

Policy Recommendations

Create an institutional/legal framework to promote NUS that is agreeable to all stakeholders (T3.1)

1. Include NUS in National and International strategies for addressing global issues e.g. Reducing hunger, poverty, adapting to climate change, and the energy crisis

We need to link NUS to global issues to ensure that they get the attention they deserve and because they are extremely relevant in addressing these problems

Integrate NUS in climate change adaptation research (T1.8)

Include NUS in strategies for poverty alleviation and food security (T2.1)

Include NUS in strategies to develop sustainable alternatives to fossil fuels (T1.6)

2. Develop a strategy to prioritize crops for R&D efforts

Because of the broad range of forms and functions of NUS crops and trees, we should attempt to focus efforts on a selection of priority NUS crops (i.e. Considering the merits of a few crops at a time and moving on when their potential has been realized or discounted)

Review criteria for the inclusion of specific NUS crops in agricultural policies, including animal (livestock) health (T3.1)

Prioritize crops that include promising traits for climate hardiness (e.g. adaptation to extreme conditions), high nutritional value, and livelihood potential (T1.7, T1.8)

3. Support research on crops that contribute to resilient production systems in terms of environment, nutrition and socio-economic factors

We need to know about the properties of NUS: what are their features that make them candidates for upscaling, what is their nutritional value, growing characteristics, post-harvest processes, cultural significance, traditional uses, environmental impact (water use/soil impact), what is the existing diversity and distribution of the species? Market research also necessary to understand what opportunities exist and who would be the target group for the crop.

Include NUS crops and trees in National and International research and development programmes, including both cultivated and wild species (T1.5, T2.1)

Allocate more resources to NUS research and development, including the domestication of wild species (T1.8, T2.1, T1.5)

POLICY SUPPORT TO FORWARD THE FOLLOWING RESEARCH AGENDAS:

Identify constraints to NUS production - what is the problem, possible solutions and feasibility of the solutions? (T1.5, S.4, T2.3, T3.2)

Improve and develop new varieties of NUS to overcome traits that are not favored by farmers and consumers (T1.5)

Build knowledge of existing diversity and its distribution, including the collection of combined morphological, biochemical, and genetic data on the crops and their wild relatives (T1.2)

Characterise accessions to make recommendations to investors, including producers (T1.5)

Gain understanding on the crops that are climate-resilient and suitable under climate change conditions (T.8)

Use locally calibrated crop models to develop climate change adaptation strategies which involve the introduction of NUS (T1.1, T1.8)

Support research into the food security value of NUS, including their nutritional content, bioavailability, impact for human health in community-impact studies (T1.1, T1.7)
Conduct surveys on the current use of NUS, their cropping systems, yields, product quality, and actual livelihood contributions (T1.1, T1.5)
Market research to understand market opportunities and the target group for the crop
Use gender-inclusive participatory approaches to determine mechanisms to enhance the adoption of NUS production (T3.1)
Perform research on best practices for processing and packaging for efficiency, marketability, cost-effectiveness and food safety (T1.1, T2.1)
Develop technology to mechanise long duration and arduous processing operations (T1.5)
Document and make use of indigenous knowledge in NUS research (T1.2, T1.7)

4. Strengthen collaboration and information sharing between research and extension in NUS, also include farmers as key stakeholders in these collaborations

NUS research will ideally be demand based, carried out in close collaboration with partners who will apply the research to the extension of NUS, or at least it should be disseminated effectively to reach those who need the information

Coordinate among stakeholders to ensure that research is demand oriented (T2.1)
Align and accelerate conservation and research efforts and the dissemination of information and technology (T1.1, T1.8, T2.1, T3.2)

Support collaborations and partnerships at the country level, for instance by establishing a national platform to encourage and facilitate connections between producers and private actors interested in mobilizing a value chain (T1.1, T1.5, T3.2)
Establish a Global knowledge platform for knowledge sharing to harmonize current understanding and terminology used for NUS crops, including the compilation of gray literature information (T1.8, T3.2)
Explore the potential for collaboration or task sharing (focusing) of existing databases (e.g. Crops for the Future, NUS platform, and Bruce French database, among others)

5. Encourage the development of NUS value chains

To encourage local actors in developing value chains for priority crops, support may be needed to initiate the process and overcome hurdles such as the development of tools and technology for post-processing and value addition.

Provide grants/loans to local small or start-up agri-businesses to work on NUS development with pro-poor strategies (S.4)
Provide grants/loans to support the development of technology necessary for NUS processing, packaging, and food safety
Establish a center for the development of simple technological solutions for processing for smallholder farmers in Africa (T3.3)
Support contract farming NOTE: I don't know much about this topic – seek advice
Develop food safety standards for developing NUS crops (T1.2)

6. Promote the cultivation of NUS for their opportunity value , agronomic and nutritional benefits

In addition to working on stimulating production of NUS products, we need to build demand and receptivity of the public to these crops. Promotion will also be useful to increase awareness and receptivity among farmers. These recommendations fall into the domain of creating a supportive environment for NUS cultivation

Run a campaigns to promote diverse diets based on local crops (T2.1, T1.5)

Train farmers through cooperative societies on the benefits of the cultivation of NUS (T3.1)

Enforce environmental laws regarding timber harvest, pesticide use, etc. to encourage increased research and use of NUS crops, which are often more sustainable

e.g. Use of fire wood and charcoal contribute to forest degradation. Adoption of bamboo production and use for charcoal production will reduce pressure on forest: Existing laws and regulations on food, agriculture, and environmental management (including forest logging) should be reinforced. (T3.1)

7. Increase support to conservation of NUS in situ and ex situ and strengthen seed systems for NUS

We will need a strong diversity base to carry out crop improvement and upscaling of NUS. Diversity in these crops is often in decline and the process of upscaling runs a risk of contributing to diversity decline. We must ensure that effective conservation strategies are in place (both ex situ and in situ).

Develop long term conservation and management strategies for NUS that includes both ex situ and in situ approaches (T1.1, T1.5)

Remove policies that encourage unsustainable exploitation of forests or natural areas and develop policies for the protection and sustainable management of non-timber forest products (T3.3, T1.7)

Include NUS crops in National Seed Banks and strengthen existing collections of NUS held *ex situ* (T3.1, T2.1)

Use participatory community-based methods to encourage in situ conservation, considering also the contribution of home gardens to conservation efforts (T1.1)

Establish and support community-based seed systems that integrate on-farm conservation, varietal improvement and distribution (T1.1)

Reform the national seed system to include popular traditional/farmer/local varieties (T1.1, T2.1)

Ensure that National research centres recognize cultivars developed by Participatory Variety Selection (PVS) (T1.1)

Make PVS a mandatory component of breeding programs by Regional Research Stations (T1.1)

Support seed multiplication programmes (T2.1)

Permit and promote channels for multilateral access to germplasm (T1.8)

8. Protect Farmer Rights and Empower Farmers with Information

*Sustainable production landscapes and NUS cultivation inherently require farmers participation!
Farmers who derive fair benefits from their efforts will be more likely to continue cultivation and conservation of NUS crops.*

Farmers rights on varieties should be recognized and secured/guaranteed (T1.1)

Empowerment farmers through training on the benefits of NUS (T3.1) and ecologically sustainable farming practices

Support the establishment of institutions for dissemination of market information (T2.1)

Provide training and opportunities for producing communities to shorten value chains, or learn skills and obtain equipment required for value addition (post harvesting and marketing) (T3.1 in part)

Reform Land Tenure policy reform to encourage farmers to plant trees, perennials or other crops with slower time to deliver returns (T3.1)

9. Build capacity of researchers to carry out NUS Research and the development of leadership and entrepreneurship in local actors to initiate and carry through mainstreaming

Researchers and leaders required for the development of NUS value chains need skills that should be developed in education programs

e.g. Climate change modelling (T1.1)

e.g. Entrepreneurship and leadership (T1.1)

e.g. Socio-economics, gender, participatory approaches (T1.1)