

EX-POST EVALUATION

***PROJECT STDF/PG/255
"Regional initiative on the fight against fruit fly
in West Africa"***

AND

***PROJECT STDF/PG/313
"Continuation of the West African Fruit Fly Initiative (WAFFI)"***

Final report

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LIST OF ABBREVIATIONS AND ACRONYMS

AEZ	Agro-Ecological Zone
AFD	French Development Agency
CA	Competent Authority
CIRAD	International Centre for Agricultural Research for Development
COLEACP	Europe-Africa-Caribbean-Pacific Liaison Committee
DPV	Plant Protection Directorate
EC	European Commission
ECOWAS	Economic Community of West African States
EIF	Enhanced Integrated Framework
EIL	Economic Injury Level
EU	European Union
FAES	Fondation Agir pour l'Éducation et la Santé
FAO	United Nations Food and Agriculture Organization
FF	Fruit fly
IAEA	International Atomic Energy Agency (IAEA)
IITA	International Institute of Tropical Agriculture
IPM	Integrated Pest Management
ITFC	Integrated Tamale Fruit Corporation
MOAP	Market Oriented Agricultural Programme
MS	Member States
PCDA	Competitiveness and Agricultural Diversification Programme
PNSSA	Special National Food Security Programme
PO	Pilot orchards
PRLMF	Project to support the Regional Plan to fight and control fruit flies in West Africa (ECOWAS/EU/AFD)
SPS	Sanitary and phytosanitary
STDF	Standards and Trade Development Facility
ToE	Training of Exporters
ToG	Training of Government actors
ToT	Training of Trainers
WAEMU	West African Economic and Monetary Union
WAFFI	West Africa Fruit Fly Initiative
WB	World Bank
WTO	World Trade Organization

Executive Summary

This report summarizes the *ex-post* evaluation of projects STDF/PG/255 "Regional initiative on the fight against fruit fly in West Africa" and its logical sequel STDF/PG/313 "Continuation of the West African Fruit Fly Initiative (WAFFI)", implemented over the period between October 2008 and February 2011.

These two projects followed on from an initial operation "West African Fruit Fly Initiative", better known as WAFFI, conducted by CIRAD with funding from the World Bank between 2008 and 2009. This ancestry led to the two projects financed by the STDF being given the generic title WAFFI 2 and 3.

The main beneficiaries of the projects were the competent authorities of the following eight countries: Benin, Burkina Faso, Côte d'Ivoire, Ghana, Guinea, Mali, Senegal and Togo.

They were implemented by the consortium CIRAD/IITA under the supervision of the World Bank.

The project evaluation was carried out in accordance with the "Guidelines for the evaluation of STDF-funded projects" and consisted of reports, consultations with partners and beneficiaries, and two field trips, one to Senegal (23-26 February 2016) and the other to Mali (20-25 March 2016).

The main constraints encountered were related to the timing of the evaluation, owing to the **long interval (five years)** between the conclusion of the last project (STDF 313) in March 2011 and its evaluation in March 2016. Although this delay made it possible to judge the real impact of the projects and their sustainability, it was still a **constraint on the collection of evidence and information**.

The general objective of the project was to promote two fruit subsectors (namely, the mango and citrus fruit subsectors) through increased productivity and improvements in quality and trade, by effectively and efficiently controlling the West African fruit fly.

Specifically, the project was intended to enable the producers (i) to supply good-quality fruit free from fruit fly eggs and larvae and (ii) to improve trade with Europe through the application of quality standards (mango).

The activities carried out involved:

- monitoring the fruit fly populations (male) in mango orchards;
- improving the detection trapping of females in mango and citrus orchards;
- disseminating the use of weaver ants for biological pest management purposes;
- disseminating prophylactic control methods;
- providing training for trainers, producers and exporters;
- designation of country focal points and related capacity building.

By the close of the implementation phase (end March 2011), these projects had achieved the following combined results:

(1) fruit fly control technology:

- the organization and monitoring of male fruit fly detection trapping activities in mango and citrus orchards;
- improvements in female fruit fly trapping;
- publication of the results in various international reviews.

(2) player capacity building:

- development of control method advisory services;
- training of trainers, growers and exporters.

(3) institutional capacity building:

- follow-up of the various activities at regional level.

At the technical level and in relation to the evaluation criteria, these two projects achieved the expected results. Their **relevance** was unanimously recognized and they were effective in terms of

the objectives set. Their **efficiency** could not be fully assessed owing to the lack of information from the supervisory agency (World Bank), but the timetables were met and the funds raised were proportionate to the eight-country area of operations.

Questions arise in connection with the issues of **impact and sustainability**, factors which appear to have been overlooked in identifying the project. Overall, the impact was positive, considering the trend in mango exports (+101% in value and +67% in tonnage) on average between 2009 and 2014 and that in interceptions at entry into the EU area (a weak and irregular decline).

An unforeseen impact of the projects was the fact that – via the training sessions – they brought into contact the players in the sector, thereby drawing attention to the (undisputed) advantage of pooling efforts within the sector with a view to adopting a quality approach.

Where **sustainability is concerned, the evaluation gave the least good result**. Much has been done to control the fruit fly, but only at pilot level and there are genuine doubts not only about the feasibility of the techniques proposed (particularly in terms of the labour force required) but also about their accessibility (in terms of both costs and advisory services).

The **need to progress within a regional framework**, outlined in the projects and officially recognized since 2008 by the Economic Community of West African States (ECOWAS), was confirmed. At the end of the two projects a huge job of work remained to be done, in its turn opening up the path for a regional programme (PRLMF €23.5 million), although it is hard to understand why it took until 2015 for that programme to be put into effect.¹

On the other hand, **the weaknesses of the project, as recognized by the beneficiaries**, include:

- (i) start-up problems (gap between phases detrimental to the maintenance of momentum);
- (ii) confinement to the pilot-orchard level without mass dissemination of the results of the research, with technical leaflets in French and English (not in the local languages);
- (iii) having produced technological packages that did not take the production systems into account or evolve with time and the progress of the research;
- (iv) an underdeveloped socio-economic component (applicability of the packages).

Among the weaknesses the evaluation also noted the **failure or inability to make good use of local initiatives** (often ad hoc but nonetheless interesting).

Finally, it is **at the operational and institutional level that the evaluation noted possibilities for improvement**, which concern the financing structure more than the project itself, namely:

- The five-year delay following the end of the second project (STDF/PG/313) – six years for project 255 – was a determining factor in the evaluation process, which should lead, if it were to reoccur, to the taking of special measures (more field missions to unearth the facts in the field). First of all, this very long lapse of time affected the quality of the replies to the questionnaire. Both in number and in relevance, the replies received (18 out of 140 despite follow-ups) failed to live up to expectations.
- Reconsideration of the role of evaluation in STDF-funded projects, as well as the actual role of the Secretariat when supervision is delegated, in particular, when the project involves partnerships with different cultures (research, training, etc.). Within the specific framework of projects STDF/PG/255 and 313, it appears that the relations between the STDF Secretariat and the supervisory agency (World Bank), on the one hand, and the implementing agency (CIRAD/IITA), on the other, deserved closer attention in order to make it possible (i) to ensure better information concerning the supervision (WB) and better-quality implementation reports (CIRAD).

Nevertheless, for the stakeholders in general (beneficiaries and players), these projects will have opened up the path to the implementation of a regional fruit fly control plan, whose beneficiaries are unanimous in regretting that so much time should have elapsed between the decision (ECOWAS 2008) and its actual implementation (2015).

¹ This aspect will be developed in the summary meta-evaluation report.

1. INTRODUCTION

1.1 Background at the start of the project²

(a) The mango is the sixth most produced fruit in the world. Global production was estimated at more than 37 million tonnes in 2010. Mangoes are grown mainly in Asia (76% by volume). Africa, where they are grown, in particular, in West Africa and Cameroon, is the world's second largest production zone.

(b) In West Africa, the mango subsector occupies a position of considerable importance: while the mango is, above all, a fruit that is consumed and marketed locally, total West African production (around 1.4 million tonnes in 2010) primarily represents **a substantial source of food and income for the producers**, the great majority of whom grow the fruit in small family orchards.

It is also **a leading product in the economies of these countries because of exports.** Though accounting for only about 2% of total production, exports, during a four-month period (April to July), averaged 24,300 t/year from 2001 to 2010 or 2.4% of world mango exports. At the time of implementation of the project, Côte d'Ivoire, Mali, Burkina Faso and Senegal were sharing most of West African mango exports to the EU between them.

(c) The market was and remains promising, particularly the European market (increase in imports from 2000 to 2010 when West African mangoes accounted for between 9 and 13% of the fresh mangoes imported). The possibilities of creating value locally through processing also offer interesting prospects. **Competition** (Asia, South America) was managed on the basis of **seasonal complementarity.**

Table 1: Seasonal organization of European mango imports

<i>Origin</i>	<i>Season</i>	Autumn/Winter	Spring	Summer/Autumn
South America (Brazil, Peru)				
West Africa (Burkina Faso, Mali)				
Middle East, Central America, Asia and West Africa (Israel, Egypt, Pakistan, Costa Rica, Mexico, Dominican Republic, Senegal)				

Source: COLEACP.

(d) Fruit fly-related damage: The discovery in 2003, first in East Africa and then, from 2005 onwards, West Africa, of a new and invasive species of exotic fruit fly (*Bactrocera invadens*) originating from South Asia, had two consequences:

- a decline in the availability of good-quality mangoes suitable for being locally marketed and hence capable of providing income for small producers (both male and female), which could even pose problems for family food security given the importance of the mango in the lean season;
- a rise in interceptions and destructions of mangoes arriving in the European Union (EU), with serious economic losses for West African exporter countries and a growing risk of loss of access to international markets.

COLEACP³ was thus able to establish a correlation between interceptions of consignments of infested (West African) mangoes in the EU (102 interceptions in 2011, including 79 between May and July) and the decline in the market shares of mangoes of West African origin (9% in 2011 as compared with 14% in 2007), despite the fact that European mango imports rose by 8%.

(e) Mobilization of resources. The African national agricultural and research institutions lacked the resources that would have enabled them to invest in research or the development and deployment of effective control strategies on a national or regional scale.

Faced with the need to **make objective measurements of the extent of the damage** to crops and the lack of accurate information on **the best ways to combat the scourge**, professional organizations (such as COLEACP) mobilized to seek the coordinated intervention of multilateral and bilateral donors (USAID, World Bank, EU, Coopération Française) with a view to equipping producers with effective and accessible means of control commensurate with the economic and social challenges posed by fruit fly. Their mobilization made it possible:

² See *Rapport filière mangue Afrique Ouest / Europe Afrique* – CSA Patrick Ndimanya – November 2013.

³ COLEACP "Fruit Fly" workshop, Ouagadougou, March 2012OU.

- in early 2007, to finance a **study** in eight West African countries (Benin, Burkina Faso, Côte d'Ivoire, Gambia, Ghana, Guinea, Mali and Senegal) **of the extent of the damage** inflicted on fruit production by fruit flies. Commissioned by the ECOWAS Member States and conducted with European funding by the consultancy firm Italtrend, its conclusions were submitted in April 2008;
- in July 2008, to have the ECOWAS Member States approve a **regional action plan** to control fruit fly;
- in September 2009, to produce a **complementary study** setting out a specific budget, indicating how the actions to be taken would be divided up between those of a national and those of a regional nature, and proposing an institutional operational setup. This complementary study was conducted by COLEACP with World Bank (European Trust Fund) and STDF (STDF/PG/225) funding.

A parallel series of operations was launched under the title "**WAFFI**" (**West Africa Fruit Fly Initiative**), the timetable for which is set out in Table 2 below. These were focused on research work and capacity building, **but suffered from interruptions**. It therefore seemed important to set out the chronology of the WAFFI operations (see Table 2).

Table 2: Chronology of the WAFFI operations

Date	Event	Activity	Implementing agency	Funding
May-2008	Study/damage	Evaluation of damage caused by West African fruit fly	ITALTREND	EU
July-2008	TFP and EM workshop Bamako	Validation of the idea of a regional plan backed by WAEMU and ECOWAS	WAEMU/ECOWAS	EU
2008 12 months	WAFFI - 1	Identification and implementation of measures (identification insect species in question; technical leaflets and player training) across 7 countries (Benin, Burkina Faso, Côte d'Ivoire, Ghana, Guinea, Mali, Senegal); identification 45 pilot orchards	IITA/CIRAD	WB (EU TF, All ACP Agricultural Commodities Programme)
Sept-2009	Complementary study Validation	Complementary study (Definition of content of the regional plan for controlling fruit fly) Validation workshop/ECOWAS Member States	COLEACP	WB/EU-WTO (STDF (225))
Jan-2009 Feb-2010 14 months	WAFFI - 2	Continuation of activities across 8 countries (7 + Togo) + dissemination of 5 suppl. technical leaflets; export workshops; producer advice/training	IITA/CIRAD	WB + WTO/STDF (255)
March-2010 Feb-2011 11 months	WAFFI - 3	Continuation + improvement trapping, advice and training for players	IITA/CIRAD	WB WTO/STDF (313)
		<<<< 6-month gap >>>>		
Sept-2009 Dec-2011 4 months	WAFFI - 4	Mango (7 countries) and citrus (5 countries); continuation of detection trapping in orchards; continuation of activities at regional level	IITA/CIRAD	WB (EU TF, All ACP Agricultural Commodities Programme)
		<<<< 3.5-year gap >>>>		
Sep-2015 60 months	PRLMF	Implementation of Regional Plan to control fruit fly	ECOWAS/SOGEROM	AFD-EU-ECOWAS and countries

Funding from the World Bank, the EU and WTO/STDF made it possible both to carry out these studies⁴, as well as to draw up a Regional Plan for controlling fruit fly and conduct research and capacity building.⁵

1.2 Objectives of the evaluation

The STDF decided to conduct a **meta-evaluation of four of its projects** implemented in 2008 and 2012, within the framework of its contribution to the **fight against fruit fly**. This meta-evaluation encompasses, in particular, the two projects STDF/PG/255 "Regional initiative on the fight against fruit fly in West Africa" and STDF/PG/313 "Continuation of the West African Fruit Fly Initiative", the subject of this report.

This being an *ex-post* evaluation, **the objective of the exercise** is to take stock of the two projects STDF/PG/255 and 313, following completion, and primarily to examine their relevance, effectiveness, efficiency, impact and sustainability. It is also intended that lessons should be learned from their implementation and recommendations made for the purposes of any future projects.

To this end, the STDF Secretariat selected **Mr Christian Taupiac** as the **independent consultant** for the *ex-post* evaluation of these two projects. An expert in international development, specializing in rural and environmental development, Mr Taupiac has worked in France but mainly abroad on behalf of the French Government (Ministry of Agriculture, Ministry of Cooperation, Ministry of Foreign Affairs) and the World Bank (Africa Division) and for ECOWAS. He has implemented or directed several projects, participated in the formulation of sectoral policies and undertaken numerous evaluations in Europe, in South America and especially in Africa, in the area of developing country capacity building. Mr Taupiac is independent of all the parties concerned and has no conflict of interest that could affect the evaluation.

1.3 Overview of the project, including its objectives, activities, budget and expected outcomes

Table 3: Summary (*combined*) of projects 255 and 313 at the time of their approval

Project title		
STDF/PG/255 "Regional initiative on the fight against fruit fly in West Africa" STDF/PG/313 "Continuation of the West African Fruit Fly Initiative"		
Implementation:		
Supervision:	World Bank	
Implementing agency:	CIRAD/IITA	
Dates:	STDF/PG/255	STDF 313
Start: (planned)	01/10/2008	01/03/2010
Completion: (planned)	31/12/2009	28/02/2011
General objectives		
The purpose of the projects was to promote the mango subsector through increased productivity, improved quality and trade, by effectively and efficiently controlling the fruit fly in West Africa.		
Specific objectives (project source document)		
Specifically, the projects were intended:		
A. to provide the producers with opportunities to produce quality fruit, free of fruit fly eggs and larvae.		
B. to improve trade with Europe (255) and the United States (313) through the application of quality standards.		
Activities planned (combined and summarized)		
<ul style="list-style-type: none"> • Monitoring of (male) fruit fly populations in mango orchards; • Improvement of female detection trapping in mango and citrus orchards; • Dissemination of the use of weaver ants (<i>Oecophylla longinoda</i>) for biological control purposes; • Dissemination of prophylactic control measures; 		

⁴ WTO/STDF 225.

⁵ WTO/STDF 255 and 313.

<ul style="list-style-type: none"> • Training of trainers, producers and exporters; • Designation of and capacity building for "country focal point" personnel. 						
Outcomes and indicators of success						
<p>(1) Fruit fly control techniques:</p> <ul style="list-style-type: none"> • Implementation and monitoring of male fruit fly detection trapping activities in mango and citrus orchards; • Improved trapping of female fruit flies; • Publication of the outcomes in five leaflets and various international reviews. <p>(2) Capacity building for players:</p> <ul style="list-style-type: none"> • Training for DPV personnel in detecting fly species and monitoring trends in fly populations; • Helping with the development of fly detection and population control methods; • Helping exporters to comply with commercial quality standards (mangoes and other fruit if necessary). <p>(3) Institutional capacity building:</p> <ul style="list-style-type: none"> • Monitoring of the various activities at regional level. <p><i>The indicators of success had been previously defined within quite similar logical frameworks (see Annex VIII)</i></p>						
Budget (source documents, project identification)						
<table> <tr> <td>Operation STDF/PG/255</td> <td>Total: US\$694,540</td> <td>incl. STDF US\$279,620 (40.2%)</td> </tr> <tr> <td>Operation STDF/PG/313</td> <td>Total: US\$747,178</td> <td>incl. STDF US\$541,678 (72.5%)</td> </tr> </table>	Operation STDF/PG/255	Total: US\$694,540	incl. STDF US\$279,620 (40.2%)	Operation STDF/PG/313	Total: US\$747,178	incl. STDF US\$541,678 (72.5%)
Operation STDF/PG/255	Total: US\$694,540	incl. STDF US\$279,620 (40.2%)				
Operation STDF/PG/313	Total: US\$747,178	incl. STDF US\$541,678 (72.5%)				

2. METHODOLOGY

This evaluation was carried out in accordance with the "Guidelines for the evaluation of projects financed by the Standards and Trade Development Facility (STDF)". In accordance with the terms of reference for the evaluation (see Annex I), the objectives were as follows:

- to verify whether the project achieved the objectives set out in the project document;
- to determine whether the project fitted in with and had an impact on the underlying purpose of the actions supported by the STDF, namely improved market access;
- to identify the key lessons learned, for recipients and donors and for future STDF programme development.

2.1 Criteria and phases of the valuation

The evaluation was conducted in three separate phases:

(a) Desk study

The first stage of the evaluation consisted of a detailed study of the existing documentation. The main sources were:

- (i) the STDF Secretariat, which supplied the core documents (preparatory and project identification documents, progress reports, final implementation reports);
- (ii) the AFD, via a meeting with the official responsible for the PRLMF programme (currently ongoing under ECOWAS mandate) and focused on controlling the fruit fly;
- (iii) an Internet search by the consultant;
- (iv) the people questioned, in particular on field missions.⁶

⁶ Thanks are due, in particular, to Messrs Rey (CIRAD), Seck (CIR) in Dakar; Vayssieres (CIRAD) in Montpellier; J.R. Cuzon (AFD) in Paris and M. Sidibe (CIR) in Bamako, the entire PRLMF team (in particular, N. TRAORE and S. DIHOUE) and the SOGEROM team (Brussels).

The evaluator appreciated the contributions made by the supervisory agency (World Bank) and the project owner (ECOWAS). **Unfortunately, these contributions remained very modest**, no doubt owing to the lengthy period of time (five years) that elapsed between the implementation phase (2009–2011) and the evaluation (February 2016), which made access to information particularly difficult for those now responsible for the sector. The same applies to the FAO.

As a result of the evaluation a **bibliography** (a documentary database associated with an Excel spreadsheet, which made it possible to carry out a rapid search for documents by date, project, author, name, etc.) was compiled. The documents were collected on a **CD-ROM and passed on to the STDF Secretariat**.

(b) Gathering the views and impressions of project beneficiaries and partners

The second phase focused on gathering the opinions and impressions of the WAFFI projects' beneficiaries and partners. This was done by (i) circulating a questionnaire, (ii) holding telephone conversations, (iii) visiting partners (in France), (iv) carrying out two field missions, to Mali and Senegal, and (v) exchanging email messages.

Questionnaire: In collaboration with the STDF Secretariat, a **questionnaire** was drawn up, in French for the six French-speaking countries (Mali, Senegal, Côte d'Ivoire, Burkina Faso, Guinea, Benin) and in English for the two English-speaking countries (Gambia, Ghana). In preparing this questionnaire both the evaluation criteria and the objectives assigned to the project were taken into account.

The problems associated with this questionnaire related not so much to its preparation as to the identification of the recipients (for details see paragraph 2.2 Limitations and challenges). The questionnaire was sent to:

- the "country focal points", persons identified at the time of implementation of the STDF projects in the eight countries;
- the chairpersons and secretaries of the National Committees (CN) of the PRLMF (ECOWAS project), gathered in Dakar within the context of a workshop to launch the PRLMF project. The rationale for the questionnaire and the challenges associated with the evaluation were also described on that occasion by the consultant;

These first two groups of recipients were requested to circulate the questionnaire among at least ten players in their own country likely to be affected by the STDF projects. The aim was to obtain at least five responses per country.

- ECOWAS and member State government officials;
- the donor partners (in particular, USAID, WB, EC, CIR);
- the key private operators (exporters, in particular).

Thus, about **140 persons were contacted**, either directly or via the National Committees. With **18 replies**⁷ the response to the questionnaire was disappointing (see the analysis in paragraph 2.2(b) Limitations and challenges).

Telephone conversations: Telephone conversations were used to contact important players such as the expert (Mr Plumelle) responsible for the COLEACP complementary study.

Visits to partners: The consultant travelled to AFD headquarters to meet Mr Cuzon, in charge of the PRLMF project in process of implementation. This meeting yielded most of the documents contained in the database (CD ROM passed on to the STDF Secretariat). He also went to CIRAD (Montpellier) and met a HortSys team, including Mr Vayssières, a player at the heart of the implementation of the WAFFI projects.

Missions to Mali and Senegal: Two missions took the expert to Senegal (5 days from 22 to 26 February 2016) and Mali (20 to 25 March 2016). They made it possible to interview the principal beneficiaries involved in the project and to gather other information, documentation and requests for clarification. During these two visits, it was possible to meet the key persons and officials who had been involved in the project (in particular, the former project supervisor then

⁷ Including Cote d'Ivoire: 1; Senegal: 3; Mali: 3; Burkina Faso: 5; Ghana: 0; Gambia: 1; Benin: 0; Guinea: 2; other (TFP): 3.

working for the World Bank, COLEACP experts⁸, the CIRAD expert in Dakar (Mr Rey) and, above all, the private sector players, in particular the main exporters).

The choice of Mali was justified by the involvement in the meta-evaluation of the STDF/PG/283 operation specific to that country.

The mission to Senegal was prompted by the holding, in February, of a workshop organized by ECOWAS and the AFD and attended by the national committees in charge of the fight against the fruit fly within the PRLMF (ECOWAS/EU/AFD) project. This workshop provided an opportunity to meet the representatives of the National Committees of the eight countries.

Although these two missions were certainly useful, the expert considers that it would have been advisable:

== to extend the mission to Senegal by two days. Having to follow the business of a workshop made it impossible to make as many contacts as desired with the Senegalese private sector (large exporters, in particular), which did not participate in the workshop in question.

== to visit Côte d'Ivoire and Burkina Faso. Côte d'Ivoire is still West Africa's main mango exporter. The Ivorian private sector organization can provide information which it is not always easy to extract from the replies to questionnaires, especially those from private sector operators who rightly consider that "time is precious". Burkina Faso is the country with the most advanced (mango) producers' organization.

Email messages: Finally, numerous email messages were exchanged. They made it possible to supplement the information contained in the questionnaires, on a case by case basis.

(c) Analysis of information gathered and completion

The results of the study of the reports and all the information gathered from the replies to the questionnaire and during the two missions were analysed. A **provisional report** was prepared and sent for comment to the STDF Secretariat. It was then possible to draw up a **final report**.

2.2 Limitations and challenges

(a) The first of the challenges was that imposed by the long lapse of time (five years) between the end of the operations (March 2011) and the evaluation (March 2016). This delay led to the following constraints:

- **Difficulties in tracking down and contacting the beneficiaries and partners.** Thus, more than **430 beneficiaries were identified** of whom **185 (43%) had an email address**. It turned out that only **39 of these email addresses were still active**. For the beneficiaries who had not filed an email address, the representatives of the National Committees for fighting the fruit fly, encountered in Dakar, were invited to serve as a relay point with a view to "physically" circulating the questionnaires in their respective countries.
- Difficulties in **finding among the partners** (WB and USAID, in particular) or within the various States (except for Mali) **officials with experience of the projects** to be evaluated and obtaining access to their managerial or supervisory documents.

(b) The implementation and supervision of the projects to be evaluated had been entrusted to third parties (WB and CIRAD/IITA). The persons questioned had **difficulty in making a clear connection between the WAFFI projects and the STDF donor**. Thus, the WAFFI projects were identified as either "World Bank" operations or as "CIRAD" projects. Only a few government officials were able to make the connection "**the WAFFI project is a broad initiative broken down into several phases, of which phases 1 and 2 were financed by the STDF under the operation numbers PG/255 and 313**". Thus it was difficult to reply in full awareness of the projects to which the questionnaire related (despite the preliminary explanations contained in the questionnaire itself).

(c) The persons questioned were put off by the existence of a project (PRLMF – ECOWAS/AFD/EU) on the same theme in process of being implemented at the time of the evaluation. The players concerned (exporters, in particular) saw little value in spending time replying to a questionnaire on an operation from "another time". Some countries (Côte d'Ivoire, in particular) were ill-prepared for replying to the questions.

⁸ The former COLEACP official responsible for the project, now retired, did not wish to contribute.

These factors were largely responsible for the **modest number of replies (18) received**, despite several follow-ups.

(d) The quality of the CIRAD (implementing agency) reports was also questionable. Although the reports gave details of the research activities, the institutional and financial aspects were either missing or, at best, given little prominence.

(e) Although there can be no doubt about the quality of the World Bank's supervision, it appears that the communication between partners (WB and STDF to be precise) was not up to expectations. In particular, at the WB the evaluator was unable to find the Bank's monitoring documents. This too was undoubtedly due to the passage of time (the same officials were no longer in charge of the file).

(f) The quality of the monitoring of these operations by the STDF Secretariat appears to have been inferior to that observed in connection with other operations financed by the Fund (in particular, STDF/PG/283 in Mali). Although the identification was thorough, the lack of a mid-term evaluation is to be regretted. The evaluator considers that the supervisory role entrusted to the World Bank did not exempt the latter from inviting the STDF to participate more intensively in the monitoring of operations and neither did it exempt the STDF from insisting on participating. The implementation reports were all drawn up by the implementing agency (CIRAD) with the failings mentioned under (d) above. There was no final financial audit.

Thus, these challenges and limitations suggest prudence in extrapolating conclusions and assessments based solely on replies to the questionnaire. In fact, the evaluator's analysis was based on the interviews conducted during missions as well as on the analysis of the questionnaire (Annex IV). Unfortunately, the evaluator was only able to visit two countries (Senegal and Mali) out of the eight surveyed.

3. MAIN FINDINGS

3.1 Relevance

The relevance of the project was examined in terms of both the geographical target area and the subject matter.

In terms of the relevance of the geographical target area, **operations STDF/PG/255 and 313 were the first to give a regional dimension to the fight against the fruit fly.** There had previously been several initiatives to gain a better understanding of the problems and develop means of combating the fruit fly. These involved (i) research and development programmes, (ii) training measures and (iii) management actions. **These actions had previously only been conducted within a "country" framework** and financed by World Bank national programmes (PAFASP in Burkina, PCDA in Mali and PDMAS in Senegal), FIRCA in Côte d'Ivoire, the national plant protection services, and national and regional research centres (in particular, INERA in Burkina Faso, IER in Mali, ISRA and ENSA in Senegal). At regional level, there had been nothing until the West African Fruit Fly Initiative (WAFFI) programme involving seven then eight countries, with financial support from the WB, the EU and the STDF.⁹

The relevance of the subject matter was well established. The problem was a crucial one involving serious losses in terms of tonnage spoilt (not precisely determined but unanimously recognized by the survey population – with some countries citing the loss of up to 80% of the harvest owing to the effects of the fruit fly). At the time the project operations began, the lack of technical means of preventing the damage caused by the fruit fly was clearly recognized.

Conclusion: Projects STDF/PG/255 and 313 were recognized as being particularly relevant, with respect to both the geographical dimension of the action (regional) and the choice of subject matter (providing the producers with a technical response to the problems caused by the fruit fly).

⁹ See Table 2.

3.2 Effectiveness

It may be worth recalling that projects STDF/PG/255 and 313 were, respectively, phases 2 and 3 of the generic WAFFI operation. This initiative had the overall objective of making available to the players in the mango subsector technical solutions to the problem of the damage being caused by the fruit fly. Thus, WAFFI was intended simultaneously (i) to promote research on fruit fly identification and awareness of the trend in populations, (ii) to perfect means of control, (iii) to perfect an appropriate population surveillance system and (iv) to disseminate the information at regional level.

To achieve these objectives, phases 2 (STDF/PG/255) and 3 (STDF/PG/313) of this regional initiative were organized around the activities summarized in the following table:

Tasks	Outcomes
STDF/PG/255	
<ul style="list-style-type: none"> Continue detection trapping to gain a better understanding of fly species pullulation peaks and use it as an aid to decision-making in triggering treatments with GF-120. 	<p>Accomplished. Subject of IITA leaflet No. 3. Eight focal points for eight countries, i.e. as many pilot areas and agro-ecological zones (AEZ). Details in the progress report (document MdF 028 in the document base). Equipment provided and installed.</p>
<ul style="list-style-type: none"> Specify the economic injury level (EIL) above which treatments will be triggered. 	<p>Accomplished. Subject of IITA technical leaflet No. 7. Comments: Difficulties encountered. In some countries (Ghana, Guinea) it was difficult to find orchards five hectares in size (minimum area for a research protocol (2 traps/ha)).</p>
<ul style="list-style-type: none"> Continue the training of trainers while involving the orchard owners (leaders of producers' associations) and exporters with a view to making a direct and stronger impact on fruit quality improvement (mangoes, citrus). 	<p>Accomplished. Persons trained = orchard owners (leaders of producers' associations) and exporters. = 20 trainers trained per country. = 25 producers trained per AEZ and per country.</p>
<ul style="list-style-type: none"> Proceed to multi-location testing with spot treatments in the "pilot orchards" using GF-120. 	<p>Accomplished. Subject of IITA/CIRAD technical leaflet No. 4. Comments: Difficulties encountered. In Burkina Faso, owing to administrative (availability of focal point) and financial (administrative difficulties at PAFASP level with the disbursement of follow-up financing) problems, follow-up was irregular. In Mali, in the Sikasso AEZ, follow-up was irregular for reasons associated with the availability of the follow-up agent.</p>
<ul style="list-style-type: none"> Promoting the optimized management and control of weaver ants in the orchards. 	<p>Implemented only in Benin, owing to difficulties in finding suitable orchards (red ants destroyed by producers) and because of the reluctance of the producers to accommodate such an experiment in their orchards.</p>

Tasks	Outcomes
STDF/PG/313 => <u>Continuation of activities initiated during phases 1 and 2, namely:</u> <ul style="list-style-type: none"> Monitoring of fruit fly population fluctuations with detection trapping in the mango orchards and compilation of a database. GF-120 effectiveness test (demonstration for the countries that had carried out this campaign and test for the others). Setting up of demonstration tests on the management and use of weaver ants. Training workshops for pilot orchard owners and exporters. <ul style="list-style-type: none"> Continuation of detection trapping to gain a better understanding of fly species pullulation peaks and use it as an aid to decision-making in triggering treatments with GF-120. => <u>New activities to be initiated during phase 3:</u> <ul style="list-style-type: none"> Test of the male annihilation technique (MAT) in the mango orchards in Benin. Monitoring of fruit fly population fluctuations with detection trapping in citrus orchards in five countries (Guinea, Ghana, Togo, Senegal, and Benin). Improved trapping of Tephritidae females. Monitoring of the various activities at regional level. 	(1) Fruit fly population peaks in mango orchards identified. (2) Improved trapping of <i>Ceratitls spp.</i> and <i>Bactrocera invadens</i> females in mango orchards. (3) Dissemination of prophylactic control/training methods and various demonstration tests under field conditions for prophylactic control methods (mango orchards). <u>Comments:</u> > The times of appearance of fruit flies and their pullulation peaks in various AEZs are known, making it possible to improve the management of the integrated campaign in mango and citrus orchards. > Attractants have been tested and the mixture "NuLure + borax" has been found to be the most effective for catching female <i>Ceratitls</i> , making it possible to reduce their number. > The prophylactic control method has significantly reduced fruit fly populations and the damage caused by the flies in mango orchards. The following technical leaflets have thus been produced: leaflet No. 6 = Main methods of integrated fruit fly management in West Africa. leaflet No. 7 = Evaluation of the damage caused to the mango tree by fruit flies and calculation of the <i>economic injury level</i> (EIL). leaflet No. 8 = Range of cultivated and wild host plants for the main species of mango <i>Tephritidae</i> in Benin. leaflet No. 9 = Main cultivars of the mango in Benin and their socio-economic importance. leaflet No. 10 = Fruit fly control through phytosanitary orchard hygiene: prophylactic control.

Conclusion

Projects STDF/PG/255 and 313 were effective, achieving the objectives established during project identification, and obtained the following results:

- information provided at regional level,
- organization of various training sessions (ToT, ToG, ToE) for each partner country,
- support for pilot orchards (3/AEZ/country) in eight West African countries,
- instruction of university students (Cotonou, Lomé, Abidjan, Dakar)¹⁰,
- participation in national and international conferences,
- drafting of technical leaflets and notes for the COLEACP-CIRAD newsletter, to supplement the STDF/PG/287 operation,
- publication of scientific articles, generally in prominent reviews.

3.3 Efficiency

The efficiency of this project should have been evaluated in terms of considerations relating to the budget, the resources deployed, the consultants recruited, the regulations in effect and other factors which might have contributed to or detracted from the success of the project and its main outcomes.

Budgets: The data relating to credit consumption were not sufficiently accessible. There were five reasons for this:

¹⁰ Not verified by the mission.

- (1) the project implementation reports were entrusted to the implementing agency (CIRAD), which developed the technical dimension in great detail but almost totally failed to report on credit consumption;
- (2) attempts to seek the help of the supervisory agency, the World Bank, were unfruitful. The official in charge having moved on, his successors were unable to access the data (no doubt because of the time that had passed since the operations ended);
- (3) the almost total absence of an interim follow-up report (1 for project 255, none for project 313) calls for a recommendation (see section on lessons learned and recommendations);
- (4) there was no financial audit at the end of the project;
- (5) as shown by the following table, the few pieces of information obtained were not all consistent:

	Total cost of project US\$	incl. STDF share US\$	Source
STDF/PG/255	660,940	279,620	<<< project note (STDF Internet site)
	no information	279,620	<<< interim follow-up note
STDF 313	788,524	499,537	<<< project note (STDF Internet site)
	no data	no data	<<< final report (CIRAD)
	747,178	541,678	first STDF progress report (estimates)

Altogether, and in the absence of a final financial audit, the mission can only record that the total cost of the two projects must have come close to US\$1.4 million, which overall seems normal for research carried out in eight different countries.

Conclusion

With regard to the efficiency of the project implementation, the project activities were carried out within the time allowed in accordance with the project timetable. The specified personnel were recruited.

Due to lack of information from the supervisory agency (World Bank), the evaluator was unable to judge the total costs (in particular, the funds contributed by the WB).

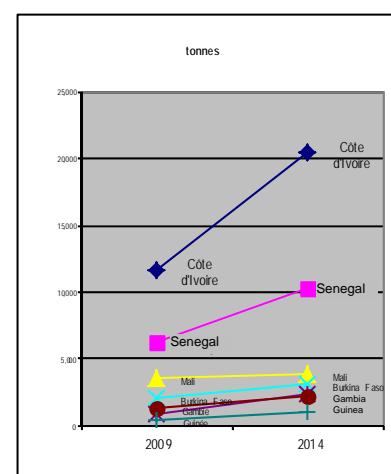
In view of these difficulties, it was agreed with the STDF that, for lack of information, these financial aspects would not be dealt with in this report.

3.4 Impact

According to the logical frameworks that were to accompany the implementation of the projects, the purpose of the STDF projects was both (i) to facilitate access to the export markets for the countries concerned and (ii) to improve the income of the producers.

The evaluation took care to verify the trend in mango exports and the trend in interceptions due to fruit fly found on consignments of exported mangoes. Only the European market was examined, since at the end of the project it was accounting for most exports of West African mangoes.

Purely in terms of **exports**, the impact of the project could be considered very positive. Between 2009 and 2014, the quantities of mangoes exported to the EU increased by 67% in tonnage and 101% in value. This "export-boosting" effect was noted in most of the replies to the questionnaire and in interviews.

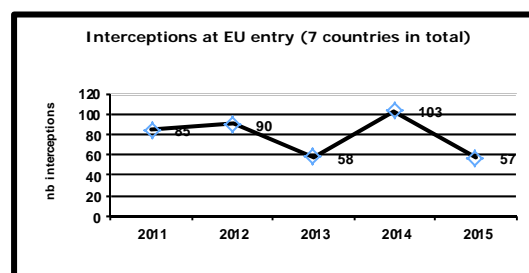


The factor on which attention needs to be focused is the **increase in the value of the tonne exported** and hence the **commitment to a "quality" approach, which differed sharply from country to country**. Thus, the price of mangoes per tonne exported declined in Senegal (-31%

between 2009 and 2014) and in Mali (-3%), whereas it increased particularly strongly in Burkina Faso (+76%) and Ghana (+144%).¹¹

Where the **decline in interceptions** is concerned, the impact is not as clear-cut. There is a slight tendency for the number of interceptions to fall, which, if confirmed, could also be evidence of a commitment to a qualitative approach.

However, according to the interviews, this tendency has been counteracted by the appearance of very small exporters on the market, more interested in the prospect of opportunities for gain than in firm and lasting participation in a quality approach involving the players in the sector.



An improvement in producers' incomes was not apparent from the replies to the questionnaire or from the interviews. There was no household survey that might have been used to evaluate this effect.

Conclusion:

Impact measurement was not explicitly considered in the project design phase. One of the few advantages of the five-year delay between the end of the projects and this evaluation is that it provided an opportunity to stand back in order to assess this factor. Overall, the impact was positive, insofar as it is possible to establish a correlation (even partial) between the project actions and exports (which increased appreciably), on the one hand, and the decline (weak and irregular) in interceptions, on the other. An unexpected impact of the projects was to bring the players in the sector into contact – via training sessions – thereby drawing attention to the (undisputed) advantage of pooling efforts within the sector with a view to adopting a quality approach.

3.5 Sustainability

The notion of sustainability of the actions undertaken was likewise not explicitly considered in the project design phase.

Sustainability was evaluated on the basis of (i) the analysis of the replies to the questionnaire and (ii) the report of a regional workshop on pooling knowledge about the fruit fly question, conducted by COLEACP in Ouagadougou in February 2012.¹²

The efforts made and the results achieved – **in the area of CONTROL** – made it possible to arrive at the following conclusions:

- According to the researchers, the measures taken led to the development of "simple, easily accessible and inexpensive technologies using locally available materials".
- The projects revealed the very interesting potential for biological control, arousing keen interest among the players in the mango subsector.
- Spot treatments work, but in some cases are not being properly used, because knowledge of the method has not yet been widely disseminated.
- The phytosanitary problems of the mango call for an integrated approach. An integrated pest management (IPM) scheme has still to be set up, since the producers are preoccupied with other problems (notably bacteriosis) as well as fruit fly.
- It is agreed that every AEZ is a special case.

¹¹ Some doubts about the data relating to Ghana, however.

¹² Workshop entitled "In search of solutions for the small producers of the mango subsectors of West Africa" - COLEACP (PIP and EDES) – Ouagadougou 21-23 February 2012, with the participation of public and private players from the principal mango-exporting countries of the West African subregion, namely: Burkina Faso, Mali, Senegal, Côte d'Ivoire, Guinea, Cameroon and Benin, including exporters, government agencies, donors, and researchers (INERA, IER, CRRA, IITA, CNRA, CIRAS, ENSA).

However, **many doubts remain** with regard to the control methods employed, in particular:

- Concerning **methods that are technically feasible** but whose **high cost and social requirements** (availability of labour) make them inaccessible or unacceptable:

Although this socio-economic dimension of the fruit fly problem is a decisive and essential factor influencing the attitude of the producers to the innovative solutions proposed, it has not been taken sufficiently into account. Thus, the shortage of data on the costs associated with the various control options is creating uncertainty, with a detrimental effect on decision-making.

The arduousness for the producers of having to gather infested mangoes every day is not sufficiently recognized, but ways of exploiting by-products could be explored, which would encourage the use of prophylactic and orchard-maintenance measures, recommended but too infrequently applied.

There is also a serious shortfall where advisory services are concerned. The producers lack the information needed to control fruit flies.

One of the big questions

- Concerning the **establishment of transfer schemes for small producers in the various countries**:

Actions are not being coordinated, even though mobilization and coordination between the players in the subsector are indispensable, as is coordination between the countries of the subregion.

Clearly, where **surveillance** is concerned, at the end of the project **everything still remained to be done**.¹³ No progress at all had been made with organizing observation or with building the capacity of the plant protection services (training but above all provision of the means for observation and inspection).

Conclusion:

It is in the area of sustainability that the evaluation finds the outcome to be least satisfactory. Much has been done to fight the fruit fly, but on a pilot basis. Expectations are high regarding methods that are technically effective but not readily accessible (high cost, insufficient supply of labour, insufficient access to information). The need to progress within a regional framework, outlined in the projects, has been confirmed. According to the beneficiaries encountered, "There is a huge job of work still to be done, which the PRLMF is going to have to complete!"

4. General conclusions and recommendations

The evaluation of these projects leads to conclusions that relate to both their functional/institutional (project management and evaluation) and technical aspects.

TECHNICAL ASPECTS

In terms of the criteria adopted for evaluation purposes, these two projects have achieved the results expected, as set out in the project documents.

Their **relevance** has been unanimously recognized and their **effectiveness** is considered to be good in relation to the specified objectives. The **efficiency** could not be fully appraised because of the lack of information from the supervisory agency (World Bank), but the timetables were met and the resources mobilized appear to have been proportionate to the extent of the work area, which spanned eight countries.

The questions relate to **impact and sustainability**, factors apparently overlooked in preparing the project. Overall, the impact has been positive if one considers the trend in mango exports and interceptions at entry into the EU area, insofar as there is a direct relationship between the

¹³ The field missions (perhaps too short) did not make it possible to verify whether there had been an improvement in the surveillance situation since the end of the project.

projects and these factors. Thus, exports have noticeably increased, while there has been a decline – admittedly weak and irregular – in interceptions.

An unexpected impact of the projects was to bring the players in the sector into contact – via training sessions – thereby drawing attention to the (undisputed) advantage of pooling efforts within the sector with a view to adopting a quality approach.

Where sustainability is concerned, the evaluation gave the least good result. Much has been done to control the fruit fly, but only at pilot level and there are genuine doubts about the feasibility of the techniques proposed (in particular, in terms of the labour force required) and also about their accessibility (in terms of both costs and advisory services).

The **need to progress within a regional framework**, outlined in the projects and officially recognized since 2008 (ECOWAS), has been confirmed. A huge job of work remained to be done, in its turn opening up the path for a regional programme (PRLMF €23.5 million), although it is hard to understand why it took until 2015 for that programme to be put into effect.¹⁴

However, opening up the path for a broader and more ambitious programme is not a criterion that could be regarded as detracting from a research and development project. In fact, it confirms the status of initiatives, or projects that initiate a movement, which is what the WAFFIs ultimately were.

These WAFFIs (and through that initiative, projects STDF/PG/255 and 133, of which they constituted phases 2 and 3) have remained in people's minds¹⁵ as a series of applied research operations defining a series of "technological packages" centred on prophylaxis, the perfecting and promotion of the "Success Appat" fruit fly bait, and mass trapping (males/ females), which made biological control the flavour of the month.

In particular, it is recognized that the WAFFIs succeeded in **defining technological packages linked with the various AEZs**.

On the debit side of the WAFFIs we find:

- (i) the organizational difficulties;
- (ii) restriction to the pilot-orchard level without mass dissemination of the results of the research, with technical leaflets in French and English (not in the local languages);
- (iii) technological packages that do not take the production systems into account and are not spread out over time;
- (iv) inadequate development of the socio-economic aspect (applicability of the packages).

Among the weaknesses of the WAFFIs the evaluation also noted the **omission of or inability to utilize local initiatives** (often ad hoc but nonetheless interesting), such as:

- In Senegal: the "extension" initiatives conducted by the DPV (with USAID funding), which provided small producers with (a) logistical support (vehicles/motorbikes), equipment and phytosanitary products, (b) training for 3,500 producers, and (c) a communication campaign. These initiatives were based on various ("bottom up") approaches unverified by the evaluation (time constraints during field missions).
- In Mali and Burkina Faso: the private initiative (Durabilis foundation) on information for the growers (orchard maintenance), a village-level project for phytosanitary control in the orchards maintained and a producer/ Durabilis partnership for marketing the products, plus support in the form of training in the packaging stations.

Overall, in terms of the strictly technical aspects and within the limits of the framework established for operations STDF/PG/255 and 313, the latter were carried out successfully. However, the evaluation suggests one recommendation.

¹⁴ This aspect will be developed in the summary meta-evaluation report.

¹⁵ In particular, those of COLEACP which, in June 2012, organized a workshop in Ouagadougou on pooling knowledge on the subject of the fruit fly, some of the conclusions of which have been incorporated in this report.

Facts	Recommendation
Although the complementarity between operations financed by the STDF was satisfactory, it must be acknowledged that the complementarity with the operations financed by other donors leaves much room for improvement.	In the <u>project identification phase</u> : take into account the achievements of other projects (which is not always the case when identification results from an approach led by a body which may have its own agenda (research?)). At the time of <u>project implementation</u> : formally include a concern for openness to the activities carried out by other operators, donors, etc.

FUNCTIONAL and INSTITUTIONAL ASPECTS

These are the aspects which led the evaluator to make recommendations:

- 1. The period of five years that elapsed between the end of the second project (STDF 313) – six years for project 255 – was a decisive factor in the evaluation process, which should lead, if it were to happen again, to the adoption of specific measures.**

First of all, this very lengthy lapse of time determined the quality of the replies to the questionnaire, which were far below expectations in terms of both number and relevance (18 out of 140 despite follow-ups).

The field missions, of which there were only two (MALI and SENEGAL) did not totally suffice to close the gaps in field information, particularly as regards the implementation conditions. It would have been very useful if these visits had been supplemented with missions to Côte d'Ivoire (in view of its position in the mango export trade and the specific role of the exporters) and Burkina Faso (considering the very specific role of its producers' organizations). Budgetary constraints made this impossible. Supplementary contacts by telephone or email did not suffice to close the information gap.¹⁶

The negative consequences of this factor were reinforced by the fact that the evaluation was carried out at a time when a new project (PRLMF), led by ECOWAS with ECOWAS/AFD/EU financing, was just beginning to be implemented. All the players were absorbed in this new project, both because of the large amount of funding involved (€23.5 million) and because energies are naturally mobilized by start-ups.

This leads the evaluator to make the following initial recommendation:

Facts	Recommendation
The lapse of time between the end of the project and the evaluation may, if it exceeds 2-3 years, have a serious impact on the quality of the evaluation.	In order to limit the practical problems (finding players who actually experienced the implementation process, among both beneficiaries and partners, particularly donors), the proper conduct of <i>ex-post</i> evaluations requires that field missions be regarded as all the more indispensable the longer the lapse of time between the end of the project and the evaluation. Indeed, the people in the field feel much more responsible and proud for having had their feedback taken into account, provided they are sought out, and that cannot be done without a field visit. For example, this evaluation did not receive any information from Côte d'Ivoire, even though it plays a major part in West African mango exports.

The evaluator does not overlook the fact that, on the other hand, such a time lag can have a positive outcome insofar as it provides more hindsight with which to judge impact and sustainability.

- 2. Reconsider the role of evaluation in the life of the project, particularly when the project involves partnerships with different cultures (research, training, etc.).**

A first finding concerns the **uneven quality of the identification and supervision documents** for these two projects. The "research technique" aspects were treated with professionalism (what to look for, how to draft protocols, etc.). The "development" aspects were much less carefully studied. Thus, it is not obvious¹⁷ that due attention was paid to the applicability of the methods

¹⁶ Despite the good will of the two DPV heads of service, Ms Mariam SOME (Burkina Faso) and Ms Angèle YAO AMENAN (Côte d'Ivoire).

¹⁷ The evaluator has in mind the fact that he was unable to obtain from the supervisor (WB) any documents which might, during the identification or mid-term evaluation phase, have contradicted his

developed, in particular at the social and economic levels, given that the context was one of small producers and orchards of less than five hectares, often planted with a mix of mangoes and other crops (papayas, citrus, etc.) and, moreover, given the need to consider the "availability of labour" for cultivating the orchards, gathering fallen mangoes, pruning, etc. A mid-term evaluation would certainly have made it possible to rectify this aspect. Could this aspect be the result of a possibly excessive involvement of the implementing agency (CIRAD) in the preparatory phase having given the initiative so unbalanced a character?

A second finding relates to the place of the donor STDF, since it seems that – in the case of these two projects – it delegated its follow-up prerogatives to supervision by another partner, the World Bank. Difference in scale between STDF and WB, different procedures? In the evaluator's experience there have been instances in which the WB has been able to treat funds from other partners as *Trust Funds* exempt from any reporting other than a final report. It is also possible that the STDF did not go "looking for information". This evaluation is not concerned with the cause but rather the consequence of this phenomenon, namely, that at the time it was being carried out the evaluation lacked information from the supervisor which could indicate that at some point during implementation someone – among the Technical and Financial Partners (TFP) – went and revisited the logical framework, its indicators, its hypotheses, etc.

Facts	Recommendation
<p>Projects STDF/PG/255 and 313 present the characteristics of projects (a) "mounted" more for research than for development and (b) having suffered from a lack of follow-up/evaluation.</p>	<p>In the light of the evaluation of these two projects, the evaluator draws attention to the interest the STDF Secretariat might have had in revisiting its vision¹⁸ of the supervision of the projects it finances and, in particular:</p> <ul style="list-style-type: none"> (a) the care to be taken in constructing the logical frameworks and their utilization in the course of the project; (b) its own role when the supervision of the implementation process is entrusted to another TFP (such as the WB, for example); (c) the total and complete inclusion of the evaluation in the project process, both during and after implementation, by the beneficiary and the donor as well as by the Implementing agency; (d) the advantage, for future projects, of incorporating in the project timetables a post-activities follow-up phase. Thus, after the holding of its final workshop, the project would remain operationally active for a period of three to six months so that follow-up/evaluation activities could be carried out in order to determine whether the project achieved its objectives in terms of outcomes and in the event of recommendations having been made, whether they were taken into account by the beneficiaries. In parallel with this, the <i>ex-post</i> evaluation proper would be maintained longer-term, in order to measure impact and sustainability.

5. Lessons learned

First of all, the workshop held in Ouagadougou in February 2012, i.e. six months after the end of project STDF 313, summed up the **technical lessons** learned from projects WAFFI 2 and 3, namely:

- The **economic dimension** of the fruit fly problem is a decisive and essential factor in the adoption of technical solutions.
- There is **no single solution** that would be universally valid, but integrated pest management should be adapted to suit the AEZs and production systems. This work should involve all the players and mainly the producers. Outreach work with the producers is essential.
- In the area of **advisory services**, it appears that the tools need to be improved and that the organization of the producers and capacity building for the associations are essential for them to be able to play their part within a national pest control strategy.
- The involvement of the producers at the grass roots from the outset of the various initiatives is indispensable.

impression that these projects were conceived as excessively oriented towards "research" and not sufficiently towards "development".

¹⁸ It seems that this concern has been taken into account since the end of the projects.

- **"Working in reverse"**¹⁹, by starting from the energy generated at State level and then proceeding to address the problem at regional level (since regional coordination is indispensable in view of the extent of the fruit fly problem).

Likewise, considering the interest it arouses among the producers themselves, **priority should** be given to **integrated fruit fly management**.

It is necessary **to extend the gains made by the projects to the other participants in the mango chain** who were not among the beneficiaries, in particular, the small producers, as the WAFFIs involved only a tiny fraction of the producer population.

It is a matter of extreme urgency **to prepare for an integrated campaign against other agents**, primarily bacterioses but also cryptogamic diseases and termites, which are beginning to destroy the orchards and their produce. And to extend the achievements already recorded in the mango subsector to other subsectors and to encourage exchanges between them.

It would be desirable to consider how to capitalize on the gains made thus far at a level broader than the national or regional framework²⁰ and to envisage the creation and promotion of networks of professionals.

Finally, the evaluation notes that these projects:

- highlighted the complementarity among SDTF operations and, in this particular case, with the STDF/PG/287 operation (this point will be developed in the summary report);
- played a decisive role in the setting up of a regional programme currently in the process of implementation.

On the other hand, it turns out that they did not have a notable socio-economic impact, which, however, did nothing to detract from their relevance (they successfully addressed the needs identified). Indeed, inasmuch as they were precursor projects, it would be difficult to expect anything better.

¹⁹ According to the expression heard at the Dakar project launching workshop (meeting of PRLMF "country" teams). This approach is that chosen by the PRLMF project.

²⁰ This aspect will be developed in a summary meta-evaluation report.