Food and Agriculture Organization of the United Nations

Global Forum on Food Security and Nutrition • FSN Forum

TEMPLATE FOR SUBMISSIONS

Call for submissions No. 196 • 06.02.2024 – 06.03.2024

↗ https://www.fao.org/fsnforum/call-submissions/solutions-integration-biodiversity-agriculture

Call for experiences, best practices and scalable solutions for the integration of biodiversity into agriculture

Template for submissions

The steering committee of the **International Symposium "Agriculture, Biodiversity and Food Security: From Commitments to Actions"** and its co-chairs are inviting stakeholders to submit contributions on experiences and best practices, and concrete, scalable solutions concerning biodiversity and agriculture, in order to inform the Symposium and facilitate the development of recommendations.

A first version of **the recommendations (Zero Draft)** serves as a reference document for completing this template for submissions.

The call is open until 6 March 2024.

How to take part in this call for submissions

To take part in this Call for submissions, please register to the FSN Forum, if you are not yet a member, or "sign in" to your account. Please use the submission template in English, French or Spanish and upload the completed form in the box "Post your contribution" on this webpage. Please keep the length of submissions limited to 1,500 words and feel also free to attach relevant supporting materials**.**

For any technical support regarding downloading or uploading the submission form, please send an email to fsn-moderator@fao.org**.**

Template for submissions

1. Information on the respondent and the organization

Contact person	Name: Anna Rosales Organization: Institute of Food Technologists Email address: arosales@ift.org
Country	United States
Gender	☐ Male X Female ☐ Prefer not to answer
Affiliation	☐ Government ☐ Food producer X International organization ☐ Civil Society / NGO ☐ Indigenous peoples and local communities ☐ Private sector ☐ University and Research institutions ☐ Other (specify)
You are answering these questions on behalf of:	X on behalf of your organization ☐ on a personal basis

2. Share your experience (e.g. actions, measures or initiatives undertaken) contributing to the conservation, sustainable use and integration of biodiversity in the agricultural sector.

Personal or group experience	
Title of measure or action	
Implementation by (individual, group, organization)	
Location (country, territory)	
Period (start, end or current)	
Description of measure or action: context, objectives, activities	
Impact on biodiversity	
Other impacts, particularly socio-economic	

Lessons to be learned, potential for replication, areas for improvement, constraints encountered, factors that facilitated implementation; factors that could improve the measure or facilitate its adoption.	
Links to websites and documents	

3. Actions, constraints and scalable solutions

3.1. What actions can **food producers** take to further integrate biodiversity into agriculture at field, ecosystem and landscape levels?

Increasing biodiversity in agriculture is critical for ensuring food and nutrition security into the future. Biodiversity contributes to dietary diversity and many underutilized crops are naturally climate resilient and can contribute to environmental sustainability. To achieve the scale of biodiversity needed to address global food and nutrition security and ensure farmer livelihoods for the long-term, there is a need for greater demand and market opportunities for more diverse crops globally. This will require food science & technology solutions that allow for greater use of a variety of crops in foods as well as development of foods that are acceptable, affordable, and safe for consumers. Technologies must also be environmentally sustainable and ensure the nutritional benefits of varied crops are retained through processing and storage to be delivered to the consumer.

Select the practices from the indicative list that in your opinion should be prioritized at field, ecosystem and landscape levels	☐ Integrated pest management ☐ Biological control ☐ Farmer's participation in genetic selection for adapted breeds and varieties ☐ Nutrient management ☐ Agroforestry ☐ Practices favorable to pollinators and soil biodiversity ☐ Installation of buffer strips ☐ Green infrastructure ☐ Sustainable intensification ☐ Conservation agriculture ☐ Regenerative agriculture ☐ Agroecology X Other(s) (*please list below*)
Please indicate any other practices at field, ecosystem and landscape levels	Food science & technology solutions to develop affordable, acceptable, nutrient dense foods for consumers

If you are a food producer yourself, please indicate the practices you have adopted (from the aforementioned list or others)	
You can add comments to your selection	To ensure long-term integration of biodiversity there must be a market for diverse crops. This can be achieved through food science & technology solutions to integrate more diverse crops into foods for consumers globally.

3.2. What are the main constraints faced by food producers in implementing these actions?

The constraints include:

--Lack of modern processing technologies to create value-added foods from a diverse range of crops (most manufacturing is optimized for commodity crops)

--Poorly developed value chains and inconsistent supply of diverse crops

--Lack of public policy support for increased cultivation of diverse crops

--Lack of economic viability for farmers to motivate greater cultivation to ensure supply

--Inadequate research on cultivation, post-harvest processing, and nutritional benefits of many non-commodity crops

3.3. How can food producers overcome these constraints?

--Elevate the importance and relevance of indigenous knowledge of food production with a variety of crops. Apply and adapt this knowledge to modern technology to increase utilization of these crops.

--Partner with multiple stakeholders to develop cross-functional solutions that have a positive impact on all stakeholders in the food supply chain (see 3.4 below for more details)

3.4. What are the actions taken or to be taken by all stakeholders, at social, economic and political levels, to promote the integration of biodiversity into agriculture?

Public and private investment/partnerships into:

--research on physical, structural, and nutritional properties of traditionally underutilized crops and the impact of food processes and food forms on nutrient content and bioavailability

--consumer research to understand consumer needs and expectations for foods made with diverse crops (e.g., sensory attributes, affordability, etc) to ensure consumer acceptance

--tools and training for food scientists, processors, and small to medium enterprises to develop foods from a diverse range of crops. Examples include business development support, innovation hubs, and mentorship programs

Collaborative partnerships with:

--culinary experts, food & sensory scientists, entrepreneurs, farmers to better evaluate ways to integrate more diverse crops into the diet

--nutrition scientists and healthcare professionals to research and communicate the dietary benefits of a range of crops

3.5. What are the main constraints to implementing these actions? Who are the key stakeholders?

While there are many constraints that require concerted effort across the food system, some of the major drivers that could stimulate the greatest movement forward are:

--Economic drivers – market driven approaches across the food system to ensure economic viability for farmers and producers

--Policy drivers – policies traditionally have supported intensification of a small number of crops and these policies need to transition to support biodiversity

--Social drivers – increased demand from consumers for foods made with diverse crops will help drive mainstream integration of more diverse crops in the food supply

3.6. How can we overcome these constraints and create a favorable social, economic, and political environment?

Cross-functional partnerships and collaborations will be essential to ensure the benefits are achieved for all players across the food system. It is recommended that all food system players from farm to fork be included in the development of solutions, including farmers, distributors, processors, policy makers, food scientists, nutrition scientists, soil & crop scientists, agronomists, consumers, and many others.

3.7. Do you have any other general comments on Zero Draft of the recommendations?

We encourage greater integration of food science and technology solutions into the zero draft. There is considerable emphasis on farmers and consumers, which is important, but food science is the bridge from the farmer to the consumer. Many plants and animals used for food must be processed, stored and transported before reaching the consumer, which makes food scientists and technologists critical partners in the food system. Thus, we encourage integration of food scientists as critical actors to help mainstream biodiversity.