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*Linking East and West African
farming systems experience into
a BELT of sustainable intensification*

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farming systems experience into
a BELT of sustainable intensification*



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LIST OF PROJECT BENEFICIARIES

<i>Università degli Studi di Sassari</i>	UNISS	Italy
<i>Fondazione Acra</i>	ACRA	Italy
<i>Cranfield University</i>	CRAN	United Kingdom
<i>Institut de Recherche pour le Developpement</i>	IRD	France
<i>Aristotelio Panepistimio Thessalonikis</i>	AUTH	Greece
<i>Université Nazi Boni</i>	UNB	Burkina Faso
<i>Institut de l'environnement et de Recherches Agricoles</i>	INERA	Burkina Faso
<i>The University of Makeni</i>	UNIMAK	Sierra Leone
<i>Council for Scientific and Industrial Research - Savanna Agricultural Research Institute</i>	CSIR-SARI	Ghana
<i>Kundok Development Consult limited</i>	KDC	Ghana
<i>Kenya Agricultural and Livestock Research Organisation</i>	KALRO	Kenya
<i>University Of Nairobi</i>	UoN	Kenya
<i>The Nelson Mandela African Institution of Science and Technology</i>	NM-AIST	Tanzania (United Republic of)
<i>Tanzania Agricultural Research Institute</i>	TARI	Tanzania (United Republic of)
<i>Hawassa University</i>	HU	Ethiopia
<i>Jimma University</i>	JU	Ethiopia
<i>International Centre for Research in Agroforestry</i>	ICRAF	Kenya /Tanzania
<i>Stmicroelectronics Srl</i>	ST-I	Italy
<i>Osservatorio per la Comunicazione Culturale e Audiovisiva nel Mediterraneo e nel Mondo</i>	OCCAM	Italy
<i>Centre de Cooperation Internationale en Recherche Agronomique Pour le Developpement - C.I.R.A.D. Epic</i>	CIRAD	France



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1. Introduction

Knowledge-sharing events are fundamental to involve farmers and stakeholders in the design and the execution of the project and to guarantee the technological innovations promoted by the Sustainable Intensification (SI) systems. The instruments/pillar that will ensure a participatory and multi-actor approach are mainly three:

1. Farmers Field Research Units (FFRUs)
2. National Stakeholder Assemblies
3. General Assembly

This report aims to provide an overview of the main activities related to the above-mentioned pillars within the EWA-BELT Project from the 1st of October 2020 to the 31st of December 2021.

The complex sanitary situation and the spread of COVID-19 both in African and European countries affected the implementation of some activities and especially physical meetings. In some cases, such as the General Assembly, and in some countries the National Stakeholder Assemblies have been held online or in blended modality.

2. FFRUs

The Farmer Field Research Units (FFRUs) are “a learning space and an approach to the research conducted within the Project that foresees an active and constant interaction and collaboration between researchers and stakeholders related to the agricultural chain, actively participating in the project implementation.”

Within the FFRUs, researchers, farmers, extension services, and professionals can exchange and integrate knowledge, directly and practically experimenting on the field of a wide range of issues.

African Partners for each country identified and prepared a list of key stakeholders to be involved in the FFRUs, as it appears in Annex III.

Within the FFRUs, end-users, technicians, practitioners, and farmers have been engaged through sharing and learning activities.

The FFRUs represents the key to fostering a **participatory approach**. The latter allowed the co-production of new solutions and practices since all the stakeholders involved could experiment directly on the fields the main challenges of each area.

To increase the dialogue among farmers, scientists, technicians, and policymakers, and to start testing the utility of the innovations carried out with the field activities and to promote the transfer of knowledge between the participants, initial sharing events have been organized during the first year of the project.



2.1. Inception Meetings and National Stakeholder Assemblies from month 1 to month 15

From the beginning of the Project until month 15, eighteen (18) Inception Meetings and six (6) NSAs were held in each African area.

The inception meetings were held in all the countries in face-to-face modality, and they were carried out within the FFRUs to explain the project to the involved stakeholders.

The National meetings were held in all the countries, both in presence and in blended modality.

It is important to underline that the stakeholders' engagement forming the NSAs is wider than mere participation in the gathering.

Indeed, the NSAs held during this first year has been only the first step to involve different stakeholders at local and national level. Each NSAs' participant will receive regular updates on project activities, and they will be involved in project activities/innovation validation when deemed relevant.

Table 1 - List of initial sharing events meeting (from month 1 to month 15)

Date	Inception meeting	Location	Partners
December 21 st , 2020	Kenya	Kakamega	UoN
December 22 nd , 2020	Kenya	Bungoma	UoN
December 23 rd , 2020	Kenya	Busia	UoN
January 11 th , 2021	Kenya	Kakamega	KALRO
January 18 th , 2021	Ghana	Nabdum	KDC
January 19 th , 2021	Burkina Faso	Bondoukouy	INERA
January 20 th , 2021	Burkina Faso	Kari/Kamendena	INERA
January 20 th , 2021	Ghana	West Mamprusi	KDC
January 26 th , 2021	Ghana	Savelugu	KDC
January 28 th , 2021	Ghana	Talensi	KDC
February 5 th , 2021	Burkina Faso	Soukuy /Bokuy	INERA
February 10 th , 2021	Tanzania	Arusha	NM-AIST, TARI SELIAN
March 12 th , 2021	Burkina Faso	Dohoun	UNB
March 13 rd , 2021	Burkina Faso	Béréba/Ouakuy	UNB
March 14 th , 2021	Burkina Faso	Sara/Massala	UNB
June 25 th , 2021	Ethiopia	Hawassa	JU, HU
July 15 th , 2021	Burkina Faso	Zhorgo	ACRA
July 16 th , 2021	Burkina Faso	Mogtédo	ACRA
July 17 th , 2021	Burkina Faso	Lèo	ACRA
July 24 th , 2021	Burkina Faso	Sidéradoukou	ACRA
July 15 th , 2021	Sierra Leone	UNIMAK	UNIMAK
July 17 th , 2021	Sierra Leone	UNIMAK	UNIMAK
July 20 th , 2021	Sierra Leone	Magburaka	UNIMAK
July 22 th , 2021	Sierra Leone	Port Loko	UNIMAK



3. National Stakeholders Assemblies

The National Stakeholder Assemblies, set in each African project country has been conceived as a space where project results can receive inputs from the different stakeholders' groups.

By involving different stakeholders at local and national level (public authorities, farmers associations, private companies, trade unions, chambers of commerce...) the Assembly provides feedback related to the project activities and new inputs concerning SI.

In this way, the stakeholders involved in the project (members of the FFRUs) can engage with the other project actors, promoting an exchange of information, knowledge, and best practices. At the same time, the involvement of a broader stakeholder base fosters outside views and a greater possibility to disseminate project activities and the SI approach.

Table 2 - List of National Stakeholders' Assemblies during the first year of the project (from month 1 to month 12)

Date	NSA	Location	Partners
July 15 th , 2021	Sierra Leone	Makeni-Bombali-district	UNIMAK
September 15 th – 17 th , 2021	Kenya	Kisumu	KALRO, UoN
October 30 th , 2021	Ethiopia	Hawassa	HU, JU, SARI,
November 9 th , 2021	Tanzania	Arusha district	TARI, NM-AIST, ICRAF
November 19 th and 20 th , 2021	Burkina Faso	UNB (Bobo-Dioulasso)	ACRA, INERA, UNB
November 22 th - 25 th , 2021	Ghana	Walewale	CSIR-SARI, KDC

4. General Assembly

To foster the belt between East and West African countries, the General Assembly has been foreseen to be held about once per year involving all Consortium Partners and stakeholders from each country. The General Assembly represents a moment to gather and exchange on the Project activities progresses, challenges, and best practices and set the path to move ahead.



5. Overview of the main events from month 1 to month 15

5.1. Main Issues Discussed during the Inception meetings in the first year of the Project

Ethiopia

Seven **FFRUs** have been established in Ethiopia, four of which are managed by HU and three by JU.

Each FFRU is mainly composed of: Farmers (all groups represented), Cooperatives (input suppliers), Research institutes, Universities, NGO's, and Environmental authorities.

HU is responsible for four FFRUs, which are located as follows:

- i) Meskan woreda
- ii) Wulbareg woreda
- iii) Damote Gale woreda
- iv) Hula woreda

JU is responsible for three FFRUs and four study areas, which are located as follows:

- i) Omonada woreda
- ii) Jimma zone
- iii) Kersa and Tiro-Afeta woredas

The **main activities** carried out in the FFRU were:

1. NUS evaluations considering different traits (the results will be shared at the institutional level - Bureau of Agriculture).

A participatory assessment of Anchote (*Coccinia abyssinica* (Lam.) Cogn.), Teff (*Eragrostis teff* (Zucc.) Trotter), Lima Bean (*Phaseolus lunatus* L.), and Enset clones will be conducted. The main selected traits related to Anchote are root and yield quality, while the Teff and lima bean are grain yield and quality. Genomic and metabolic studies on different functional groups of Enset (food, feed, medicine, fiber) will be pursued by screening Enset clones for resistance to EBW (pot).

Assessment of feed value of Enset leaves as sole or supplement to crop residues and the study of the exfoliation influences on plant biomass yield will be carried out as well.

2. Modification of the soil, nutrient, and water environment.

In the case of neglected species, an optimisation of the K-fertiliser for Teff will be carried out (about four different doses of K-fertiliser will be studied on two soil types).

To restore soil fertility, cereal-legume rotation (using shrubs of the Fabaceae family as improved fallow), as well as cereal-legume intercropping, will be promoted. In the case of the most degraded



soils, the use of biochar will be promoted (according to Integrated and Soil Fertility Management principles).

3. Innovative cropping systems trials integrating scientific and traditional knowledge systems.

Efficacy of biocontrol agents against Pepper wilt (Native *Trichoderma* spp. will be compared with a commercial agent).

4. An effective pre- and post- harvest management strategies developed to avoid mycotoxin contamination in stored food and feed (3.4)

Kenya

In Kenya, the different study areas are represented by a single **FFRU**. The two institutions (UoN and KALRO) are responsible for their areas. Each area is located in different administrative counties, which correspond to different agro-ecological zones.

KALRO is responsible for three study areas in the counties of:

- i) Kakamega: five farmers groups are involved
- ii) Bungoma: five farmers groups are involved
- iii) Busia: five farmers groups are involved

UoN is responsible for two study areas in the counties of:

- i) Karachuonyo (Homa Bay County), in which four farmers groups are involved
- ii) Nyakach (Kisumu County), in which three farmers groups are involved.

The **main actors** involved are the farmers and the farmers' association, who are active players in field research, NGO/Civil Society, Private sector associations, National government body, and Local administration.

The **main activities** carried out in the FFRU are related to the following tasks:

1. Farmers' participatory evaluation of Neglected and Underutilized Species (Finger millet, sorghum, groundnut) and maize (as their staple crop) different varieties, considering their agronomic characteristics too (including pest and disease management).
2. Promotion of soil fertility in cereal cropping systems (a) organic manure and (b) crop rotation were tested and analysed. (a) Organic fertilizer (poultry manure) was tested on the cereal cropping system in comparison with the inorganic fertilizer. (b) The cereal-legume rotation was tested on the selected cereals and groundnuts.
3. Developing effective pre- and post- harvest management strategies to avoid mycotoxin contamination in stored food and feed (the technologies tested were: (a) solar drying systems and (b) innovative storage bags).



4. The Peanut varieties have been tested including improved ones from ICRISAT. Organic fertilizers and agronomic practices for peanut and crop rotation to manage diseases. PICs bags for storage have been introduced to prevent aflatoxin accumulation.

An initial sharing event was held to present the aims of the project and the activities described above, involving the main participants and at the same time planning a way forward in rolling out project activities with selected farmer groups.

It is important to point out that, before the inception workshop, the UoN met with the farmers, area heads, county agricultural officers, and sub-county agricultural officers to select farms, involve farmers, and make them aware of the project objectives between the 21st and 23rd of December 2020. This was done separately in the three areas and county offices.

The specific workshop objectives were:

- Share with the collaborating partners the projects' proposed activities, the stakeholders' role, and the expected outputs
- Seeking the collaborating partners' willingness and commitment to effective implementation of the proposed project activities
- Developing an action plan to implement project activities

The **main issues** discussed were:

- Introducing EWA-BELT project objectives and activities to KALRO collaborating stakeholders
- Introducing the FFRU concept
- The EWA-BELT villages and participating farmer groups selection
- Choosing the Crops and technologies to be promoted by the project
- Sharing of the Month 1- Month 6 activity plan.

Main Workshop Outputs:

- A consensus was reached on the technologies to be promoted as well as on the choice of Neglected/Underutilized crops in the selected study areas (Finger Millet, Groundnut and Sorghum).
- Stakeholders' roles in the EWA-BELT project were clarified and commonly agreed
- Dates were set for the farmers' sensitization meetings about the project
- Development and presentation of the action plans for the following three months



Tanzania

Four **FFRUs** have been established in Tanzania, each one consisting of two study areas:

- i) Umbangw and Endagemu, Karatu District, Arusha region
- ii) Ekenywa and Ilkiushin, Arumeru District, Arusha region
- iii) Kiverenge and Kifaru, Mwanga District, Kilimanjaro region
- iv) Saweni and Mabilioni, Same District, Kilimanjaro region

The main **stakeholders** involved are Farmers, EWA-BELT Partners (NM-AIST, TARI-Selian, and ICRAF), Local Government Authorities (LGAs) in Arusha and Monduli Districts, Agricultural Extension Officers, Village and Ward Leaders, Research and Training Institutions (e.g. Tengeru Training Institute, TARI-Kilombero/KATRIN), NGOs (E.g ECHO) and Private partners (Agro-dealers).

Main activities within the FFRUs

1. Field assessment of traditional neglected crops (Macadamia nut, Lablab, and Cocoa) in Northern Tanzania; evaluation of the selected Lablab genotype performance for induced terminal moisture stress and improvement of the yield in dry farming systems. A mapping of the distribution of Lablab landraces (50 landraces found) will then be carried out.
2. Soil fertility and land recovery management trials.

First, an assessment and mapping of land degradation will be carried out using the Land Degradation Surveillance Framework (LDSF) to get back the previously cultivated land that has been abandoned (main techniques tested: rotation or intercropping of legumes and cover crops – e.g. *Pennisetum purpureum* Schumach., *Canavalia* spp., *Desmodium uncinatum* (Jacq.) DC., *Arachis pintoii* Krapov. & W.C.Gregory and *Lablab purpureus* (L.) Sweet), animal manure, and provision of bio-inoculants to improve general soil fertility, holistic management/rotational grazing).

Second, an assessment of soil fertility status in selected FFRUs will be carried out. The effects of vermicompost and NPK on soil fertility will be evaluated, taking common bean yield as a parameter.

3. Developing a technology to lock Fluoride.

The management of soil fertility in fluoride-contaminated soils will be evaluated by experiments that will allow testing different methods of minimizing fluoride bioavailability.

An initial sharing event was held to present the aims of the project to the stakeholders who are directly or indirectly involved in the activities.

Unlike the farmers, project partners, Researchers, Stakeholders representing project areas (District Agricultural and Irrigation Cooperative Officers - DAICO's), Collaborators and Supporting staff were



involved. The event was followed by a field visit to identify the site to carry out the activities and the stakeholders' consensus.

Key field observations and next steps

The field visits revealed evidence of severe soil degradation caused by soil erosion in most of the affected areas. As a result, the stakeholders showed their commitment to cooperate in efforts to reduce the impact of this phenomenon.

The following actions are identified as priorities:

- To develop a sampling framework and protocol where GIS-based-tools such as Land Degradation Surveillance Framework can be used to map the extent of land degradation in these areas (A map showing the extent of land degradation will be produced)
- The collection of soil samples from the identified abandoned lands (degraded lands) to assess the fertility status of these lands.
- The conduction of baseline surveys to obtain information on the degree of sustainability (environmental, economic, social, and human) and the productivity of the current business meant as the usual practices (related to Task 2.1. Identification of most performing crop varieties; Task 2.2. Modification of the climate, soil, nutrient, and water environment and Task 2.3. Improvement of agri-livestock integrated management) adopted by the farmers in project sites.

Burkina Faso

Six FFRUs have been established in Burkina Faso, four of which are managed by ACRA and two by INERA and UNB.

ACRA is responsible for four FFRUs and five study areas, which are located as follows:

- i) Sideradougou area
- ii) Zhorgo e Mogtédo areas
- iii) Léo area
- iv) Loumbila area

INERA and UNB are responsible for two FFRUs and five study areas, located as follows

- i) Béréba areas (Tuy province)
- ii) Dohoun areas (Tuy province)
- iii) Wakuy areas (Mouhoun province)
- iv) Sara areas (Tuy province)
- v) Bondokuy areas (Mouhoun province)
- vi) Kari/Kamendena areas (Mouhoun province)
- vii) Bokuy areas (Mouhoun province)
- viii) Soukuy areas (Mouhoun province)



ix) Massala areas (Mouhoun province)

The **main actors** involved are Farmers' cooperatives, Farmers' associations, Private sector associations, National government body and Municipalities (mayors).

Main activities within the FFRUs:

1. Field assessment of NUS (Millet, Cowpea, and Fonio)
2. Soil fertility management practices on cereals: (a) effect of fertilizer (b) effect of minimum tillage and crop residues recycling.
3. Analysis of the minimum tillage and crops residues management practices and their effects on productivity and soil nutrient balance in cotton-cereals systems under climatic variations conditions (zero tillage, minimum tillage, and conventional tillage).
4. Improvement of the cereals and legumes plants productivity by using intercropping and organic manure
5. Characterization and improvement of strategies for agri-livestock integration
6. Biochar and co-compost amendment on soil carbon content on cotton-based cropping systems
7. Restoration of abandoned land: affordable soil restoration techniques will be identified and co-selected with farmers in which the technologies packages are implemented.
8. Identification and synthesis of a range of best practices involved in building innovative knowledge transfer systems based on enhanced use of Indigenous Traditional Knowledge (ITK). Effective pre- and post-harvest management strategies to avoid mycotoxin contamination in stored food; also feed and plant-based products will be analysed to improve crops protection and conservation (identification of essential oils efficiency in stored products).

Inception meetings:

Main issued discussed during the inception meetings

- Presentation of EWA-BELT project, its objective, and its intervention field (the contribution of each actor involved in the project activities for the achievement of the project goals)
- Discussion of the main constraints of farming activities (access to market for agricultural inputs and products)
- Soil fertility management and agri-livestock integration
- Existing soil management approaches/agronomic techniques in the investigation area and constraints in their application at small-scale farmers' fields.
- Organisation of data collection for the baseline characterization
- Facilitate the scaling up of the selected technologies by involving all the stakeholders (farmers, extension services, local authorities, government bodies, etc.) in the implementation of the activities of the FFRUs

Key Field observation/Workshop outcomes

Farmers have shown a lot of interest in the crop varieties (Millet, Sorghum, Cowpea, Rice) that have been tested in the different study areas.



The need to integrate new crops varieties and help farmers in self-compost production for yields improvement has emerged

Farmers have also to deal with crop attacks (birds and other pests) as well as to find solutions for crops conservation (avoid aflatoxin and save crops quality for transformation and better revenue, market linkage).

In addition, the farmers from ACRA area would like the involvement of the local authorities (mayors) in the project activities.

The following actions have been identified as priorities:

- Carrying out a socio-economic survey to better understand the constraints to adoption of some NUS.
- Establishing a framework for sharing knowledge and experience from FFRUs
- Involving all the stakeholders in the FFRUs trails activities to facilitate their future dissemination
- Proceeding with soil survey, reconnaissance of degraded and abandoned lands, and endogenous soil management techniques
- Mapping soil degradation status and soil classification in the study areas
- the characterization and improvement of the existing agri-livestock integration systems

Ghana

In Ghana, four different areas of study are represented by a single **FFRU**. The two institutions (KDC and CSIR-SARI) are responsible for their activities within the areas.

The four study areas correspond to four different districts:

- i) Savelugu (Savelugu) Moaglaa and Diare
- ii) West Mamprusi (Walewale) Kukua, Tinguri and Nayorku
- iii) Talensi (Tongo)
- iv) Nabdam (Nangodi)

The main **stakeholders** involved are the Farmer Groups within the four study areas, the Ministry of Food and Agriculture (MoFA), Local Government Authorities (District Assemblies), and NGO/Civil Society representatives.

Main activities within the FFRUs:

1. Realization of on-farm demonstrations trials on NUS (Fonio) in Northern Ghana, a participatory selection of Fonio landraces, and 5 improved varieties of Frafra Potato for further cultivation by farmers. Ghanaian and introduced Fonio accessions will undergo agro-morphological, genomic characterization of yield and related traits. Analysis of gender preferences on the production of NUS will be considered as well.
2. Determination of the best legume intercropped with Fonio to improve yields and maintain soil fertility (Cowpea, soybean, and groundnut)



3. Assessment of the combination of organic and inorganic fertilizers (ISFM) influence to enhance soil fertility, to increase yields of maize in Northern Ghana.
4. Establishing earth and stone bounding to conserve nutrients and water for maize uptake during seasonal drought.
5. On-farm testing of two indigenous plant-based extracts (bio-pesticides) in the control of field insects on cowpea and Fall armyworm on corn. In this latter case, intercropping and the interaction between intercropping and bio-pesticides will be assessed as well.
6. Determination of the best storage structures for groundnut to minimize aflatoxin contamination. In addition, CSIR-SARI is also investigating the effect of soil amendments and inoculation in minimizing aflatoxin contamination in groundnut as well as the effect of *Aflasafe*® on aflatoxin contamination in maize.

The **main issue** discussed with the stakeholders was the establishment of the six trials in each of the four study areas. For each experiment, the following aspects have been decided: objectives, protocol (how to establish, monitor, take data from the field), and how to do complete report analysis.

Key field observation

For Frafra potato varieties demonstrated by CSIR-SARI, most of the farmers had never seen the crop being propagated on large scale before. They expressed interest in expanding their farms next year. The farmers were also not aware of the possibility of using stem cuttings for propagating the crop. Furthermore, some of the farmers indicated their availability to engage with the large-scale production of stem cuttings for Frafra potato cultivation.

For Fonio, the local germplasm exploration and collection were carried out in traditional Fonio growing districts. It was observed that most of the Fonio farmers were old people who were mostly over 50 years of age. The youth rather prefer going into other staple crops like maize, rice, soybean, and sorghum. Most of the Fonio farmers also grow the crop mainly for home consumption with few sales of the surplus. Processing the crop is mainly done through the traditional means of pounding in a hole dug out of the ground.

As regards the crop protection aspect, the preliminary data analysis of the fall armyworm management with intercropping trial indicated that FAW infestation levels were generally lower in the intercropped fields compared to sole maize. The natural enemy abundance (parasitoids and predators) was higher in intercropped fields compared to sole maize. Field observations during harvesting showed that unprotected sole maize had lower yields than those intercropped.

The use of plant-based pesticides in minimizing pest damage in maize also indicated that infestation levels and the damage were lower in Emastar 112 EC, neem seed oil (NSO) and neem seed extract (NSE) treated plots and consequently, the yields in these plots appeared higher than the untreated control.



Sierra Leone

In Sierra Leone, the project is operating in 10 districts, identified as Farmers Field Research Units (FFRUs), involving the amount of 120 farmers carrying out on-farm research.

The project will begin involving 60 on-farm research farmers, who will be supported, whilst the last 60 will be following up with other work programs (WPs), including the implementation system of the 60 supported farmers in the FFRUs.

The study areas are located as follows:

- i) Falaba district
- ii) Port Loko district
- iii) Tonkolili district
- iv) Koinadugu district
- v) Kono district
- vi) Bombali district

Each FFRU is mainly composed of farmers, supervisors, and researchers; but, during the research activities, NSA Members are going to be involved as well.

The main activities within the FFRUs are mainly related to the improvement of agri-livestock integrated management.

The strategy adopted in the FFRUs foresees an integrated agricultural approach, in which cropping systems and livestock systems are located within the same piece of land. The production system is organized in a way that makes full use of all the farm products (either main or waste products), where one farm production component will support or complement the other during the production processes.

The crops included in the trial are rice, vegetables (pepper, garden eggs, cabbage, lettuce, spinach, etc.), and tubers (cassava, sweet potato, Chinese yam, cocoyam, etc.); while the animals are fish, small ruminants, and poultry. These components are set in the field so that the fishpond will provide fish and water effluents downstream to irrigate and fertilize (fertigate) the land. Whilst the products coming from the rice cultivated in the fertilized land can be used to feed the fish and the poultry. The small ruminants will provide the meat and the faecal matter that can be used to either feed the fish or as an organic fertilizer to produce vegetables and tuber crops within the same piece of land. The waste products from tubers and vegetables can be used to feed the small ruminants and or the fish in the fishponds.



5.2. Main Issues Discussed during the NSAs in the first year of the Project

Ethiopia

The first National Stakeholder Assembly in Ethiopia was held in Hawassa on the 30th of October 2021 (Figure 1).



Figure 1. NSA in Ethiopia (Hawassa city, 30th October 2021)

The assembly was structured according to the following themes:

- 1) presentation of the general overview of the EWA-BELT vision, goals, and planned activities (chair - Prof Alemayehu);
- 2) knowledge sharing on Sustainable Intensification concepts as conceived within the Project where four key stakeholders shared their experiences about SI, followed by a general discussion;
- 3) presentation of EWA-BELT activities by HU and JU followed by discussions on presented activities (previously explained in paragraph §5.1). During the general discussion, they particularly focused on the concept of Farmers Field Research Unit (FFRU)
- 4) discussion in small groups concerning the topics that were identified in the previous sections.

Among the total of 38 case studies, 7seven are located in Ethiopia (four at HU and three at JU). Within these study areas, Farmers field Research Units (FFRUs) have been established both at Hawassa and at Jimma University. FFRUs intended to serve as a platform for promoting (a) exchange of impact and



knowledge, (b) intercultural dialogue, (c) a cross-thematic approach, and (d) an integrated knowledge. Thanks to this approach, the main roles of the unit are to: introduce new technologies (validate and disseminate), share knowledge, and facilitate a broker role-marketing.

To ensure the meeting of the objectives, the following commissions will also be established within the coordination team, the operation team, the community of users, and the facilitators.

Objectives to be achieved by the University of Hawassa:

- NUS evaluations for different attributes
- Integrated disease and pest management
- Effective mycotoxin mitigation
- Planthead network established

One of the first points discussed in the working groups was the initial considerations regarding FFRUs. The project would try to improve the existing system by maintaining its strengths and identifying its weaknesses. The latter will be the starting point from which to modify the system, promoting innovations and technologies through the implementation of research.

FFRUs are instrumental in the consideration of the research context and the actual needs.

Within the research units, it is also important to consider the social side to get a successful project: gender issues should address both by the inclusion of females' stakeholders in the project activities and by generating technologies that simplify the workload of women in agriculture

The work of assessing NUS is considered essential to better address the problem of orphan crops. The project also aims to share the results at the institutional level (Bureau of Agriculture) and cooperate with existing governmental structures.

Thanks to a dynamic country extension system, the technologies that are studied by the project in the first years could be disseminated later in a widespread manner.



Kenya

The first National Stakeholder Assembly was held on the 28th of September 2021 at Kisumu city (Western Kenya) and was attended by 62 people (Figure 2).



Figure 2. NSA in Kenya (Kisumu city, 28th September 2021)

The main goal of the event was to bring together the Kenyan Farmer Field Research Units (FFRUs) stakeholders to review EWA-BELT project progresses and share views on further implementation of the FFRU activities.

The main issues discussed were:

- 1) presentation of the EWA-BELT general overview concerning project background, partners, and objectives
- 2) Project implementation strategy (FFRUs' approach)
- 3) FFRUs activities progress reporting – achievements and challenges and how they were overcome
- 4) Reactions and suggestions for further improvement (Plenary discussions and group presentations on three key questions i) What strikes you about the project? ii) What would you want us to do better? iii) What needs to be pushed forward?)
- 5) Next steps for the second (short rainy season) planting season
- 6) EWA-BELT technology displays “The marketplace” (roll-up posters, seed samples used for promoting technologies, pre- and post- harvest technology displays, value-added products)
- 7) Questions and answers session on technical aspects of EWA-BELT technologies



Main outcomes and future activities:

Within FFRUs, the main actors involved are farmers. Thanks to the farmers, who are active players in the field research, it has been possible to collect the following insights, which were directly observed on the field.

The farmers owned up the results and committed themselves to disseminate the information gained through EWA-BELT activities to other farmers who are not in the program (act as Trainer of Trainers).

They requested the EWA-BELT team to continue working on their farms and if possible, increase the size and the number of farms in the areas.

They were able to trial peanut, millet, and maize varieties that are superior to common varieties. More information on seed acquisition (quality and timely availability), information and training brochures on the application of *Aflasafe*® and mycotoxin management are also necessary to implement the project in the future. To meet this need, a community seed reproduction system should be envisaged for the future (for Finger Millet and Groundnut).

They appreciated the crop management practices they have learned (soil fertility management e.g. application of chicken and cow manure, pest management and diseases control, crop establishment, and management principles) to realize improved yield. To further improve soil nutrient availability in the next trials, Mycorrhizae fertilizer and composting will be tested as well.

Finally, the stakeholders requested benchmarking with other counties through farmer exchange visits so they could learn from each other.



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Tanzania

The first National Stakeholder Assembly in Tanzania was held on the 9th of November 2021 at Tanzania Agriculture Research Institute (TARI)-Selian, Arusha, Northern Tanzania (Figure 3).



Figure 3. NSA in Tanzania (Arusha district, 9th November 2021)

The aim was to bring together the Tanzanian Farmer Field Research Unit (FFRU) stakeholders to review EWA-BELT project progresses and share views on further implementation of the FFRU activities.

An overview and preliminary results of the EWA-BELT project were provided during the NSA to get feedbacks and inputs from the stakeholders.

The main project activities include improving food production systems of different agro-climatic areas, the use of ICT as a tool in integrated pest and disease management, the improvement of crop and livestock feed yields, and addressing issues related to soil fertility and land degradation (for further details refers to paragraph §5.1).

Most activities carried out so far and **future activities/next step** were shared:

1. The field assessment of traditional neglected crops (Macadamia nut, Lablab, and Cocoa) will be analyzed. Furthermore, in the case of Lablab, the drought tolerance of the genotypes will be determined, and the development of the new Lablab variety will be carried out and released at national level.
2. An ongoing assessment of the effects of the proposed technology packages will be carried out.
3. After the quantification of the amount of Fluoride contained in the cultivated soils, fertilizers that are contributing to the increase of fluoride in the soils will be identified. The next step will be to carry out experiments to test different methods of minimizing the bioavailability of Fluoride



Burkina Faso

The first National Stakeholder Assembly (organized by ACRA, INERA, and UNB) was held on the 19th and 20th of November 2021 at the Nazi Boni University of Bobo-Dioulasso (Figure 4).



Figure 4. NSA in Burkina Faso (Bobo-Dioulasso, 19th of November 2021)

The aim was to bring together all stakeholders to discuss project activities, share first results and validate innovation to be tested.

Thanks to this, each actor involved in the project was able to better understand his/her role.

Main issues

The main issues discussed during the NSA concerned:

The presentation of the state of the art of survey areas (farming systems, soil degradation status, access to fertilizer, farmers' practices of soil fertility management, agri-livestock integration)

The presentation and selection of the technological innovations to implement in the EWA-BELT project (previously explained in paragraph §5.1)

The involvement of the main stakeholders and rise of awareness about their role in the achievement of the project's objectives.

According to the discussions, the stakeholders agreed to contribute to the project activities by sharing exiting information (crop yields, meteorological data, household characteristics, and other facilities), assisting EWA-BELT by allowing them to use their existing extension network.



Ghana

The National Assembly was held at the Moonlite Hotel in the city of Walewale, which is located in the North-East Region of Ghana, from the 22nd until the 25th of November 2021 (Figure 5).



Figure 5. NSA in Ghana (Walewale City, 25th of November 2021)

The participants involved were lead farmers from the four study areas, coordinating directors, district and municipal directors of agriculture, agricultural extension agents, and private sector representatives, as well as KDC and CSIR-SARI staff.

The main activities carried out within each FFRUs were presented to gather input from stakeholders (for further details refer to paragraph §5.1).

In particular, main field observations were discussed. In this regard, on the NUS trials, stakeholders have been invited to find out why farmers had neglected Fonio and Frafra potato to find ways to mitigate the abandonment of those crops again.

These two crops have some advantages (Fonio has a low cost of production and early maturity, while Frafra Potato can also be grown on marginal land) as well as disadvantages that have to be considered when planning future activities (not everyone has the machinery to process Fonio properly, while Frafra Potato is difficult to storage properly). Since people are ready to invest in their nutrition and health, with the explanation of the nutritional value of Fonio and the Frafra potato, the demand for them may increase.

Therefore, there is the need to explore all possible potential markets to get a good price for the producer and at the same time, it is necessary to adopt technologies as a package, avoiding sub-optimal use or the adoption of improved technologies.



To do that, the project should try to link Fonio and Frafra potato farmers to off-takers or to get some ready markets for their product and link the farmers to such markets.

Main outcomes and future perspectives

- The major challenges/constraints according to the District coordinators include low soil fertility, low adoption of good agricultural practices by farmers, and inadequate funding for demonstration trials.
- For the Extension agents, delay in inputs delivery, low seed viability (maize, groundnut, soybean), and unavailability of PPE's (in the instance of fall armyworm) were some of their main challenges.
- the key difficulties for the Farmers have been erratic rainfall patterns, pest infestation (tuber borers in Frafra potato & birds in Fonio), marketing difficulties, post-harvest losses, and the attitude for some farmers to be skeptical about the use of stem cuttings and storage of Frafra potato.
- It is also important for the teaching of proper harvesting, to do storage and processing procedures
- Women in Agriculture Development project should develop recipes to encourage household consumption.
- Reorient the extension agents on how to handle Fonio seeds.

In this context, increasing the number of field days, and more regular visits to demonstration sites must be a way forward



Sierra Leone

The first NSA in Sierra Leone was held on the 15th of July 2021 (Figure 6) in Makeni-Bombali-district and it was structured according to the following themes:

- 1) presentation of the general overview of the EWA-BELT vision, goals, and planned activities (chair - Prof Joseph Tholley);
- 2) knowledge sharing on Sustainable Intensification approach (chair - Prof Joseph Tholley);
- 3) main goals of the project in Sierra Leone
- 4) FFRUs explanation and implementation strategies



Figure 6. NSA in Sierra Leone (Makeni-Bombali-district, 15th of July 2021)

In particular, the possible outcomes of a successfully FFRUs' implementation were discussed, such as:

- a) data collection that can address decision-making processes
- b) gender issues addressing
- c) The addressing of climate change challenges
- d) The addressing problems of land scarcity and conflicts concerning land use value
- e) The use of local inputs for sustainable agricultural developments

The strategy adopted in the FFRUs (previously described at §5.1), requires a systematic combination of livestock and cropping systems. The latter leads to land transformation, thanks to the increment in control water movement and soil nutrient flow/fertility in that piece of land (probably 1-5 ha/farmer).



Considering this, the expected benefits of the Integrated Agricultural Approach (IAA) within the farming systems:

- a) Increasing the yield rate per farm (input/ha)
- b) Ensuring a steady income for the farmer
- c) Effective use of land and water resources
- d) Sustainable improvement of soil fertility using crop and animal by-products
- e) Production of diversified food products by the farmer
- f) Avert shifting cultivation, hence reduction of deforestation
- g) Improvement of Agrobiodiversity in the same piece of land
- h) Farm drudgery reduction
- i) Improvement of health status for farmers and the wider community using different products from the same farm
- j) Minimization of the production cost using interchangeable farm products and by-products

5.3. Main Issued Discussed during the General Assembly

Due to the complex sanitary situation and the restrictions to travel and meetings in person, the first General Assembly of the Project was organized online on the 13th of December 2021.

A total of 73 participants took part in the General assembly. Most of them participated from EWA-BELT Project Partners teams, the stakeholders were from the NSAs and some other representatives were from similar Projects.

The General Assembly was divided into different sessions:

- 1) **The first session** included a general overview on the progress and next steps for the Ewa-Belt Project, presented by the coordinator (Giovanna Seddaiu from UNISS) and some presentations of the main results achieved in a project year with a focus on the technologies for Sustainable Intensification that are being tested within the Project.

During this session, each task leader summarized the research activities carried out during the first year of the Project also on behalf of the other Partners institutions from different countries.

This modality was chosen to streamline the session and it required previous and strong coordination work between Partners working on the same Tasks and sub-tasks. In particular, the following topics were discussed:

- Neglected and Underutilized species-NUS (Adeline Barnaud from IRD)
- Sustainable soil management technologies (Mamadou Traorè from UNB)
- Water management practices and technologies (Alberto Carletti from UNISS)
- Agri livestock technologies (Joseph Tholley from UNIMAK)
- Integrated Pest and Disease management technologies (Sheila Okoth from UoN)
- ICT TOOLS: Planthead (Quirico Migheli from UNISS) and Preliminary results on PCR testing (Marco Cereda from ST Microelectronics)
- Post-harvest technologies (Naresh Magan from CRAN)



- 2) **The second session** concerned the sharing of best practices and experiences on Sustainable Intensification in Africa Farming systems and networking opportunities.

This session was dedicated to external speakers from other Institutions and Projects who have been involved in the G.A. to exchange ideas, experiences, and challenges and to stimulate reflection and networking spaces behind EWA-BELT Project.

The session was opened with a presentation from Philip Grabowsky (Taylor University) who is one of the authors of the Sustainable Intensification Assessment Framework (SIAF, Musumba et al 2017) that EWA-BELT intends to use within the work package n.5 to evaluate the S.I. technologies tested in the project by considering the environmental, productivity, economic, social and human dimensions. This speech aimed at stimulating a reflection on the challenges and the need to re-adapting the S.I.A framework in the context of the EWA-BELT project.

As recommended by the European Union, the EWA-BELT project also took into consideration the experience and opportunities of LEAP4FNSSA a Coordination and Support Action project, financed under Horizon 2020. The Project coordinator (Ioannis Dimitrou from the SWEDISH University of Agricultural Sciences) illustrated the main functionalities of the platform set up with the project. The database is also relevant for the EWA-BELT project as it provides information on most active organizations, existing alliances, and potential new partners to ‘market’ the alliance and it facilitates the strengthening of alliances amongst projects/partners that are doing similar work – through clustering.

Finally, Emily Poppenborg (University of Hannover) presented the experience of the UPSCALE Project that has been financed under the same call SFS-35-2019 of EWA-BELT. The project fosters the design, adaptation, and adoption of strategies for integrated agroecological management based on push-pull technology for widespread and climate-resilient Sustainable Intensification in Sub Saharan Africa, with some common study areas with EWA-BELT (Ethiopia and Kenya). The presentation was a starting point to strengthen opportunities for collaboration and joint reflections between the two projects.

- 3) **The third session** included messages and insights from NSAs (farmers, local authorities, etc.) stakeholders and some key emerging issues from the Info poverty event of the 3rd December 2021 by OCCAM to which also Project Partners took part.

The session was opened by Rachele Stentella from ACRA who introduced the national Stakeholders Assemblies and the Farmer Field Research Units within EWA-BELT concept and goals and provided an overview of the main related activities carried out so far in the different African partner countries.

The rest of the session was mainly dedicated to the NSA stakeholders' messages. Some of the stakeholders recorded a video interview to avoid the internet connection access problem, some others intervened live in the Assembly. In particular:

- Dr Getachew Agegnehu from the NSA in Ethiopia and the ICRISAT (International Crops Research Institute for the Semi-Arid Tropics) presented some specific challenges and opportunities for enhancing soil fertility through Sustainable Intensification in the country.



- Mr. Baba Musah, an expert in dissemination and technological packages to farmers from the District Department of Agriculture in Ghana, presented the role of the extension service using ICT with some experiences and tools. Ghana. Mr Collins Agira a Kenyan farmer involved in EWA-BELT research shared a message on the first results obtained in reviving the sustainable production of neglected crops such as peanuts, sorghum, and finger millet in Western Kenya.
- Dr Prosper Massawe from the Commission for Science and Technology involved in the Tanzanian NSA explained a bit some of the work carried out on *Lablab* varieties while Mr. Paulus Kessy, a District Agricultural Irrigation Officer from Arusha shared his expectations on EWA-BELT Project activities for the area.
- Finally, the Burkina Faso NSA different stakeholders, such as experts, extension agents, and farmers shared their messages through a video. In particular:
 - Mr. Eric Nikiema, an agriculture extension service officer of TUY District, underlined the common goal of the Ministry of Agriculture and EWA-BELT in supporting farmers through technical advice and participatory approaches.
 - Mr Idrissa Kabore a farmer involved in EWA-BELT activities shared how he started to notice some improvements in his Fonio cultivations by testing the use of manure although the challenge of erratic rainfall remains an important issue to face.
 - Mrs. Kadija Tapsobia, another farmer involved in EWA-BELT, expressed her concerns for the soil erosion and the expectation towards the Project as a way to receive guidance and advice on fertilization and conservation techniques.

The session was closed by Maria Chiara Scipioni from OCCAM and followed by the acknowledgments and the conclusions of the Project Coordinator, Giovanna Seddaiu (UNISS).



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ANNEXES

Annex I: Agendas of NSAs

Annex II: FFRUs stakeholders list

Annex III: FFRUs general scheme



Annex I - Agendas of NSAs

Ethiopia

Time		Activities	Presenter/responsibility
9.00 - 9.15 a.m.	Opening	Registration	Organizers
9.15 - 9.20 a.m.		Welcome Speech	HU
9.20 - 9.40 a.m.		Brief Introduction of the EWA-BELT project and HU's role	Prof Alemayehu Chala
9.40 - 9.55 a.m.	Knowledge sharing on Sustainable Intensification	Sustainable Agriculture: The Role of Private Sustainability Standards	Dr Fikadu Mitiku
9.55 -10.10 a.m.		The role of NGOs in sustainable agricultural development: The case of WoDA	Mr. Assefa Nana
10.10 -10.25 a.m.		Integrated Approach to Support Sustainable Intensification in Cereal-Legume Cropping Systems	Dr Getachew Agegnehu
10.25 - 10.40 a.m.		Scaling up of Agricultural Innovations to Improve Smallholder Farmers Productivity in Ethiopia: Lessons from CASCPE Project	Prof Gezahegn Berecha
10.40 -11.00 a.m.	Health break and group photo		
11.00 -11.45 a.m.	Knowledge sharing	Discussions on knowledge sharing	
11.45 - 12.00 a.m.		EWA-BELT activities at JU	Dr. Amsalu Nebiyu
12.00 -1.30 p.m.		Lunch break	
1.30 - 3.00 p.m.		Group discussion (2-3 groups)	
3.00 - 3.20 p.m.		Health break	
3.20 - 3.40 p.m.		Feedback from each group	Group representatives
3.40 - 4.10 p.m.		Discussion & way forward on EWA-BELT activities & Sustainable Intensification	
4.10 p.m.		Thank you message and closing	



Kenya

Time	Activities	Presenter/responsibility
Day I		
8.00. a.m. - 8.15 a.m.	Opening Session by Chair	Chair: Dr. Francis Wayua-KALRO Welcome Remarks
8.15 a.m. - 8.30 a.m.	Introductions Session	Noel Makete - KALRO
8.30 a.m. - 9.30 a.m.	Key Note Address - Topic Sustainable Intensification in Agriculture	Prof. Sheila Okoth -UoN
9.30 a.m. - 10.30 a.m.	Rationale of EWA-BELT Project, Case study areas challenges and technologies to overcome them	Noel Makete - KALRO
10.30 a.m. - 11.00 a.m.	Health Break (To include group photo)	
11.00 a.m. - 12.30 p.m.	Preliminary Results UoN (1 Case study area)	Prof. Sheila Okoth and Prof. Beneah Mutsotso - UoN
12.30 p.m. - 1.00 p.m.	Feedback on UoN results	All
1.00 p.m. - 2.00 p.m.	Lunch Break	
2.00 p.m. - 4.00 p.m.	Preliminary Results KALRO (3 Case study areas)	Noel Makete and Dr. Francis Wayua - KALRO
4.00 p.m. - 4.45 p.m.	Participants feedback on KALRO results	All
Day II		
8.00 a.m. - 9.00 a.m.	Recap of Day II and Next Steps	Noel Makete/Dr. Francis Wayua - KALRO
9.00 a.m.-10.00 a.m.	Remarks from Stakeholders 1. County representatives (County Directors of Agriculture Ministry of Agriculture and ADS Ward Agricultural Officers (Busia, Bungoma, Kakamega and Kisumu Counties) 2. CEO ADS-Western 3. Private sector representative 4. Representatives of case study areas (Farmer group Leaders)	Session Chairs: Dr. Francis Wayua / Prof. Beneah Mutsotso - KALRO/UoN Ministry of Agriculture Mr. Stephen Amusala - ADS EWA-BELT Participating farmer groups



10.00 -11.00 a.m.	Remarks from KALRO representatives: KALRO-Kakamega Institute Director EWA-BELT Project Editorial Correspondent EWA-BELT Project LEAR / Deputy Director General KALRO	Dr. Joseph Munyasi - KALRO Dr. Elkana Nyambati -KALRO headquarters Dr. Joseph Mureithi - KALRO headquarters
11.00 a.m. - 11.30 a.m.	Health Break	
11.30 a.m. - 12.30 p.m.	Remarks From UoN project LEAR	Dr. Joyce Jefwa - UoN
12.30 p.m.- 1.30 p.m.	Remarks from EWA-BELT Consortium representative	EWA-BELT consortium representative (UNISS)
1.30 p.m. - 2.30 p.m.	Lunch Break	
2.30 p.m. - 3.30 p.m.	Closing Remarks from Chair	Prof. Sheila - UoN

Tanzania

Time	Activities	Presenter/responsibility
Day I		
9.00 - 9.30 a.m.	Arrival and registration	Maria Ndoni
9.30 - 9.50 a.m.	Introduction	Prof. Mtei-EWA-BELT Coordinator
9.50 - 10.00 a.m.	Objectives of the national Assembly	Prof. Mtei-EWA-BELT Coordinator
10.00 - 10.10 a.m.	Remarks for Centre Director	CD
10.10 - 10.20 a.m.	Official openings/Remarks from TARI-HQ	HQ Representative
10.20 - 10.30 a.m.	Group picture	All
10.30 - 11.00 a.m.	Health break	All
11.00 - 11.10 a.m.	Rationale of EWA-BELT Project, Case study areas, challenges and technologies to overcome them	Prof. Mtei-EWA-BELT Coordinator
11.10-11.20 a.m.	Preliminary Results NM-AIST: Fertility management fluoride contaminated soils of Ngarenanyuki	Ruth (PhD Student)
11.20 - 12.30 a.m.	Preliminary Results from NM-AIST: Status and Prospective activities in degraded soils of Monduli	Joseph Kalonga (PhD Student)
12.30 - 12.50 a.m.	QA/ Feedback & Discussion	All



12.50 a.m.- 1.00 p.m.	EWA-BELT Project Progress: Achievements and Future Plans for TARI-Selian	Deodatus Kiriba/Richard Temba
1.00 - 1.10 p.m.	Preliminary Results from TARI: Evaluation of traditional neglected crops: A case of Lablab crop	Julius Missanga (PhD Student)
1.10 - 1.20 p.m.	Preliminary Results from TARI: Soil fertility management using vermicomposting	Adili Mvena/Michael Justin
1.20-1.30 p.m.	Preliminary Results TARI: Soil fertility management using organic mulching	Richard Temba
1.30 - 1.50 p.m.	QA/ Feedback & Discussion	All
Lunch		
2.20 - 2.14.30 p.m.	Preliminary Results ICRAF: Preliminary Results from the LDSF Survey (Biophysical)	Dr. Kimaro
2.30 - 2.40 p.m.	Presentation of Macadamia (Need for collaboration)	Ms. Ndeshi (TARI-Tengeru)
2.40 - 2.50 p.m.	ECHO Representative	Presentation from ECHO
2.50 - 3.10 p.m.	QA/ Feedback & Discussion	All
3.10 - 3.50 p.m.	Viewing of Technology Displays	All
3.50 - 4.10 p.m.	Feedback from stakeholders	Stakeholders
4.10 - 4.30 p.m.	Sharing of the next EWA-BELT Activities/Plans	Prof. Mtei - EWA-BELT Coordinator
4.30 - 4.35 p.m.	Remarks	CRI
4.35 - 4.45 p.m.	Closing remarks	TARI-Selian Centre Director

Burkina Faso

Time	Activities	Presenter/responsibility
Day I		
7.30 - 8.30 a.m.	Arrival and registration of participants	Organization
8.30 - 9.00 a.m.	Opening speech	Dr TRAORE (UNB) Dr KOULIBALY (INERA) Dr BRICE (ACRA)
9.00 - 9.30 a.m.	Participants' presentations	Organization (Lankoandé)
9.30 - 10 .00 a.m.	<i>Coffe-break</i>	Organization



10.00 - 10.15 a.m.	Presentation and approval of the activity programme	Organization (Lankoandé)
10.15 - 10.45 a.m.	Presentation of the EWA-BELT Project and stakeholders selection criteria	Dr KOULIBALY (INERA)
10.45 - 11.00 a.m.	Presentation of the NSA (roles, composition, working methods)	Dr Brice Nicodéme (ACRA)
11.00 - 11.30 a.m.	Presentation of ACRA study areas and the farming techniques carried out (objectives, main challenges, next steps)	Dr Brice Nicodéme (ACRA)
11.30 - 12.00 a.m.	Presentation of the results of the baseline situation of the UNB and INERA study areas and selection of the Technology Packages	UNB (Dr TRAORE)
12.00 - 12.30 a.m.	Approaches and communication channels to give more visibility to the project: what contributions are expected from the different actors	UNB/INERA (Florent Lankoandé)
12.30 a.m. - 1.15 p.m.	Questions and interventions from participants, in particular representatives of FFRUs	
1.15 - 2.15 p.m.	<i>Lunch break</i>	
2.15 - 3.00 p.m.	Presentation of research activities on the assessment and quantification of degraded lands: Proposal of technology packages for their restoration/rehabilitation + discussion	Sakandé Fadilatou (UNB/INERA)
3.00 - 3.45 p.m.	Presentation of research activities on local knowledge, use and endogenous management/restoration practices of degraded lands: Proposal of technology packages + discussion	Bamogo Adama (UNB/INERA)
3.45 - 4.00 p.m.	Summary of the work End of the day	
Day II		
8.15 - 9.00 a.m.	Presentation of research activities on optimising the integration of	Belem Adama (UNB/INERA)



	agriculture and livestock in cropping systems: Proposed methodology and approach + Discussion	
9.00 - 10.00 a.m.	Thoughts on the contribution of stakeholders (type of contribution expected/available, possible collaborations, provision of available data, data sharing)	Dr Traoré (UNB) Dr Koulibaly (INERA)
10.00 - 10.30 a.m.	<i>Coffee break</i>	
10.30 - 12.00 a.m.	Further thoughts and sharing of next steps, also involving participants	Dr Traoré (UNB) Dr Koulibaly (INERA)
12.00 - 12.30 a.m.	Overview of decisions	Dr Lankoandé (UNB)
12.30 - 12.45 a.m.	Reading of NSA report	Rapporteurs
12.45 a.m. - 1.00 p.m.	Conclusions and greetings	Dr Traoré (UNB)
1.00 - 2.00 p.m.	<i>Lunch break and departure of participants</i>	

Ghana

Time	Activities	Presenter/responsibility
Day I		
8.00. a.m. - 8.15 a.m.	Opening Session by Chair Welcome Remarks	Chair: Regional Director for Agriculture, North East Region
8.15 a.m. - 8.30 a.m.	Introductions Session	Dr Prince Etwire and Mr Shereef
8.30 a.m. - 9.30 a.m.	Key Note Address - Topic Sustainable Intensification in Agriculture: the role of EWA-BELT activities in Ghana	Dr Mathias Fosu, Agricultural and Green Earth Solutions (AGES) Consults, Tamale
9.30 a.m. - 10.15 a.m.	Rationale of EWA-BELT Project, Case study areas challenges and technologies to overcome them	Dr James Kombiok, Director of KDC and WP2 Leader
10.15 a.m. - 10.45 a.m.	Health Break (To include group photo)	
10.45 a.m. - 11.00 a.m.	Presentation on the National Stakeholder Assembly; purpose and objectives	Dr James Kombiok, Director of KDC and WP2 Leader
11.00 a.m. - 11.15 a.m.	Inauguration of National Stakeholders Assembly	Prof Paul Bosu, Deputy Director General CSIR, CSIR Head Office, EWA-BELT LEAR CSIR
11.15 a.m. - 12.15 p.m.	Presentation on expected deliverables and preliminary results from KDC	Mr Prince Haruna and Mr Shereef,



		KDC
12.15 p.m. - 1.00 p.m.	Feedback on KDC results	All
1.00 p.m. - 2.00 p.m.	Lunch Break	
2.00 p.m. - 3.15 p.m.	Presentation on expected deliverables and preliminary results from CSIR-SARI	Dr Joseph Adjebeng-Danquah and Team
3.15 p.m. - 3.30 p.m.	Health Break	All
3.30 p.m. - 4.45 p.m.	Participants feedback on CSIR-SARI results	All
Day II		
8.00 a.m. - 9.00 a.m.	Recap of Day II and Next Steps	KDC and CSIR-SARI reps
9.00 a.m. - 11.00 a.m.	<p>Remarks from Stakeholders</p> <ol style="list-style-type: none"> 1. Regional Director of Agriculture, North East, 2. District representatives District Coordinating Directors, West Mamprusi, Nabdam, Talensi, Savelugu 3. District Directors of Agriculture (West Mamprusi, Nabdam, Talensi, Savelugu) 4. Feedback from participating farmer groups 5. Private sector representative 6. Representatives of case study areas (Farmer group Leaders) 	<p>Session Chairs:</p> <ul style="list-style-type: none"> - Ministry of Agriculture - District Coordinating Council - District Departments of Agriculture - EWA-BELT Participating farmer groups - Madam Salma Abudulai, AMAATI Company Fonio processing and marketing
11.00 -12.00 p.m.	<p>Remarks from CSIR-SARI Director:</p> <p>EWA-BELT Project Editorial Correspondents</p> <p>EWA-BELT Project LEAR / Deputy Director General CSIR</p>	<p>Dr Francis Kusi Mr Sherif and Dr Prince Etwire Prof Paul Bosu -CSIR Head Office</p>
12.00 p.m. - 12.30 p.m.	Health Break	
12.30 p.m. - 1.30 p.m.	Remarks from EWA-BELT Consortium representative	EWA-BELT consortium representative (UNISS)
1.30 p.m. - 2.30 p.m.	Lunch Break	
2.30 p.m. - 3.30 p.m.	Closing Remarks from Chair	



Sierra Leone

Time	Activities	Presenter/responsibility
Day I		
10.15 - 10.30 a.m.	Introduction of members	
10.30 -10.40 a.m.	Opening remarks-The meaning and relevance of research in the University	Dean of Academic Affairs-UNIMAK-Rev. Fr. Dr. George Gbamanja
10.40 - 11.20 a.m.	The meaning, relevance and scope of the EWA-BELT Reaserch in Sierra Leone	Dr. Joseph B. Tholley-Dean-Faculty of Agriculture and Food Sciences
Tea Break		
11.30 - 12.00 a.m.	Roles and responsibilities of National Stakeholders Assembly members	Dr. Saidu Kanu
12.00 - 12.30 a.m.	The roles and responsibilities of the field supervisors in the EWA-BELT project.	Mr. Abdulai M. Kamara
12.30 a.m. - 1.00 p.m.	Group Work Group Presentation from field supervisors	Field supervisors
Lunch		
2.00 p.m. - 3.35 p.m.	NSAs contributions i. Government rep ii. NGO rep iii. Local government rep. iv. Women's rep v. Community animators vi. Traditional authorities' rep vii. Master Farmers rep	
3.35 - 3.55 p.m.	Summary of Agreed Action Point	

Annex II: FFRUs stakeholders list

EA REGIONAL BOARD - STAKEHOLDER MAPPING ETHIOPIA				
Category	Stakeholder	Role and description	Interest in EWA-BELT	FFRU/NA
Academia	Hawassa University	Academic research institution	Consortium member	FFRU
Academia	Jimma University	Academic research institution	Consortium member	NA
Farmers' association	Hula farmers' association	Farmers group and participant in FFRU activities	WP2 and WP3 participant	FFRU
Farmers' association	Damote gale farmers' association	Farmers group and participant in FFRU activities	WP2 and WP3 participant	FFRU
Farmers' association	Wulbareg farmers' association	Farmers group and participant in FFRU activities	WP2 and WP3 participant	FFRU
Farmers' association	Meksan farmers' association	Farmers group and participant in FFRU activities	WP2 and WP3 participant	FFRU
Farmers' association	Doyoya-yaya farmers association	Direct and indirect beneficiaries research outputs; involved in the implementation of research and innovation activities	WP2	FFRU
Farmers' association	Nada- chala farmers association	Direct and indirect beneficiaries research outputs; involved in the implementation of research and innovation activities	WP2	FFRU
Local government body	Hula office of agriculture	Agricultural and livestock extension	Technology transfer	FFRU
Local government body	Damote gale office of agriculture	Agricultural and livestock extension	Technology transfer	FFRU
Local government body	Wulbareg office of agriculture	Agricultural and livestock extension	Technology transfer	FFRU

EA REGIONAL BOARD - STAKEHOLDER MAPPING ETHIOPIA				
Category	Stakeholder	Role and description	Interest in EWA-BELT	FFRU/NA
Local government body	Meskan office of agriculture	Agricultural and livestock extension	Technology transfer	FFRU
Local government body	Sidama bureau of agriculture	Agricultural and livestock extension (at regional level)	Technology transfer	FFRU
Local government body	Wolayta bureau of agriculture	Agricultural and livestock extension (at regional level)	Technology transfer	FFRU
Local government body	Silte bureau of agriculture	Agricultural and livestock extension (at regional level)	Technology transfer	FFRU
Local government body	Meksan bureau of agriculture	Agricultural and livestock extension (at regional level)	Technology transfer	FFRU
Local government body	Jimma Zone Agriculture Bureau	Agricultural and natural resources extension	Decision making	NA
Local government body	Omonada District Agriculture office	Agricultural and natural resources extension	Technology transfer and scaling up	FFRU
Local government body	Kersa District Agriculture office	Agricultural and natural resources extension	Technology transfer and scaling up	FFRU
Local government body	Tiro-Afeta Agriculture office	Agricultural and natural resources extension	Technology transfer and scaling up	FFRU
NGO / Civil society	Wolayta Development Association	Rural development organization with agricultural wing	Technology transfer	FFRU
Private sector association	BENEFIT-CASCAPE	Joint planning, review and facilitation of study sites	Technology transfer	FFRU
Research Institution	Southern Agricultural Research Institute	Agricultural research institute	Consortium member	FFRU



EU H2020
PROJECT
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*Linking East and West African
farming systems experience into
a BELT of sustainable intensification*



**EA REGIONAL BOARD - STAKEHOLDER MAPPING
ETHIOPIA**

Category	Stakeholder	Role and description	Interest in EWA-BELT	FFRU/NA
Research Institution	ICRISAT-ETHIOPIA	International research	WP2 (land recovery)	NA
Research Institution	Ethiopian Agricultural Research Institute (Jimma, Debrezeit and Melkasa stations)	Joint planning, review and provision of germplasm of interest (NUS)	WP2 (NUS)	FFRU

EA REGIONAL BOARD - STAKEHOLDER MAPPING KENYA				
Category	Stakeholder	Role and description	Interest in EWA-BELT	FFRU/NA
Academia	University of Nairobi	Academic research institution	Consortium member	FFRU
Farmers' association	Got Ominde women Group - Kisumu County	Farmers group and participant in FFRU activities	WP2 and WP3 participant	FFRU
Farmers' association	Nyikea Liya Self Help Group - Kisumu County	Farmers group and participant in FFRU activities	WP2 and WP3 participant	FFRU
Farmers' association	United Mixed Group - Kisumu County	Farmers group and participant in FFRU activities	WP2 and WP3 participant	FFRU
Farmers' association	Blade Women Group Nyando - Kisumu County	Farmers group and participant in FFRU activities	WP2 and WP3 participant	FFRU
Farmers' association	Wang'chieng Spiritual Leaders Community Based Organization - Kisumu County	Farmers group and participant in FFRU activities	WP2 and WP3 participant	FFRU
Farmers' association	Karabala Self Help Group - Kisumu County	Farmers group and participant in FFRU activities	WP2 and WP3 participant	FFRU
Farmers' association	Kawande Self Help Group - Kisumu County	Farmers group and participant in FFRU activities	WP2 and WP3 participant	FFRU
Farmers' association	Usiu C.B.O. - Kakamega County	Farmers group and participant in FFRU activities	WP2 and WP3 participant	FFRU
Farmers' association	Mwiyenga poultry farmers Self Help Group - Kakamega County	Farmers group and participant in FFRU activities	WP2 and WP3 participant	FFRU
Farmers' association	Marafiki Wote Self Help Group - Kakamega County	Farmers group and participant in FFRU activities	WP2 and WP3 participant	FFRU
Farmers' association	Shitoto Lwasambi Women Group - Kakamega County	Farmers group and participant in FFRU activities	WP2 and WP3 participant	FFRU

EA REGIONAL BOARD - STAKEHOLDER MAPPING KENYA				
Category	Stakeholder	Role and description	Interest in EWA-BELT	FFRU/NA
Farmers' association	Shibinga Poverty Reduction and Health Care - Kakamega County	Farmers group and participant in FFRU activities	WP2 and WP3 participant	FFRU
Farmers' association	Elwakana Susumukha Women Group - Kakamega County	Farmers group and participant in FFRU activities	WP2 and WP3 participant	FFRU
Farmers' association	Mali Shambani - Busia County	Farmers group and participant in FFRU activities	WP2 and WP3 participant	FFRU
Farmers' association	Narotso Women Group - Busia County	Farmers group and participant in FFRU activities	WP2 and WP3 participant	FFRU
Farmers' association	Namunene Women Group - Busia County	Farmers group and participant in FFRU activities	WP2 and WP3 participant	FFRU
Farmers' association	Phillipians 4:13 - Busia County	Farmers group and participant in FFRU activities	WP2 and WP3 participant	FFRU
Farmers' association	Mulimani Kalinyola - Busia County	Farmers group and participant in FFRU activities	WP2 and WP3 participant	FFRU
Farmers' association	Lumboka VSLA Self Help Group- Bungoma County	Farmers group and participant in FFRU activities	WP2 and WP3 participant	FFRU
Farmers' association	Sindani Women Group - Bungoma County	Farmers group and participant in FFRU activities	WP2 and WP3 participant	FFRU
Farmers' association	Tabuti Lima Farmer Field School - Bungoma County	Farmers group and participant in FFRU activities	WP2 and WP3 participant	FFRU
Farmers' association	Muanda Tujenge CBO - Bungoma County	Farmers group and participant in FFRU activities	WP2 and WP3 participant	FFRU
Farmers' association	Muya Self Help Group - Bungoma County	Farmers group and participant in FFRU activities	WP2 and WP3 participant	FFRU

EA REGIONAL BOARD - STAKEHOLDER MAPPING KENYA				
Category	Stakeholder	Role and description	Interest in EWA-BELT	FFRU/NA
National government body	KALRO	Agricultural & Livestock research institution	Consortium member	FFRU
National government body	Ministry of Agriculture	Extension services in crops and Livestock	WP6 - Technology Dissemination	FFRU
NGO / Civil society	Anglican Development services	Faith faced Organization with an agricultural wing	WP6 - Technology Dissemination	FFRU
Other	ICRISAT - KENYA	International Crops Research Institute	Sorghum and Groundnut research	FFRU
Other	Mixa Foods and Beverages	Offers agribusiness training and food Processing & Marketing solutions	Fabrication of machines and products market outlet	FFRU
Other	Delish and Nutri Limited	Local food processor for the selling of peanuts powder	Peanuts market outlet	FFRU
Other	Deepa industries Limited (Tropica Heat)	Manufacturer potatoes and peanuts snacks	Peanuts market outlet	FFRU
Private sector association	Unga Group Limited	Flour processor	Market outlet for farmers products	FFRU
Private sector association	Kenya Breweries	Market outlet for Sorghum	Market outlet for farmers products	FFRU

EA REGIONAL BOARD - STAKEHOLDER MAPPING TANZANIA				
Category	Stakeholder	Role and description	Interest in EWA-BELT	FFRU/NA
Academia	SUA-Sokoine University of Agriculture	The academic institution responsible for agriculture across the country. It will provide research backup such as laboratory facilities	Laboratory facilities and technical support across relevant work packages	NA
Farmers' association	MVIWATA-Muongano wa Vikundi vya Wakulima Tanzania; Cocoa Farmers Association	A coalition of farmers groups in Tanzania. It will assist in the organization and the access of farmers in the study area	Identification of relevant farmers to work within the project in WP2, 3, 4 and 5	NA
Local government body	District councils, village and wards	Local governments in the study sites which will oversee all activities that will be done the respective area. These organs will grant permission to work in respective sites and accompany researchers through the implementation of the research activities	Implementation of all research activities	FFRU
National government body	TARI, Ministry of Agriculture, Ministry of livestock and fisheries, Ministry of Natural resource and tourism, vice president office, division of environment; Commission for Science and Technology (COSTECH); Agriculture Seed Agency (ASA); Tanzania Official Seed certification Institute (TOSCI)	Government organs responsible for agricultural research activities in Tanzania	Implementation of all research activities, linking research activities to policies and decision making	NA



**EA REGIONAL BOARD - STAKEHOLDER MAPPING
TANZANIA**

Category	Stakeholder	Role and description	Interest in EWA-BELT	FFRU/NA
NGO / Civil society	ECHO	ECHO East Africa is a non-governmental organization empowering hungry families with the awareness that we have impacted millions of lives by teaching small-scale sustainable farming methods, so that families can provide them for themselves and their communities. By tackling hunger at the source, we are growing hope from the ground up. Our role in the project includes: propose and assist in implementing soil conservation practices.	Implementation of land conservation practices for WP2	NA
Other	Farmers	Farmers in the study sites who will be involved in the project activities.	Implementation of all research activities in WPs 2, 3, 4 and 5	FFRU
Other	Graduate Students and pupils	Support project implementation	WPs 2, 3, 4, 5 and 6; support research	NA
Private sector association	Agro-dealers; Large-Scale Macadamia Farmer; Kokoa Kamili	Agro-inputs suppliers and retail sales		NA

WA REGIONAL BOARD - STAKEHOLDER MAPPING BURKINA FASO				
Category	Stakeholder	Role and description	Interest in EWA-BELT	FFRU/NA
Farmers' association	UNPCB (National Union of cotton Producers of Burkina Faso)	National Union of Cotton Producers of Burkina Faso. It is an organization in charge of the lobbying and advocacy for cotton farmers. They have technicians and advisors at local level for backstopping and coaching farmers. Advocacy and sensitization of its members (cotton producers); They give their support for the implementation of members' plots for testing; they collaborate with the technicians of the UNPCB in the collection of secondary data; they participate in the various local and or international meetings of the project in order to share experience;	Cotton producers are the main beneficiaries of EWA-BELT project's activities. They will be involved in the activities (WP 2, WP 3 and WP6). They will also participate to the selection of innovations to be tested and they will contribute to the dissemination of the project's achievements	FFRU
Farmers' association	Association La Saisonnière	The association aims to promote and support the ecological transition of horticulturists in urban areas. It is based on the dissemination and adoption of agroecological principles and practices, the co-construction of solutions adapted to urban production systems, the complementarity and networking of actors for the production and marketing of products and the growing demand of the population of Ouagadougou for healthy vegetables.	WP2, WP3 and WP6 (trials within the FFRUs)	FFRU
Farmers' association	Union des Groupements d'Etuveuses de Riz de Mogtedo-Wendwaogo		WP2, WP3 and WP6 (trials within the FFRUs)	FFRU

WA REGIONAL BOARD - STAKEHOLDER MAPPING BURKINA FASO				
Category	Stakeholder	Role and description	Interest in EWA-BELT	FFRU/NA
Farmers' association	UPPA Houet (Union provinciale des professionnels Agricoles du Houet)	Market access for inputs of agricultural products	WP5 - Farms incomes improvement and facilitation of farmers access to agricultural inputs	FFRU
Farmers' association	Association "Zuba-Wanki"		WP2, WP3 and WP6 (trials within the FFRUs)	NA
Farmers' association	Union des groupements maraichers Nanglobzangade Loumbila	The producers' Union enables improvement in agricultural productivity in market gardening and enhance the value of the agricultural production of 450 producers (60% women), promoting entrepreneurship in rural areas. By contributing to the development of the ecological and organic vegetable value chain, it improves the income of producers and the quality of vegetables for rural households and consumers in Ouagadougou. It also seeks to influence the policy environment in favour of the development of the agroecological sector.	WP2, WP3 and WP6 (trials within the FFRUs)	FFRU
Local government body	Mairie de Dédougou	The Mairie de Béréba and the Mairie of Dédougou are the local decision making boards; their contribution in the project will be the Advocacy and sensitization of political actors and members of civil society on the actions of the project.	WP2, WP3 and WP6	NA

WA REGIONAL BOARD - STAKEHOLDER MAPPING BURKINA FASO				
Category	Stakeholder	Role and description	Interest in EWA-BELT	FFRU/NA
National government body	Direction Régionale de l'Agriculture et des Infrastructures Hydrique des Hauts Bassin	Direction Régionale de l'Agriculture et des Infrastructures Hydraulique des Hauts Bassin is the representative of the government at the Regional level; its main role is the extension, coaching and backstopping of farmers in the implementation of the technologic packages. They also collect and compile data on crops production for statistic purposes. In the EWA-BELT project their expected contribution will be: - Use of the existing national extension system; - Use of human resources (agricultural supervisors); - Participation in national and / or international meetings of the project; - Support for carrying out field trials	WP2 and WP6	FFRU
National government body	Direction Régionale de l'Agriculture et des Infrastructures Hydrique de la boucle de Mouhoun	Direction Régionale de l'Agriculture et des Infrastructures Hydraulique du Mouhoun is the representative of the government at the Regional level; its main role is the extension, coaching and backstopping of farmers in the implementation of the technologic packages. They also collect and compile data on crops production for statistic purposes. In the EWA-BELT project their expected contribution will be: - Use of the existing national extension system; - Use of human resources (agricultural supervisors); - Participation in national and / or international meetings of the project; - Support for carrying out field trials	WP2, WP3 and WP6	NA

WA REGIONAL BOARD - STAKEHOLDER MAPPING BURKINA FASO				
Category	Stakeholder	Role and description	Interest in EWA-BELT	FFRU/NA
National government body	Mairie De Béréba	The Mairie de Béréba and the Mairie of Dédougou are the local decision-making boards; their contribution in the project will be the Advocacy and sensitization of political actors and civil society members on the project actions;	WP2, WP3 and WP6	NA
National government body	Julien Ouedraogo - Ministere de l'Agriculture et des aménagements hydro-agricoles	Ministere de l'Agriculture et des aménagements hydro-agricoles	WP6 - To safeguard and represent the project's interests at national level.	NA
Private sector association	Burkinabè Society of Textile Fibres (SOFITEX)	SOFITEX is a private company in charge of the organization of cotton production and cotton commercialisation in the investigation area. In the Project, the expected contribution of SOFITEX will consist in the use of the existing extension system: - Group of cotton producers; - Supervisory staff; - Data collection on production and household income level; - Other technical and socio-economic data collection	WP2, WP3, WP5 and WP6 (SOFITEX has technicians which supervise the cotton producers. This actor will be involved in the dissemination of project innovations)	FFRU
Private sector association	Interprofessional Cotton Association of Burkina (AICB)	AICB of Burkina is composed of two colleges: producer (represented by the National Union of Cotton Producers of Burkina Faso - UNPCB) and ginner companies (represented by the Professional Association of Cotton Companies in Burkina Faso - APROCOB)	WP6 - dissemination of project innovations	NA

WA REGIONAL BOARD - STAKEHOLDER MAPPING GHANA				
Category	Stakeholder	Role and description	Interest in EWA-BELT	FFRU/NA
Farmers' association	Faustina Yenzie	Local Farmers	WP2 and WP3 - Implement EWA-BELT project activities	FFRU
Farmers' association	Mbammi K. Joseph	Local Farmers	WP2 and WP3 - Implement EWA-BELT project activities	FFRU
Farmers' association	Charles Zure	Local Farmers	WP2 and WP3 - Implement EWA-BELT project activities	FFRU
Farmers' association	Robert Dok-Yemigi	Local Farmers	WP2 and WP3 - Implement EWA-BELT project activities	FFRU
Farmers' association	Cecilia Kolog	Local Farmers	WP2 and WP3 - Implement EWA-BELT project activities	FFRU
Farmers' association	Godwin Zoogah	Local Farmers	WP2 and WP3 - Implement EWA-BELT project activities	FFRU
Farmers' association	Francis Ayinejebala	Local Farmers	WP2 and WP3 - Implement EWA-BELT project activities	FFRU
Farmers' association	Sayarog Thomas	Local Farmers	WP2 and WP3 - Implement EWA-BELT project activities	FFRU
Farmers' association	Onboheyin Jacob	Local Farmers	WP2 and WP3 - Implement EWA-BELT project activities	FFRU
Farmers' association	Anthony Minyella	Local Farmers	WP2 and WP3 - Implement EWA-BELT project activities	FFRU
Farmers' association	Mumuni Alhassan	Local Farmers	WP2 and WP3 - Implement EWA-BELT project activities	FFRU
Farmers' association	Salifu Iddrissu	Local Farmers	WP2 and WP3 - Implement EWA-BELT project activities	FFRU

WA REGIONAL BOARD - STAKEHOLDER MAPPING GHANA				
Category	Stakeholder	Role and description	Interest in EWA-BELT	FFRU/NA
Farmers' association	Effah Abdulai	Local Farmers	WP2 and WP3 - Implement EWA-BELT project activities	FFRU
Farmers' association	Abdul Wahab Mahama	Local Farmers	WP2 and WP3 - Implement EWA-BELT project activities	FFRU
Farmers' association	Ibrahim Sabeyam	Local Farmers	WP2 and WP3 - Implement EWA-BELT project activities	FFRU
Farmers' association	Ziblim Abdul Wahab	Local Farmers	WP2 and WP3 - Implement EWA-BELT project activities	FFRU
Farmers' association	Sanatu Mohammed	Local Farmers	WP2 and WP3 - Implement EWA-BELT project activities	FFRU
Farmers' association	Sulemana Yakubu	Local Farmers	WP2 and WP3 - Implement EWA-BELT project activities	FFRU
Farmers' association	Mohammed Fuseina	Local Farmers	WP2 and WP3 - Implement EWA-BELT project activities	FFRU
Farmers' association	Alidu Abednago	Local Farmers	WP2 and WP3 - Implement EWA-BELT project activities	FFRU
Farmers' association	Robert Babil	Local Farmers	WP2 and WP3 - Implement EWA-BELT project activities	FFRU
Farmers' association	Ernest Atubinge	Local Farmers	WP2 and WP3 - Implement EWA-BELT project activities	FFRU
Farmers' association	Baba Issahaku	Local Farmers	WP2 and WP3 - Implement EWA-BELT project activities	FFRU
Farmers' association	Mumuni Issahaku	Local Farmers	WP2 and WP3 - Implement EWA-BELT project activities	FFRU

WA REGIONAL BOARD - STAKEHOLDER MAPPING GHANA				
Category	Stakeholder	Role and description	Interest in EWA-BELT	FFRU/NA
Farmers' association	Memunatu Dokurugu	Local Farmers	WP2 and WP3 - Implement EWA-BELT project activities	FFRU
Farmers' association	Osman Seidu	Local Farmers	WP2 and WP3 - Implement EWA-BELT project activities	FFRU
Farmers' association	Abudulai Chifulu	Local Farmers	WP2 and WP3 - Implement EWA-BELT project activities	FFRU
Local government body	Muniru John	Supervisor of Local of local government body in the District	Relevant in WP2 and WP3, as they give Government Policy direction in the district	NA
Local government body	Alhaji Yussif Musah	Supervisor of Local of local government body in the District	Relevant in WP2 and WP3, as they give Government Policy direction in the district	NA
Local government body	Emmanuel K. Amwanchimbey	Supervisor of Local of local government body in the District	Relevant in WP2 and WP3, as they give Government Policy direction in the district	NA
Local government body	Ivan Gam	Supervisor of Local of local government body in the District	Relevant in WP2 and WP3, as they give Government Policy direction in the district	NA
Local government body	Hoenyegah John	Supervisor of Agric. Staff in the staff	Relevant in WP and WP3 - Ensures Agric. Staff and Farmers work to achieve	NA
Local government body	Sulemana Mathew	Supervisor of Agric. Staff in the staff	Relevant in WP and WP3 - Ensures Agric. Staff and Farmers work to achieve	NA
Local government body	Abdulai Baako	Supervisor of Agric. Staff in the staff	Relevant in WP and WP3 - Ensures Agric. Staff and Farmers work to achieve	NA

WA REGIONAL BOARD - STAKEHOLDER MAPPING GHANA				
Category	Stakeholder	Role and description	Interest in EWA-BELT	FFRU/NA
Local government body	Joseph Adjagbui	Supervisor of Agric. Staff in the staff	Relevant in WP and WP3 - Ensures Agric. Staff and Farmers work to achieve	NA
Local government body	Baba Musa	Supervisor of Agric. Staff in the staff	Relevant in WP and WP3 - Ensures Agric. Staff and Farmers work to achieve	NA
Local government body	Sulemana Alhassan	Supervisor of Agric. Staff in the staff	Relevant in WP and WP3 - Ensures Agric. Staff and Farmers work to achieve	NA
Local government body	Issah Zenaze	Supervise Agric Extension Officers in the district	Monitor Ewa-Belt Project activities	FFRU
Local government body	Alhassan Abdullah	Supervise Agric Extension Officers in the district	Monitor Ewa-Belt Project activities	FFRU
Local government body	Awudu Juliana	Monitor Agric. Activities in the district	Supports farmers carry out Ewa-Belt activities	FFRU
Local government body	Issah Abdul Wadudu	Monitor Agric. Activities in the district	Monitor Ewa-Belt Project activities	FFRU
Local government body	Tareng Bukari	Monitor Agric. Activities in the district	Monitor Ewa-Belt Project activities	FFRU
Local government body	Sumani Ibrahim	Supervise Agric Extension Officers	Monitor Ewa-Belt Project activities	FFRU
Local government body	Abukari Alhassan	Monitor Agric. Activities in the district	Monitor Ewa-Belt Project activities	FFRU
Local government body	Sakara Abukari	Monitor Agric. Activities in the district	Monitor Ewa-Belt Project activities	FFRU
Local government body	Hamid Bawa	Monitor Agric. Activities in the district	Monitor Ewa-Belt Project activities	FFRU

WA REGIONAL BOARD - STAKEHOLDER MAPPING GHANA				
Category	Stakeholder	Role and description	Interest in EWA-BELT	FFRU/NA
Local government body	Sakara Richard Abubakari	Monitor Agric. Activities in the district	Monitor Ewa-Belt Project activities	FFRU
Local government body	Dawuda Yakubu-Abdul-Latif	Monitor Agric. Activities in the district	Monitor Ewa-Belt Project activities	FFRU
Local government body	Musah Adam	Monitor Agric. Activities in the district	Monitor Ewa-Belt Project activities	FFRU
Local government body	Ali Yaro	Monitor Agric. Activities in the district	Monitor Ewa-Belt Project activities	FFRU
Local government body	Adam Abdul-Latif	Supervise Agric Extension Officers	Monitor Ewa-Belt Project activities	FFRU
Local government body	Abiba Bukari	Monitor Agric. Activities in the district	Monitor Ewa-Belt Project activities	FFRU
NGO / Civil society	Charles Kolog	Support agricultural activities of members	Support members carry ou EWA-BELT activites	FFRU
NGO / Civil society	Mary Fati	Support Widows and Orphans in Agric	Support widows and orphans in EWA-BELT Project activities	FFRU
NGO / Civil society	Patience Akankpanaab	Provide capacity building for farmers.	Support members carry out EWA-BELT activites	FFRU
NGO / Civil society	Ben YAKUBU	Support agricultural activities of members	Support members carry out EWA-BELT activites	FFRU
NGO / Civil society	Jibriel Abdul-Rahim	Support farmers to get good prices for their produce	Support members carry out EWA-BELT activites	FFRU

WA REGIONAL BOARD - STAKEHOLDER MAPPING GHANA				
Category	Stakeholder	Role and description	Interest in EWA-BELT	FFRU/NA
Private sector association	Katik Joe Mbami	Mobilize and sensitize community members on new agric technolgy	Help in sensitizing community members on EWA-BELT deliverables	NA
Private sector association	Moses Awuni	Mobilize and sensitize community members on new agric technolgy	Help in sensitizing community members on EWA-BELT deliverables	NA
Private sector association	Ibrahim Abdul Wahab	Mobilize and sensitize community members on new agric technolgy	Help in sensitizing community members on EWA-BELT deliverables	NA
Private sector association	Sulemana Alhassan	Mobilize and sensitize community members on new agric technolgy	Help in sensitizing community members on EWA-BELT deliverables	NA

WA REGIONAL BOARD - STAKEHOLDER MAPPING SIERRA LEONE				
Category	Stakeholder	Role and description	Interest in EWA-BELT	FFRU/NA
Academia	Mr. Abdulrhaman Turay	Soil and Water Engineer in Academia (UNIMAK). During the EWA-BELT project implementation period, they provide research support to farmers, community farmers and supervisors, as well as facilitating optimum learning/teaching interactive processes. Also, they facilitate the smooth transfer of research knowledge from the university to the field (farmers) and from farmers to the university by coordinating between learning.	WP2 and WP3 - To improve the research component by supporting in the creation of research insights for farmers and field supervisors and at the same time, facilitating adequate research setups.	FFRU
Farmers' association	Haja Sundu Marah	Farmers' Association President: she has a plethora of expertise with farmers and has worked in a variety of agricultural producing areas in the Koinadugu and Falaba districts, including vegetables, grains, and livestock. She provides farmers, supervisors and possibly animating communal production systems with technical and material support to improve sustainable agricultural production.	WP2 - To assist farmers in carrying out the project's on-farm research	FFRU
Local government body	Chief Alimamy Kamara	Traditional leader of a local government body, aiming to close the gap between farmers and other agricultural development programs entering communities as traditional authorities. It contributes creating a harmonious and stable coexistence between EWA-BELT farmers and field supervisors and the rest of the community.	WP6 - To safeguard and represent the project's interests to the local authorities.	NA

WA REGIONAL BOARD - STAKEHOLDER MAPPING SIERRA LEONE				
Category	Stakeholder	Role and description	Interest in EWA-BELT	FFRU/NA
National government body	Mr Andrew Mansaray	Ministry of Agriculture, Forestry and Food Security in Bombali District -District Director (MAFFS). He facilitates all agricultural activities of the projects with government entities in order to create effective and long-term collaboration and cooperation between communities and development actors, including government agencies. Also, he is responsible of the making of government-owned community facilities, including local extension personnel, available to the EWA-BELT project's on-farm research farmers.	WP2 & WP6- To establish an environment conducive to the smooth running of the project in the country, through the assistance of some government officials.	NA
NGO / Civil society	Saidu Conteh	Share his experience as the owner of a non-profit organization who has dealt with a variety of farmers and who owns himself a farm. He provides farmers with technical assistance.	WP2 - To ensure the project's long-term visibility and development	FFRU
Other	Favour Kanu	Community animator: responsible of building confidence in the women involved in the project so that they can provide their best effort in the EWA-BELT project's research and manufacturing processes, because women's agricultural activities should be promoted and resources should be mobilized, through representation and action.	WP1 and WP6 - Assuring that women are appropriately represented and treated with the respect and dignity they deserve is critical to the EWA-BELT project's success in the communities.	FFRU

WA REGIONAL BOARD - STAKEHOLDER MAPPING SIERRA LEONE				
Category	Stakeholder	Role and description	Interest in EWA-BELT	FFRU/NA
Other	Yussuf Jalloh	Community animator: responsible of facilitating connections with traditional authorities and farmers in securing agricultural utilities, such as land, water, transportation and so on, in order to realize field activities. He also has the role of securing stable field operations by EWA-BELT FFRU farmers in the chosen land site for the project's effective implementation over the specified time period and beyond.	WP6 - Farmers in the EWA-BELT project's study land locations are being protected to ensure the project's long-term viability.	FFRU
Other	Mohamed Margay	Community animator: encourages and sustains active community participation in connecting farmers to markets and farmers to markets. Also he mediates between farmers and traditional authorities to secure some community facilities such as communal work and secure societal representation for the farmers' safe activities. Through good marketing coordination and mobilization, EWA-BELT farmers and other community-related farmers would be able to benefit from their hard-won sweat products.	WP6 - To ensure that farmers are assisted in realizing fair advantages from their farming activities through fair product sales by establishing ideal market linkages through information exchange.	FFRU



**WA REGIONAL BOARD - STAKEHOLDER MAPPING
SIERRA LEONE**

Category	Stakeholder	Role and description	Interest in EWA-BELT	FFRU/NA
Private sector association	Isatu G. Sesay	Head of a private sector association of female crop producers and a good community animator, with a big experience in mobilizing community agricultural resources. Also contributing to the knowledge sharing with the EWA-BELT project's FFRU on-farm research farmers.	WP1 - Implementation of the EWA-BELT project	FFRU
Trade union	Mohamed Lakoh	Trade Union Representative: outside of the farm, to represent the interests and the concerns of farmers in other places where they (farmers) may want support with some social situations, such as education, health, legal entities, transportation and so on. He also provides farmers with the well-coordinated social assistance they need to stay focused on their on-farm farming/research activities in their local areas.	WP6 - To assist in the protection of the EWA-BELT project's interests and concerns through community cooperation and representation in other social sectors.	FFRU

Annex III: FFRUs general scheme

Partner Name	Country	FFRU's name	Districts	Area of the country	Technological package within each Study Area	Short description of the technology tested (crops, which water management, practices etc.)	No of farmers actively involved in the technology testing, demonstrations, training, ...		Future activities/ Technology package to be tested foreseen
							male	female	
KALRO	Kenya	FFRU-A	Kakamega - Mumias East	Western Kenya	2.1.2 - Field Participatory Assessment of selected NUS, 2.2.2 - Soil Fertility Improvement (Use of organic & inorganic fertilizers and crop rotation for soil fertility improvement in cereal crops), 3.4 - Developing effective pre- and post-harvest management strategies to avoid mycotoxin contamination in stored food and feed	1. Varietal evaluation of farmer preferred NU crops (Finger millet, sorghum and groundnuts in addition to maize as their staple crop) their associated agronomic principles including pest and disease management. 2. Soil fertility improvement technologies (Use of inorganic fertilizers and poultry manure for the selected cereal production) and (rotating the selected cereals with groundnuts). 3. Pre- and post-harvest management technologies for aflatoxin management in the selected crops.	15	56	2.1 - Community seed production for Finger millet and groundnut
KALRO	Kenya	FFRU-A	Kakamega - Mumias West	Western Kenya	2.1.2 - Field Participatory Assessment of selected NUS, 2.2.2 - Soil Fertility Improvement (Use of organic & inorganic fertilizers and crop rotation for soil fertility improvement in cereal crops), 3.4 - Developing effective pre- and post-harvest management strategies to avoid mycotoxin contamination in stored food and feed	1. Varietal evaluation of farmer preferred NU crops (Finger millet, sorghum and groundnuts in addition to maize as their staple crop) their associated agronomic principles including pest and disease management. 2. Soil fertility improvement technologies (Use of inorganic fertilizers and poultry manure for the selected cereal production) and (rotating the selected cereals with groundnuts). 3. Pre- and post-harvest management technologies for aflatoxin management in the selected crops.	51	68	2.1 - Community seed production for Finger millet and groundnut

Partner Name	Country	FFRU's name	Districts	Area of the country	Technological package within each Study Area	Short description of the technology tested (crops, which water management, practices etc.)	No of farmers actively involved in the technology testing, demonstrations, training, ...		Future activities/ Technology package to be tested foreseen
							male	female	
KALRO	Kenya	FFRU-A	Bungoma - Bumula	Western Kenya	2.1.2 - Field Participatory Assessment of selected NUS, 2.2.2 - Soil Fertility Improvement (Use of organic & inorganic fertilizers and crop rotation for soil fertility improvement in cereal crops), 3.4 - Developing effective pre- and post-harvest management strategies to avoid mycotoxin contamination in stored food and feed	1. Varietal evaluation of farmer preferred NU crops (Finger millet, sorghum and groundnuts in addition to maize as their staple crop) their associated agronomic principles including pest and disease management. 2. Soil fertility improvement technologies (Use of inorganic fertilizers and poultry manure for the selected cereal production) and (rotating the selected cereals with groundnuts). 3. Pre- and post-harvest management technologies for aflatoxin management in the selected crops.	20	59	2.1 - Community seed production for Finger millet and groundnut
KALRO	Kenya	FFRU-A	Busia - Nambale	Western Kenya	2.1.2 - Field Participatory Assessment of selected NUS, 2.2.2 - Soil Fertility Improvement (Use of organic & inorganic fertilizers and crop rotation for soil fertility improvement in cereal crops), 3.4 - Developing effective pre- and post-harvest management strategies to avoid mycotoxin contamination in stored food and feed	1. Varietal evaluation of farmer preferred NU crops (Finger millet, sorghum and groundnuts in addition to maize as their staple crop) their associated agronomic principles including pest and disease management. 2. Soil fertility improvement technologies (Use of inorganic fertilizers and poultry manure for the selected cereal production) and (rotating the selected cereals with groundnuts). 3. Pre- and post-harvest management technologies for aflatoxin management in the selected crops.	15	65	2.1 - Community seed production for Finger millet and groundnut

Partner Name	Country	FFRU's name	Districts	Area of the country	Technological package within each Study Area	Short description of the technology tested (crops, which water management, practices etc.)	No of farmers actively involved in the technology testing, demonstrations, training, ...		Future activities/ Technology package to be tested foreseen
							male	female	
UoN	Kenya	FFRU-A	Karachuonyo	Homa Bay County	2.1 Most performing peanut variety identification 2.2 Integrating organic fertilizer. 3.3 Retrieving plant protection traditional knowledge 3.4 Developing effective pre- and post-harvest management strategies to avoid mycotoxin contamination in stored food and feed	4. Peanut varieties being tested including improved once from ICRISAT. Organic fertilizers was introduced and agronomic practices for peanut and crop rotation to manage diseases. PICs bags have been introduced for storage to prevent aflatoxin accumulation	28	34	2.2.2 - Sustainable soil management (mycorrhizae fertilizer application and composting)
UoN	Kenya	FFRU-A	Nyakach	Kisumu County	2.1 Most performing peanut variety identification 2.2 Integrating organic fertilizer. 3.3 Retrieving plant protection traditional knowledge 3.4 Developing effective pre- and post-harvest management strategies to avoid mycotoxin contamination in stored food and feed	4. Peanut varieties being tested including improved once from ICRISAT. Organic fertilizers was introduced and agronomic practices for peanut and crop rotation to manage diseases. PICs bags have been introduced for storage to prevent aflatoxin accumulation	21	23	2.2.2 - Sustainable soil management (mycorrhizae fertilizer application and composting)
ACRA	Burkina Faso	FFRU-B	Zhorgo	Plateau Central	2.1.2 - Field participatory assessment of NUS	NUS participatory assessment (Fonio) - phenological stage, pathogen's damage, panicle length and yield	1	40	x

Partner Name	Country	FFRU's name	Districts	Area of the country	Technological package within each Study Area	Short description of the technology tested (crops, which water management, practices etc.)	No of farmers actively involved in the technology testing, demonstrations, training, ...		Future activities/ Technology package to be tested foreseen
							male	female	
ACRA	Burkina Faso	FFRU-B	Zhorgo	Plateau Central	2.2.3 - Sustainable water management	Soil fertility management practices on Fonio (traditional tillage and no fertilizer vs. minimum tillage and organic matter)			x
ACRA	Burkina Faso	FFRU-B	Mogtedò	Plateau Central	2.1.2 - Field participatory assessment of NUS	NUS participatory assessment (Millet) - parameter: phenological stage, pathogen's damage, panicle length, yield	1	193	x
ACRA	Burkina Faso	FFRU-C	Lèò	Plateau Central	2.1.2 - Field participatory assessment of NUS	NUS participatory assessment (Cowpea) - parameter: phenological stage, number of branches per plant, pathogen's damage, yield	25	0	x
ACRA	Burkina Faso	FFRU-D	Loumbila	Plateau Central	x	x	585	315	2.2.3 - Sustainable water management (improved of traditional water harvesting techniques)
INERA, UNB	Burkina Faso	FFRU-A	Béreba	Hauts-Basins	2.2.2 - Sustainable soil management (minimum tillage)	Minimum tillage and recycling crops residues through compost in cotton-cereal-based cropping systems	NA	NA	x

Partner Name	Country	FFRU's name	Districts	Area of the country	Technological package within each Study Area	Short description of the technology tested (crops, which water management, practices etc.)	No of farmers actively involved in the technology testing, demonstrations, training, ...		Future activities/ Technology package to be tested foreseen
							male	female	
INERA, UNB	Burkina Faso	FFRU-B	Dohoun	Hauts-Basins	2.3 - Improved of agri-livestock integrated management	Characterization and improvement of strategies for integrating livestock with agriculture	NA	NA	x
INERA, UNB	Burkina Faso	FFRU-C	Wakuy	Hauts-Basins	2.2.2 - Sustainable soil management (composts, biochar)	Biochar and co-compost amendment on soil carbon content on cotton-based cropping systems	NA	NA	x
INERA, UNB	Burkina Faso	FFRU-D	Sara	Hauts-Basins	2.2.2 - Sustainable soil management (intercropping)	Intercropping * compost on cereals and leguminous crops	NA	NA	x
INERA, UNB	Burkina Faso	FFRU-E	Bondoukuy	Boucle du Mouhoun	2.2.2 - Sustainable soil management (composts, biochar)	Biochar and co-compost amendment on soil carbon content on cotton-based cropping systems	NA	NA	x
INERA, UNB	Burkina Faso	FFRU-F	Kari/ Kamendéna	Boucle du Mouhoun	2.2.2 - Sustainable soil management (fertilizers)	Fertilizers effects on cereal crops	NA	NA	x
INERA, UNB	Burkina Faso	FFRU-G	Bokuy	Boucle du Mouhoun	2.3 - Improved of agri-livestock integrated management	Characterization and improvement of strategies for integrating livestock systems with agriculture	NA	NA	x

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							male	female	
INERA, UNB	Burkina Faso	FFRU-H	Soukuy	Boucle du Mouhoun	2.2.2 - Sustainable soil management (crop residues)	Minimum tillage and recycling crops residues through compost in cotton-cereal-based cropping systems	NA	NA	x
INERA, UNB	Burkina Faso	FFRU-I	Massala	Boucle du Mouhoun	2.2.2 - Sustainable soil management (intercropping)	Intercropping * compost on cereals and leguminous crops	NA	NA	x

Partner Name	Country	FFRU's name	Districts	Area of the country	Technological package within each Study Area	Please describe shortly the technology tested (which crops you are using, which water management practices you are considering etc)	Number of farmers actively involved in the technology testing, demonstrations, training, ...		Future activities/Technology package to be tested foreseen
							male	female	
UNIMAK	Sierra Leone	FFRU-A	Falaba	North	2.3 - Improved of agri-livestock integrated management	Integrated livestock and crop cultivation farming system by small-scale farmers in both upland and lowland ecologies - The systematic combination of livestock and crops in the same piece of land by the small-scale farmers, through careful and constructive land transformation to control water movement and soil nutrient flow/fertility in that piece of land (probably 1-5 ha/farmer); year in and year out	5	5	2.3 - i. the effects of transformation into plots through bunding both in the up and low lands, ii. assessing the relevance of livestock waste in the production of crops (vegetables and other crops) and fish and what will be its impact in livestock production consequently, iii. Assessing the yield components of both the livestock and crops cultivated in the integrated farming system, iv. Assessment of the soil fertility and water quality of the farm sites of the small-scale farmers involved in the research compared to the ones in the general community, v. Assessing the socioeconomic status of the farmers involved in the research activities and vi. the assessment of the level of reduction of deforestation by the farmers involved in the research in relation to their farming activities through the avoidance of the slash and burn method of farming.

Partner Name	Country	FFRU's name	Districts	Area of the country	Technological package within each Study Area	Please describe shortly the technology tested (which crops you are using, which water management practices you are considering etc)	Number of farmers actively involved in the technology testing, demonstrations, training, ...		Future activities/Technology package to be tested foreseen
							male	female	
UNIMAK	Sierra Leone	FFRU-B	Port Loko	North-West	2.3 - Improved of agri-livestock integrated management	Integrated livestock and crop cultivation farming system by small-scale farmers in both upland and lowland ecologies - The systematic combination of livestock and crops in the same piece of land by the small-scale farmers, through careful and constructive land transformation to control water movement and soil nutrient flow/fertility in that piece of land (probably 1-5 ha/farmer); year in and year out	5	5	2.3 - i. the effects of transformation into plots through bunding both in the up and low lands, ii. assessing the relevance of livestock waste in the production of crops (vegetables and other crops) and fish and what will be its impact in livestock production consequently, iii. Assessing the yield components of both the livestock and crops cultivated in the integrated farming system, iv. Assessment of the soil fertility and water quality of the farm sites of the small-scale farmers involved in the research compared to the ones in the general community, v. Assessing the socioeconomic status of the farmers involved in the research activities and vi. the assessment of the level of reduction of deforestation by the farmers involved in the research in relation to their farming activities through the avoidance of the slash and burn method of farming.

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							male	female	
UNIMAK	Sierra Leone	FFRU-C	Tonkolili	North-East	2.3 - Improved of agri-livestock integrated management	Integrated livestock and crop cultivation farming system by small-scale farmers in both upland and lowland ecologies - The systematic combination of livestock and crops in the same piece of land by the small-scale farmers, through careful and constructive land transformation to control water movement and soil nutrient flow/fertility in that piece of land (probably 1-5 ha/farmer); year in and year out	5	5	2.3 - i. the effects of transformation into plots through bunding both in the up and low lands, ii. assessing the relevance of livestock waste in the production of crops (vegetables and other crops) and fish and what will be its impact in livestock production consequently, iii. Assessing the yield components of both the livestock and crops cultivated in the integrated farming system, iv. Assessment of the soil fertility and water quality of the farm sites of the small-scale farmers involved in the research compared to the ones in the general community, v. Assessing the socioeconomic status of the farmers involved in the research activities and vi. the assessment of the level of reduction of deforestation by the farmers involved in the research in relation to their farming activities through the avoidance of the slash and burn method of farming.

Partner Name	Country	FFRU's name	Districts	Area of the country	Technological package within each Study Area	Please describe shortly the technology tested (which crops you are using, which water management practices you are considering etc)	Number of farmers actively involved in the technology testing, demonstrations, training, ...		Future activities/Technology package to be tested foreseen
							male	female	
UNIMAK	Sierra Leone	FFRU-D	Koinadugu	North	2.3 - Improved of agri-livestock integrated management	Integrated livestock and crop cultivation farming system by small-scale farmers in both upland and lowland ecologies - The systematic combination of livestock and crops in the same piece of land by the small-scale farmers, through careful and constructive land transformation to control water movement and soil nutrient flow/fertility in that piece of land (probably 1-5 ha/farmer); year in and year out	5	5	2.3 - i. the effects of transformation into plots through bunding both in the up and low lands, ii. assessing the relevance of livestock waste in the production of crops (vegetables and other crops) and fish and what will be its impact in livestock production consequently, iii. Assessing the yield components of both the livestock and crops cultivated in the integrated farming system, iv. Assessment of the soil fertility and water quality of the farm sites of the small-scale farmers involved in the research compared to the ones in the general community, v. Assessing the socioeconomic status of the farmers involved in the research activities and vi. the assessment of the level of reduction of deforestation by the farmers involved in the research in relation to their farming activities through the avoidance of the slash and burn method of farming.

Partner Name	Country	FFRU's name	Districts	Area of the country	Technological package within each Study Area	Please describe shortly the technology tested (which crops you are using, which water management practices you are considering etc)	Number of farmers actively involved in the technology testing, demonstrations, training, ...		Future activities/Technology package to be tested foreseen
							male	female	
UNIMAK	Sierra Leone	FFRU-E	Kono	East	2.3 - Improved of agri-livestock integrated management	Integrated livestock and crop cultivation farming system by small-scale farmers in both upland and lowland ecologies - The systematic combination of livestock and crops in the same piece of land by the small-scale farmers, through careful and constructive land transformation to control water movement and soil nutrient flow/fertility in that piece of land (probably 1-5 ha/farmer); year in and year out	5	5	2.3 - i. the effects of transformation into plots through bunding both in the up and low lands, ii. assessing the relevance of livestock waste in the production of crops (vegetables and other crops) and fish and what will be its impact in livestock production consequently, iii. Assessing the yield components of both the livestock and crops cultivated in the integrated farming system, iv. Assessment of the soil fertility and water quality of the farm sites of the small-scale farmers involved in the research compared to the ones in the general community, v. Assessing the socioeconomic status of the farmers involved in the research activities and vi. the assessment of the level of reduction of deforestation by the farmers involved in the research in relation to their farming activities through the avoidance of the slash and burn method of farming.

Partner Name	Country	FFRU's name	Districts	Area of the country	Technological package within each Study Area	Please describe shortly the technology tested (which crops you are using, which water management practices you are considering etc)	Number of farmers actively involved in the technology testing, demonstrations, training, ...		Future activities/Technology package to be tested foreseen
							male	female	
UNIMAK	Sierra Leone	FFRU-F	Bombali	North	2.3 - Improved of agri-livestock integrated management	Integrated livestock and crop cultivation farming system by small-scale farmers in both upland and lowland ecologies - The systematic combination of livestock and crops in the same piece of land by the small-scale farmers, through careful and constructive land transformation to control water movement and soil nutrient flow/fertility in that piece of land (probably 1-5 ha/farmer); year in and year out	5	5	2.3 - i. the effects of transformation into plots through bunding both in the up and low lands, ii. assessing the relevance of livestock waste in the production of crops (vegetables and other crops) and fish and what will be its impact in livestock production consequently, iii. Assessing the yield components of both the livestock and crops cultivated in the integrated farming system, iv. Assessment of the soil fertility and water quality of the farm sites of the small-scale farmers involved in the research compared to the ones in the general community, v. Assessing the socioeconomic status of the farmers involved in the research activities and vi. the assessment of the level of reduction of deforestation by the farmers involved in the research in relation to their farming activities through the avoidance of the slash and burn method of farming.

Partner Name	Country	FFRU's name	Districts	Area of the country	Technological package within each Study Area	Please describe shortly the technology tested (which crops you are using, which water management practices you are considering etc)	Number of farmers actively involved in the technology testing, demonstrations, training, ...		Future activities/Technology package to be tested foreseen
							male	female	
NM-AIST, ICRAF, TARI	Tanzania	FFRU-A	Monduli	Northern Tanzania	2.2.1 - Land recovery (cover crops)	Soil erosion control by using cover crops (<i>Pennisetum purpureum</i> , <i>Canavalia</i> spp., <i>Desmodium uncinatum</i> , <i>Arachis pintoii</i> and <i>Lablab purpureus</i>)	6	6	3.4 - Pre and post-harvest management strategies to avoid mycotoxin contamination (solar dryers)
NM-AIST, ICRAF, TARI	Tanzania	FFRU-A	Arusha	Northern Tanzania	2.2.1 - Land recovery (cover crops)	Soil erosion control by using cover crops (<i>Pennisetum purpureum</i> , <i>Canavalia</i> spp., <i>Desmodium uncinatum</i> , <i>Arachis pintoii</i> and <i>Lablab purpureus</i>)			3.4 - Pre and post-harvest management strategies to avoid mycotoxin contamination (solar dryers)
NM-AIST, ICRAF, TARI	Tanzania	FFRU-A	Meru	Northern Tanzania	2.2.1 - Land recovery	Management of high fluoride levels in soils	10	10	3.4 - Pre and post-harvest management strategies to avoid mycotoxin contamination (solar dryers)
NM-AIST, ICRAF, TARI	Tanzania	FFRU-A	Same	Northern Tanzania	2.1.2 - Field participatory assessment of NUS	Drought resistance lablab varieties	5	5	2.1.2 - Field participatory assessment of NUS (drought resistance Lablab varieties)

D6.8 - First report on knowledge sharing events within the FFRUs

Partner Name	Country	FFRU's name	Districts	Area of the country	Technological package within each Study Area	Please describe shortly the technology tested (which crops you are using, which water management practices you are considering etc)	Number of farmers actively involved in the technology testing, demonstrations, training, ...		Future activities/Technology package to be tested foreseen
							male	female	
Hawassa University	Ethiopia	FFRU-A	Meskan	South region-Intermediate highland	3.3 - Retrieving plant protection traditional knowledge (biological control of pepper wilt disease)	This activity seeks to determine the efficacy of local and commercial <i>Trichoderma</i> isolates against pepper wilt disease. It involves four treatments i.e. native trichoderma, commercial trichoderma (T22), chemical control (Apronstar) and negative control. Data will be collected on wilt incidence, pepper plant height and pod yield. Cost-benefit analysis will also be carried out to determine the economic return/loss from the technology.	15	5	2.1.2 - Evaluation of NUS for different attributes and selection of most performing ones, 3.2 - assessment of crop pests with including toxigenic fungi and associated mycotoxins, 3.3 - Integrated pest and disease management strategies

Partner Name	Country	FFRU's name	Districts	Area of the country	Technological package within each Study Area	Please describe shortly the technology tested (which crops you are using, which water management practices you are considering etc)	Number of farmers actively involved in the technology testing, demonstrations, training, ...		Future activities/Technology package to be tested foreseen
							male	female	
Hawassa University	Ethiopia	FFRU-B	Wulbareg	South region-Intermediate highland	x	x	15	5	2.1.2 - Evaluation of NUS for different attributes and selection of most performing ones, 3.2 - assessment of crop pests with including toxigenic fungi and associated mycotoxins, 3.3 - Integrated pest and disease management strategies
Hawassa University	Ethiopia	FFRU-C	Damote gale	South region-Intermediate highland	x	x	15	5	2.1.2 - Evaluation of NUS for different attributes and selection of most performing ones, 3.2 - assessment of crop pests with including toxigenic fungi and associated mycotoxins, 3.3 - Integrated pest and disease management strategies
Hawassa University	Ethiopia	FFRU-D	Hula	Sidama Highland	x	x	15	5	2.1.2 - Evaluation of NUS for different attributes and selection of most performing ones, 3.2 - assessment of crop pests with including toxigenic fungi and associated mycotoxins, 3.3 - Integrated pest and disease management strategies

D6.8 - First report on knowledge sharing events within the FFRUs

Partner Name	Country	FFRU's name	Districts	Area of the country	Technological package within each Study Area	Please describe shortly the technology tested (which crops you are using, which water management practices you are considering etc)	Number of farmers actively involved in the technology testing, demonstrations, training, ...		Future activities/Technology package to be tested foreseen
							male	female	
Jimma University	Ethiopia	FFRU-E	Omonada	Southwest Ethiopia	2.1.2 - Field participatory assessment of NUS	Evaluation and selection of best performing Tef (<i>Eragrostis tef</i>) varieties. A total of five varieties (four improved and one local) are evaluated for grain and straw yield on farmers field	5	1	2.1.1 - Scaling-up of best performing and adapted teff varieties to over several farmers fields
Jimma University	Ethiopia	FFRU-E	Omonada	Southwest Ethiopia	2.2.2 - Sustainable soil management (fertilizers)	Optimization of K-fertilizer for Teff. About four different K-fertilizer doses are studied on two soil types the study	2	0	2.2.2 - Repeat the field study over one more season to validate the response of Teff to K fertilizer; then scale-up the K-fertilizer technology
Jimma University	Ethiopia	FFRU-F	Jimma	Southwest Ethiopia	2.1.1 - Selection and preliminary assessment of NUS	Evaluation and selection of best performing Anchote (<i>Coccinia abyssinica</i>) varieties	0 - At this stage the accessions are tested in the experimental station	0 - At this stage the accessions are tested in the experimental station	2.1.2 - Best performing and adapted accessions will be promoted to onfarm variety evaluation

Partner Name	Country	FFRU's name	Districts	Area of the country	Technological package within each Study Area	Please describe shortly the technology tested (which crops you are using, which water management practices you are considering etc)	Number of farmers actively involved in the technology testing, demonstrations, training, ...		Future activities/Technology package to be tested foreseen
							male	female	
Jimma University	Ethiopia	FFRU-F	Jimma	Southwest Ethiopia	2.1.1 - Selection and preliminary assessment of NUS	Evaluation and selection of best performing lima bean (<i>Phaseolus lunatus</i>) varieties	0 - At this stage the accessions are tested in the experimental station	0 - At this stage the accessions are tested in the experimental station	2.1.2 - Best performing and adapted accessions will be promoted to onfarm variety evaluation
Jimma University	Ethiopia	FFRU-G	Omonada, Kersa, Tiro-afeta	Southwest Ethiopia	2.2.1 - Land recovery	Survey and identification of abandoned crop lands; and rehabilitation of abandoned lands.	70	11	2.2.1 - Testing of improved fallow technologies using leguminous crops on selected abandoned lands
CSIR-SARI, KDC	Ghana	FFRU-A	Talensi	Upper East	2.1.2 - Field participatory assessment of NUS	Demonstration of improved Frafra potato varieties; participatory selection of Fonio landraces	13	5	x
CSIR-SARI, KDC	Ghana	FFRU-A	Talensi	Upper East	2.2.2 - Sustainable soil management	Determination of the best legume intercropped with Fonio in order to improve yields and maintain soil fertility (Cowpea, soyabean and groundnut)	6	0	x

Partner Name	Country	FFRU's name	Districts	Area of the country	Technological package within each Study Area	Please describe shortly the technology tested (which crops you are using, which water management practices you are considering etc)	Number of farmers actively involved in the technology testing, demonstrations, training, ...		Future activities/Technology package to be tested foreseen
							male	female	
CSIR-SARI, KDC	Ghana	FFRU-A	Talensi	Upper East	2.2.2 - Sustainable soil management	Assessment of the combination of organic and in-organic fertilizers (ISFM) influence to enhance soil fertility, with the aim to increase yields of maize	6	0	x
CSIR-SARI, KDC	Ghana	FFRU-A	Talensi	Upper East	2.2.3 - Sustainable water management	Demonstration on tie-ridging as in-situ water harvesting strategy; earth and stone bounding to conserve nutrients and water for maize uptake during seasonal drought	13	5	2.2.3 - Sustainable water management
CSIR-SARI, KDC	Ghana	FFRU-A	Talensi	Upper East	3.3 - Retrieving plant protection traditional knowledge	On-farm testing of two indigenous plant-based extracts (bio-pesticides) in the control of field insect on cowpea and Fall armyworm on corn	6	0	x

Partner Name	Country	FFRU's name	Districts	Area of the country	Technological package within each Study Area	Please describe shortly the technology tested (which crops you are using, which water management practices you are considering etc)	Number of farmers actively involved in the technology testing, demonstrations, training, ...		Future activities/Technology package to be tested foreseen
							male	female	
CSIR-SARI, KDC	Ghana	FFRU-A	Talensi	Upper East	3.4 - Developing pre- and post-harvest management strategies to avoid mycotoxin contamination	Determination of the best storage structures for groundnut to minimize aflatoxin contamination	6	0	x
CSIR-SARI, KDC	Ghana	FFRU-A	Nabdam	Upper East	2.1.2 - Field participatory assessment of NUS	Demonstration of improved Frafra potato varieties; participatory selection of Fonio landraces	24	0	x
CSIR-SARI, KDC	Ghana	FFRU-A	Nabdam	Upper East	2.2.2 - Sustainable soil management	Determination of the best legume intercropped with Fonio in order to improve yields and maintain soil fertility (Cowpea, soyabean and groundnut)	6	0	x

Partner Name	Country	FFRU's name	Districts	Area of the country	Technological package within each Study Area	Please describe shortly the technology tested (which crops you are using, which water management practices you are considering etc)	Number of farmers actively involved in the technology testing, demonstrations, training, ...		Future activities/Technology package to be tested foreseen
							male	female	
CSIR-SARI, KDC	Ghana	FFRU-A	Nabdram	Upper East	2.2.2 - Sustainable soil management	Assessment of the combination of organic and in-organic fertilizers (ISFM) influence to enhance soil fertility, with the aim to increase yields of maize	6	0	x
CSIR-SARI, KDC	Ghana	FFRU-A	Nabdram	Upper East	2.2.3 - Sustainable water management	Demonstration on tie-ridging as in-situ water harvesting strategy; earth and stone bounding to conserve nutrients and water for maize uptake during seasonal drought	24	0	x
CSIR-SARI, KDC	Ghana	FFRU-A	Nabdram	Upper East	3.3 - Retrieving plant protection traditional knowledge	On-farm testing of two indigenous plant-based extracts (bio-pesticides) in the control of field insect on cowpea and Fall armyworm on corn	6	0	x

Partner Name	Country	FFRU's name	Districts	Area of the country	Technological package within each Study Area	Please describe shortly the technology tested (which crops you are using, which water management practices you are considering etc)	Number of farmers actively involved in the technology testing, demonstrations, training, ...		Future activities/Technology package to be tested foreseen
							male	female	
CSIR-SARI, KDC	Ghana	FFRU-A	Nabdram	Upper East	3.4 - Developing pre- and post-harvest management strategies to avoid mycotoxin contamination	Determination of the best storage structures for groundnut to minimize aflatoxin contamination	6	0	2.2.3 - Sustainable water management
CSIR-SARI, KDC	Ghana	FFRU-A	West Mamprusi	North East Region	2.1.2 - Field participatory assessment of NUS	Demonstration of improved Frafra potato varieties; participatory selection of Fonio landraces	6	0	2.1 - Most performing varieties identification
CSIR-SARI, KDC	Ghana	FFRU-A	West Mamprusi	North East Region	2.2.2 - Sustainable soil management	Determination of the best legume intercropped with Fonio in order to improve yields and maintain soil fertility (Cowpea, soyabean and groundnut)	6	0	x

Partner Name	Country	FFRU's name	Districts	Area of the country	Technological package within each Study Area	Please describe shortly the technology tested (which crops you are using, which water management practices you are considering etc)	Number of farmers actively involved in the technology testing, demonstrations, training, ...		Future activities/Technology package to be tested foreseen
							male	female	
CSIR-SARI, KDC	Ghana	FFRU-A	West Mamprusi	North East Region	2.2.2 - Sustainable soil management	Assessment of the combination of organic and in-organic fertilizers (ISFM) influence to enhance soil fertility, with the aim to increase yields of maize	6	0	x
CSIR-SARI, KDC	Ghana	FFRU-A	West Mamprusi	North East Region	2.2.3 - Sustainable water management	Demonstration on tie-ridging as in-situ water harvesting strategy; earth and stone bounding to conserve nutrients and water for maize uptake during seasonal drought	6	0	x
CSIR-SARI, KDC	Ghana	FFRU-A	West Mamprusi	North East Region	3.3 - Retrieving plant protection traditional knowledge	On-farm testing of two indigenous plant-based extracts (bio-pesticides) in the control of field insect on cowpea and Fall armyworm on corn	17	16	x

Partner Name	Country	FFRU's name	Districts	Area of the country	Technological package within each Study Area	Please describe shortly the technology tested (which crops you are using, which water management practices you are considering etc)	Number of farmers actively involved in the technology testing, demonstrations, training, ...		Future activities/Technology package to be tested foreseen
							male	female	
CSIR-SARI, KDC	Ghana	FFRU-A	West Mamprusi	North East Region	3.4 - Developing pre- and post-harvest management strategies to avoid mycotoxin contamination	Determination of the best storage structures for groundnut to minimize aflatoxin contamination	14	9	2.2.3 - Sustainable water management
CSIR-SARI, KDC	Ghana	FFRU-A	Savelugu	Northern Region	2.1.2 - Field participatory assessment of NUS	Demonstration of improved Frafra potato varieties; participatory selection of Fonio landraces	6	0	2.1 - Most performing varieties identification
CSIR-SARI, KDC	Ghana	FFRU-A	Savelugu	Northern Region	2.2.2 - Sustainable soil management	Determination of the best legume intercropped with Fonio in order to improve yields and maintain soil fertility (Cowpea, soyabean and groundnut)	6	0	x

Partner Name	Country	FFRU's name	Districts	Area of the country	Technological package within each Study Area	Please describe shortly the technology tested (which crops you are using, which water management practices you are considering etc)	Number of farmers actively involved in the technology testing, demonstrations, training, ...		Future activities/Technology package to be tested foreseen
							male	female	
CSIR-SARI, KDC	Ghana	FFRU-A	Savelugu	Northern Region	2.2.2 - Sustainable soil management	Assessment of the combination of organic and in-organic fertilizers (ISFM) influence to enhance soil fertility, with the aim to increase yields of maize	6	0	x
CSIR-SARI, KDC	Ghana	FFRU-A	Savelugu	Northern Region	2.2.3 - Sustainable water management	Demonstration on tie-ridging as in-situ water harvesting strategy; earth and stone bounding to conserve nutrients and water for maize uptake during seasonal drought	6	0	x
CSIR-SARI, KDC	Ghana	FFRU-A	Savelugu	Northern Region	3.3 - Retrieving plant protection traditional knowledge	On-farm testing of two indigenous plant-based extracts (bio-pesticides) in the control of field insect on cowpea and Fall armyworm on corn	0	30	x

Partner Name	Country	FFRU's name	Districts	Area of the country	Technological package within each Study Area	Please describe shortly the technology tested (which crops you are using, which water management practices you are considering etc)	Number of farmers actively involved in the technology testing, demonstrations, training, ...		Future activities/Technology package to be tested foreseen
							male	female	
CSIR-SARI, KDC	Ghana	FFRU-A	Savelugu	Northern Region	3.4 - Developing pre- and post-harvest management strategies to avoid mycotoxin contamination	Determination of the best storage structures for groundnut to minimize aflatoxin contamination	15	10	2.2.3 - Sustainable water management