



Open platform for exchange and sharing of research methods and results

D4.14



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Short Description
<p>This document illustrates the work carried out in the preparation, design and launch of the Open Platform. It describes platform structure and contents. The short-term objective of the Open Platform is to boost exchanges and replications of technological research experiences and results generated under WP4 across the network of Food Hubs in order to ensure feedbacks and further advancements. This will involve both project partners and scientific advisors. In the medium-term, it aims to share methods and findings with extra-consortium research units, operators and stakeholders.</p>

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Table of Contents

Table of Contents	3
1. Introduction	4
2. Scope and Objectives	5
3. Structure and content	6
Content available about the innovations.....	10
Content available apart from the innovations (Complements block)	11
5. Interlink with project's other sites	13
6. Publication of the Open Platform.....	13



1. Introduction

FoodLAND is working towards its overall objective of developing, implementing and validating innovative, scalable, and sustainable technologies aimed at supporting the nutrition performance of local food systems in Africa, as well as strengthening agro-biodiversity and food diversity and diversity of healthy diets. An important part for the achievement of this objective has been the testing, implementation, and validation of a portfolio of innovations aimed at reinforcing and further developing both crop and fish farming systems, as well as at boosting the capacity of local food processors to create novel food products by adopting new tools and systems and integrating them in the existing ones.

According to its initial plan, FoodLAND is working with a set of 16 open technological innovations for food farming and food processing; they are tools and systems aimed at enabling producers to strengthen agro-biodiversity and food diversity. Indeed, as many as 17 novel food products are being delivered through these innovations; they are nutrient and nutraceutical rich raw and processed food products, with which FoodLAND aims to increase diets diversity by introducing them into local societies in the six African countries participating in the project. This will be complemented with a series of nutritional recommendations and a consumers' awareness raising campaign about the importance of the diet diversity, focused especially on women of reproductive age and children under 5 years old (especially within the first 1,000 days of life).

All these developments, technologies, products and knowledge will be further boosted through the development of tools for the dissemination and exploitation of the technological innovations as well as of the nutritional recommendations, which are broadly described in D6.4.

The Open Platform for exchange and sharing of research methods and results that is described in the current deliverable is strongly linked to the aforementioned tools, as it compiles all the relevant documentation regarding the development work carried out in each innovation, so it provides essential information for those stakeholders that might be interested in incorporating any of these innovations to their business.

Nevertheless, before the public dissemination of the Open Platform, the need for its layout development and launching for internal use arose. Indeed, each innovation is planned to be tested and adapted in different Food Hubs within the network of 14 Food Hubs that has been created during the project. However, not all Food Hubs are working with the same innovations at the same time, thus the lessons and experiences of the partners who have firstly developed one innovation may be extremely interesting for the other partners implementing it later. In other words, the need to have a place where experiences and findings are compiled has been identified, offering to all partners updated information to work with each innovations. This is the aim of the Open Platform.



2. Scope and Objectives

With the launch of the Open Platform (SR6.3), FoodLAND wishes to put forward a space that will serve as a repository to help in the accomplishment of the dissemination objectives of the project. Having all relevant information and materials ordered by R&I line and gathered in a single space is considered crucial in terms of accessibility and usability. All users entering it will have access to all the necessary guidelines, training materials and additional information, which will help them replicate the innovation(s) of their interest. The novel food products that will be produced by each technology are also displayed together with their compositional, functional and nutritional properties (as per T4.6 and T5.6). Along with technological innovations, FoodLAND will produce some complementary materials, such as protocols, health intervention studies, behavioural analyses and recommendations.

The specific objectives that are aimed at reaching with the Open Platform are as follows:

1. Encouraging exchanges across the network of Food Hubs, boosting synergies between partners, and fostering the replicability of the validated innovations.

This is the first objective of launching the platform and making all guidelines, intermediate reports, and materials available online for each project innovation, to make it useful for enhancing collaboration among partners and with the project scientific advisors. The platform will help boost the exchange of experiences and findings among the teams involved in the same R&I activity and facilitate the adaptation of the new technologies and/or systems to the conditions of the target local areas. In fact, the innovations are generally developed by the corresponding task leader, and then the countries involved in the task test and adapt them to their own reality. Specifically, according to the Impact Pathway approach the Open Platform will include the characteristics of the new food raw materials, ingredients and products so as to display the nutrition performance of the project innovations and local food systems.

2. Boosting the dissemination and exploitation of the results in other rural areas and food chains.

The Open Platform pursues the aim of promoting behavioural change among actors in the African food value chain and encourage them to implement and operationalise – with the contribution of the STAB (e.g., producers' associations) and NGOs – specific tools. Moreover, by achieving this, another project's goal, namely the innovations dissemination and exploitation objective, will also be attained.

3. Exchanging and sharing of scientific research methods and results between laboratories and research units

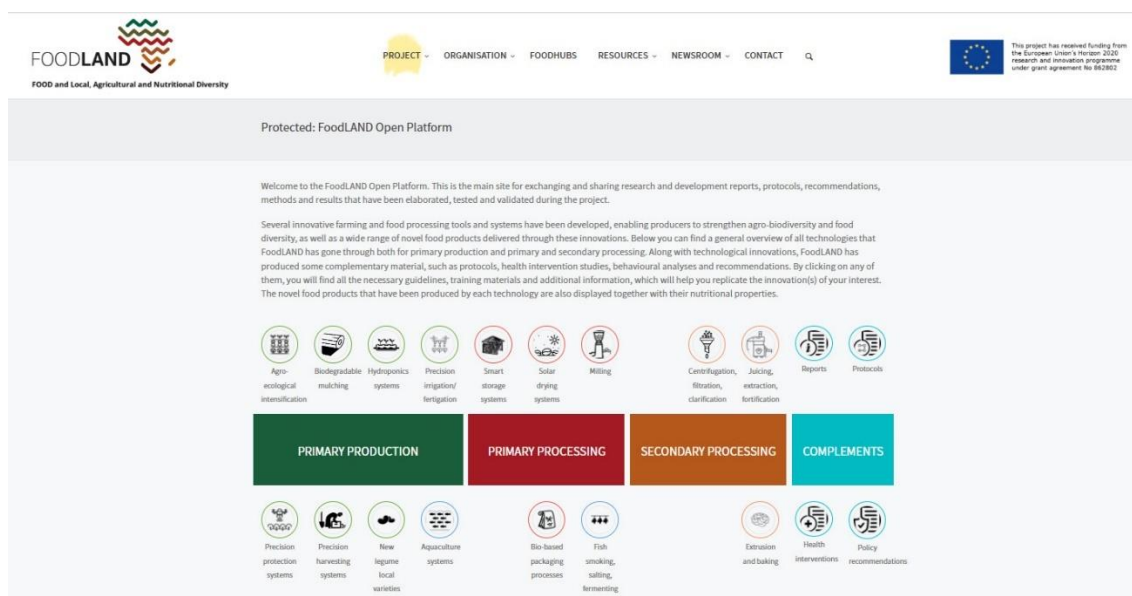
Through the Open Platform FoodLAND will provide scientific community (academic and non-academic as well as private and public researchers) with the developed procedures and achieved findings and will ensure an effective and timely connection with past and present research projects within the FNSSA framework. Particularly, relationships will be built with the project LEAP4FNSSA concerned with developing a platform for the implementation of the AU-EU R&I Partnership as described in the FNSSA Roadmap.



4. Providing local and regional policymakers with in-depth understanding on consumers' and producers' food-related conditions and choices

FoodLAND aims to make available to policymakers and other authorities the results of the extensive research the consortium researchers have gone through aimed at consolidating knowledge of the current farming systems, agro-biodiversity levels, productive and processing practices, supply chain relations and socio-economic conditions, as well as of consumers' food preferences and behaviours and of their socio-economic drivers, their level of dietary diversity and the major determinants for women and children. A specific report with policy recommendations will be published on the Open Platform; however, several topic-specific reports and deliverables will also be produced and put at the disposal of policymakers, given the relevance of the results that are expected to achieve. This comprehensive repository will offer unprecedented information to public authorities supporting their decision-making and orienting the policy measures.

3. Structure and content



The Open Platform (see figure above), <https://foodland-africa.eu/foodland-open-platform>, has been established as a part of the project website, in order to keep the website as well fed as possible and avoid users to be switching from one website to another one. The Open Platform benefits from an eye-catching design and it is easy to navigate. It is accessible by any citizens with internet access, and the layout adapts to be navigated by tablets and smartphones. It has been fed with all the materials already developed and available, as well as with the complete list of the documents, reports and information that will be provided as they are produced by consortium partners.

After a brief introduction, an overall scheme of the 16 innovations with which FoodLAND partners have been working is displayed, arranged in three blocks, according to the stage of the food production chain they belong to:

- **Primary production:**



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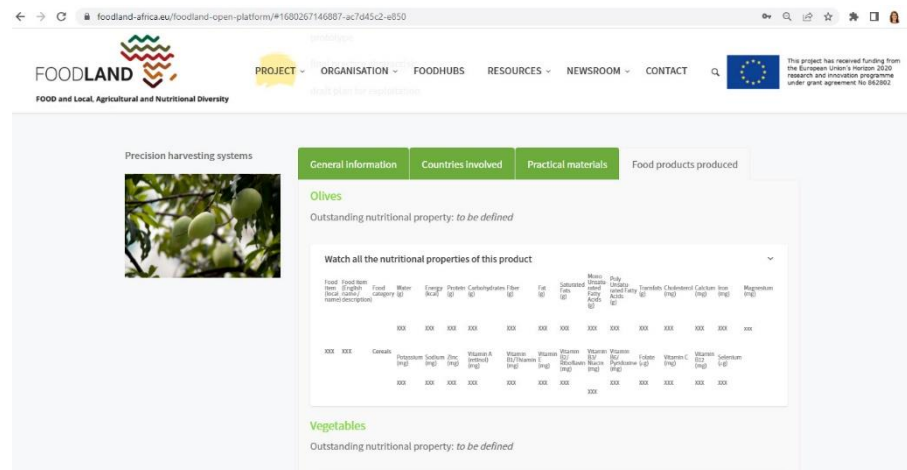
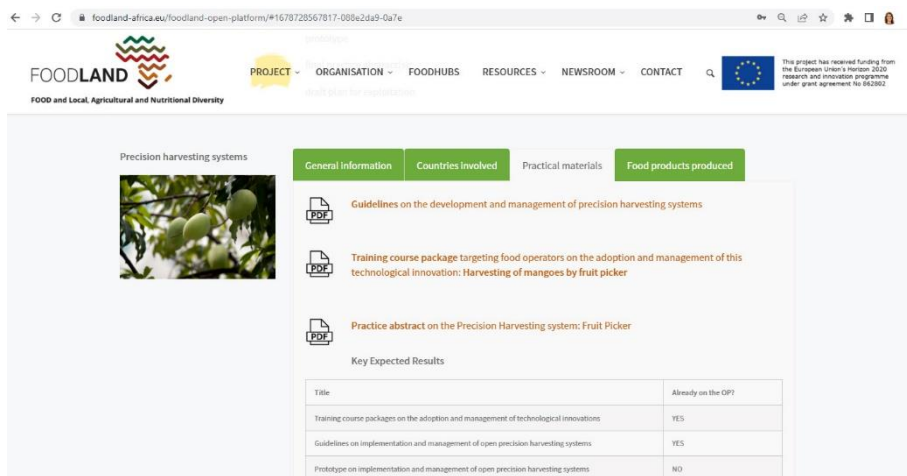
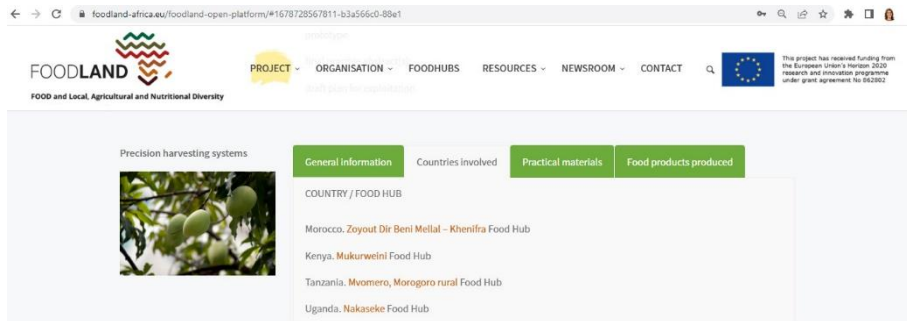
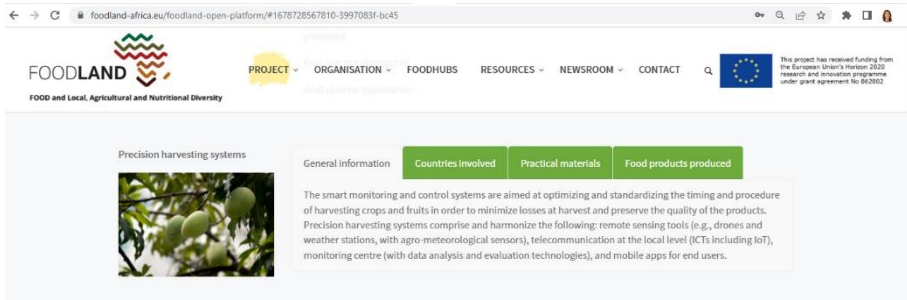
- Agro-ecological intensification practices
- Implementation and management of biodegradable mulching
- Design, realization, and management of hydroponic systems
- Precision irrigation/fertilisation systems
- Development and management of precision protection systems
- Precision harvesting systems
- New selected and tested legume local varieties
- Development and management of aquaculture systems and new culture fish species bulking techniques
- **Primary processing:**
 - Development and management of smart storage systems
 - Implementation and management of primary processing systems: Osmotic dehydration and solar drying
 - Implementation and management of primary processing systems: Milling
 - Implementation and management of primary processing systems: Fish smoking, salting and fermenting
 - Implementation and management of bio-based packaging processes
- **Secondary processing:**
 - Implementation and management of secondary processing systems: centrifugation, filtration, and clarification
 - Implementation and management of secondary processing systems: juicing, extraction, and fortification
 - Implementation and management of secondary processing systems: extrusion and baking
- An additional “**Complements**” block has also been incorporated to the general scheme, which compiles the complementary reports, protocols, health interventions and policy recommendations developed during the project. These are not directly linked to any innovations but are relevant transversal resources:
 - R&D Reports
 - R&D Protocols
 - Health interventions (ST5.6.2, ST5.6.3)
 - Policy recommendations

Below the initial scheme, all the innovations are presented one by one on the platform. However, by clicking on the icons of the scheme, users can scroll directly to the corresponding innovation’s segment. For each innovation, a set of tabs has been created (see an example below), where all the information regarding this innovation is provided



arranged in accordance with different aspects: some general information about the innovation, the countries and Food Hubs that are involved in its development and implementation, the practical materials that have been produced regarding this innovation, and the food products derived from this innovations. The latter tab also includes a nutritional table for each of the food products that are being produced through this innovation. By default, the tab with the practical material is active, but users can easily navigate from tab to tab.





Screenshots of the different information tabs offered for each innovation



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Content available about the innovations

As already mentioned in the previous section, the content that is provided for each innovation is classified according to the following subsections, and displayed in different tabs to make it easy to navigate from one to the others:

- **General information:** A brief description of the innovation is presented, to offer a general view of what it consists of.
- **Countries involved:** The list of countries, and the specific Food Hubs, that will implement the innovation is provided. This has a twofold objective: on the one hand, it shows the scope of the innovation within the project, and on the other, the names of the Food Hubs are clickable, and they contain the hyperlink to the Food Hub's page, where further details about the innovation and the specific modifications and adaptations each Food Hub is planning to make to the innovation are described.
- **Practical materials:** This represents the core of what it is intended with this Open Platform, where all the materials developed to facilitate the replicability and adoption of the innovations are made available for interested users. The materials that are being arranged here are derived from deliverables already submitted, some of which are categorised as public from the beginning, whereas some others were categorised as confidential, but just until the abovementioned restrictions are over. However, the deliverables are not organised according to the innovations or R&D lines, but according to type of information, namely the guidelines (from D4.1 to D4.11), the training packages (D5.1), the practice abstracts (D6.3), etc. An adaptation of these deliverables has been done for the Open Platform, where each deliverable has been split to make separate documents for each innovation, and these resulting documents are which have been offered on this tab.

In summary, the assortment of documents and information currently available for each innovation that will be part of the public Open Platform is as follows:

- Guidelines on the development and management of the innovation
- Training course package targeting food operators on the adoption and management of this technological innovation
- Initial Practice abstract on the innovation

This materials will be completed with some other resources that are currently under development, namely:

- Report on technological validation results, effectiveness of each validated innovative system, process, and tool, (to be derived from the second technical report)
- Functional and nutritional characteristics of the validated novel food products (derived from D5.16)
- Protocol for innovation dissemination (derived from D5.22)
- Prototype
- Final practice abstracts



➤ Draft plan for exploitation

- **Food products produced:** It has been decided that the functional and nutritional properties of the novel food products (derived from D5.16) must be shown in a separate tab in each innovation. The reason for taking this decision is that the objective for offering this information differs a little from the objectives of offering the material devoted to spreading the implementation of the innovations. In other words, the practical materials tab is mainly devoted to dissemination-exploitation objectives, that is, to be used by other stakeholders that might be interested in a specific innovation, whereas the aim behind reporting the food products that are being produced by these innovations and their nutritional properties is rather oriented to communication-dissemination purposes, that is, to inform about what benefit can be achieved regarding nutritional performance.

The table that has been added (while not fulfilled) for each food product listed on the Open Platform is the same that was produced for D2.5 for the existing local novel products. It has been emptied and added to each product. The aim is to give an overall idea of the amount and type of information that will be displayed here once it is completed.

Content available apart from the innovations (Complements block)

Apart from the R&D tasks and their corresponding innovations, it was considered important the addition of several relevant results derived from the research activity aimed at consolidating knowledge of the current farming systems, agro-biodiversity levels, productive and processing practices, supply chain relations and socio-economic conditions, as well as of consumers' food preferences and behaviours and of their socio-economic drivers, their level of dietary diversity and the major determinants for women and children, etc. This is why the "Complements" block was added to the Open Platform.

As the research activity is still ongoing, not all the documents that will comprise this section are currently accessible; some of them are future outputs. They have been categorised in four groups, as follows:

- **Reports:** A compilation of reports not documented elsewhere about the research results obtained from the activities conducted with farmers and consumers for consolidating knowledge about the topics dealt in the project:
 - Reports on consumers' food behaviours and on dietary diversity and associated factors (D2.4)
 - Productive and behavioural profiles of smallholder farmers linked to socioeconomic and demographic factors (D3.6)
 - Inception report on the consumers' socio-economic and dietary conditions and on first experimental results (D2.3)
 - Inception report on the socio-economic, demographic, and technological characteristics of each relevant supply chain and location, and on first experimental results (D3.3)



- **Intervention studies:** The findings resulting from two intervention studies will be reported, carried out to validate the efficacy of some developed food products in improving the nutritional and health status of vulnerable groups:
 - Report on the intervention study about the efficacy of quinoa-based products targeting two-to-six-year-old children
 - Report on the intervention study about the efficacy of a fruit juice product targeting adults living with diabetes
- **Protocols:** Two protocols will be developed not linked to the innovations. However, they are considered markedly relevant for their usefulness when it comes to replicate specific structures and dynamics followed during the project:
 - Toolkit for Food Hub implementation and agreement on decision-making processes and operational rules
 - Protocol on the characterization of new raw materials, ingredients and food materials and labelling
- **Recommendations:** Two sets of recommendations will be released based on the results obtained during the research activity, addressing policymakers and consumers, respectively.



5. Interlink with project's other sites

Considering all the materials and information that has been and will be published on the Open Platform, this will become one of the most significant page within all the FoodLAND project's website for dissemination purposes. However, the Open Platform will not cover all the knowledge that will be generated in the project. The Open Platform is a technology-oriented space, whereas the complete range of sites, platforms and other channels that are being used in the project encompasses objectives wider than dissemination and include data and information much further than those merely related to the innovations. The complete list of these sites is as follows:

1. FoodLAND website's Food Hubs section. The website contains a separate section devoted to the Food Hubs, where a general view of each of the 14 Food Hubs that have been established in the project is offered. Those specific pages present the Food Hubs' particularities, ranging from their specific characteristics and the stakeholders involved, to the details regarding the research made with farmers, processors and consumers.

As in FoodLAND the innovations cannot be understood separated from the realities of the Food Hubs in which they have been developed and replicated, the Open Platform bridges the gap between these two website sections, offering the link to the exact Food Hubs where each innovation is being implemented. In these pages, the approach that has been chosen in each Food Hub regarding the implementation of the innovations is detailed.

2. MS-Teams sharepoint including project management and administrative documents (e.g., GA, technical and financial reports, meeting materials, ...) and repository for a series of products (e.g., datasets, deliverables).
3. Zenodo where some final products have been and will be uploaded (e.g., protocols) and will be deposited (published paper, poster, book chapter, ...).

6. Publication of the Open Platform

This Open Platform is devoted to becoming one of the main dissemination means of the FoodLAND project due to the big amount of information and materials available for dissemination and exploitation purposes. Nevertheless, it is crucial to choose the right moment to make it public and start spreading it around interested stakeholders. This must be done once all the scientific knowledge generated and the developments attained are properly published and managed regarding property rights.

However, the project Executive Board decided that it would be highly useful to launch the Open Platform before this stage, for internal use, considering that the consortium partners could take advantage of having all the material regarding the development and implementation of the innovations each one is involved in compiled in a single space.

In order to keep it confidential while the project's research activity is ongoing and until results are published and all scientific publications derived from this activity and confidentiality issues are over, the Open Platform has restricted access, limited to the project consortium, via password-protected access (psw: FoodLANDOP). Both task



leaders and participants are using the OP and conducting the replicability activities of the innovations across the involved Food Hubs.

The internal use of the platform includes sharing draft or preliminary documents, which can be modified and completed by other partners in order to reach to the final version that will be finally made publicly available.

