

# OFFICIAL FEEDBACK FORM

<b>DIALOGUE DATE</b>	Monday, 19 July 2021 15:00 GMT +02:00
<b>DIALOGUE TITLE</b>	The Role of Sustainable Intensification for Achieving Food Security in Sub-Saharan Africa
<b>CONVENED BY</b>	OCCAM - UN-Affiliated Observatory on Digital Communication, within the framework of EWA-BELT, a EU Horizon2020 Project (GA 862848)
<b>DIALOGUE EVENT PAGE</b>	<a href="https://summitdialogues.org/dialogue/27298/">https://summitdialogues.org/dialogue/27298/</a>
<b>DIALOGUE TYPE</b>	Independent
<b>GEOGRAPHICAL FOCUS</b>	Burkina Faso, Ethiopia, Ghana, Kenya, Sierra Leone, United Republic of Tanzania

The outcomes from a Food Systems Summit Dialogue will be of use in developing the pathway to sustainable food systems within the locality in which they take place. They will be a valuable contribution to the national pathways and also of interest to the different workstreams preparing for the Summit: the Action Tracks, Scientific Groups and Champions as well as for other Dialogues.

# 1. PARTICIPATION

## TOTAL NUMBER OF PARTICIPANTS

34

## PARTICIPATION BY AGE RANGE

0-18

11

19-30

17

31-50

5

51-65

1

66-80

80+

## PARTICIPATION BY GENDER

16 Male

18 Female

Prefer not to say or Other

## NUMBER OF PARTICIPANTS IN EACH SECTOR

10 Agriculture/crops

Fish and aquaculture

3 Livestock

4 Agro-forestry

5 Environment and ecology

Trade and commerce

3 Education

4 Communication

Food processing

Food retail, markets

2 Food industry

Financial Services

Health care

3 Nutrition

National or local government

Utilities

Industrial

Other

## NUMBER OF PARTICIPANTS FROM EACH STAKEHOLDER GROUP

Small/medium enterprise/artisan

Large national business

Multi-national corporation

3 Small-scale farmer

Medium-scale farmer

Large-scale farmer

2 Local Non-Governmental Organization

5 International Non-Governmental Organization

Indigenous People

16 Science and academia

Workers and trade union

Member of Parliament

Local authority

4 Government and national institution

Regional economic community

United Nations

International financial institution

Private Foundation / Partnership / Alliance

Consumer group

4 Other

## 2. PRINCIPLES OF ENGAGEMENT

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### HOW DID YOU ORGANIZE THE DIALOGUE SO THAT THE PRINCIPLES WERE INCORPORATED, REINFORCED AND ENHANCED?

The Dialogue was organized keeping in mind all the principles of engagement in every step of the process. Urgency of sustained and meaningful actions, complexity of food systems in Sub-Saharan Africa as well as commitment to bringing effective and constructive inputs to the Summit, and ensuring the Dialogue promotes trust and increases motivation were considered when developing the main topic as well as the Discussion Groups sub-topics. Respect of opinions, contexts, cultures, policies and practices was pivotal for the success of this Dialogue, also in view of encouraging and embracing a multi-stakeholder inclusivity.

### HOW DID YOUR DIALOGUE REFLECT SPECIFIC ASPECTS OF THE PRINCIPLES?

In an ex-post perspective, it can be argued that this Dialogue was coherent with all the Principles of Engagement in the ways and methods elaborated above. However, a major lesson learned is to work and engage a wider diversity of stakeholder. This task was made harder also by the fact that the geographical focus of this dialogue was transnational and that the event took place online, making it difficult to be attended by farmers with little to no digital literacy.

### DO YOU HAVE ADVICE FOR OTHER DIALOGUE CONVENORS ABOUT APPRECIATING THE PRINCIPLES OF ENGAGEMENT?

No particular advice is to be given to other Dialogue Convenors.

# 3. METHOD

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The outcomes of a Dialogue are influenced by the method that is used.

**DID YOU USE THE SAME METHOD AS RECOMMENDED BY THE CONVENORS REFERENCE MANUAL?**

**Yes**

**No**

# 4. DIALOGUE FOCUS & OUTCOMES

## MAJOR FOCUS

By 2050, the world's population could grow to 9.7 billion, food demand is expected to increase by 50% and global demand for grains such as maize, rice and wheat could increase by 70%.

In Africa, food insecurity is one of the major problems and the continent is not on track to eliminate hunger by 2030. On the one hand, the population is growing rapidly and needs an abundant supply of affordable and nutritious food, while on the other, especially small-scale farmers do not have easy access to agricultural inputs and financial resources to raise crop productivity. At the same time, agriculture is a major contributor to the balance of payments for African economies, and needs to meet domestic demand as well as maintain its place in international trade.

African Regions are suffering food insecurity at different extents with Eastern, Middle and Southern Regions suffering the most. One of the main reasons for food insecurity in Africa is related to the huge yield gap of the major food crops that in turn depends on a complex and interdependent variety of factors.

How can we meet the food and nutrition demand of a rising population without negative environmental and social consequences?

Sustainable Intensification is an approach that uses innovations to increase productivity on existing agricultural land with positive (or at least not detrimental) environmental and social impact. Both words, "Sustainable" and "Intensification," carry equal weight. The ambition for Sustainable Agricultural Intensification (SAI) can be reflected also in the Sustainable Development Goals.

In particular, SDG 15 - Life on Land, which aims to sustainably manage forests, combat desertification, halt and reverse land degradation and halt biodiversity loss; and SDG2 - Zero Hunger, which seeks to ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, help maintain ecosystems, strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters, progressively improve land and soil quality and maintain genetic diversity.

If this ambition is to be realised, the efficiency with which existing resources are used will have to be enhanced to ensure that ecosystem services are maintained. Sustainability also requires ensuring social equity in the productive and environmental benefits from SAI, otherwise the poorer sections of the farming population and women farmers risk being left behind by the promotion of intensification. Despite the promises of SAI practices to ensure food security, a big scientific debate around the effectiveness of Sustainable Intensification strategies developed over the last decade. In particular, a number of NGOs worried about whether it might be used to justify intensification per se and the accelerated adoption of particular forms of high-input or hi-tech agriculture in vulnerable and poor areas at a smallholders scale.

Sustainable Intensification can be achieved with a range of approaches at different scales (from plot to landscape). Different domains (productivity, environmental, socio-economic, human, social) can be considered to monitor and assess whether Sustainable Intensification has been achieved or not. Scientific evidences on the role of SAI practices adopted in African countries are still under development and somehow controversial depending on the scale of adoption, the site-specific conditions and the assessment indicators used. It is thus clear that no fixed SAI strategy is possible everywhere and the best trade-offs among different outcomes are to be searched for.

The Dialogue discussed with representatives of Research and Academia, Civil Society and Farmers from Europe and Sub-Saharan African Countries, the challenges and the ways in which Sub-Saharan African farming systems can increase production of crops per unit of land, conserve or enhance important ecosystem services, improve resilience to shocks and stresses, while improving livelihoods, equity and social capital to ensure a food security system for all.

## ACTION TRACKS

- Action Track 1: Ensure access to safe and nutritious food for all
- Action Track 2: Shift to sustainable consumption patterns
- Action Track 3: Boost nature-positive production
- Action Track 4: Advance equitable livelihoods
- Action Track 5: Build resilience to vulnerabilities, shocks and stress

## KEYWORDS

- Finance
- Innovation
- Human rights
- Women & Youth Empowerment
- Policy
- Data & Evidence
- Governance
- Trade-offs
- Environment and Climate

## MAIN FINDINGS

Participants overall converged on the following points:

- Training and capacity building are seen as core elements to the overall success of improved Food Systems in Sub-Saharan Africa. Capacity building related to Sustainable Intensification and food security addressed to small scale farmers should consider training farmers on how to innovate and be competitive on the market and on how to link agricultural production to food and nutritional requirements. Capacity building and sensitization must be socially and culturally sensitive and shall take into consideration language and ethnicity barriers. Moreover, not only capacity building and training should focus on new technologies for Sustainable Intensification but also on traditional and local knowledge, favouring low-cost technologies and strategies, and adaptability to local farmers who do not have many practical tools. In this respect, access to formal and informal education for farmers in remote areas needs to be enhanced. In some contexts, informal education and innovative ways of raising awareness among farmers towards innovation can be more important and effective than formal education. In addition, improving access of women to education must be taken into consideration, also in light of the importance of enhancing and valorising gender crops (such as Fonio) in Sustainable Intensification strategies in order to ensure women's social and economic empowerment. All capacity building and education interventions should be accountable towards local communities and Donors.
- Digital literacy and accessibility could make a difference. ICTs, especially mobile technology, could improve and overcome the constraints related to training and extending services. Technologies are available, but they do not reach those interested. A great effort must be demanded for these technologies to reach those that are most interested and in need. ICTs are helpful in teaching farmers on reproduction and preservation of seeds. People on the field and experts alike are also essential to educate farmers to new technologies in order to boost their productivity.
- Cost of seeds and irrigation, and expensiveness of some relevant tools, such as photovoltaic panels and auto-machine, are a limit to accessibility for small farmers. To overcome this obstacle, farmers can create stakeholder groups or cooperatives for gaining access to those technologies. In this context, social networks, cooperatives and communities are encouraged to provide farmers with great opportunities even when accessing commodity markets. Moreover, access to micro-credit and insurance increases farmers' capacity to be part of the value chain. Improving land tenure systems and ensuring the possession of land over the years for small holder farmers to stimulate long-term investments and perspective is also important.
- It is necessary to work on a bottom-up process that takes into consideration farmers' needs, involving all steps of the food chain, from the preparation of seeds and soil to the distribution of products to their disposal and recycling. This way also the quality of food and distribution between people will increase. On one side it will be pivotal to select a wide variety of crops, whereas on the other side it is crucial to use native species whenever trying to apply Sustainable Agricultural Intensification to avoid invasive species. Improved selection and crop variety for farmers is essential for climate change adaptation and rainfall variability in the coming years. A decentralized method and a multi-actor strategy need to be applied to make sure a wide variety of crops is established respecting the goal of sustainability. The valorisation of traditional knowledge by discovering local and ecological resources, and the use of local, accessible and already existing materials to reduce the use of chemical fertilizers, to increase nutrient cycling at farm and household level and recycling of crop residues, are important. Improvement of infrastructures and means of transportation is essential to allow for seeds and fertilizers to reach farmers on time as well as for the crops reach markets faster. Best practices such as the control of toxic fungi population, for avoiding food losses during post-harvesting; and solar drying for avoiding contamination in food are considered of great help. When discussing strategies to be implemented, also endogenous factors including geographic position, quality of soil, presence of water, general region characteristics should be considered.
- A pivotal role has to be played by governments and institutions for providing affordability, distribution of technologies, and technical assistance, promote research and development of new practices, dissemination of results, contribution to capacity building and training of farmers. From the side of research and academia, it is important that research questions are co-developed with local communities since the early beginning of project cycles so that the results are appropriate and useful for farmers and they can continue beyond single interventions/projects. This will also reduce farmers' resistance to implement and use technologies or new ways of working. Finally, we cannot ignore some areas of Sub Saharan Africa where conflicts and political instability worsen food insecurity and contribute to high rates of malnutrition. In these areas capacity building is important but conflict and the fragility and disruption of the social networks lead to difficult implementation of sustainable and long-term interventions.

## ACTION TRACKS

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## OUTCOMES FOR EACH DISCUSSION TOPIC - 1/3

"INNOVATIVE AND ACCESSIBLE PRE- AND POST-HARVEST TECHNOLOGIES ALLOW FOR HIGHER CROP YIELDS, AFFORDABLE, SAFE AND NUTRITIOUS FOOD IN SUB-SAHARAN AFRICA"

1) Participants started the discussion focusing on which innovative pre- and post-harvest technologies and practices should be applied over the next years to increase crop yields while offering safe and nutritious food, and divided them in sectors of application:

- SOIL MANAGEMENT: Precision farming.
- WATER MANAGEMENT: Solar energy, drip irrigation.
- AGRICULTURE LIVESTOCK INTEGRATION: Agro-ecology.
- CROP MANAGEMENT: Neglected and Underutilized Crop Species.
- POST-HARVEST: Drying solar systems and special bags that farmers can use for storing solar energy and avoiding contamination in food.
- PEST AND DISEASE MANAGEMENT: Push-and-pull technology; "Aflasafe", natural product for minimizing aflatoxin limiting contamination from reaching dangerous level. It is used in Sub-Saharan Africa for augmenting the quality of products and quantity.
- ICT TOOLS: Sensors for monitoring the conditions of grains during the storage.

2) Subsequently, participants identified indicators and best practices that could effectively measure the successfulness of these technologies and practices:

- Time, in addition to quality and quantity, could be an indicator to measure technologies successfulness.
- Example: It is important to respect yields rotation/irrigation time and technologies could help in simplifying this process.
- In general, when we assess successfulness of technologies and practices, endogenous aspects, including geographic position, quality of soil, presence of water, general region characteristics should be considered too.

3) Thirdly, participants discussed whether these technologies and practices can be easily accessible for small holder farmers, as well as the main constraints and possible solutions. The main issues raised were:

- Economic constraints:
  - Land tenure systems limits farmer's long term investments.
  - Cost of seeds and irrigation and expensiveness of some relevant tools, such as photovoltaic panels and auto-machine, are a limit to accessibility for small farmers. To overcome this obstacle, farmers can create stakeholder groups or cooperatives for gaining access to those technologies.
  - Digital literacy gap. In particular, a gap exists in countries such as Kenya, where young people create or invent new technologies for e-agriculture, but smallholder farmers are not informed about that and it is difficult to distribute these technologies. There are also structural gender inequalities and discriminations that need to be tackled.
  - Difficulties in reaching farmers with technologies and limited know-how. To overcome this obstacle, sharing knowledge among farmers and within farmers groups on how to use technologies is important. It is also important to work on a bottom-up process that takes into consideration farmers' needs, a process that involves all steps of the food chain, from the preparation of seeds and soil to the distribution of products to their disposal and recycling.
  - Research and development, in particular on Sustainable Intensification technologies should identify which technologies could be implemented in a more efficient way, by performing a constraint analysis when projecting research. Working on adapting technologies to the specific characteristics of the agro-geographic area is also necessary.
  - Involving farmers in the development, testing and adoption of technologies and practices and promoting capacity building, training and sharing of good practices is also important. A key role in this sense will be performed by the Farmers Field Research Units within the EWA-BELT Horizon2020 Project.
  - A pivotal role has to be played by governments and institutions for providing affordability and distribution of technologies, technical assistance, research, development of new practices, dissemination of results, contribution to capacity building and training of farmers.

### ACTION TRACKS

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|---|--|
| ✓ | Action Track 1: Ensure access to safe and nutritious food for all      |
| ✓ | Action Track 2: Shift to sustainable consumption patterns              |
| ✓ | Action Track 3: Boost nature-positive production                       |
| ✓ | Action Track 4: Advance equitable livelihoods                          |
| ✓ | Action Track 5: Build resilience to vulnerabilities, shocks and stress |

### KEYWORDS

- |   |                           |   |                         |
|---|---------------------------|---|-------------------------|
| ✓ | Finance                   | ✓ | Policy                  |
| ✓ | Innovation                | ✓ | Data & Evidence         |
| ✓ | Human rights              | ✓ | Governance              |
| ✓ | Women & Youth Empowerment | ✓ | Trade-offs              |
| ✓ |                           | ✓ | Environment and Climate |

## OUTCOMES FOR EACH DISCUSSION TOPIC - 2/3

“FOOD SECURITY IN SUB-SAHARAN AFRICA IS ACHIEVED THROUGH ENVIRONMENTALLY FRIENDLY PRACTICES AND TECHNOLOGIES ALONG THE WHOLE FOOD CHAIN”

Participants started by developing their idea on how the Food System will change over the next 10 years:

- Improved selection and crop variety for farmers is essential for adapting to climate change and rainfall variability in the coming years.
- On one side it will be pivotal to select a wide variety of crops, whereas on the other side it is crucial to use native species whenever trying to apply Sustainable Agricultural Intensification to avoid invasive species.
- Decentralized method and a multi-actor strategy need to be applied to make sure a wide variety of crops is established respecting the goal of sustainability.
- Valorization of traditional knowledge by discovering local and ecological resources, thus reducing the use of harmful chemical products or pesticides, is important.
- Management of natural vegetation (buffer strips, hedgerows) is also considered important to encourage presence of wild pollinator populations.
- New ways to deliver production data from local crops and to improve crop protection knowledge will be found by improving the use of ICTs and mobile-linked tools.

Specific environmentally sustainable practices and technologies can be applied and in the local food chain:

- Intercropping – many options are to be explored, also by mixing cropping and intercropping to deal with climate stress and pest and diseases. One clear option is to work on what it is known to be already successful and very effective. One example is the push-and-pull technology, that is known to be successful and effective.
- Use of local, accessible and already existing materials to reduce the use of chemical fertilizers, to increase nutrient cycling at farm and household level and recycling of crop residues. One example is to employ domestic and animal waste.

Among the challenges to applicability of these practices, participants agreed on the following:

- ICTs (as implemented in the EWA-BELT Horizon2020 Project), especially mobile technology, could improve and overcome the constraints related to training and extending services. Technologies are available, but they do not reach those interested. A great effort must be demanded for these technologies to reach those that are most interested and in need. ICTs are helpful in teaching farmers on reproduction and preservation of seeds, also in order to increase entitlement of practices and seeds. People on the field and experts alike are also essential to educate farmers to new technologies in order to boost their productivity. Training on traditional knowledge is crucial, feasible and applicable, favouring low-cost technologies and strategies. It is also adaptable to local farmers who do not have many practical tools.
- Covid-19 was also seen as a constraint in terms of people going back to farming without being given proper training on sustainability.
- Improving seed variety is feasible, and has been made, but needs adequate investment in research and development for plant genetics improvements.
- Give farmers access to financial institutions. Micro-credit and insurance increase farmers’ capacity to be part of the value chain. One of the ideas proposed is to work for reducing land tenure and increasing possession of land over the years, as farmers often do not think in a long-term perspective.
- Social networks, corporative societies and communities are encouraged as they provides farmers with great opportunities even when accessing commodity markets.
- Language barriers are considered a major constraint, especially in terms of education and knowledge-sharing. Efforts to overcome such extending limit are now due. Farmers need to understand what they are been taught, with respect to agricultural practices and the given technological tools. Translation to local languages could be a valuable solution.
- Improvement of infrastructures and means of transportation. Seeds and fertilizers will reach farmers on time and the crops can reach the market faster.

### ACTION TRACKS

- ✓ Action Track 1: Ensure access to safe and nutritious food for all
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### KEYWORDS

- Finance
- ✓ Innovation
- Human rights
- Women & Youth Empowerment
- ✓ Policy
- Data & Evidence
- ✓ Governance
- Trade-offs
- ✓ Environment and Climate

## OUTCOMES FOR EACH DISCUSSION TOPIC - 3/3

### “CAPACITY BUILDING, EDUCATION, TRADITIONAL AND SCIENCE-BASED KNOWLEDGE INTEGRATION PROMOTE AFFORDABLE, SAFE AND NUTRITIOUS FOOD IN SUB-SAHARAN AFRICA”

Sustainable Intensification has different dimensions, one of these concerns the socio-economic and human aspects. Which is the role that capacity building and education can play in promoting Sustainable Intensification for food security in Sub-Saharan Africa? Some issues to take into consideration are:

1) Access to education for farmers in remote areas. We can speak of formal and informal education. Formal education is institutionalized, intentional and planned through public organizations and recognized private bodies of a country. In some contexts, informal education and innovative ways of raising awareness among farmers towards innovation can be more important and effective than formal education. Some examples of informal education:

- Extension services: decentralization policies and focus on infrastructure are undermining the governmental extensions services that lack resources in Sub-Saharan Africa. Other actors such as NGOs or non-academic research centers are playing an important role for fostering informal education.
- Promoting “modern farm models” as platforms where other farmers can learn how to implement technologies and where they can cooperate to share inputs to implement solutions.
- New ways of promoting capacity building and awareness are based on the co-construction of knowledge and dialogue and communication among different categories of stakeholders through a multi actor approach. An example of this kind of practices is the case of the “Theatre Forum” on climate change adaptation strategies (see <https://futureclimateafrica.org/coproduction-manual/>).

2) Capacity building related to Sustainable Intensification and food security addressed to small scale farmers should consider:

- Training farmers on how to innovate and be competitive on the market.
- Training on how to link agricultural production to food and nutritional requirements.
- Capacity building and sensitization must be socially and culturally sensitive and shall take into consideration language and ethnicity barriers. In this respect, the active engagement of leaders in the rural communities is crucial.
- Not only capacity building and training should focus on new technologies for Sustainable Intensification but also on traditional and local knowledge (e.g. Traditional crops vs GMO; certification of local seeds, allowing and promoting locally-adapted, cheap and good quality seeds).

3) From the side of research and academia, it is important that research questions are co-developed with local communities since the early beginning of project cycles, so that results are appropriate and useful for farmers and they can continue beyond single interventions/projects. This will also reduce farmers' resistance to implement and use technologies or new ways of working.

- In promoting Sustainable Agricultural Intensification practices and technologies, it is important to understand the different value systems of stakeholders and take into consideration the drivers behind agricultural choices that are not only related to cash or yield but they are also social and cultural (ex. pearl millet is also used for buildings and not only for food).
- All capacity building and education interventions should be accountable towards local communities and Donors.

4) When we talk about education and food security, gender issues cannot be ignored. Some insights concerned:

- Access of women to education.
- Considering the importance of enhancing and valorizing gender crops (such as Fonio) in Sustainable Agricultural Intensification strategies in order to ensure women's social and economic empowerment. Finally, we cannot ignore some areas of Sub Saharan Africa where conflicts and political instability worsen food insecurity and contribute to high rates of malnutrition. In these areas capacity building is important but conflict and the fragility and disruption of the social networks lead to difficult implementation of sustainable and long-term interventions.

#### ACTION TRACKS

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#### KEYWORDS

	Finance	✓	Policy
✓	Innovation		Data & Evidence
	Human rights	✓	Governance
✓	Women & Youth Empowerment		Trade-offs
			Environment and Climate

## AREAS OF DIVERGENCE

No particular areas of divergence emerged during the Dialogue. Indeed, participants converged on the vast majority of the issues discussed.

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# ATTACHMENTS AND RELEVANT LINKS

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## RELEVANT LINKS

- **EWA-BELT Website**  
<http://www.ewabelt.eu>
- **UPSCALE Website**  
<http://www.upscale-h2020.eu>