law itself has not yet been revised. An evaluation of the non-operationality of the National Phytosanitary Council has been conducted and the holding of the first meeting of the NPC is currently being prepared.	MS	The outputs expected from this component 3 have been partially achieved. The project plans to set-up a working group with a view to revising the law in question.

	compliance and enforcement institutions.	No formal exchange mechanism, for example the notification of new registrations. No publicly available list of registered pesticides.		Information exchange system and procedures agreed by all stakeholders.		Training of 16 technicians on laboratory techniques, 9 on PSMS and 14 on pesticide registration, among others.		
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Project strategies	Indicators	Basic reference	Level at 1st PIR 2016	Mid-term target	End target of the project	Mid-term level & evaluation	Rating	Justification of Rating
Outcome 4 Successful promotion of alternatives to conventional pesticides and reduced use of chemical pesticides and particularly hazardous pesticides.	Number of registrations for cotton and cereal pesticides, extremely hazardous pesticides and biopesticides. Number of alternatives adopted by farmers' networks. Annual quantity of chemical pesticides and PPDs used in the project demonstration areas.	27 herbicide formulations, 7 fungicide formulations, 44 insecticide formulations registered in Classes I and II. 3 formulations of aluminium phosphide and 1 of cyfluthrin for cereal storage. 4 registered biopesticides. 3 improved cotton varieties; spatial distribution, neem efficiency (National Coordination of Annual Crops; IRAD). Development of cultural techniques as alternatives (IRAD and PNVRA). Alternatives to Endosulfan identified.		Unspecified. Scope and types of alternatives used, needs analysis established.	50 percent reduction in the registration of extremely hazardous pesticides compared to the baseline. Five registered biopesticides (+25 percent). % increase of number of alternatives compared to baseline. 30 percent reduction in the use of chemicals.	Only two activities were carried out, namely the development of a farmers' network, data collection and analysis and the identification of possible plant protection products and/or other practices in lieu of alternatives.	MU	Component 4 is significantly behind schedule and the level of activities carried out is low.

¹ **Rating:** Highly Satisfactory (HS), Satisfactory (S), Moderately Satisfactory (MS), Moderately Unsatisfactory (MU), Unsatisfactory (U), Highly Unsatisfactory (HU), Unable to rate (UR)

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