



**Final report**

# **Post-Harvest Management in Sub-Saharan Africa – FAO/IFAD/WFP End of Project Evaluation**

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## Acronyms

BFH	Bern University of Applied Sciences, <i>Berner Fachhochschule</i>
BCR	Benefit Cost Ratio
CAPEX	Capitalization of experiences
CBA	Cost Benefit Analysis
CoP	Community of Practice
FAO	Food and Agriculture Organization of the United Nations
FGD	Focus Group Discussion
FLA	Food Loss Analysis
GPLP	Grain post-harvest loss prevention
HAFL	School of Agricultural, Forest and Food Sciences, <i>Hochschule für Agrar-, Forst- und Lebensmittelwissenschaften</i>
IFAD	International Fund for Agricultural Development
IRR	Internal Rate of Return
KII	Key Informant Interviews
NPV	Net Present Value
PHFLW	Post-Harvest Food Losses and Waste
PHL	Post-Harvest Losses
PHM	Post-Harvest Management
PHTs	Post-Harvest Technologies
RBAs	Rome-Based Agencies of the United Nations
SSA	Sub-Saharan Africa
SWOT	Successes Weaknesses Opportunities and Threats (evaluation method)
ToR	Terms of Reference
VC	Value Chain
WFP	World Food Programme

## Executive summary

The present report presents the end-of-project evaluation of the initiative “Mainstreaming food loss reduction initiatives for smallholders in food deficit areas”, financed by the Swiss Agency for Development and Cooperation (SDC) and implemented by the three Rome-based agencies (RBAs) of the United Nations (UN) FAO, WFP and IFAD between 2013 and 2020 in Burkina Faso, Uganda and DR Congo. Besides its three target countries, the project also worked across three different outcomes, namely:

- (1) Knowledge of the magnitude and sources of food losses and the methodology for food loss analyses expanded and good practice options for reducing post-harvest losses are compiled and disseminated through a reinforced, multi-language and fully functioning Community of Practice on food loss reduction (CoP) website.
- (2) Improved post-harvest management within the targeted value chains are benefiting smallholder farmers in countries through the dissemination of results of food loss analyses and the experience of pilot food loss interventions.
- (3) Policy and regulatory frameworks (policy, standards) on reducing food losses in food supply chains are developed and validated at national and regional levels.

The project itself was regarded as innovative in that it was the first ever jointly implemented institutional project collaboration of the three RBAs. Based on the offer submitted to and accepted by SDC, the School of Agricultural, Forest and Food Sciences (HAFL), a department of the Bern University of Applied Sciences (BFH), was mandated to conduct this evaluation. It was originally foreseen to conduct data collection in all three target countries. However, as a result of the Covid-19 pandemic, the evaluation was carried out entirely online, based on the project documents made available for review through SDC and the project implementers, as well as remote data collection with key stakeholders of the three RBAs and in the target countries.

In order to offer an overview both to the quick and the in-depth reader, the following paragraph provides a structural summary of this report. After the methodology (chapter 2), the evaluation report presents a brief description of the project since its inception, with the set of outcomes, theory of change and main achievements, as well as project set-up and implementation. Some quantitative elements are presented in this part, such as the main project facts (costs and contributions, key indicators). This is followed by the assessment of the project by its key stakeholders, in the form of a SWOT analysis (chapter 3). Chapter 4 is dedicated to the analysis of the data presented in chapter 3. This is where the key questions of the evaluation (relevance, effectiveness, efficiency, sustainability and impact) are discussed and assessed. An economic and financial analysis (including a cost benefit analysis (CBA)) is also proposed in this chapter. Finally, chapter 5 draws conclusions and proposes recommendations based on the results of the evaluation. Additional postscript remarks, based on SDC’s as well as a review by Dr Anna Crole-Rees, are provided at the end of the report.

Across the assessed OECD DAC evaluation criteria relevance, effectiveness, efficiency, impact and sustainability, which are the methodological reference framework of this evaluation, mixed results have been obtained, notably not only between the different criteria per se, but particularly also between the different outcomes and target countries. As such, it should first and foremost be stressed that the project had a very complex organizational set-up: central steering through the project management based at FAO in Rome, three very different outcomes, three RBAs, each with their own distinct institutional priorities, approaches, and administrative procedures, as well as three target countries.

The collected and analyzed data revealed that with regards to its overall relevance, there was a broad consensus that the project has addressed a highly important topic, especially in view of major international developments targets under the Agenda 2030. In that sense, it became clear that the project was not only innovative in that it was jointly implemented by the three RBAs, but also had pilot character in addressing a topic – post-harvest food losses and waste (PHFLW) – that had otherwise and historically received too little attention by the international development community. While it was found that the project had mostly been on track with regards to the foreseen activities and outcomes, more controversial results have

been obtained in terms of its effectiveness and efficiency, which differed greatly between country contexts and outcomes and also critically addressed how the implementing organizations have collaborated (widely stressed as undynamic and bureaucratic). For example, important doubts remain if UN agencies should generally act as implementers of pilot interventions for the reduction of PHL (outcome 2), although some key stakeholders saw exactly these activities as the core piece of the project. On another matter, the establishment of a community of practice (CoP) around PHFLW (outcome 1) is to be highlighted as one of the key achievements of the project, also with regards to sustainability aspects as it was fully integrated in the newly created FAO Technical Platform on the Measurement and Reduction of Food Loss and Waste at the end of the project. However, its outreach to development practice and resources invested for its creation remain controversial. A major impact of the project has certainly been the stronger recognition and establishment of the whole thematic. The direct and indirect impacts relating to activities under outcome 2 may be described as scattered and rather limited in terms of scalability potential, and with regards the establishment and coming-into-effect of an improved policy and regulatory framework addressing PHL in the three target countries it was found that it may be too early to assess the related impacts. The fact that under outcome 2 the pilot activities were supported with subsidies for PHTs limits the possibility to assess the economic potential for developing a business case around the PHTs.

Importantly, the recommendations based on the project evaluation include that the reduction of PHL in SSA requires continued support by the international development community, relating to the dissemination of improved PHL reduction options, a better understanding of farmers' PHM decisions as well as the long-term perspective of an improved policy and regulatory framework. Finally, it remains to be said that all these conclusions and recommendations must also be able to draw on a closer institutional collaboration of the three RBAs and beyond.

## Résumé exécutif

Le présent rapport présente l'évaluation finale du projet "Intégrer les initiatives de réduction des pertes alimentaires pour les petits exploitants dans les zones à déficit alimentaire", financé par la Direction du Développement et de la Coopération (DDC) et mis en œuvre par les trois agences des Nations Unies basées à Rome (FAO, PAM et FIDA) entre 2013 et 2020 au Burkina Faso, en Ouganda et en République démocratique du Congo. Outre ses trois pays cibles, le projet a également travaillé sur trois outcomes différents, à savoir :

- (1) La connaissance de l'ampleur et des sources des pertes alimentaires et la méthodologie d'analyse des pertes alimentaires existantes et des options de bonnes pratiques pour réduire les pertes après récolte sont compilées et diffusées par le biais d'un site web renforcé, multilingue et pleinement opérationnel de la Communauté de pratique sur la réduction des pertes alimentaires (CoP).
- (2) L'amélioration de la gestion post-récolte dans les chaînes de valeur ciblées profite aux petits exploitants agricoles des pays grâce à la diffusion des résultats des analyses des pertes alimentaires et de l'expérience tirée des interventions pilotes en matière de pertes alimentaires.
- (3) Des cadres politiques et réglementaires (politique, normes) sur la réduction des pertes alimentaires dans les filières alimentaires sont élaborés et validés aux niveaux national et régional.

Le projet lui-même a été considéré comme innovant notamment par le fait qu'il s'agissait de la première collaboration institutionnelle des trois RBAs pour la mise en œuvre conjointe d'un projet. Sur la base de l'offre soumise à la DDC et acceptée par celle-ci, la Haute école des sciences agronomiques, forestières et alimentaires (HAFL), un département de la Haute école spécialisée bernoise (HESB), a été mandatée pour mener cette évaluation. Il était initialement prévu de procéder à la collecte de données dans les trois pays cibles. Toutefois, en raison de la pandémie de Covid-19, l'évaluation a été réalisée entièrement en ligne, sur la base des documents de projet mis à disposition par la DDC et les responsables de la mise en œuvre du projet, ainsi que de la collecte de données à distance auprès des principaux acteurs des trois RBA et dans les pays cibles.

Le présent rapport est structuré comme suit : après la méthodologie (chapitre 2), le rapport d'évaluation présente une brève description du projet depuis son lancement, avec l'ensemble des outcomes, la théorie du changement et les principales réalisations, ainsi que la mise en place et la réalisation du projet. Certains éléments quantitatifs sont présentés dans cette partie, tels que les principaux faits du projet (coûts et contributions, indicateurs clés). Cette partie est suivie de l'évaluation du projet par ses principales parties prenantes, sous la forme d'une analyse SWOT (chapitre 3). Le chapitre 4 est consacré à l'analyse des données présentées au chapitre 3. C'est là que les questions clés de l'évaluation (pertinence, efficacité, efficience, durabilité et impact) sont discutées et évaluées. Une analyse économique et financière (y compris une analyse coûts-bénéfices (ACB)) est également proposée dans ce chapitre. Enfin, le chapitre 5 tire des conclusions et propose des recommandations basées sur les résultats de l'évaluation. D'autres remarques post-scriptum, basées sur celles de la DDC ainsi que sur une analyse de Dr Anna Crole-Rees, sont fournies à la fin du rapport.

Dans l'ensemble, l'analyse des critères d'évaluation du CAD de l'OCDE - pertinence, efficacité, efficience, impact et durabilité – (qui constituent le cadre de référence méthodologique de cette évaluation) a donné des résultats mitigés, d'une part entre les différents critères, d'autre part et surtout entre les différents outcomes et les pays cibles. Ainsi, il convient avant tout de souligner que le projet avait une structure organisationnelle très complexe : un pilotage central par la direction du projet basée à la FAO à Rome, trois outcomes très différents, trois agences d'exécution (RBA), chacune ayant ses propres priorités institutionnelles, approches et procédures administratives, ainsi que trois pays cibles.

Sur la base des données collectées et analysées, il ressort un large consensus sur la pertinence globale du projet, notamment sur le fait que le projet a abordé un sujet très important, en particulier au vu des objectifs de développement international majeurs dans le cadre de l'Agenda 2030. En ce sens, il est apparu clairement que le projet était non seulement novateur au vu de sa mise en œuvre conjointe par les trois RBA,



mais qu'il avait également un caractère pilote en abordant un sujet - les pertes et le gaspillage alimentaires (PHFLW) - qui, historiquement, n'avaient reçu que trop peu d'attention de la part de la communauté internationale du développement. De manière générale, l'évaluation a constaté que le projet était pour l'essentiel sur la bonne voie en ce qui concerne les activités et les outcomes. Toutefois, des résultats plus contrastés sont ressortis en termes d'efficacité et d'efficience, qui différaient fortement selon les contextes des pays et les outcomes et ont mis en lumière de manière critique la manière dont les organisations de mise en œuvre ont collaboré (une collaboration largement perçue comme peu dynamique et bureaucratique). Par exemple, d'importants doutes subsistent quant à savoir si les agences des Nations Unies devraient être mandatées en tant qu'agences d'exécution pour des interventions pilotes visant la réduction des pertes post-récolte à la base (outcome 2) même si certains interlocuteurs clés considèrent exactement ces activités comme la pièce maîtresse du projet. Par ailleurs, l'établissement d'une communauté de pratique (CoP) autour des PHFLW (outcome 1) doit être souligné comme l'une des principales réalisations du projet, également en ce qui concerne les aspects de durabilité, car il a été pleinement intégré dans la nouvelle Plateforme technique sur l'évaluation et la réduction des pertes et du gaspillage alimentaires de la FAO à la fin du projet. Cependant, la portée de cette plateforme sur les pratiques de développement, mais aussi les ressources investies pour sa création, restent controversées. Un impact majeur du projet a certainement été la sensibilisation des acteurs et de remettre la thématique des pertes post-récolte à l'agenda politique global. Les impacts directs et indirects liés aux activités de l'outcome 2 peuvent être décrits comme hétérogènes et plutôt limités en termes de potentiel de dissémination. En ce qui concerne l'élaboration et l'entrée en vigueur d'une politique améliorée et d'un cadre réglementaire adapté traitant des pertes post-récolte dans les trois pays cibles, il a été constaté qu'il est encore trop tôt pour évaluer les impacts connexes. Le fait que, dans le cadre de l'outcome 2, les activités pilotes ont été soutenues par des subventions aux technologies limite la possibilité d'évaluer le potentiel économique pour développer un des modèles économiques rentables autour des technologies post-récolte.

Il est important de noter que les recommandations basées sur l'évaluation du projet incluent que la réduction des pertes post-récolte en Afrique Sub-Saharienne nécessite un soutien continu de la communauté internationale du développement, en ce qui concerne la diffusion d'options améliorées de réduction des pertes post-récolte, une meilleure compréhension et prise en compte des choix des agriculteurs en matière de technologies ainsi que la perspective à long terme d'une politique et d'un cadre réglementaire améliorés. Enfin, il reste à souligner que toutes ces conclusions et recommandations doivent également pouvoir s'appuyer sur une collaboration institutionnelle plus étroite des trois RBA et au-delà.



# 1 Introduction

The Swiss Agency for Development and Cooperation (SDC) has been involved in Sub-Saharan Africa (SSA) in the field of post-harvest management (PHM) since 2008 in several countries. The project to be evaluated, launched in 2013, was called “Mainstreaming food loss reduction initiatives for smallholders in food deficit areas”. It was jointly implemented by the three United Nations (UN) Rome-based agencies (RBAs) FAO, IFAD and WFP. This project “seeks to improve food security and income generation opportunities through reduction of food losses in target food grains and pulses value chains.” The focus of the project was on knowledge sharing and e-learning (through a global community of practice (CoP)), on support for policy development and regulatory frameworks in three countries (Uganda, Democratic Republic of Congo, and Burkina Faso), and on promoting PHM best practices and technologies.

## Our mandate

The final evaluation of the project “Mainstreaming food loss reduction initiatives for smallholders in food deficit areas” is based on the terms of reference (ToR), dated January 2020, and on the inception report submitted to and validated by SDC on April 28, 2020.

The purposes of the external evaluation are the following: i) to assess the relevance, effectiveness, efficiency, prospects for sustainability and impact of the project, ii) to identify lessons learned and provide recommendations for a future engagement of partners, and iii) to review the coordination system, working modalities and institutional processes of the implementing partners (RBAs) and their collaboration with key stakeholders.

# 2 Methodology

The evaluation methodology includes literature review of relevant project documents such as the prodocs, progress reports of the project, the CAPEX (capitalization of experiences) reports (Felber and Witteveen 2019; Crole-Rees and Meyer 2020), internal review documents, literature on post-harvest losses (PHL) and PHM, as well as the questionnaires and online interviews with key stakeholders. The qualitative and quantitative information gathered was cross-checked (triangulation method) and analyzed using content analysis. Some deeper analyses were performed such as Cost-Benefit Analysis (CBA) where it was suitable and possible with the data obtained.

The proposal for conducting this evaluation was submitted and approved before the beginning of the Covid-19 pandemic and originally it was foreseen to collect primary data from the involved key stakeholders during field missions to Burkina Faso, Uganda and DR Congo. When the implications of the pandemic became clear, it was decided by SDC that the project initiation would move ahead in spite of the Covid-19 pandemic, and the consultants were requested to propose an adapted methodological framework in their inception report, foreseeing two options: (1) conducting the evaluation entirely online through remote data collection, and (2) conducting primary data collection online with possible validation workshops in the three target countries towards the end of the evaluation. Over the course of the Covid-19 pandemic it became evident that option 2 was not feasible and that the evaluation would have to be conducted entirely online. Doing an external evaluation entirely online was a new experience for the evaluation team, and this required adapting the methodology and timeline of the process. In this section, some additional information on the methodology is provided, describing the different steps as well as some discussions about the way the methods were applied.

## 2.1 Literature review

The literature review focused on project documentation (received from SDC and from the project management, list of documents attached in Annex 1) as well as on other secondary data sources on PHM and PHL. Quantitative information such as the use of resources and corresponding outputs was mostly extracted from the project progress reports.

## **2.2 SWOT analysis**

The key project stakeholders (list based on information provided mainly by the project management) were contacted via email. They were invited to provide a SWOT analysis (strengths/successes, weaknesses, opportunities, threats) of the project from their own perspective. Along with the SWOT form (Annex 2), some important keywords were provided just to make sure that the respondents would include these issues in their analysis. It was assumed that the SWOT analysis is a well-known and broadly established method, therefore no specific information was provided on how to fill in the form. However, a 2x2 table with the four quadrants (for strengths/successes, weaknesses, opportunities and threats) was provided.

Some respondents preferred to provide information without allocating it to the four quadrants of the SWOT analysis, but in general, the information received was relevant and useful. The rate of response of this SWOT analysis was rather good at 48% (see section 3.2).

## **2.3 Individual interviews**

Those project stakeholders who had not responded to the SWOT analysis were contacted again for an individual online interview. An interview guide has been developed, along the lines of the OECD DAC criteria (ADA 2009), and taking into account some preliminary information from the SWOT analysis (interview guide in Annex 3). The interviews were adapted to the position of the respondents in the project.

## **2.4 Economic and financial analysis, including cost benefit analysis**

Even if it was not explicitly mentioned in the ToR of the mandate, doing an economic and financial analysis has almost become a must for development cooperation projects. In the present report, we have examined the three outcomes from an economic and financial perspective, and we have even tempted to do a CBA for outcome 2.

Doing a CBA requires quantitative data for costs as well as benefits of the project. A CBA can be done for an entire project, or for selected components, and it can be done as a financial analysis (looking at the costs and benefits from the point of view of directly involved stakeholders, at market prices) or it can be done as an economic analysis (or social analysis) looking at the costs and benefits for the entire society. In the latter case, the prices considered will be economic prices (shadow prices).

At the stage of a final evaluation of a project, the CBA will obviously be an ex-post analysis. In that sense, it contributes to the impact assessment, with a focus on quantitative aspects.

Major challenges for the CBA of this project include on the one hand the identification and the quantification of benefits, as well as an estimation of the attribution to the project activities, and on the other hand the assessment of all the costs (including costs beyond project direct contributions, e.g. resources spent by local stakeholders).

# **3 Descriptive analysis of the project**

## **3.1 Project initiation**

The intention of SDC with this project was to bring the issue of post-harvest losses higher on the national, regional and international agenda. SDC counted on the three RBAs' reputation and outreach to contribute to this objective. In addition, SDC's objective was also to capitalize on the experiences from several interventions in this field in various countries in Sub-Saharan Africa since 2008.

### 3.1.1 Facts and figures

#### Project budget for phase 1 and 2

The budget figures are presented in the following tables, by outcome (Table 1) and by cost categories (Table 2). In the budget by outcome, all the project management costs are allocated to the outcomes. In the first phase, outcome 3 had a much smaller budget, which was substantially increased in phase 2 (+59%). Accordingly, outcomes 1 and 2 had a substantial budget reduction compared to phase 1 (respectively -49% and -52%). Overall, the budget of phase 2 was only about 65% of the budget of the first phase, however for a duration of three years (phase 1 was four years).

Table 2). It is noted that the cost categories are not exactly the same for both phases.

Table 1: Budget by outcomes for phases 1 and 2

Budget by outcome	Phase 1 CHF	Phase 2 CHF
Outcome 1	1 048 500	529 059
Outcome 2	1 308 136	626 724
Outcome 3	391 366	622 923
<b>TOTAL</b>	<b>2 748 002</b>	<b>1 778 706</b>

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Table 2: Budget by cost categories

Cost categories (phase 1)	Phase 1 CHF	Phase 2 CHF	Cost categories (phase 2)
Professional staff	645 000	777 483	Professional staff
Consultants, international experts	254 600	353 955	Consultants, international
Focal points	288 000		
National consultants	314 300	31 749	Locally contracted laborers
Mini grants, equipment	334 100		
Travel	231 000	48 000	Travel
Workshops	118 000	117 000	Workshops
Support and operating costs	562 990	170 520	Support and operating costs
		279 999	Contracts with implementing partners
<b>TOTAL</b>	<b>2 747 990</b>	<b>1 778 706</b>	

Comparing the costs between the phases by cost category shows an increase of the costs for professional staff, consultants and international experts, a big decrease of the costs on the local level (focal points, national consultants, mini-grants and equipment, reduced travel budget). The budget for workshops remained similar whereas the support and operating costs (including all implementing partners) remained almost constant if we consider the costs per year (approximately CHF 140,000 per year in phase 1 and CHF 150,000 per year in phase 2)<sup>1</sup>.

<sup>1</sup> We assumed that the costs under 'support and operating costs' in phase 1 correspond to the total of "support and operating costs and contracts with implementing partners" in phase 2.

### Geographic coverage

The project was implemented in Burkina Faso, Uganda and the Democratic Republic of Congo. The countries were selected by the RBAs, taking into consideration their own activities and aiming at creating synergies with existing projects and activities.

#### 3.1.2 Project outcomes and impact, theory of change

The project's overall goal (impact) remained unchanged between phase 1 and phase 2: *"Improved food security and income generation opportunities through reduction of food losses in supported food grains and pulses value chains."* The project's three outcomes evolved only slightly over time, as shown in Table 3.

Table 3: Project outcomes in phases 1 and 2

	Phase 1	Phase 2	Comments
Outcome 1	Good practice options for reducing post-harvest losses are compiled, disseminated and scaled up	Knowledge of the magnitude and sources of food losses and the methodology for food loss analyses expanded and good practice options for reducing post-harvest losses are compiled and disseminated through a reinforced and fully functioning community of practice (CoP) website	The community of practice was initiated in phase 1 where it appears in output 1.1, and became more prominent in phase 2 where it appears as the main vector for communication with the other stakeholders
Outcome 2	Improved handling and storage options within the grains and pulses value chains are benefiting smallholder farmers in pilot countries	Improved post-harvest management within the targeted value chains are benefitting smallholder farmers in countries through the dissemination of results of food loss analyses and the experience of pilot food loss interventions	Outcome 2 focuses on improved practices, phase 1 having a pilot character whereas phase 2 the term PHM is explicitly mentioned, and the evolution moves towards upscaling the results of phase 1
Outcome 3	Policy and regulatory framework (policy, standards, norms) on reducing food losses in food supply chains are introduced and implemented at national and regional levels	Policy and regulatory frameworks (policy, standards) on reducing food losses in food supply chains are developed and validated at national and regional levels.	Outcome 3 remained similar in both phases, with a move from introduction/implementation of policies and standards towards further development and validation

## Theory of change

Based on the project documents (phase 1 and phase 2) the evaluation team elaborated an ex-ante theory of change as illustrated in Figure 1. It summarizes the project activities, leading to the set of expected outputs. The latter connect to the outcomes. Each outcome is fed by several outputs.

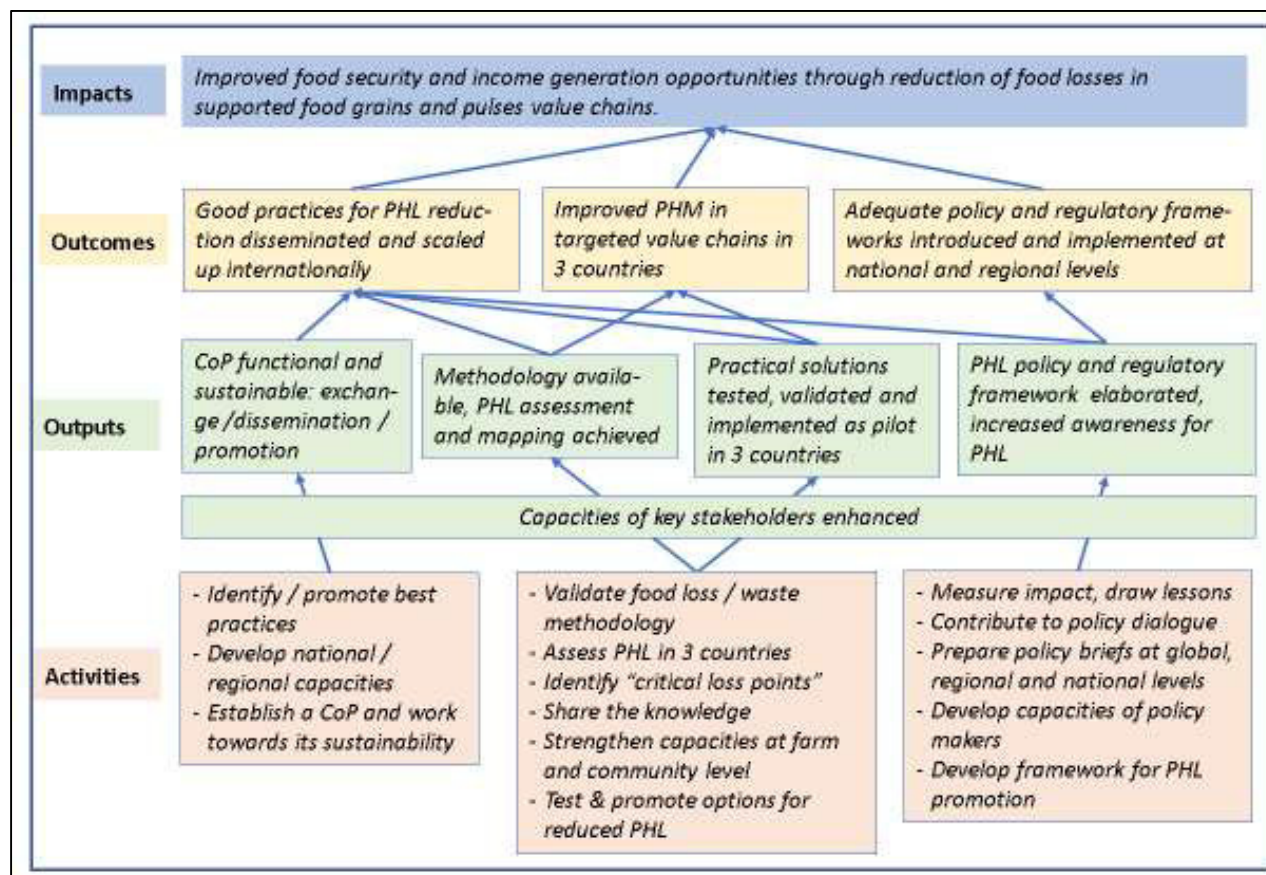


Figure 1: Theory of change of the project PHM in Sub-Saharan Africa, implemented by the RBAs (source: own design)

### 3.1.3 Project achievements

This chapter summarizes the main project achievements, as reported in the corresponding progress reports.

Table 4 : Project implementation phase 1

Phase 1 2013 – 2017	Key achievements	Comments / PM milestones
Dec 13 – May 14	International procedure for recruitment of Project Manager	PM recruited; contract start 1 Jun 2014
Jun 14 – Dec 14	<ul style="list-style-type: none"> <li>CoP launched (14 October 2014)</li> <li>First missions to pilot countries (Burkina Faso, DR Congo, Uganda)</li> <li>Preparation e-learning module</li> </ul>	1st SC meeting 25 Jun 14 2nd SC meeting 11 Dec 14 National Focal Points in place
Jan 15 – Dec 15	<ul style="list-style-type: none"> <li>CoP further developed and operating</li> <li>PH loss assessment in Burkina Faso (cowpea, maize and sorghum); DR Congo (maize and rice), Uganda (maize, beans, sunflower) initiated = critical points for food loss reduction identified</li> <li>Identification of PHM solutions for pilot actions in 3 countries; mini-grant mechanism for pilots developed and shared</li> <li>e-learning course structured in modules, outline ready</li> </ul>	3rd SC meeting 1 Jun15
Jan 16 – Dec 16	<ul style="list-style-type: none"> <li>CoP further developed and operating</li> <li>e-learning module developed</li> <li>Crop losses assessment completed in 3 countries</li> <li>Capacity building in the 3 countries and through the CoP</li> <li>Mini projects as pilots launched in different forms in the 3 countries</li> </ul>	Additional funds from SDC for replication of studies PHM / Food Loss Reduction Workshop held Jinja, Uganda 7-11 September 2015
Jan 17 – May 17	<ul style="list-style-type: none"> <li>Policy dialogue for increased awareness on PHM</li> <li>1 policy brief published; 3 policy briefs edited</li> </ul>	

Table 5 : Project implementation phase 2

Phase 2 2017 – 2020	Key achievements	Comments / PM milestones
Jul 17 – Jan 18	<ul style="list-style-type: none"> <li>CoP further developed and operating, more than 1000 members</li> <li>Finalization of e-learning module</li> <li>In Burkina Faso, PHL reduction and PHM incorporated in sectoral policy on crops, forest and livestock</li> <li>In Uganda, concept note on a strategy specifically on grains post-harvest loss reduction</li> </ul>	1st SC meeting second phase 14 Dec 17
Jan 18 – Jul 19	<ul style="list-style-type: none"> <li>CoP on track, more than 1200 members</li> <li>CoP promoted in many events (webinars, TOT, conferences)</li> <li>e-learning course on FAO case study methodology on FLA launched on 26 June 2018</li> <li>Outcome 2, output 2.2 preparation and dissemination of models for PHM instead of appraisals</li> <li>Reports on FLA in 3 countries ready for publication</li> <li>Policy briefs in Burkina Faso and DR Congo, contribution to integrating PHL in national policies</li> </ul>	2nd SC meeting FAO headquarters, 26 Jun 18, 3rd SC meeting WFP headquarters, 23 Nov 18
Aug 19 – Jan 20	<ul style="list-style-type: none"> <li>CoP broadened to cover other major commodities, organizations and countries</li> <li>PHL world mapping further developed</li> <li>Dissemination and promotion of the use of the e-learning course</li> <li>Policy brief and Uganda National Strategy on Post-harvest loss (PHL) Reduction in Grain Supply Chains awaiting government approval</li> <li>Contribution and participation in the 2<sup>nd</sup> All Africa Post-Harvest Loss Congress and Exhibition (2nd AAPHCE) organized by the African Union in Addis Ababa in Sep 19</li> </ul>	4th SC meeting IFAD headquarters, 20 Jun 19, 5th SC meeting, RBA joint project (RBA/GLO/002/SWI) FAO HQ – 16 Dec 19
Feb 20 – Sep 20	<ul style="list-style-type: none"> <li>No-cost extension until September 2020 for the project to conclude its activities and phase-out in an orderly manner</li> <li>Virtual closing event on 22 September 2020, presenting the results of the project, including the merger of the CoP with the new FAO 'Technical Platform on the Measurement and Reduction of Food Loss and Waste' and promoting the International Day of Awareness of Food Loss and Waste on 29 September</li> </ul>	

### 3.2 SWOT analysis

44 project stakeholders were contacted for the SWOT analysis and the response rate was 48% across all stakeholder groups. The institutional distribution of the respondents and statements is shown in Table 6.

Table 6: Stakeholders contacted for SWOT analysis and number of respondents

	Total	Burkina Faso	DR Congo	Uganda	RBAs/SDC	Overall response rate
Sent	44	11	3	8	22	
Received	21	6	2	3	10	48%

The SWOT analysis showcases the opinions of key project stakeholders. The results are grouped along the following five clusters:

- Institutional setup and project management
- Outcome 1: Community of practice



- c) Outcome 2: Improved storage and handling options for smallholder farmers
- d) Outcome 3: Policy and regulatory framework
- e) Impact

The results of the SWOT analysis presented in the following sections reflect the statements of the key stakeholders. For data protection reasons, the data have been made anonymous. The number of responses received is sufficient to obtain meaningful insights, but insufficient to perform a quantitative analysis looking at the frequency of mentions, origin of the statements, etc.

### **3.2.1 Institutional setup and project management**

#### **Strengths**

Having the three RBAs together in a project was seen as a unique opportunity to reach a large audience. The RBAs collaborating in a single project was a rather new experience. Generally, the key stakeholders had positive comments on the institutional setup and the collaboration between the three institutions: good collaboration, synergies, joining forces, speaking with one voice towards the governments. The positive comments on project management stated a well-designed project, a rather long project duration (especially for WFP which is more used to short-term humanitarian interventions), and the relevance of the project, thus contributing towards the SDGs. Relevance was one of the main aspects highlighted by the respondents, in many ways: relevance regarding the importance of the issue of PHM and PHL, relevance in terms of synergies with other PHM initiatives, in terms of the selected crops, regarding the target groups (smallholder farmers, women, farmers' associations, service providers and suppliers of PH technologies). The timing of the project was mentioned as a positive element<sup>2</sup>, as well as the good collaboration with governmental agencies.

#### **Weaknesses**

Among the weaknesses of the institutional setup, delays in project implementation and inefficiencies due to bureaucratic procedures at FAO, to sometimes difficult coordination between the three UN agencies, to frequent staff turnover, etc. were pointed out. The long delay for the recruitment of the project staff at FAO was also mentioned as a weakness.

Regarding project design and management, critical points mentioned included among others the selection of countries (including security issues), a lack of support to national partners, and overall overambitious project considering limited resources. Impact measurement, but also the measurement of PH losses, were considered insufficient.

#### **Opportunities and threats**

The three RBAs working together was seen as an opportunity for the future, and the topic of PHL is considered as still relevant and important to be addressed in future projects.

Among the threats, several very different issues were raised: the cooperation between the three RBAs with the fear that this may not happen in the future; the political situation in the countries, especially Burkina Faso and DR Congo, different practices of development agencies – especially regarding subsidies – undermining the introduction of business oriented approaches for the supply of PH technologies.

<sup>2</sup> It was expressed that the timing of the project was favorable in that it was initiated right when the topic of PHWLW became recognized as of very significant importance, relating to other project initiatives in the same field, the development (2015) and coming into effect (2016) of the Agenda 2020, the Malabo Declaration of 2014, as well as the topic's thematic importance among the different UN agencies.

### **3.2.2 Outcome 1 – Community of practice**

#### **Strengths**

The consulted key informants stressed the overall high quality and relevance of the online CoP that was established during the course of the project. It was specifically highlighted that CoP has been perceived as useful and an effective and accessible platform and reference point for sharing information and knowledge among a diverse group of public users (free of cost) from different countries.

#### **Weaknesses**

In terms of weaknesses, the need for but also lacking activities in terms of facilitation and moderation of the online CoP were mentioned by several of the consulted stakeholders. Some of the key informants also raised skeptical voices as to what extent the established CoP is truly recognized as a global reference point for PHM and about the prospect of sustainability of the platform in view of the lack of a true dialogue and concrete activities. That said, several stakeholders mentioned that while the platform is useful as a source and repository of information on PHM, the idea of the CoP as an interactive tool for exchange and discussions had never really taken off.

Also, some of the consulted key informants questioned the target audience of the CoP, i.e. mentioned unclarity as to what extent the CoP is geared at policy makers, senior technical, rural advisors and agricultural practitioners.

#### **Opportunities and threats**

The integration of the CoP into the new 'Technical Platform on the Measurement and Reduction of Food Loss and Waste', launched by FAO in July 2020, was identified as a major opportunity with regards to outcome 1, thereby also ensuring the sustainability of the CoP and the knowledge and information generated. Going forward, it was also suggested that the CoP may serve as a platform to promote the dissemination of post-harvest technologies (PHTs) and management practices, and different other key stakeholders added that members may even accept to pay fees for increased services and functionality of the CoP. It was raised by different respondents that the CoP played a central role within the project for bringing the three RBAs together, and also triggered other positive developments and interventions such as the FAO 'Voluntary Code of Conduct for Food Loss and Waste Reduction' (FAO 2020), and must therefore also be regarded as a catalyst for future opportunities of collaboration based on the experiences made.

In terms of threats, it was raised that the CoP is still not sufficiently known among true practitioners in the beneficiary countries, and that the barriers for accessibility are still seen as high, both in technical terms as well as regards the relatively 'academic' level of its content.

### **3.2.3 Outcome 2 – Improved storage and handling options for smallholder farmers**

#### **Strengths**

A major strength with regards to outcome 2, mentioned by several stakeholders, was seen in the development of a post-harvest loss assessment methodology and mapping critical loss points along agricultural value chains, in Burkina Faso, Uganda and RD Congo. The methodology that was developed by the project (named Food Loss Analysis (FLA) Critical Loss Points (CLPs)) was one of its first kind and has been described as an eye opener and effective tool for creating awareness, building up knowledge and the delivery of training and capacity building around PHL among a larger audience. Particularly in the context of Burkina Faso, the implementation of the activities of the project was perceived as a great strength substantially contributing to the development of knowledge and capacities around PH food losses, with a significant involvement of the private sector as well. Overall, the increased knowledge about PHL lead to enhanced

awareness and mobilization, and to the promotion of practicable solutions in the form of PHTs and practices. The increased knowledge was made available through at least two publications, and widely promoted through the CoP.

### **Weaknesses**

The low adoption of PHTs was mentioned as a key weakness in outcome 2. This was due partly to the unavailability of the PHTs, partly to their too high costs. Unmet expectations of receiving free inputs or subsidies at the grassroots level (while this was only meant for demonstrations) were also mentioned, and this resulted in a lack of scaling up. Obviously, the communication in the field lacked clarity. The low involvement of the private sector for the dissemination of PHTs was another explanation for the low adoption of the PHTs, including the lack of involvement of microfinance institutions to facilitate access of farmers to the PHTs. Many respondents regretted the small geographical coverage of the project.

On the top of this, poor quality metal sheets were used in some places for the production of silos, which resulted in low quality metal silos, and the distribution mechanism (through farmers' associations) were also part of the comments from some key stakeholders.

A last point quoted was the too strong focus on PHTs, leaving insufficient space for other measures for the reduction of PHL, particularly before storage.

### **Opportunities and threats**

The opportunities identified by the respondents include the replicability of the project approach to other value chains, the availability of a range of PHTs, a better understanding of the overall approach along the steps after harvest and the different actions to reduce PHL. Furthermore, potential was seen for the private sector to develop commercial activities around PHTs (production and distribution). The improved data availability has the potential to improve the policy framework and the methodology developed can be disseminated using the e-learning tool developed within the project framework. Community radios are another important vector to convey PHL reduction messages, but there should not be a focus on a single set of PHTs as different farm types may have different needs.

The threats highlighted by the respondents focused on poor extension services, the fragmented value chains for the supply of PHTs, the unavailability of the PHTs on the market (especially in DR Congo). Moreover, the too high costs of the PHTs (especially the metal silos) was mentioned as another constraint.

## **3.2.4 Outcome 3 – Policy and regulatory framework**

### **Strengths**

Many strengths were formulated by the respondents. Among them, the policy dialogue in general that was fostered by the project, in particular thanks to the reputation of the three RBAs. Increased awareness of post-harvest losses and improved measurement of critical loss points have led to the inclusion of the PHL issue in the policy processes of the three countries. The link with the Malabo Declaration on Accelerated Agricultural Growth (African Union Commission / NEPAD Agency 2016) was also highlighted as a strength.

More specifically, in Burkina Faso, the elaboration of a policy note was mentioned, as well as the usefulness of the developed post-harvest losses assessment that provided data for the policy process. In Uganda, a national strategy was elaborated with support from the project, while in the DR Congo, post-harvest losses reduction was integrated in the national strategic development plan (*plan national stratégique de développement*, PNSD). In this country, the role of community radio was also highlighted as a success.

It was further mentioned that the project has mobilized high-level policy makers in the three countries, and it has fostered cooperation between the three RBAs on post-harvest losses reduction. The project contributed to place PHL more prominently on the agenda of the RBAs.

Capacity strengthening of the stakeholders, from policy makers to farmers' organizations, as well as increased networking were also highlighted by the respondents.

### ***Weaknesses***

Some of the mentioned weaknesses are in contradiction with the statements above, especially regarding true involvement of the respective governments. A lack of involvement of ministries other than the Ministry of Agriculture is mentioned, as well as the fact that the policies were mainly elaborated by consultants, and then submitted to the policy institutions, rather than being the outcome of a participatory process.

The policy documents and strategies were elaborated, but their implementation is still to be done. A lack of resources was pointed out as one major obstacle towards this objective. The RBAs project comes to an end, but the job is not finished, and without project resources, the risk is high that the outcomes will not translate into long-term changes.

### ***Opportunities and threats***

A whole series of opportunities were mentioned: i) the developed policy framework is ready for implementation; ii) major external shocks (COVID-19, fall armyworm, climate change) should encourage governments and development agencies to invest more in PHL reduction and promote related value chains, as the food security situation is becoming more critical; iii) lessons learned from the RBAs project may contribute to including PHL in curricula of universities, to work more closely with private sector (including for local production of PHTs) and with agribusiness enterprises; iv) reduced food losses as a contribution to several SDGs (poverty, food security, greenhouse gas emissions, etc.; v) upscaling in more regions based on the results of the RBAs project.

On the other hand, the threats identified include the lack of coordination for policy implementation and insufficient awareness of the true value of post-harvest losses. On the project level, the absence of a clear exit strategy and lacking perspectives on how to follow up with governments to implement the post-harvest losses reduction strategies in the long term. The payment of subsidies for PHTs was also mentioned as a threat for the continuation of PHL reduction activities. As a result, several voices pointed out the risk of a low sustainability of project achievements.

### ***3.2.5 Project achievements***

The project's achievements were also addressed specifically by several respondents, mostly in terms of strengths: i) the emergence of new professional figures within agencies to promote PHL reduction; ii) the critical points of losses methodology; iii) the increased knowledge on the effectiveness of PH technologies, which has encouraged governments to promote these technologies; iv) the strengthening of food security thanks to the PHL reduction technologies.

## **3.3 Interviews with key stakeholders**

Of the 44 identified key stakeholders that were contacted for data collection (Table 6), 23 did not respond. These 23 stakeholders which did not share their written assessment of the project in terms of successes/strengths, weaknesses, opportunities and threats (section 3.2), were contacted once again via email and phone calls in order to arrange individual person-to-person in-depth interviews. While oftentimes challenging to get hold of the contacted stakeholders under the remote circumstances of this evaluation, a total of 15 individual interviews were conducted (Table 7), involving stakeholders of the three RBAs, local governmental and non-governmental organizations as well as academia. These interviews allowed to fill remaining knowledge gaps of the evaluation, and to critically triangulate the information received by the group of key stakeholders who contributed in writing to the SWOT analysis presented in section 3.2. A guideline/checklist was prepared to conduct the individual interviews Annex 3, along the lines of the OECD DAC criteria (ADA 2009). However, interviews were mostly conducted in an open/unstructured manner,

also giving the interview participants the possibility to speak freely and report about their role in and perception of the project rather limiting the interview to a strict set of questions.

*Table 7: Stakeholders contacted for SWOT analysis and number of respondents*

	<b>Total</b>	Burkina Faso	DR Congo	Uganda	RBAs/SDC	Overall response rate
Contacted	<b>23</b>	7	3	5	9	
Conducted	<b>15</b>	4	3	1	7	65%

### **3.3.1 Institutional setup and project management**

#### ***Collaboration between the three RBAs***

An important point that was discussed throughout most interviews was that the project “Mainstreaming food loss reduction initiatives for smallholders in food deficit areas” was the very first project collaboration of the three RBAs FAO, WFP and IFAD in general, and was therefore widely regarded as a pilot. While mostly described as complementary to one another, with differences in ways of operating on their focus areas (emergency relief (WFP) v a focus on programmatic/technical interventions (FAO) v policy-, investment- and capacity-building-orientation (IFAD)), country presence, project scales in terms of time and funding, etc., it was oftentimes stressed that despite their good institutional relationships it was difficult for the project to establish a functional cross-institutional working environment. Instead of having established truly collaborative operations, the project was widely regarded as having been led by either of the three different RBAs, depending on location, and overall there was a perception (mostly in the field) of a relative FAO-dominance in terms of how the agenda and priorities of the project were set out and implemented, which made it difficult to establish a common sense of understanding relating to the topic of post-harvest food losses and ownership of the project among the different interviewed stakeholders and their organizations. According to the voices of several of the interviewed stakeholders, these challenges were further aggravated by the dynamics between the steering and management of the project from the RBA headquarters in Rome and the actual implementation of the project’s activities at country-level in Burkina Faso, Uganda and the DR Congo. Consequently, it was expressed that the project should have had stronger cross-institutional leadership at country-level. However, one stakeholder highlighted that this criticism might be very commonplace and a bit short-sighted, and that given the importance of the topic of post-harvest food losses and waste, such a project would always need steering and management at an international/global level. With regards to steering and management of the project from a personnel perspective, a lack of staff continuity was seen as a challenge. While the central project management (FAO) remained continuous after an initial change at the beginning of phase 1, differences between the three RBAs (WFP with considerable staff turnover) and the work with mostly short-term consultants at country-level, in particular with regards to outcome 2 and 3, resulted in a lack of continuity and accountability on the ground, based on the information obtained from the interviews.

On the whole, the interviews revealed that the project could not fully capitalize on the complementarities of the three RBAs but has instead rather suffered from a lack of functional collaboration. However, it was also widely acknowledged that the challenges must be seen in light of the fact that the project was the first ever cross-institutional collaboration of the three RBAs, and therefore could not rely on long-established joint governance and implementation mechanisms. Relating to the project’s own strong dynamics between the three RBAs and their respective country presence, it was also critically raised that steering the project from a donor perspective was very challenging once the formalities of the project initiation (i.e. signing of contracts, formal launch) had been settled.<sup>3</sup> With respect to this shortcoming in terms of steering of the

<sup>3</sup> One interview partner of SDC stated that “steering a project implemented by FAO is really challenging. As soon as the contract is signed, the donor has not much to say.”

project from a donor perspective, one of the interviewed stakeholders pointed out that the idea and concept for such a project had existed with FAO and IFAD well before the funding of SDC came into perspective, meaning that informally a project agenda had already been set out to a certain extent before the actual funding had been secured.

### ***Setting the agenda for post-harvest food losses and waste***

Despite all the challenges that the project experienced in terms of collaboration, it was widely highlighted that the very fact of a first ever joint project of the three RBAs has been perceived as a big success. This perception is also seen as a decisive factor for the significant outreach of the project and for placing the topic of post-harvest food losses and waste very high not only on the agenda of the three organizations, but also for having contributed to its relevance at country-level in Burkina Faso, Uganda, the DR Congo and beyond. According to different voices, this high topical importance (“Post-harvest food losses and waste (PHFLW) became a champion”) was also reflected by the involvement of the highest levels of management of all three RBAs. Overall, it was deemed that the project not only served as a pilot and therefore entry point for closer collaboration of the three RBAs, but also made significant contributions to building up, consolidating and institutionalizing in-depth expertise on post-harvest food losses and waste. It was considered essential by several interviewed key stakeholders that this first ever joint project be followed by further institutional collaborations as the bundling of resources will be a necessity to solve current and future challenges. Therefore, several of the stakeholders concluded, that effective governance mechanism for similar project setups must be established, in order to reduce bureaucratic barriers and make future collaborations more efficient and geared at impact and sustainability. For SDC, this project was also widely showcased as an outstanding achievement in various events, especially events that took place in Rome.

### ***Fragmentation, complexity and context of the project***

Across most interviews conducted, a recurrent theme was the strong fragmentation of the project, even more so in light of the rather limited funding available for the project (described as a ‘small’ project by several interviewed key stakeholders, especially for WFP which is used to very large projects and also IFAD which is used to implement very long-term projects). Looking back on seven years of collaboration, it was seen as an initial shortcoming of the project that such limited financial resources had been divided not so much between the three RBAs, but additionally between three very different countries and across three different outcomes. The interviews did not provide full clarity according to which criteria the three target countries had been selected. One of the interviewed key stakeholders mentioned that the selection of Burkina Faso, Uganda and DR Congo “(...) was a compromise and the best possible solution [given the physical presence and focus of the three RBAs], but that this was a bad way of making such an important decision.” It was also described as a shortcoming that no baseline assessment relating to the activities under the three outcomes had been conducted during the early stages of the project, in order to establish linkages to already existing initiatives and provide a solid needs assessment. On the positive side of the project’s complexity, it was stressed that the collaboration testified to the need for more projects systemically addressing agricultural and food systems change from a broader perspective, through the incorporation of technical interventions (outcome 2), policy work (outcome 3) as well as capacity building and knowledge management (CoP – outcome 1). Therefore, according to several voices, it must be highlighted that many good considerations were made for the project, but the relatively small scale and lack of established mechanisms for a synergistic collaboration between the three RBAs did not allow for harnessing the full potential of a truly multi-perspective project approach. Several stakeholders expressed their perception that the single components (outcomes) of the project were quite effective and efficient as such but remained piecemeal and failed at being interconnected to one another and, importantly, also to other project and private sector initiatives in order to ensure scalability and sustainability through future investments.

In terms of overall impact and sustainability of the project, aside from the institutionalization and thematic recognition of PHFLW, it was widely stressed that the project served as a catalyst/vector for many positive developments beyond the foreseen activities and must therefore be placed in a broader context.



It was stated that the project did not only position the Swiss development cooperation as a pioneer on funding work related to PHFWL, but also significantly contributed to the Malabo Declaration on Accelerated Agricultural Growth, the creation of the 'International Day of Awareness of Food Loss and Waste' on 29 September of each year, and the selection of PHFLW as the lead topic for the FAO Flagship Publication on 'The State of Food and Agriculture' (SOFA) 2019 ("Moving forward on Food Loss and Waste Reduction"). In a nutshell, one interviewee expressed her appreciation that "there is now a vision for this very important topic on how to address PHM issues" and that this must not be marginalized but instead has to be acknowledged as an important achievement to which the project has significantly contributed.

For these different achievements beyond the actual project activities it was deemed unfortunate by many stakeholders that SDC decided to phase out after the conclusion of phase 2 and fund no further follow-up project activities (i.e. a possible third phase), thereby also putting into question the sustainability of the project from a donor perspective.

### **3.3.2 Outcome 1 – Community of practice**

With regards to the CoP, several interviewed key stakeholders highlighted the development of the very comprehensive food loss and waste methodology (integrating various aspects such as gender, environment, sustainability, etc.) and other knowledge products as key achievements under outcome 1 of the project. While of its first kind in terms of detail and accuracy, it was however also stressed that the resources invested into the development of this methodology were significant and it was questioned whether the benefits of the results outweigh their costs. The accuracy of the developed food loss and waste methodology was deemed as very 'academic', and FAO highlighted that the widespread use of the methodology by academics and researchers was in fact regarded as a testimony to its relevance and therefore seen as a key achievement under outcome 1. However, several other interviewees expressed their skepticism as to what extent a rather academic food loss and waste methodology was useful for the project as such, i.e. the pilot interventions under outcome 2 and the work geared at policy development under outcome 3, therefore questioning the coherence of the project's single components/activities. FAO expressed that as a follow-up activity it was currently planning to take action on reducing the complexity of the developed methodology in order to make it more user-friendly and suitable for practical application by non-academic stakeholders. Rather than elaborating a fairly precise quantitative methodology of the circumstances under which food losses occur, one interviewee suggested that it might have been more useful to invest the available financial resources into the economics of better understanding farmer decision making processes in terms of post-harvest management, in order to provide entry points for concrete actions on reducing PHL.

A strong emphasis was put on the decisive role of the CoP for the institutionalization and establishment of the PHFLW topic among the three RBAs and beyond, thereby driving the project's contribution to the developments discussed in section 3.3.1 (such as the establishment of the International Day of Awareness of Food Loss and Waste, follow-up of the Malabo Declaration, the selection of PHFLW as the lead topic for the FAO Flagship Publication on 'The State of Food and Agriculture'). While generally regarded as positive, the interviewed key stakeholders with whom the CoP was discussed also criticized that these rather high-level developments were fairly detached from the CoP's original goal and purpose—the active engagement of practitioners from the field. The CoP was commonly described as very resource-intensive and at the same time rather static instead of dynamic, resembling more a repository, with little active engagement and exchange among its members and being far away from smallholders' realities. With regards to content and engagement of its members, and in response to its widespread perception as being static, it was elaborated by FAO that the CoP dedicated only a minor share towards the coverage of project-funded activities and that the largest part of the CoP featured project-external activities, news, events and publications. Also, the quality check and control of published content was highlighted as an important feature of the CoP, thereby ensuring that no wrong information was replicated and made available. It was also stressed by different interviewees that the resources for building up and maintaining a more dynamic, highly interactive CoP would have been much higher than the actual funding available.



In terms of sustainability, the interviewed stakeholders expressed their delight that at the end of the project the CoP was fully integrated into the new 'Technical Platform on the Measurement and Reduction of Food Loss and Waste', which was launched by FAO in July 2020 and received high-level attention from the stakeholders of all three RBAs and all sorts of other national and international governmental and non-governmental organizations. It was also highlighted by FAO that this new platform is not tied to project funding but instead is being operated as an integral corporate activity of FAO, thereby providing prospects for long-term sustainability for the knowledge that was generated over the course of the project. Regardless of that, concerns were raised by several interview partners about the accessibility (in terms of barriers and high transaction costs) of the knowledge generated and integrated in the new technical platform as well.

### **3.3.3 Outcome 2 – Improved storage and handling options for smallholder farmers**

The majority of the interviewed stakeholders expressed that the activities under outcome 2 were seen as the core part of the project with very high relevance and were also regarded a key driver for establishing and building ownership of the project among its stakeholders in the field. There was a general perception that the project identified adequate pilot interventions in the different geographic contexts (in terms of crops, value chains, technologies), and while there is a pressing need for better post-harvest management practices and technologies in the field, there was also the understanding among many of the interviewed stakeholders that the activities under outcome 2 were too scattered, piecemeal, not systemic, targeted very few beneficiaries and lacked effective engagement of the private sector for successful upscaling beyond a very limited scope (see also section 3.3.1—fragmentation of the project). Therefore, sincere doubts were raised about the long-term impact and sustainability of the pilot interventions under outcome 2.

While some of the interviewees also argued that the pilot interventions were a core piece to inform the CoP of outcome 1, others explained that the selected technologies and practices (plastic and metal silos, hermetic storage bags, training on post-harvest management) had been introduced in many other contexts before and were not very innovative as such. One interviewee specifically argued that it would have been a more effective catalyst for innovation to study and better understand the economics of farmer decision making processes in terms of post-harvest management, in order to provide entry points for making a business case for reducing PHL (previously discussed in section 3.3.2) as some of the introduced technologies (e.g. metal silos) have already proven economically unviable or simply not commercially available (accessibility) for smallholders in many other comparable geographic settings<sup>4</sup>. According to this key informant, the pilot interventions under outcome 2 did not adequately take into consideration that the given circumstances in the target countries/regions often do not provide sufficient economic incentive for smallholders to justify the investment cost related to improved PHT (affordability). Another interviewee suggested that instead of implementing own pilot interventions within the project, it would have been better to link the project with already established FAO investment initiatives and other project interventions implemented by third-party organizations, thereby also working towards partnerships with the private sector for successful upscaling beyond the project duration. Also relating to the fragmentation of the project discussed by the majority of the interviewed stakeholders (section 3.3.1), it was specifically put into question whether FAO as a large multi-lateral organization should engage in small pilot interventions itself (deemed as “NGO work”).

### **3.3.4 Outcome 3 – Policy and regulatory framework**

The interviewed stakeholders perceived the work under outcome 3 as very much beyond the project's control and therefore very challenging. There was a general perception that it was difficult to establish ownership of the project's activities with regards to shaping policies and regulations for improved PHM with the target audience. It was however also acknowledged that these challenges did not specifically occur

<sup>4</sup> Interviewees in Burkina Faso and in DR Congo stated, however, that these PH technologies and practices were rather new in their contexts, stressing the usefulness of introducing them. At the same time, they regretted the limited resources allocated to this outcome.

in this particular project but that it was generally difficult to make meaningful policy development contributions within limited project durations. Looking back on the project, a lack of staff continuity due to changing positions among policy makers, the dependence on often lengthy political processes and debates, insufficient acknowledgement of the importance of reducing PHFLW and the often lacking availability of financial resources to fund an improved policy and regulatory framework was widely regarded as problematic by the interviewed key stakeholders. However, it was also discussed by the interviewees that the project, not only through its activities on policy dialogue but also stemming from outcome 1 and 2, significantly contributed to an increased perception of the importance of PHFLW among national stakeholders in the three target countries (see also section 3.2.1). Therefore, one interviewee argued that this has also resulted in an increased responsibility of the target/beneficiary countries to take action on reducing PHFLW. In terms of the development of policy recommendations on PHFLW, participatory processes, involving workshops with stakeholders of different backgrounds, were regarded as a positive development throughout the project. Thanks to these participatory processes, it was argued, PHM as a topic was also integrated beyond the actual policy level, e.g. in educational curricula<sup>5</sup>. Given the long-term perspective required for the activities performed under outcome 3, it was deemed unfortunate that no third project phase was foreseen.

## 4 Analytical part

### 4.1 Economic and financial analysis of the project

One of the key questions when carrying out an economic and financial analysis of a project is whether or not the funds have been well invested. On the one hand, it refers to the cost effectiveness (that will be discussed below in chapter 4.2.2, i.e. has the project done the right things?) and on the other hand, the question whether the resources were spent in the best possible way (cost efficiency, see chapter 4.2.3, has the project done things right?). In this section we present some economic and financial considerations that will help answering these two questions.

A quick glance at the project resources underlines the fact that the PHM RBA project is rather modest: with an overall budget of just above CHF 4.5 million over a period of seven years, for three outcomes, three countries and three implementing agencies, the amount available per unit is limited. Accordingly, the expected outcomes and impacts should be measured considering the funds invested.

#### 4.1.1 Outcome 1 – Community of practice

Performing an economic and financial analysis of the CoP requires a quantitative assessment of its benefits. Referring to the literature, an analytical framework is proposed by Wenger-Trayner and Wenger-Trayner (2015). As far as the impact of a CoP is concerned, the authors state that “(...) *it may be difficult to attribute with 100% certainty the activities of a community of practice to a particular outcome. You can, however, build a good case using quantitative and qualitative data to measure different types of value created by the community and trace how members are changing their practice and improving performance as a result.*” Wenger et al. (2011) dedicate an entire publication to promoting and assessing the value creation of communities and networks, thereby also making the case for the complexity and multidimensional impacts of CoPs. Consequently, the CoP subject to this evaluation must be placed in a wider context, as was also suggested by the majority of the key stakeholders who contributed to the SWOT analysis and in-depth interviews covered in sections 3.2 and 3.3. Reflecting on the value of communities, the authors (ibid.) distinguish between immediate, potential, applied, realized and reframing value, thereby not only stressing the interaction of communities and the direct benefits obtained as such (immediate value), but instead putting the

<sup>5</sup> One specific example was made whereby the University of Kinshasa integrated PHM and the reduction of PHL into its curricula.

emphasis on the whole learning process related to communities and networks, which goes as far as considering the resulting transformative dynamics (reframing value), i.e. to what extent a community “(...) [has] changed (...) [the involved] stakeholders’ understanding and definition of what matters.” Therefore, as much as the collected and underlying data allows, these contextual considerations (referring to *ibid.* (2011)) are included in the analytical framework of this evaluation, which is of particular importance to outcome 1 (the CoP) but also to outcome 3 (policy dimension) of the project where direct results may be less tangible and it would be too short-sighted to consider immediate benefits (values) only. As “communities and networks can generate all sorts of quantitative and qualitative data about their activities”, the authors also stress the importance of the “(...) inclusion and triangulation of multiple sources and types of data”, which this evaluation has sought to achieve to the best extent possible, given the remote circumstances, through consulting relevant project information and the involved key stakeholders of different backgrounds in writing and through individual interviews.

In the PHM RBA project, the amount invested by the project in the CoP was about CHF 1.577 million over seven years. It is likely that FAO has also invested some funds (from its own budget) probably in the form of in-kind contribution. This should not be a significant amount. Besides that, CoP stakeholders who have contributed with inputs (without being paid by the project) should also be considered on the cost side.

On the side of benefits, we have the following information:

#### *Easy to measure*

- ➔ Total number of CoP members as of 31 August 2020: 1433 (for 505 out of the 1433 their affiliation is available, as shown in Figure 2), with members from 138 countries – the data available for the 505 CoP members shows that they are from diverse backgrounds, including universities/research/academies (combined 32%), the private sector (20%), UN and other development agencies (15%), NGOs (19%) and other stakeholders to a smaller extent.
- ➔ Number of visits of the CoP webpages per month: >2500, with about 25% returning visitors (Google Analytics)
- ➔ E-learning course participants: figures not available yet, to be evaluated by FAO by the end of 2020

#### *Difficult to measure*

- ➔ Multiplication effects of CoP users through their own networks
- ➔ Influence on policy makers for improved policy framework
- ➔ Influence on choice of best practices by other projects dealing with PHM

If we consider only the easy to measure indicators, the EFA would result in costs per unit, e.g. costs per CoP member or cost per CoP visitor. It is, however, questionable to what extent this is really useful and meaningful. For this reason, these calculations were not performed. Looking at the difficulty to measure indicators, it is clear that no meaningful economic and financial calculation can be performed, not even based on assumptions.

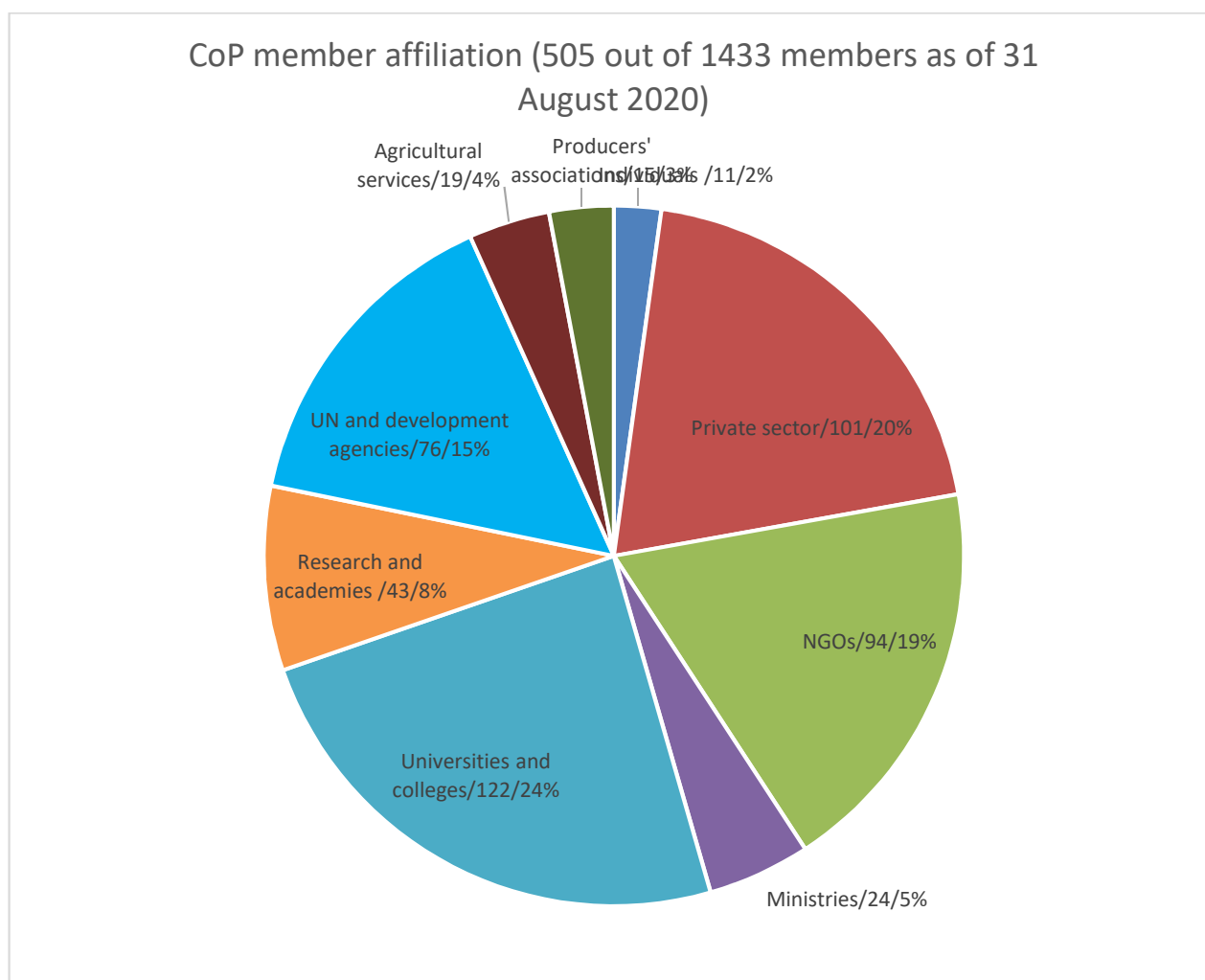


Figure 2: CoP member affiliations, categories, total numbers, percentages

#### 4.1.2 Outcome 2 – Improved storage and handling options for smallholder farmers

This is where a CBA could be applied, calculating the ratio between the funds invested and the benefits at the grassroots level. However, it has to be kept in mind that outcome 2 was a pilot, and not a large-scale dissemination project. A pilot has an experimental character that implies higher costs than a dissemination project.

Several studies exist in the literature on adoption and CBAs of PHTs, e.g. comparing technologies (metal silos, hermetic bags, post-harvest practices). These studies tend to show that the adoption of metal silos is rather low (unless they are subsidized) because they are found too expensive by smallholder farmers, even if the farmers generally like this technology. Depending on the context, the CBAs show a long-term profitability of the metal silos, however based on assumptions regarding the benefits (kg and value of grains saved). The adoption of hermetic bags is higher mostly because they are more affordable for smallholder farmers, and they also show a positive CBA (based on similar assumptions).

In the case of this project, the project costs invested in outcome 2 were CHF 1.3 million in phase 1 and CHF 0.6 million in phase 2 (Table 1). To these costs, we should add the funds invested by the farmers to acquire the technologies, and possibly also funds invested by other contributors (such as governments, private stakeholders, etc.).

On the benefits side, the following information could be obtained from the project: Implementation of different PHM solutions such as metal and plastic silos, hermetic storage bags, motorized shellers, dryers, tarpaulins, etc.

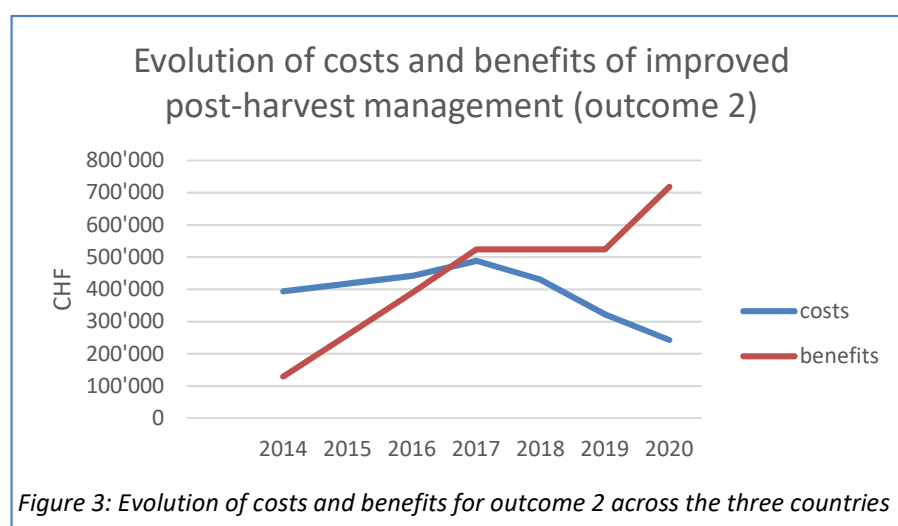
### Easy to measure

- ➔ Total number of trained associations and individual beneficiaries (more than 50% women)
  - Burkina Faso: 11 producers' organizations with about 4110 members
  - DR Congo: 4 producers' organizations with about 4000 members
  - Uganda: 39 sunflower and 40 maize producer groups with about 1600 members
- ➔ 50 trained experts on the use of the developed food loss analysis (FLA) methodology (outcome 1) from 22 countries
- ➔ Number technologies disseminated and still used by beneficiaries (no detailed information obtained)
- ➔ Application of the FLA methodology on the following value chains: Burkina Faso (maize, sorghum, cowpea), DR Congo (rice, maize), Uganda (maize, sunflower, beans)

### Difficult to measure

- ➔ Impact of the provided training in terms of reducing post-harvest losses (e.g. tons of harvest saved)
- ➔ Economic impact on beneficiaries, including post-harvest strategies

The CBA for outcome 2 that is attached in Annex 4 is based on many assumptions that are explained there. In Figure 3, the evolution of the costs and benefits depict the assumed project implementation over the first phase of the project in the three countries. The key parameters of the CBA for the calculated scenario



give a slightly positive result for the net present value (NPV, CHF 31,636 with a discount rate of 10%), and an internal return rate (IRR) of 11.56%, and a discounted benefit cost ratio (BCR) of 1.01.

The most sensitive factors in the model are the price difference of grains between the lowest (at harvest time) and the highest (in the lean season) with the assumption that the farmers can benefit

from this price differential with improved storage (see Annex 4 for more details).

While interpreting the CBA, we have to keep in mind that the project was set up as a pilot (i.e. higher costs for exploratory work, including the PHL assessment). The ratio between costs and benefits is likely to be better when it comes to disseminate the most suitable technologies on a large scale. The strong increase of the benefits in 2020 (Figure 3) is due to the residual value of the metal silos that was added to the regular benefits.

### What is the value of a CBA based on so many assumptions and so little data?

The answer to this question may be the following: the CBA indicates, in regard of the funds invested (by the project and by the local stakeholders), what the minimal benefits are that the project should have generated to reach the calculated scenario. In other words, this can be expressed as follows: if the 9710 farmers reached by the project have invested in PHTs and practices with support by the project and have reduced their PHL by 10% (for a quantity of grains stored of 500 kg on average), then the NPV, IRR and BCR calculated might be seen as realistic (for the assumed prices and quantities).

### 4.1.3 Outcome 3 – Policy and regulatory framework

A total amount of just above one million CHF was dedicated to outcome 3 over both project phases, with a significant increase in phase 2 (referring to Table 1). This increase was decided by the steering committee at the end of phase 1.

Doing a CBA for outcome 3 is not meaningful, because it is not possible to assess direct connections between activities and outcomes, and because the attribution of achievements to project inputs remains hypothetical.

As a quantitative analysis, the number of people trained and involved in workshops, the duration of trainings and the number of workshops are the main quantitative elements that could be measured, however, these figures could not be obtained. Consequently, it appears most meaningful to conduct a qualitative assessment of the achievements under outcome 3, also considering the complexity and long-term orientation of the policy process, with its many steps as illustrated below (Figure 4). Along this process, the project intervention may contribute to any of these steps, depending on the country context.

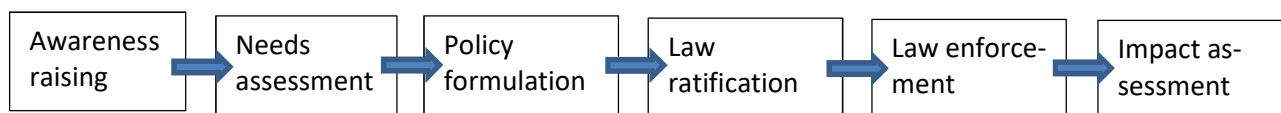


Figure 4: Policy process

The qualitative assessment of outcome 3 is based on the data collected, i.e. project information and the involved stakeholders' statements (sections 3.1 to 3.3).

#### *Difficult to measure/quantify*

- ➔ Burkina Faso: PHL mainstreamed in relevant policies and national plans:
  - The sectoral agricultural policy on agricultural, forest, and pastoral value chains
  - The National Rural Sector Program (PNSR) and the National Economic and Social Development Plan (PNDES)
- ➔ DR Congo:
  - Standards conducive to FLR for 9 food categories and on the use of pesticides formulated through support to the Ministry of Agriculture and collaboration with CODEX national team.
  - PHL were mainstreamed in IFAD Country Strategic Opportunities Program (COSOP) 2019 to 2024
- ➔ Uganda:
  - The project supported the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) in the development of a National Strategy on Post-harvest Loss Reduction in grain supply chains
- ➔ Cross-cutting/international:
  - The Global Food Loss Index (GFLI) with the results of the FLAs
  - Training of national experts on the complementarity of the FLA and the GFLI
  - The development and dissemination of the African Union Post-Harvest Loss Management Strategy (PHLMS) for member countries to align and contribute to its implementation
  - Dissemination of knowledge and engagement through international events such as the All Africa Post-Harvest Congress and Exhibition (AAPHCE)

## 4.2 Applying the OECD DAC criteria

In the following sub-sections, the information collected and discussed is systematically analyzed according to the OECD DAC criteria (ADA 2009), as proposed in the offer and inception report submitted to and approved by SDC.

#### **4.2.1 Relevance**

The relevance of the project was almost unanimously acknowledged as high. Relevance was mostly connected to the general topic of the project, as post-harvest losses reduction is considered by most stakeholders as highly relevant and important. In the following, we answer the questions that were formulated in the inception report with reference to the ToR of the evaluation.

##### ***Were the objectives realistic, relevant and consistent with the policies, programs and projects undertaken by the target governments and other development partners?***

The project objectives can be assessed as realistic, especially the CoP was seen as a promising way of making knowledge and experiences available to a large community, and to raise awareness among policy makers, practitioners and the development community at large. Outcome 2 was also assessed as very important to provide field experiences, especially in countries where the topic of PHL reduction had not really been introduced (e.g. in Burkina Faso and in DR Congo). Outcome 3 was seen as the most difficult part of the project because developing a policy framework depends on the goodwill of the stakeholders in charge, and can only be marginally influenced by the project. However, in terms of relevance, this is also very important.

The government programs for agricultural development tend to focus on production and productivity, whereas the post-harvest part tends to be neglected. This is where the project was especially relevant. As far as the consistency with programs and projects of the development partners, the choice of countries (Burkina Faso, DR Congo and Uganda) was done by the three RBAs based on their on-going activities in these countries, thus fostering synergies with those programs and projects.

##### ***Were the tools /instruments /inputs applied by the project for improving food security and PHL reduction relevant***

For the CoP, based on several stakeholders' statements, the instruments could have been more interactive, for more active exchange between the stakeholders.

The methodology applied for assessing the PHL, and the results obtained, were generally considered useful, however its complexity was questioned to some extent.

The PHTs promoted by the project (metal silos, hermetic bags, shelling machines, tarpaulins, etc.) did not have the same relevance across locations: in Burkina Faso, hermetic bags are produced locally by an enterprise, ensuring their availability. This is not the case in DR Congo, where such bags were reported to be unavailable.

The micro-grants made available to farmers to access the promoted technologies were considered useful, but probably not applicable on a large scale. The pilot character of outcome 2 was underlined, along with questions regarding upscaling.

Workshops and training to foster the policy dialogue are definitely the best tools that a project can use to encourage the relevant stakeholders to raise awareness and to place the PHL reduction topic higher on the agenda.

##### ***How important is the intervention for the target group and subgroups (e.g. women), and to what extent does it address their needs and interests?***

The RBAs as well as SDC are sensitive to the specific needs of these target groups. This is reflected in the CoP (documents and information that emphasizes gender and pro-poor issues), in outcome 2, the project paid attention to the inclusion of these groups in the pilot activities, and in outcome 3 the policy formulation process was also done with the needs of these groups in mind.



***To what extent do the basic principles of the Swiss development cooperation strategy – poverty reduction, promotion of democracy and human rights, gender equality, respect for the cultural background and ecology – correspond with the respective strategic goals and programmatic targets?***

The first step towards the inclusion of the basic principles is the project document, with the adequate formulation of objectives, and corresponding indicators. In the present case, while choosing the RBAs as project implementing agencies, SDC was conscious that some compromises were needed. The RBAs have their own agenda (even though SDC's basic principles are mostly included), they have their own intervention modalities. Moreover, working with governments (especially outcome 3) often implies also different priorities: for example, government policies have to apply to all farmers, not only to smallholder farmers.

#### **4.2.2 Effectiveness**

***What is the progress towards achieving the logframe outputs and outcomes by the end of the project? Is the quality of outputs satisfactory? Are they still likely to lead to the expected outcomes? How effective were the approaches and structures selected by the project in delivering the desired outputs? What factors contributed to effectiveness or ineffectiveness of the program?***

Based on the data collected and analyzed, as well as the project reports reviewed, it can be said that the project's outcomes (section 3.1.2) and the foreseen outputs have mostly been achieved, as shown in the overview in Annex 5. Overall, the project has generated a substantial amount of good practice options for reducing PHL and disseminated PHM options through pilot interventions and produced a number of outputs shaping improved policy and regulations with regards to reducing PHL, although with varying relevance across the different country contexts (see section 4.2.1). However, in terms of how effective the actions taken over the course of the project duration were, mixed results have been reported by the key informants of this study.

With regards to outcome 1, it can be summarized that the CoP has been established as an effective and informative reference point throughout the project, also effectively driving many other positive developments such as the institutionalization of the PHFLW topic, etc. (see sections 3.2 and 3.3). However, on the other hand it can be concluded that the CoP did not fully live up to its potential in terms of effectively engaging an active and dynamic exchange among its members.

Under outcome 2, the development and application of the FLA methodology can be summarized as complex and thorough, precise and academic. However, it must also be noted that it was not perceived as very effective and applicable to the immediate development context, while on the other hand there seems to be no doubt about the effectiveness of the developed tool and its results for raising awareness of the importance of the PHFLW topic. The disseminated technologies and practices for reducing PHL might be described as effective if regarded as stand-alone/isolated interventions, i.e. referring to those who have directly benefited from these activities. On the other hand, it must also be said that the pilot interventions have not been very effective for triggering a business case and thereby scaling up a wider dissemination of adequate solutions for reducing PHL driven by economic forces.

For outcome 3, and based on the data collected and analyzed, the effectiveness of the conducted activities remains questionable, in any case if assessed at this point of time when the end-of-project evaluation was conducted. This is owed to the complexity and lengthiness of policy processes in general, and more explicitly to the specific circumstances related to influencing, shaping and implementing corresponding policies in the three target countries, which were unanimously described as challenging (see sections 3.2 and 3.3).

***To what extent did the changes in the overall context/setting of the project affect the achievements of expected outcomes/outputs?***

It remains hypothetical to assume how the dynamics of the context/settings over the course of the project have influenced the effective achievement of the outcomes. Based on the information of the consulted key informants it became clear, however, that the way in which the project management was set up played an

essential role for the achievements of the foreseen outcomes. That said, it was controversially discussed to what extent the project should have had stronger management and steering competencies in the three target countries (i.e. at national level) as opposed to a rather centralized management structure based in Rome. On the other hand, there was consensus among the key informants that stronger and more effective cross-institutional governance mechanisms as well as more staff continuity at country-level would have positively contributed to the overall development and achievements, and thereby the effectiveness, of the project. The rather unstable political context, in particular in Burkina Faso and in the DR Congo, also affected the implementation of the project.

#### ***To what extent is the target group reached?***

Referring to outcome 1 (CoP) and based on the data available and presented in Figure 2, a great share of the CoP members have a background in academia/research (combined 32%), while the largest part are members who are affiliated either to the private sector or non-governmental/international development organizations/agencies (combined 54%). Looking at these figures it is noteworthy that only a minority of policy makers participated to the CoP. However, on the whole, the target audience of the CoP can be described and fairly broad, and thereby in line with the project's goals, in order to link different stakeholders such as food loss reduction specialists, local authorities, the private sector, relevant ministries and development organizations/institutions. With regards to outcome 2, and as covered in section 4.1.2, the project directly worked with (poor) smallholder farmers of which more than 50% were reported to be women, thereby also taking into account gender aspects. While the sole target group under outcome 3, it remained difficult to assess to what extent policy makers have effectively been reached.

#### **4.2.3 Efficiency**

##### ***To what extent did the project utilize the funding as per the agreed work plan to achieve the projected targets? Were the project resources used efficiently to carry out activities? Were the intervention costs efficient?***

The project implementation costs represented about 22% of the total budget<sup>6</sup>, which is rather high. This includes the costs of the joint implementation by the RBAs, with its benefits, but also the difficulties and inefficiencies that were reported by several stakeholders.

The CoP was implemented by FAO consultants, and this was reportedly cheaper than if the same work had been done by professional staff of FAO. Looking at the budget over the two phases, the CoP had the bulk of its costs at the beginning (building up the CoP) while the costs decreased over time.

Outcome 2 consumed most of the resources during the first phase, with the assessment of PHL and the implementation of activities at the farmer level. Based on a decision of the steering committee, the funds for outcome 2 were drastically reduced in phase 2, which many stakeholders in the countries regretted. In terms of efficiency, the national focal points together with the national partners did a good job, they probably reached the maximum that was possible with the available resources.

The budget for the policy framework (outcome 3) was increased in phase 2 along with the budget reduction of outcome 2. The policy work was reported to be difficult, but as far as we can assess it, the activities were done well. A weak point could be the lack of continuity (punctual inputs of consultants).

<sup>6</sup> This figure is calculated based on Table 2, items "support and operating costs" as well as "contracts with implementing partners"

***How big is the efficiency or utilization ratio of the utilized resources? (comparison: provided means – results)***

As far as can be judged based on the data available, the budget was spent according to the plan, with a no-cost extension at the end of phase 2. The comparison between provided means and results has been discussed in chapter 4.1 (as far as it was possible).

***Is the relationship between input of resources and results achieved appropriate and justifiable? What is the cost-benefit ratio?***

The cost effectiveness of outcome 1 is difficult to assess. As mentioned in chapter 4.1.1, some unit costs (e.g. cost per CoP member) could be calculated, but their interpretation remains challenging and it does therefore not seem of any meaningful value to calculate potentially misleading figures.

While the CBA proposed in chapter 4.1.2 should be interpreted with caution, it nevertheless tends to show that outcome 2 has an acceptable cost-effectiveness for this type of project. For outcome 3, a similar argumentation as for outcome 1 applies.

***Are there any alternatives for achieving the same results with less inputs/funds?***

The question of alternative approaches the project could have taken was raised with several of the interviewed stakeholders. It was mentioned that the project design had been defined to a large extent by the RBAs (especially FAO and IFAD), even before the formulation of the project document.

The CoP was not really challenged, but as said above, it could have been made more interactive. Alternatives were mentioned for outcome 2 where a stronger focus could have been put on the smallholder farmers' needs and rationale of decision making (adoption of PHTs and practices, crop economics). This could have led to a true business case for PHTs, rather than demonstration and pilot actions with unclear sustainability (see also chapter 4.2.5).

Alternatives could also have been envisaged for the selection of countries, the project setup, etc. These options are discussed in the corresponding sections of the report.

#### **4.2.4 Impact**

***What are the most relevant results achieved at policy, institutional and beneficiary levels that already show a 'first impact' since long-term impact is too early to assess?***

Not specifically related to either of the three outcomes, one of the most significant impacts has surely been the institutionalization of the PHFLW topic not only among the three RBAs, but also among the many other stakeholders that have participated in the project, such as academia and research, non-governmental, governmental and international development actors and, to a certain extent, also policy makers in the beneficiary but also other countries. While oftentimes challenging and problematic in terms of efficiency (as discussed in section 4.2.3), the project also had a significant impact on the three RBAs' working relationship as it has been earmarked as and made the case for the first ever institutional collaboration on a level playing field. A positive, and immediate, impact can also be attributed to the interventions under outcome 2. Although the cost-benefit ratio of the implemented activities and disseminated technologies remains assumptive, based on the anticipated figures/calculations, smallholder farmers have directly benefited from improved PHM practices and technologies, thereby contributing to a reduction of food losses. For outcome 3, an immediate impact is not tangible and too early to assess at this point, as it remained not possible to evaluate to what extent the project has yet resulted in effectively implemented improved policies and regulations.

***Is the project bringing about desired changes in the beneficiaries' livelihoods? What real difference has the activity made to the beneficiaries? How many people have been affected?***

As previously discussed, the project has brought about desired changes at the level of the involved smallholder farmers – through working with farmers' associations – with the dissemination of improved post-harvest management options, thereby contributing to a reduction of PHL. The number of direct beneficiaries (smallholder farmers in the three target countries), and also with regards to the exemplified cost-benefit calculations, has been discussed in sections 4.1.2 and 4.2.3. The processes and developments triggered and supported at the level of the three RBAs and beyond, as well as in the beneficiary countries can only bring about the desired change in the medium- to long-term – and provided that follow-up activities on reducing PHFLW are brought on their way. This applies to all three dimensions across which this project has been working, i.e. knowledge generation and management, innovative solutions for improved post-harvest management, as well as the implementation of effective policies and regulations. Therefore, leading on to sustainability aspects (section 4.2.4), it remains of utmost importance that the achievements in the field of reducing PHFLW are brought forward through continued funding and efforts.

***Does the development intervention contribute to the achievement of overall development objectives (tendentially, overall goal)?***

The project entitled "Mainstreaming Food Loss Reduction Initiatives for Smallholders in Food Deficit Areas" was conceptually in line with FAO's<sup>7</sup>, WFP's<sup>8</sup>, IFAD's<sup>9</sup> and SDC's<sup>10</sup> strategic objectives, the Malabo Declaration's commitment on ending hunger in Africa by 2025 by halving the current levels of PHL, as well as SDGs 2 and 12. As such, the activities under all three outcomes have contributed to the overarching goals of the project as well as the involved institutions. How impactful the project's activities were with regards to contributing to the achievements of these overall goals remains closely tied to aspects of effectiveness (as discussed in section 4.2.2).

#### **4.2.5 Sustainability**

***Did the project approach address the needs of the beneficiaries (both men and women), what is the level of local ownership (chances that benefits generated to beneficiaries and implementing entities will continue after the project ends) and what is the extent of participation by local/regional/international institutions and beneficiaries?***

Since the target groups of the project vary greatly (CoP members, smallholder farmers, policy makers), this question can only be addressed separately for all three outcomes. With regards to outcome 2, it remains difficult to assess and verify to what extent the project responded to the needs of the beneficiaries. This is owed to the fact that no baseline study was conducted in the early stages of the project, as was also discussed by the interviewed key stakeholder, in order to provide a needs assessment for the planned interventions/activities (see section 3.3.1 – fragmentation, complexity and context of the project). Concerning the gender aspect, the project management reported that of the targeted smallholder farmers under outcome 2 more than 50% were women. With regards to outcome 1, it was broadly and unanimously agreed by the key informants of this evaluation that the merger of the CoP with the Technical Platform on the Measurement and Reduction of Food Loss and Waste ensured the sustainability of the project's activities

7 Strategic Objective 4: Enable inclusive and efficient agricultural and food systems

8 Strategic Objective 1: End hunger by protecting access to food, Strategic Objective 3: Achieve Food Security

9 Strategic Objective 1: Increase rural people's productive capacities, Strategic Objective 2: Increase rural people's benefits from market participation

10 SDC (2020)

relating to the CoP, as the newly launched platform is not tied to project funds but has been established as an FAO corporate reference point. Also, through the work under outcome 3, the project aimed at addressing the needs of the ultimate beneficiaries – (poor) smallholder farmers. However, to what extent this goal will be achieved remains unclear as it was assessed as too early to evaluate the implementation of respective policies and regulations, and also as this question mostly pertains mostly to relevance (did the project do the right things?) and effectiveness (were the right approaches taken?).

With regards to ownership and participation of the different stakeholders to the project, the very broad establishment of the importance of the PHFLW topic, across institutions, countries and sectors, has surely made positive contributions. However, in terms of sustainability, this assessment might be more valid for outcome 1 and 3 of the project, which center mostly around the momentum that the project has helped to create around awareness raising, debates and policy solutions, and less valid for the activities under outcome 2 (pilot interventions), which have practically ended with the termination of the project and have no prospect for further upscaling without the identification of a business case. Without making the reduction of PHL a business case, also similar future interventions will struggle to achieve sustainability in that sense.

***To what extent does the intervention reflect on and take into account factors which, by experience, have a major influence on sustainability like e.g. economic, ecological, social and cultural aspects? How self-supporting in particular is the assisted local counterpart?***

The project was designed to respond to the broader socio-economic and political circumstances in that it was the first level playing-field collaboration of the three RBAs, with wide outreach and multi-stakeholder engagement, and it was considered that this unique setup would provide significant leverage to enhance its overall potential for bringing about positive change relating to PHM, the reduction of PHL in SSA and generally responding to the challenges and goals of the Agenda 2030.

With regards to outcomes 2 and 3, it has previously been assessed that the broader political and socio-economic circumstances and instabilities in the target countries, especially in Burkina Faso and DR Congo have posed considerable challenges to the project. For that reason, the selection of the three target countries also remains a controversial question particularly in view of the sustainability of the implemented activities. It is questionable to what extent the respective stakeholders/institutions in these countries (local NGOs, ministries, local and regional authorities, etc.) will be self-sufficient enough to address the reduction of PHL with the urgency and determination that is seen to be required, as the institutional framework remains fragile and of limited capacities.

#### **4.2.6 Others/cross-cutting**

***Were social inclusion and gender aspects implemented or integrated as intended and what were their results?***

The inclusion of women as direct beneficiaries of the project has already been discussed in several other parts of this evaluation. Other aspects of diversity and social inclusion (e.g. minorities, youth, disadvantaged people) remain difficult to assess as the data collected does not provide detailed information about these aspects.

***Was there sufficient support from SDC for the implementation of the project and influencing the PHM policies in Uganda, Burkina Faso and Democratic Republic of Congo (policy dialogue)?***

The termination of the project at the end of phase 2 was broadly seen as unfortunate. Regarding outcome 2, rather than raising questions about the sufficiency of support through SDC, it remains controversial if the project had taken the right approaches (pilot interventions) or if alternative activities such as developing a better understanding of farmer decision making processes and the economics of PHM options might have demonstrated a better pathway towards securing the sustainability of the project. Regarding outcome 3, and as broadly discussed before, the complexity and lengthy processes of developing and implementing

an improved policy and regulatory framework have been key constraints, especially for a project with a limited duration of two phases. Taking this into consideration, continued funding would have translated to continued support for the development and implementation of an improved policy and regulatory framework with regards to reducing PHL in the three target countries.

## 5 Conclusions and recommendations

By targeting the reduction of PHL, the project did not only contribute to increased food security in SSA, but also to a better use of natural resources. In terms of contribution to the SDGs, the project directly contributed to SDGs 1 (no poverty) and 2 (zero hunger), as well as SDGs 5 (gender equality), 13 (climate action) and 17 (partnerships for the goals – which should also entail a closer collaboration of the three RBAs). In that sense, the project has been of crucial importance.

In the following, a set of recommendations are formulated, based on the findings of this final evaluation. Some recommendations are very specific to the project, others have a more general character.

### **Recommendation 1 – Continued and coordinated support from the development community is needed for large-scale dissemination of improved PHM in SSA**

For SDC's interventions in PHL reduction, the end of this project marks at the same time the end of interventions in this sector after 12 years. However, as previously discussed, there is still a lot to do to reach the goals set at the Malabo Declaration for PHL reduction. Large scale adoption of improved PHM by small-holder farmers in SSA would call for continued support, probably on a larger scale, with internationally coordinated donor and governments participation.

### **Recommendation 2 – Improved understanding of farmers' decisions and careful progress/impact monitoring are needed**

This project lacked a thorough baseline assessment, which makes it difficult to precisely assess the achievements after seven years. However, it also has to be admitted that it will remain difficult to quantify the benefits of improved PHM: comparing technologies and practices alone is not sufficient because these technologies and practices are part of farmers' strategies. Understanding the farmers' decision-making processes on adoption of improved PHM technologies and practices will be crucial.

### **Recommendation 3 – Capitalize on the experiences made and continue to foster closer collaboration of the three RBAs and beyond, thereby also addressing SDG 17**

The joint implementation of the project by the RBAs was a new experience not only for SDC but also for the RBAs themselves. From this experience, several positive points are highlighted in this report. There were also difficulties and inefficiencies. For the future, SDC should continue its collaboration with the RBAs, including the joint implementation of projects, but with a different project design. Going forward, it is also important that different ways of project collaboration and funding be critically appraised, considering the advantages and disadvantages of stand-alone projects such as the one subject to this evaluation, which may require more resources in terms of planning and steering, or alternatively, the contribution to new or existing initiatives through the provision of co-funding. As the first ever formal institutional collaboration, the project makes a strong case for fostering closer ties in terms of operational activities of the three RBAs. It is therefore recommended that the experiences made are thoroughly assessed by the involved stakeholders, and that appropriate conclusions are being drawn in order to bring forward and establish effective and efficient joint governance and steering mechanisms to enable more and better future cross-institutional collaborations.

### **Recommendation 4 - Stay engaged with the community of practice**

The integration of the CoP in the new Technical Platform on the Measurement and Reduction of Food Loss and Waste under FAO is probably the best possible prospect that could have been envisioned for the CoP



in terms of sustainability. Nevertheless, the newly established platform should be supported with contributions and inputs, possibly also limited resources, to ensure that it will play its role in supporting practitioners and policy makers, as well as researchers, to promote improved PHM throughout SSA. All communities rely on the active engagement of their various stakeholders – and this active engagement is a shared responsibility. Communities do not thrive through top-down facilitation alone.

#### **Recommendation 5 - Make PHL reduction technologies and practices a business case**

Promoting improved PHM options is not just a matter of technologies and practices. This is very much a question of developing and promoting appropriate and sustainable business cases, involving the private sector. Neither the technologies and practices nor the business models should be top down decisions. Making the right choices requires a deep understanding of the local stakeholders' (smallholder farmers, agri-dealers, artisans, businesspeople, etc.) needs, preferences and decision-making patterns. In view of future pilot interventions, the role of subsidies in the dissemination of PHTs needs to be carefully analysed, as these may undermine the business model of private sector suppliers aiming at large scale dissemination of PHTs.

#### **Recommendation 6 - Consider and account for the long-term perspective of developing an improved policy and regulatory framework**

The importance of a conducive policy framework cannot be sufficiently underlined. Developing such a policy framework is a long-time process, it requires national and international collaborations, and it requires patience and conviction. It may be difficult to push the PHL agenda in face of governments as the promotion of agricultural productivity can seem so much more attractive and high-profile. Small steps are required, convincing power and long-term support.



## Limitations of the evaluation and postscript commentary

In the following, several important issues are raised, and some additional information is provided. These reflections are based on the reviews of this evaluation by SDC, by Dr Anna Crole-Rees<sup>11</sup> and on our own thoughts on these. We considered that these points would add value to the report, especially from the viewpoint of SDC and in consideration of institutional learning and future programs.

### Post-harvest technologies

The choice of PHTs at farm level is rarely the farmers' choice. Most of the time, project implementing agencies or government agencies are the ones selecting the technologies. In the current project, the PHTs introduced and disseminated by the project were partly different from what the RBAs were used to promote: for instance, in Burkina Faso, FAO had previously worked with metal silos, but mostly larger scale silos for collective storage, not at household level. In Uganda, WFP promoted mostly plastic silos in its own programs, besides metal silos. The introduction of hermetic plastic bags was rather new for the RBAs. As we know from Tanzania, where Helvetas promoted metal silos and hermetic plastic bags to farmers within the grain post-harvest loss prevention (GPLP) project, this led to an internal competition between the technologies, while farmers preferred the hermetic plastic bags because of their affordability.

The most appropriate PHT may differ depending on the context. The quantity and the types of grains to store, the agro-climatic conditions, the marketing strategies, the storage practices (individual or community-based) as well as the farmers' resources are among the critical factors.

### Gender and youth

The information obtained during the evaluation process did not yield much insight into gender issues, despite specifically addressing this point during data collection. This explains why the data presented in the report does not provide specific, gender-disaggregated data. This may either stem from the limitations of the (online) methodology chosen and applied for this evaluation, hence be owed to the circumstances under which this study took place, or partly also be owed to the project itself, whereby a stronger emphasis could possibly have been put on cross-cutting aspects relating to gender. The same applies to the inclusion of youth. In any case, including these aspects both in a baseline assessment and the reporting/monitoring system through specifically defined indicators would certainly also support the assessability of these dimensions.

However, especially at the level of primary production, PHM is closely linked with the role of men and women in smallholder farm households. Women are often responsible for household storage, and for domestic food security. They might often be the better advocates for PHTs, and they play a major role when it comes to making decisions about PHTs for the household, however, at the same time men often tend to be responsible for investment decision making. It is important that these dynamics be taken into consideration by intervention.

Young people were focused on in several PHM projects, not only at the level of primary production, but also for the local production of metal silos (e.g. GPLP in Tanzania), however with limited success. Such a focus on the youth was not part of this project.

### Business case for post-harvest technologies, private sector involvement

In outcome 2 of the project, the focus was on introducing and demonstrating post-harvest practices and technologies, not the large-scale dissemination of PHTs. This approach is justified in areas where these

<sup>11</sup>Dr Anna Crole-Rees is a Swiss consultant who participated in the CAPEX study of SDC's portfolio of PHL reduction initiatives in SSA. She visited some of the sites and met with some of the main stakeholders of the project implemented by the RBAs shortly before the pandemic in early 2020. She was mandated to provide a feedback of the present final evaluation report, drawing on the insights obtained during her field visits and thereby providing potentially complementary views.

practices and technologies are new, and where potential users have therefore not had the opportunity to test them. In the present case, and generally when demonstrations are supported with subsidies, it remains problematic that the real potential of an economically viable value chain for PHTs cannot be assessed, and private stakeholders will not show interest because they cannot compete with subsidized prices.

As mentioned above, when hermetic plastic bags are promoted along with metal silos, the latter will be penalized because of their higher price (assuming that the bags can be used for three years and the silos for 20 years, with equal storage quality). It is important to keep in mind that the price of PHT and their profitability depends on a combination of factors such as the price of the stored grains, the quantity of grains saved, the price difference between the lowest price of the crops (usually at harvest time) and the highest price (during the lean season), etc. In addition, farmers would rather spend less money (e.g. for hermetic plastic bags) rather than a higher amount even if it is for a longer time span (e.g. 20 years for metal silos).

Under these conditions the relevance of a business case needs to be assessed and demonstrated in each context and cannot just be copied from another location.

### **Additional benefits**

In chapter 4.1, when discussing the benefits, some additional benefits (obviously in the category ‘difficult to measure’) might be added: these include the elaboration of a law for plastic in Burkina Faso, or increased cooperation between the ministries of agriculture and education in Uganda, whereby PHM and the reduction of PHL has been integrated into university curricula. However, as some of these points did not specifically come up during the course of this evaluation, possibly owed to its limitations as explained beforehand, they are also not covered in the main part of this report. They remain nevertheless relevant and should therefore be taken into wider consideration.

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## Annex 1

### Postharvest management project – documents received from SDC

	General
Credit proposal	<ul style="list-style-type: none"> <li>• Phase 1 additional credit</li> <li>• Phase 2 (1.8.17 – 31.5.20)</li> <li>• Signed credit proposal</li> </ul>
Steering committee minute meetings	<ul style="list-style-type: none"> <li>• 1st Steering Committee meeting Second phase 14 December 2017</li> <li>• FAO Headquarters, 26 June 2018,</li> <li>• WFP headquarters, 23 November 2018</li> <li>• IFAD Headquarters, 20 June 2019,</li> <li>• RBA joint project steering committee meeting (RBA/GLO/002/SWI) FAO HQ – 16 December 2019</li> </ul>
Progress reports	<ul style="list-style-type: none"> <li>• 20.7.17 – 31.1.18</li> <li>• 1.8.18 – 31.1.19</li> <li>• 1.8.19 – 31.1.20 (Word + .pdf)</li> </ul>
Annual report	Phase 1 - dec 13 – dec 14 - 1.1 31.12.15 - 2016 End of phase report 20.7.17 – 31.7.18
Evaluation reports, CAPEX	<ul style="list-style-type: none"> <li>• Internal review of cooperation between partners during phase 1 (questionnaire + report)</li> <li>• CAPEX 1. introduction (6p, .pdf)</li> <li>• CAPEX 2. knowledge management and dissemination for phm (3p, .pdf)</li> <li>• CAPEX 3. Effective advocacy (3p, .pdf)</li> <li>• CAPEX 4. Institutionalising PHM (4p, .pdf)</li> <li>• CAPEX 5. phm market systems (4p, .pdf)</li> <li>• Illudest Study report</li> <li>• Helvetas Study report</li> </ul>
Project document	<ul style="list-style-type: none"> <li>• Prodoc phase 1</li> <li>• Results matrix (phase 1)</li> <li>• Planning framework for phase 2</li> <li>• Prodoc phase 2</li> <li>• 2<sup>nd</sup> version</li> </ul>
Preparation of project	<ul style="list-style-type: none"> <li>• Theory of change (result chain) 1p (annex 2)</li> <li>• Intervention strategy (PPT) 1 slide (annex 3)</li> <li>• Project summaries (2p, annex 4)</li> <li>• Call for proposal</li> <li>• Entry proposal, opening credit</li> </ul>
Reports	<ul style="list-style-type: none"> <li>• Flyer (2p) phase 1</li> <li>• Mainstreaming food loss prevention (2p) end of phase 1</li> <li>• Mission report Simon Zbinden, launching phase 2 (7.9.17)</li> <li>• WFP interim report 15.6.2018</li> </ul>
Special events	<ul style="list-style-type: none"> <li>• <b>Workshop Hotel Paradise on the Nile, Jinja, Uganda, 7-11 September 2015</b> Thematic discussions, Future activities and interventions shared, Major outcomes in terms of challenges and suggestions for future interventions, PHM Advisory and Coordination Group Meeting notes, Take away message from the field trip to visit WFP Special Operation intervention sites and actors involved, Post-Harvest Management (PHM) / Food Loss Reduction (FLR)</li> </ul>

## Annex 2

### Evaluation finale, projet Gestion Post-Récolte (GPR) mis en œuvre par les agences UN basées à Rome

Nom :



Position dans le projet :

Date :

#### Succès – Echecs – Potentiels – Obstacles (SEPO)

Veuillez noter les aspects les plus importants (de votre propre point de vue dans le projet) concernant les points suivants et renvoyer le document à [dominique.guenat@bfh.ch](mailto:dominique.guenat@bfh.ch) et [sebastian.mengel@bfh.ch](mailto:sebastian.mengel@bfh.ch):

- Général
- Montage institutionnel du projet
- Gestion du projet
- Résultats atteints CoP (outcome 1)
- Résultats atteints dans les pays en matière de GPR (outcome 2)
- Résultats atteints dimension politique (outcome 3)
- Impact global du projet, durabilité, ...
- ...

	Succès	Potentiels
Aspects positifs		
	Echecs	Obstacles
Aspects négatifs		
	vers le passé 	 vers l'avenir

# Final evaluation, RBAs Post-Harvest Management (PHM) project

Name:



Position in project:

Date:

## Successes – Weaknesses – Opportunities – Threats (SWOT)

Please compile the most important aspects (from your own perspective in the project) regarding the following points and email the document to: [dominique.guenat@bfh.ch](mailto:dominique.guenat@bfh.ch) and [sebastian.mengel@bfh.ch](mailto:sebastian.mengel@bfh.ch):

- General
- Project setup
- Project management
- Achievements CoP (outcome 1)
- Achievements in-country PHM interventions (outcome 2)
- Achievements policy dimension (outcome 3)
- Overall impact, sustainability, ...
- ...

	Successes	Opportunities
Positive aspects		
	Weaknesses	Threats
Negative aspects		
	Looking back 	 Looking ahead

## Annex 3

### Checklist of questions for individual interviews

#### 1. Relevance

Were the project objectives of the RBA project: <input type="checkbox"/> Too ambitious <input type="checkbox"/> Adequate <input type="checkbox"/> Not enough ambitious <i>Explain:</i>
How was the interaction between the RBAs project and other post-harvest initiatives in your country / in the countries? <input type="checkbox"/> Intensive <input type="checkbox"/> Limited <input type="checkbox"/> None  What about the quality of the interaction? <input type="checkbox"/> Very useful <input type="checkbox"/> Useful <input type="checkbox"/> Not very useful <input type="checkbox"/> Useless <i>Explain: (reasons and which projects / donors in particular)</i>
Looking at the issue of post-harvest losses, did the project adequately address these issues?  <b>Outcome 1</b> (community of practice)  <b>Outcome 2</b> (pilot interventions for best PHM practices)  <b>Outcome 3</b> (working at policy level)
Were the needs and interests of the target groups (smallholder farmers, women, youth) adequately addressed?

#### 2. Effectiveness *(doing the right things)*

Did the project do the right things (in terms of strategies, approaches and tools) to adequately address the issue of post-harvest losses in the three project outcomes. What was insufficiently addressed?  <b>Outcome 1</b> (CoP)  <b>Outcome 2</b> (pilot interventions for best PHM practices)  <b>Outcome 3</b> (policy level)
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<b>General (overall)</b>
What factors contributed to effectiveness or ineffectiveness of the program?
To what extent did the changing context (country specific) influence the project implementation?
What will be the effect of the COVID-19 crisis on the project outcomes and impacts?

### 3. Efficiency (*doing things right*)

In your opinion, were the resources of the project generally well used? <input type="checkbox"/> Yes <input type="checkbox"/> No Explain:
Were there differences between phase 1 and phase 2?
Are there areas where you think that the project could have done better (inefficiencies)?
In your opinion, how is the relationship between inputs and results?

### 4. Impact

In your opinion, were the most relevant results achieved by the project? <input type="checkbox"/> At policy / institutional level <input type="checkbox"/> At beneficiary level (field) <input type="checkbox"/> At the level of knowledge generation and sharing Explain:
In which field do you think that the project will have a significant impact (even if it is not measurable)?

### 5. Sustainability

In your opinion, what project results that are likely to be continued? Explain:
In your opinion, what project results that are <u>NOT</u> likely to be continued? Explain:
Did the project have an effect on:

<input type="checkbox"/> The implementing institutions (RBAs)?	
<input type="checkbox"/> Other projects dealing with PH losses in the country?	
<input type="checkbox"/> Donors (e.g. SDC)	
<input type="checkbox"/> Other organizations / institutions (e.g. farmers' organizations)	
Is there any aspect of the project that you would call "a missed opportunity"?	
What are the main assets and barriers to sustainability of the project results?	
Assets	Barriers

## 6. Other, cross-cutting issues

To what extent were social inclusion and gender aspects implemented or integrated?
What were the results of this social inclusion and gender aspects?
Did the project also address young people in rural areas?

## Annex 4

### Cost benefit analysis of outcome 2

The proposed CBA is based on many assumptions that are explained below. Some of these assumptions are based on figures used in a similar study from Tanzania<sup>12</sup>. The purpose of the analysis is to verify under which conditions the intervention of the project generates sufficient benefits to justify the investment. Therefore, it is a rather theoretical CBA, and the system was simplified and standardized to make it understandable and transparent. The model can be modified (changing the assumptions) e.g. to conduct a sensitivity analysis.

Assumptions:

- The farmers reported by the project (total 9710 farmers) joined the project evenly over the first phase (25% per year)
- The participating farmers in all three countries had on average the same costs and the same benefits
- All the participating farmers adopted improved post-harvest management practices (drying, shelling) and paid for that (no subsidies, 10 CHF/farmer)
- On average, each of these farmers adopted one PH technology (1 metal silo or 5 hermetic bags) for the storage of 500kg of grains
- Metal silos were acquired by 20% of the farmers (with 50% subsidy), while 80% of the farmers bought hermetic bags (at full cost)
- Metal silos were assumed to have a lifespan of 20 years, while the hermetic bags need to be replaced after 3 years
- The prices assumed for metal silos correspond to CHF 100 per silo, and 2 CHF per hermetic bag
- The benefits of the improved post-harvest management are 10% grains saved, and a price increase for the grains of 40% (price differential between lowest price at harvest time (0.2 CHF /kg) and the highest price after several months of storage (0.28 CHF/kg).
- Metal silos and hermetic bags provide the same benefit for the stored grains.
- All the costs for outcome 2 are included (i.e. management costs, consultancies, etc.)

Result of the CBA

Cost benefit analysis of outcome 2									
		2014	2015	2016	2017	2018	2019	2020	total
<b>costs</b>		394 234	418 234	442 234	488 514	429 662	322 981	243 061	2 738 920
project costs (outcome 2)		327 034	327 034	327 034	327 034	313 362	206 681	106 681	1 934 860
additional costs for metal silos (farmers)		24 000	24 000	24 000	25 100	0	0	0	97 100
additional costs for hermetic bags (farmers)		19 200	19 200	19 200	39 280	19 200	19 200	39 280	174 560
additional costs for other PHT (farmers)		24 000	48 000	72 000	97 100	97 100	97 100	97 100	532 400
<b>benefits</b>		129 600	259 200	388 800	524 340	524 340	524 340	718 540	3 069 160
value of saved grains and improved sales		129 600	259 200	388 800	524 340	524 340	524 340	524 340	2 874 960
residual value of investment (metal silos)								194 200	194 200
<b>Additional cash flow</b>		-264 634	-159 034	-53 434	35 826	94 678	201 359	475 479	
Net present value (10%)	31 636								
Internal rate of return	11.56%								
Benefit cost ratio (discounted)	1.01								

<sup>12</sup> Guenat D., Cost Benefit Analysis of the Grain Postharvest Loss Prevention Project (SDC/Helvetas), Dodoma, Tanzania, July 2017

The result obtained with the above assumptions shows a low profitability (with a slightly positive NPV, the IRR just above the assumed discount rate of 10%, and a discounted benefit cost ratio of 1.01).

A simple sensitivity analysis indicates that the most sensitive parameter is the price differential between harvest time and the lean season (when prices are at their maximum). While interpreting the CBA, we have to keep in mind that the project was set up as a pilot (i.e. higher costs for exploratory work, including the post-harvest losses assessment). The ratio between costs and benefits is likely to be better when it comes to disseminate the most suitable technologies on a large scale.

## Annex 5

Achieved

Partly achieved

Not achieved

Based on the reviewed project reports and data collected and analyzed

Outputs (per outcome) and costs	Indicator	Target
<b>For Outcome 1: Knowledge of the magnitude and sources of food losses and the methodology for food loss analyses expanded and good practice options for reducing post-harvest losses are compiled and disseminated through a reinforced and fully functioning Community of Practice (CoP) website.</b>		
<b>Output 1.1</b> The web-based CoP linking food loss reduction specialists, frontline organizations/institutions and field teams, local authorities, the private sector and staff of relevant ministries, regional institutions and development agencies further developed to reinforce its scope and coverage for knowledge sharing, partnering and mainstreaming.	<ul style="list-style-type: none"> <li>A reinforced CoP fully operational and recognized as the global reference centre on food loss reduction</li> </ul>	<ul style="list-style-type: none"> <li>A Reinforced CoP with wider coverage fully operational and recognized as the global reference centre on food losses:</li> <li>Total English pages hits 45,000 (baseline Oct. 2014-March 2017 12,000); Total French pages hits 8,000 baseline Oct. 2014-March 2017 1,500) and Total Spanish pages hits 7,500 baseline Oct. 2014-March 2017 1,300) at the end of Phase 2</li> <li>Country-based hits increased (up to 100 countries), reaching more than 100 visits at the end of Phase 2</li> </ul>
<b>Output 1.2</b> The PHL world mapping exercise indicating the existing PHM projects and programmes for different commodities and countries which was initiated under Phase 1, further developed.	<ul style="list-style-type: none"> <li>Updated Map of PHL interventions</li> </ul>	<ul style="list-style-type: none"> <li>Map of PHL interventions updated (from 32 countries in March 2017 to 80 countries) and used by CoP users (up to 4,000 hits)</li> </ul>
<b>Output 1.3</b> The web-based CoP broadened to cover other major commodities, organizations and countries.	<ul style="list-style-type: none"> <li>No of Items posted on major commodities and covering an increased number of countries</li> </ul>	<ul style="list-style-type: none"> <li>No of Items covering other major commodities other than grains</li> <li>No of items covering other regions of the world (Africa, Asia, LAC)</li> </ul>
<b>Output 1.4</b> Cross-country, regional and global multi-stakeholder consultations undertaken to promote coordinated and synergistic action to address post-harvest losses (good practices, technologies and policy frameworks), through effective participation in/contribution to regional/global meetings.	<ul style="list-style-type: none"> <li>No of effective participation of the UN RBA in major platforms and events on PHL reduction and outcomes posted on the CoP</li> </ul>	Participation to at least 8 major events on PHL
<b>Output 1.5</b> Dissemination of lessons learnt through the publication of the results and recommendation from food loss analysis studies, and	<ul style="list-style-type: none"> <li>No of forum discussions held on the CoP on PHL including on technical, economic, organizational,</li> </ul>	<ul style="list-style-type: none"> <li>At least 3 forum discussions organized per year</li> </ul>

involvement of different key players in moderated online Forum discussions on the CoP.	<p>social, environmental, political and regulatory themes</p> <ul style="list-style-type: none"> <li>No of Forum discussion digests developed and disseminated through the CoP</li> </ul>	
<b>Output 1.6</b> Dissemination and promotion for use of the e-learning course on food loss analysis: causes and solutions	<ul style="list-style-type: none"> <li>1 e-learning module on food loss and on undertaking food loss analysis</li> </ul>	<ul style="list-style-type: none"> <li>1 e-learning module on food loss and on undertaking food loss analysis produced, disseminated and used by potential users</li> </ul>
<b>Output 1.7</b> Promotion of best practices and appropriate technologies through thematic workshops, publications and CoP dedicated sections.	<ul style="list-style-type: none"> <li>No participation to workshops on PHL reduction and publications</li> <li>No of items on the CoP on PHL reduction best practices</li> </ul>	<ul style="list-style-type: none"> <li>Participation to at least 8 major workshops or events at national, regional, and international events on PHL reduction</li> <li>Increased No of Items on PHL reduction solutions and best practices posted on the CoP (20% News,60% multimedia,60% in resources)</li> </ul>
<b>Output 1.8</b> Development of an exit strategy for maintenance and funding of the CoP.	<ul style="list-style-type: none"> <li>An exit strategy developed to ensure that the CoP will be viable and maintained at the end of the 2<sup>nd</sup> phase</li> </ul>	<ul style="list-style-type: none"> <li>An exit strategy is developed</li> </ul>
<b><i>For Outcome 2: Improved post-harvest management within the targeted value chains is benefitting smallholder farmers in countries through the dissemination of results of food loss analyses and the experience of pilot food loss interventions</i></b>		
<b>Output 2.1:</b> Indicative levels and causes of food losses at the farm level and along selected food chains <sup>13</sup> , including in the three pilot countries involved in the Phase 1, and recommended actions to address these losses publicized and disseminated through multi stakeholder workshops as resources allow.	<ul style="list-style-type: none"> <li>Published reports on FLAs carried out during the first phase including on the replications of selected FLA: No of FLA reports finalized, edited and publicized: on 3 crops in BF (cowpea, maize, sorghum) replicated once, 2 crops in DRC (maize and rice) replicated once; and 3 crops in Uganda (maize, beans and sunflower and beans replicated once)</li> </ul>	<ul style="list-style-type: none"> <li>At least 3 FLA reports finalized, edited and published (one per country combining results on 3 crops in BF (cowpea, maize, sorghum) which have been replicated once, 2 crops in DRC (maize and rice) replicated once in one region; and on 3 crops in Uganda (maize, beans, sunflower losses, the latter replicated once)</li> </ul>

<sup>13</sup> Losses identified at: (a) farm post-harvest operations including farm level storage; (b) village level collection points and storage facilities; (c) regional/ provincial marketing hubs and commercial warehouses; (d) transport and distribution systems (farm to market and downstream); and (e) agro-processing facilities.

<b>Output 2.2<sup>14</sup>:</b> Appraisals of the food loss analysis case study methodology and improvements in the methodology identified and disseminated through the CoP and engagement with relevant partners and institutions.	<ul style="list-style-type: none"> <li>Improved capacity at multiple levels including senior decision makers, producers' organizations, development partners and national research organizations.</li> <li>No. of key stakeholders attending the trainings (which can be carried through Webinars)</li> </ul>	
<b>Output 2.3<sup>15</sup>:</b> Appraisals of the adoption of the technologies and good practices promoted and piloted during Phase 1, to address 'critical loss points' undertaken, and feasible and successful practices identified and disseminated both nationally and regionally through the CoP and through engagement with partners.	<ul style="list-style-type: none"> <li>Number of appraisals implemented and results subsequently published</li> <li>Stakeholder workshops that include validation and dissemination of the appraisals in each country (3)</li> </ul>	<ul style="list-style-type: none"> <li>Target is 3: one report in each of the supported countries</li> <li>Target is 3 workshops: one in each of the supported countries</li> </ul>
<b>Output 2.4</b> Training undertaken of target group 'training of trainers' on good practices in the design and implementation of projects on post-harvest systems management based on the results obtained.	<ul style="list-style-type: none"> <li>Improved capacity at multiple levels including planners and decision makers, producers' organizations and training institutions</li> </ul>	Target is 3 workshops: one in each of the supported countries
<b>Output 2.5</b> Good practices disseminated through their incorporation within on-going investment projects. Additional solutions will also be sourced from experiences of other donor and SDC projects and through the CoP.	<ul style="list-style-type: none"> <li>PHL components incorporated in new projects</li> </ul>	Target is at least 6 projects incorporating FLR and PHM best practices
<b>Outcome 3: Policy and regulatory framework (policy, standards) on reducing food losses in food supply chains are developed and validated at national and regional levels</b>		
<b>Output 3.1:</b> Support to governments, upon their request, in the elaboration of PHL reduction policies and strategies based on activities undertaken under Output 2 and their validation through national workshops.	<ul style="list-style-type: none"> <li>Improved Policy and regulatory frameworks developed.</li> <li>An improved enabling environment for reducing post-harvest losses in the countries.</li> <li>Increased level of interest and investments in food loss reduction in pilot countries (by governments/donors and the private sector)</li> </ul>	At least 3 countries supported in the development of policies and regulatory framework on PHL reduction, including enabling environment aspects

<sup>14</sup> Decided by the steering committee (14 December 2017) of the project that activities related to output 2.2 would not be carried out in order to allocate enough resources to the activities and results that pilot countries have prioritized under Outcome 3

<sup>15</sup> Decided by the steering committee (14 December 2017) of the project that activities related to output 2.3 would not be carried out in order to allocate enough resources to the activities and results that pilot countries have prioritized under Outcome 3



	<ul style="list-style-type: none"> <li>• Mainstreaming of lessons learnt within each organization, across the RBAs and other agencies/ major actors in food losses</li> </ul>	
<b>Output 3.2:</b> Policy makers in relevant government departments (crop production, extension, planning etc.) and NGOs supported and enabled in the design and implementation of post-harvest projects through evidence based knowledge provision.	<ul style="list-style-type: none"> <li>• No of new projects and documents on/including PHL loss reduction</li> </ul>	At least 3 new projects or programmes incorporates PHL reduction
<b>Output 3.3:</b> Food loss awareness discussed with policy and decision makers nationally, regionally and globally in different fora (RBA policy events, regional economic bodies, donor fora).	No of UN RBA effective participation on discussions on PHL reduction with policy and decision makers nationally, regionally and globally in different fora (RBA policy events, regional economic bodies, donor fora).	At least 8 major events

## Tool 7: Assessment Grid for the DAC Criteria

### Assessment Grid for project/programme evaluations of the SDC interventions

Version: 30.06.2020

**Note:** this assessment grid is used for evaluations of SDC financed projects and programmes (hereinafter jointly referred to as an 'intervention'). It is based on the OECD Development Assistance Committee evaluation criteria.<sup>1</sup> In mid-term evaluations, the assessment requires analysing the likelihood of achieving impact and sustainability. All applicable sub-criteria should be scored and a short explanation should be provided.

Please add the corresponding number (0-4) representing your rating of the sub-criteria in the column 'score':

0 = not assessed

1 = highly satisfactory

2 = satisfactory

3 = unsatisfactory

4 = highly unsatisfactory

Key aspects based on DAC Criteria	Score (put only integers: 0, 1, 2, 3 or 4)	Justification (please provide a short explanation for your score or why a criterion was not assessed)
<b>Relevance</b> <b>Note:</b> the assessment here captures the relevance of objectives and design <i>at the time of evaluation</i> . In the evaluation report, both relevance at the design stage as well as relevance at the time of evaluation should be discussed.		
1. The extent to which the objectives of the intervention respond to the needs and priorities of the target group.	2	Relevance not the same for the different target groups, outcome 1 for development community and policy makers, outcome 2 for farmers and their associations, outcome 3 for policy makers. As such, the project targeted direct beneficiaries as well as "indirect" beneficiaries (policy, academia, development).
2. The extent to which the objectives of the intervention respond to the needs and priorities of indirectly affected stakeholders (not included in target group, e.g. government, civil society, etc.) in the country of the intervention.	0	<a href="#">Click here to enter text.</a>
3. The extent to which core design elements of the intervention (such as the theory of change, structure of the project components, choice of services and intervention partners) adequately reflect the needs and priorities of the target group.	2	Difficult to assess overall – the CoP may be seen as such a core design element, and it is an adequate response to the identified needs. The choice of the RBAs as implementing agency may also be seen as a core design element.

<sup>1</sup> For information on the 2019 revisions of the evaluation framework see: Better Criteria for Better Evaluations. Revised Evaluation Criteria. Definitions and Principles for Use, OECD/DAC Network on Development Evaluation, 2019.

<b>Coherence</b>		
4. Internal coherence: the extent to which the intervention is compatible with other interventions of Swiss development cooperation in the same country and thematic field (consistency, complementarity and synergies).	1	This project was done within the framework of the PHM portfolio, with the idea to concentrate the knowledge and make it available to the development community at large through the CoP.
5. External coherence: the extent to which the intervention is compatible with interventions of other actors in the country and thematic field (complementarity and synergies).	2	The project implementing agencies (the RBAs) have partly applied the same approaches as in their own interventions, on the other hand, there were limited contacts with other projects under the SDC portfolio in SSA.
<b>Effectiveness</b>		
6. The extent to which approaches/strategies during implementation are adequate to achieve the intended results.	2	The approaches/strategies for outcome 1 (CoP) were adequate but were insufficiently interactive. The project did not sufficiently take into account already existing activities in the field (outcome 2), i.e. the activities did not sufficiently build on existing experiences and a baseline was missing. Outcome 3 (policy framework) is by nature difficult to achieve, as the project can only support the decision makers, but ultimately, the project cannot control the achievements of results.
7. The extent to which the intervention achieved or is expected to achieve its intended objectives (outputs and outcomes).	2	Outcome 1 will achieve its objectives thanks to the FAO Technical Platform on the Measurement and Reduction of Food Loss and Waste. In terms of audience, the CoP did not attract enough key stakeholders (including policy makers) and was not as interactive and dynamic as envisioned by many key stakeholders. Outcome 2 was a pilot in the three countries, i.e. the achievement of the outcome remains within rather modest limits in quantitative terms, and without much data to measure it. Outcome 3 has generated some success, but not at the legislative level. It is more the overall increased awareness of the stakeholders that was emphasized in the interviews.
8. The extent to which the intervention achieved or is expected to achieve its intended results related to transversal themes.	3	Referring to gender and youth as transversal issues, the level of achievement is rather modest, or it could not be fully captured during the online evaluation. But there is some evidence that these issues could have had a stronger focus.
<b>Efficiency</b>		
9. The extent to which the intervention delivers the results (outputs, outcomes) cost-effectively.	2	For outcome 1 the very fact that the CoP was integrated in the FAO Technical Platform on the Measurement and Reduction of Food Loss and Waste increases the cost effectiveness of this component. For outcome 2, the cost effectiveness over time will be high if the activities are taken up and expanded to other areas of the three countries. For outcome 3, the cost effectiveness is

		probably not very high, but the question “how to do it better” remains.
10. The extent to which the intervention delivers the results (outputs, outcome) in a timely manner (within the intended timeframe or reasonably adjusted timeframe).	2	The CoP was on track, and overall, it managed to deliver the expected results timely. Outcome 2 was limited in achieving the expected results due to budget reduction during phase 2. Outcome 3 did not achieve the expected results within the project phase, but this was not a surprise, as it may take more time.
11. The extent to which management, monitoring and steering mechanisms support efficient implementation.	3	The RBA joint management was mentioned to be slow and with high transaction costs, therefore this is not rated more than 2-3.
<b>Impact</b>		
12. The extent to which the intervention generated or is expected to generate 'higher-level effects' as defined in the design document of the intervention.  <b>Note:</b> when assessing this criterion, the primary focus is the intended 'higher-level effects'. In the event that <i>significant</i> unintended negative or positive effects can be discerned, they must be specified in the justification column, especially if they influence the score.	2	These effects are difficult to assess, as for example the effects generated through the CoP, or the policy impacts as explained above.
<b>Sustainability</b>		
13. The extent to which partners are capable and motivated (technical capacity, ownership) to continue activities contributing to achieving the outcomes.	2	Outcome 1 (CoP) has a high sustainability thanks to the FAO platform. Without this opportunity, the assessment would have been much lower. For outcome 2, the sustainability will be high only if other donors or private investors are encouraged to support. This will also depend on the policy framework (outcome 3) which may evolve towards a better inclusion of the PHL issue.
14. The extent to which partners have the financial resources to continue activities contributing to achieving the outcomes.	1 3 2	Applies to Outcome 1 only Outcome 2 Outcome 3
15. The extent to which contextual factors (e.g. legislation, politics, economic situation, social demands) is conducive to continuing activities leading to outcomes.	2	This is difficult to assess, currently, the corona pandemic calls for increasing the attention to food security in most countries, which includes a reduction of PHL.

Additional information (if needed): [Click here to enter text.](#)

Title of the intervention: Mainstreaming food loss reduction initiatives in Sub-Saharan Africa – FAO/IFAD/WFP

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