An Introduction to Food Systems Thinking

How Members of Multi-Stakeholder Platforms in Nigeria Can Apply Food Systems Thinking in Practice

Katherine Pittore, Inge Brouwer, Folake Samuel, Obilo, Chinyere, and Adebowale Akande

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CGIAR RESEARCH PROGRAM ON Agriculture for Nutrition and Health Led by IFPRI

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This report presents the findings from a two day online Food Systems Training with member of Multi-stakeholder Platforms active in Nigeria held December 15th and 16th 2021. The workshop was organized by Wageningen Centre for Development Innovation and IIAT. The workshop was based on tools from the Food Systems Decision Support Tool Developed by KIT, the Netherlands Food Partnership and Wageningen University. The first part of the report presents finds from the workshop, the second reflects on the Food Systems Decision Support Tool and its utility for partners.

Keywords: Multi-stakeholder Platforms, Nigeria, healthy diets, food systems, Food System Decision Support Tool

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Contents

Background

Over the last five years Wageningen Centre for Development Innovation has been exploring the role that Multi-Stakeholder Platforms (MSPs) can play in supporting countries in food system transitions placing healthy diets at the centre, as part of the Platforms for Healthier Diets project. This work was carried out as part of the Flagship on Food Systems for Healthier Diets (FS4HD) being one of the programs of the IFPRI-led CGIAR Agriculture for Nutrition and Health (A4NH) project. The project focuses on four countries: Bangladesh, Ethiopia, Nigeria and Vietnam.

The platforms for Healthier Diets project began with conceptualizing the idea of multi-stakeholder platforms (MSPs), as well as healthier diets, and identification of a set of criteria that could be used to map multi-stakeholder platforms in the four A4NH countries. This work was followed by a desk based mapping of all the platforms that met the criteria for multi stakeholder platforms working healthier diets (broadly defined). The results of this mapping were shared with stakeholders in Vietnam, Nigeria, and Bangladesh, who reflected on the research findings. Finally, the research team explored how to support countries to embed and scale the idea of placing healthy diets as a central goal of the food system, by considering the key policy priorities of each country, and how platforms engage with these policies, for example by supporting with agenda setting or policy implementation.

We found that in many countries, policies are looking more holistically at the food system compared to identified MSPs, which tend to have a narrow focus, for example looking at the urgency around tackling high levels of malnutrition or scaling up specific types of agricultural interventions. At the time the scans were carried out (2017-2018), we did not find any multi-stakeholder platforms in the four A4NH countries that are working on food systems explicitly. However, while this was not yet happening, we believe MSPs may hold real potential for supporting effective food systems governance, and the transition to food systems which support healthy diets for all citizens.

Herens et al. suggested MSPs could support food systems transformations, but the ability of MSPs to span boundaries between food systems actors needs to be strengthened, including by building capacity at the individual, institutional or organizational level (Herens, Pittore, and Oosterveer 2022). Over the last two years of the project, a number of trainings have been held with a range of platforms to support this transition. Training to support MSPs to engage more effectively with food systems have been organized in Bangladesh, with the Scaling Up Nutrition Business Network, in Vietnam, in partnership with the National Institute of Nutrition and the Alliance of Bioversity International and the International Centre for Tropical Agriculture, and most recently in Nigeria, in partnership with the International Institute of Tropical Agriculture (IITA) and the University of Ibadan. This report will focus on the outcomes of the most recent training carried out in Nigeria.

This report is structured in two parts. The first part presents key findings from a two day online training "An Introduction to Food Systems Thinking: How Members of Multi-Stakeholder Platforms in Nigeria Can Apply Food Systems Thinking in Practice". The second section presents an overall reflection on the food systems decision support tool and suggestions for how this tool could be further strengthened.

The workshop organizers would like to thank Julius Adedeji, Ilse de Jager, Giulia Pastori, Julia Glaser, Tesfaye Bekele Hailu, and Ati van der Honing for their support in leading discussions and note taking.

Nigeria Training

The goal of the workshop in Nigeria was to support stakeholders working on food systems issues, including those who are members of multi-stakeholder platforms, to use food systems thinking to develop solutions to critical food system challenges in Nigeria, by using a number of tools from the Food System Decision Support Toolkit. Following the workshop, participants filled in reflections on the tools and their utility for improving their understanding of a food system.

The workshop was organized online, on the 15th and 16th of December 2021 and was co-hosted by Wageningen University and Research, and IIAT in collaboration with the University of Ibadan. A total of 34 individuals participated in the workshop, from a range of sectors.

On the first day of the workshop, the concept of systems thinking was introduced. This session focused on the three quality principles necessary for a food systems analysis: system thinking, stakeholder involvement, and equity and inclusiveness (Posthumus et al. 2021). Dr Folake Samuel, Associate Professor, Department of Human Nutrition and Dietetics, University of Ibadan presented key food system priorities of the Nigerian Government, focusing on 6 priority clusters of issues which included:

- Cluster 1: Investing in food security and nutrition knowledge dissemination, skills' development, and information management systems to enhance agricultural productivity
- Cluster 2: Building sustainable, responsive, and inclusive food systems
- Cluster 3: Value chain and Market system development for improved productivity, improved livelihoods, and poverty reduction
- Cluster 4: Increase demand for, and consumption of adequate, nutritious, and healthy foods, including in humanitarian contexts
- Cluster 5: Promotion of peace-building initiatives, EWS, food marketing and regulation standards and an enabling environment for food systems activities
- Cluster 6: Linking research, innovation, and extension for a sustainable food system

The full presentation of the Nigerian food systems priorities can be found in annex 1.

This presentation was followed by a participatory ranking activity where participants choose which issues they thought were most urgent. Taking the three clusters of activities which participants felt were the most urgent (cluster 4, 2 and 1), participants were supported to take a deeper dive into one of the key issues in the cluster using the iceberg model, which stimulated participants to think about the underlying causes to an event that is visible above the surface, but which is caused by many less visible factors.

On the second day of the workshop, participants were introduced to the idea of systems archetypes to understand why problems and challenges are so hard to shift, and why new and innovative types of thinking maybe necessary to address the root challenges of problems. Using a number of common systems archetypes, participants choose one which they felt best described the issue they were considered. Bringing together the knowledge of the underlying issues, as well as the type of systems failure that was present, participants worked together to brainstorm on a new solution to the challenge, and thinking about potential consequences of that solution. Finally, the group considered which stakeholders they would need to work with to bring about the desired change, as well as their potential role.

Key findings from the Workshop

Day 1: The Iceberg Model

Participants were divided equally into three groups, based on random allocation.

The iceberg model (figure 1) was used to dive more deeply into one of the critical problems that was mentioned during the presentation on the Nigerian food system priorities. Thinking about the underlying issues allows participants consider the fundamental issues that are causing the visible problem. The key findings for each group are presented in the following section. Links to the digital whiteboards that were developed are also included for each group.

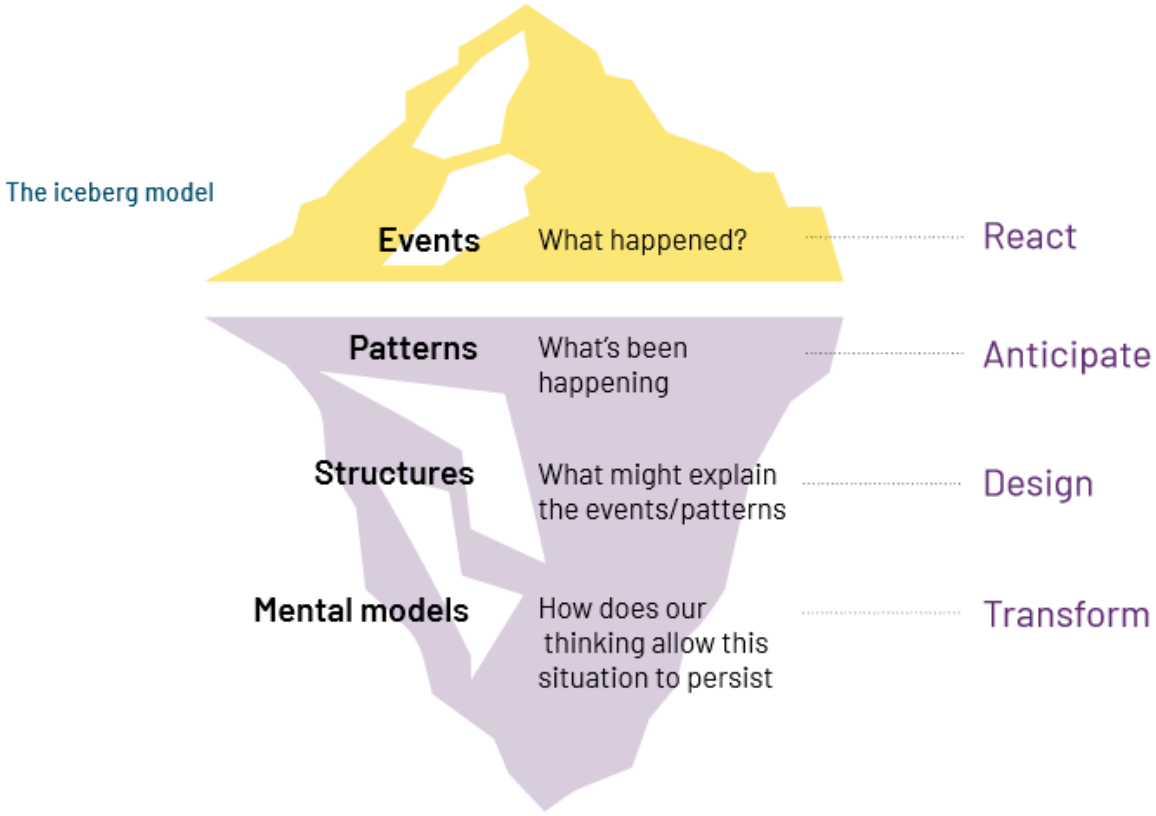

Figure 1 *The Iceberg Model, from the Food System Decision Support Tool Kit*

Group 1: Cluster 4 – Increased demand for, and consumption of, nutritious foods

Critical Issue: Increasing demand for healthy food.

Patterns: A number of underlying patterns were found including Issues of accessibility of food, affordability issues (healthy food is expensive), issues around convenience and food safety. There is also a perception that companies are attempting to incorrectly market nutritious foods or market foods incorrectly.

Structures: In terms of underlying structures, one of the critical issues identified was around food safety and regulation, with limited government oversight of food safety issues including no policies on food traceability and challenges around monitoring food safety in open and informal markets. Additionally there is a minimal link between producers and consumers and consumers are not demanding health and safe food. There are no government programs providing information about healthy and safe food.

Mental models: The underlying mental models fell into a few overall key categories. One was the focus on filling the belly, prioritizing 'filling' foods like carbohydrates over things like fruit and vegetables. A second category was linked to overall perceptions of lack of government's interest in health and ensuring regulation, and linked to this, and overall lack of trust around the government and enforcement of regulations.

The visual of this data, created in the workshop can be found here.

Group 2: Cluster 2 – Building sustainable, responsive and inclusive food systems

The issue of equity and inclusiveness came out strongly in the first day's discussion, especially as many of the workshop participants come from NGOs who specifically focus on the most disadvantaged in society.

Critical issue : Two critical issues were identified. The first was around leveraging technology and innovation in the food system, and the second around involving the private sector more effectively, and linked to this, identification and mapping of key actors involved.

Patters: Underlying patterns identified focused on limitations private sector faces in working in the food system. These include lack of necessary infrastructure (including power), market linkages and lack of collaboration between government and private sector actors. The current focus of many policies in agriculture, remail focused on those practicing subsistence agriculture and constrain the private sector in responding effectively to food system challenges.

Structures: structures to support private sector engagement include better links with government training and improved dissemination of new technologies. Regulations around private sector actors working in the food system can also be improved. Inclusiveness can be increased through activities to empower women and youth, including by better linking them to new technologies.

Mental models: the underlying mental models relate to questions around what role government has regarding business (government has no business in business?). Inclusivity issues also came back at this level, including perceptions around women's role in the food system.

The visual of this data, created in the workshop, can be found here.

Group 3: Cluster 1 – Improve agricultural production, especially of nutrient dense crops

Critical Issue: The group choose to focus on a sub-theme of overall issue, looking at the need to strengthen technical and vocational training for youth and women working in the food system especially supporting engagement in agri-business training.

Patters: A number of underlying patterns were mentioned in connection to the low participation of women and youth in agri-business. Youth are face challenges in terms of access to both land as well as capital, and many are interested in what the group coined "quick money syndrome" and do not see farming as a way to make money.

Structures: Structures that support these patterns view include the fact that training is often focused only on agriculture, and fails to include other elements of the food systems including marketing and storage. Women, because they are excluded from training on agribusiness, often take a more subsistence rather than commercial view of farming. There is also a lack of structures and incentives to support increased knowledge of advanced processing technologies (AI, irrigation technologies etc.).

Mental models: Changing the view of agriculture – from being about small scale, subsistence level production to a view that agriculture can also be an effective way to make a commercially viable business.

The visual of this data, created in the workshop, can be found here.

Day 2: Using systems thinking to develop solutions

The second day of the workshop built upon work done in the first day, to seek to find solutions to the issues that were raised, using systems thinking to try find solutions that address the underlying and root causes of key problems. Five archetypes were presented, which are drawn from Kim (1992) and the Food System Decisions Support Toolkit (Posthumus et al.).

These archetypes included:

- **Fixes that fail**- which describes a systems failure in which the proposed solution offers a short term fix for a deeper problem. Over time the "solution" may also increase the initial problem. An example presented from the Vietnam workshop was of a market that was built in the mountainous Northern part of the country increase market access to fresh food. However, this market was not used by the population it was intended to serve for a number of reasons including high costs (costs were higher than ad hoc markets in order to pay for the ongoing costs of maintaining the facilities), and expensive travel. The solution did not sustainably address the key challenge and access to fresh foods remains a challenge for these communities.
- **Success to the Successful**- describes a system where one actor is able to attract more resources, making them more likely to succeed and attract additional investments and support. One example of this is pay for performance, in which local governments who perform better are able to attract more funding, where as those who are perhaps in more deprived areas receive fewer resources, are not able to perform as well, receiving less funding and leading on increased decline of their performance as additional resources are given to better performing districts.
- **Limits to success**- this archetype describes a situation in which an organization is able to grow or perform up to a certain point, but are eventually limited by an external factor. The example presented in the workshop came from research carried out by Robinson et al. looking at increasing access to nutrient dense foods in Nigeria. A company which invested in fortification was able to do very well and increase their market share. However, eventually, due to their success, others started to manufacture counterfeit products, which were of lower quality and which damaged the company's reputation (Robinson et al. 2014). Thus, limits in food quality control ultimately limitted the companies ability to grow.
- **Tragedy of the commons**- is a type of systems failure where an action may bring benefit to an individual but harms society. It is often seen with natural resource management issues, for example forest management. In North Western Uganda, refugees who need access to fuel to cook may cut-down trees for firewood. As they may return home in a few years, they may be less concerned with longer term management of natural resources.
- **Shifting the burden**- happens when a solution is developed which aims to solve a symptom, but not the underlying problem. For example, if the problem is that insects are destroying crops, a solution maybe to (over)use chemical pesticides. However, this may also kill "good" pests, leading to a larger problem than before, and having to use even more chemical, perhaps negatively impacting the overall ecosystem and safety of the food.

The results of the discussions are presented in the next section. While a 3 hour workshop is not enough time to develop complete solutions to highly complex issues; rather the results were more about the process and learning about available tools than the final outcomes of the discussions.

Group 1: Cluster 4 – Increased demand for, and consumption of, nutritious foods

Group 1 was able to further narrow down there problem to the issue of low affordability of healthy food. They felt that the archetype "limits to success" best described the issue, as there have been some policies to support increased access to healthy foods, but ultimately none of have been able to really make healthy food more affordable at a larger scale.

Narrowing down on one solution, the group choose to focus on local production as a way of increasing access to healthy foods. Potential positive consequences of increasing local production include increased confidence in food quality, increased access, and improved quality control. Potential negative consequences include less diversity of production or a market glut during peak seasons for certain foods.

Finally, they developed a short list of key stakeholders and actions that they would need to take including:

- **Government**: improved policy coordination between government agency as well as other stakeholder such as consumers, producers and the private sector. They can also support through the provision of subsidies to support improved local production.
- **Producers**: supported with new technologies and subsidies as well as off-taker system to encourage local productions and ensure markers.
- **Farmers**: participate in trainings and adopt improve agricultural technologies.

The visual of this data, created in the workshop can be found here.

Group 2: Cluster 2 – Building sustainable, responsive and inclusive food systems

Group 2 choose to focus on the ongoing challenge linked to policies to better support the private sector and improve their performance. Since this is such a large issue, the group decided to further narrow down the issue into looking the gaps between the government policies and how they are not perceived to be supportive of the private sector. The group felt that current policies were addressing the symptoms, but not the underlying issues, as is seen in the shifting the burden archetype.

One potential solution that the group came up with was to have the private sector more involved in the setting government policies, especially through participation in various fora, for example SUN. Potential positive consequences of this solution include the ability to explore more win-win situations and develop better policies, whereas the potential negative issues that need to be addressed include ensuring that interests are balanced between the privates sector and other actors (for example consumer rights) as well as ensuring inclusion of a range of private sector actors, not only the larger companies.

Key stakeholders and actions include:

- **Private sector**: should try to engage more with relevant forums including MSPs and others to try to ensure that their voices are heard around policy issues.
- **Consumers**: should come together to make sure that government policies also adequately protect consumers health.
- **Civil society**: may have a role in both advancing the voices of the smaller producers. They may have a role to play in ensuring a balanced discussion around the need for policies which support both producers and consumers.
- **Government**: should also participate in forums and provide space to private sector, and be willing to try new ideas and innovative to new solutions.
- **MSPs**: can provide a forum for these stakeholder groups to come together and discuss policy needs from multiple perspectives.

The visual of this data, created in the workshop, can be found here.

Group 3: Cluster 1 – Improve agricultural production, especially of nutrient dense crops

Group 3 further narrowed down their problem to look at the issue of lack of youth involvement in agriculture. Looking at the archetype that explained this systems failure, it was felt that the youth do not perceive agriculture as a field with growth, linked to government policies from the 1960s and 1970 that focused on modernization and moving the country away from an agrarian economy, with a focus on increasing knowledge based jobs. Based on this, youth see agriculture as old fashioned and not a good way to make a living.

The group's proposed solution was to make agriculture more attractive to youth. Possible positive consequences of promoting agriculture to youth include more uptake of new technologies (information communication technology, irrigation, urban farming, mechanized agriculture) etc. Potentially negative consequences include high costs to government to develop incentives or provide trainings.

Key stakeholders and actions include:

- **Youth**: willingness to try out new agricultural technologies.
- **Government:** financial support in the form of subsidies or grants to support youth in adopting new technologies.
- **Private sector:** support (including) trainings around adoption of new technologies.
- **Training institutes:** adequate, skills based training that meets the needs of younger farmers.
- **Older people:** willingness to share key resources (e.g. land) to support youth in trying out new farming methods.

The visual of this data, created in the workshop, can be found here.

Reflections on Food System Decision Support Tool

In general, the participants valued the tools and training. Based on a post-course survey with 19 respondents, 95% of participants said that their understanding of food systems improved a lot or significantly as a result of the training and 100% reported that they will be able to apply what they learned in the training to their own work.

Overall the Iceberg activity was appreciated by 95% of participants, and seems to work well in an online setting, especially with the support of an online whiteboard. Indeed, in all groups, the root causes of the problems (lack of trust in government monitoring of food safety) may not have been that obvious without digging deeper into the issues. Working with a broader group of stakeholders will likely increase the validity of the outcomes.

However, there are also a few suggestions of how the Food Systems Decision Support Tool could be made more practical. Material in the tool guide can be too theoretical. More grounding with practical examples would help. While there are very short (1-2 sentence) examples, perhaps links to worked case study or more detail would allow those with less familiarity with the tool to implement some of the activities. This was especially true for the work on systems archetypes. While approximately 75% of participants found this tool useful, others found it complex to understand and work with. For example, one participant noted *"Perhaps, have a short manual to understand the tools*". The foundation material from which this analytical framework is taken (Kim, 1990) is focused on systems thinking very broadly and does not have examples related to the food system. Providing a supplement showing multiple case examples of how systems thinking can be applied to the food system may support this. However, one advantage of using the archetype labeling was that by being forced to think about which specific systems failure was seen, participants were focused to narrow down their problem to one central issue.

Perhaps a broader reflection on food systems work and training is that it can be hard to get all relevant stakeholders in the training. Often the majority of participants focus on issues of agriculture or improving consumer awareness about nutrition issues. We did have a few participants from the private sector, who were quite critical of the platform mapping tool, suggest that the understanding of major federal ministries as the key actors was outdated. This feedback is interesting and should also stimulate reflection on how MSPs can become more inclusive.

Next Steps and Ways Forward

Nigerian Participants: at the end of the workshop, all participants committed to one key action that they can take to address one of the key food systems challenges that was discussed. A number on inspiring ideas were mentioned including:

- As a researcher in a policy think tank, I will provide a **policy framework to help develop a joined up government approach** to improve coordination.
- **Engage more with the private sector** in generating data in food systems that drive policy development and advocacy.
- Encourage **more research on food systems thinking** to increase production/income for local farmers private sectors or other major stakeholders.
- Lend a voice in the form of **advocacy to implement favourable policies** to support food system.
- Lending my voice in my local community forums to bring **more awareness to the problems facing the grassroots and how the proposed solutions will affect the end users**.
- **Advocate home gardening to adolescents in schools and communities** through Food club and get them involved in the food value chain.
- **Introduce food system thinking in my teaching and research group in my university.** I will stimulate more of the research on food systems that will dovetail into production of policy briefs to be circulate across key stakeholders.

Food System Decision Support Tool: Having now used elements of the tool in three countries, a few themes have emerged:

- The need for more case-studies especially related to food systems
- Systems thinking is complex and takes time, as well as a diversity of actors, to really understand what is happening in the system.
- Stakeholders working on the food system are interested to adopt more systems thinking and trainings and workshops are helpful to support this, however adequate time should be given to ensure that issues are properly considered from a diversity of perspectives.

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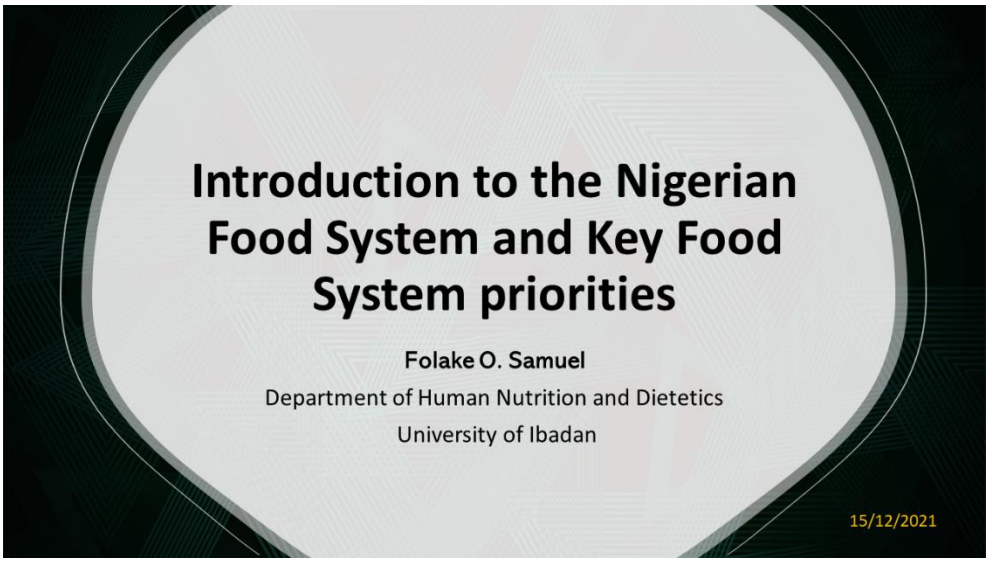
Appendix 1



To highlight the features and problems of the Nigerian Food System

To summarise the current direction of priorities for improved Food Systems in Nigeria

Pivotal role of Food Systems

- Ensuring the quantity, quality, and safety of foods
- Reduction of hunger, malnutrition, and diseases
- Primary livelihood source for a considerable proportion of populations
- Competition over environmental resources for food systems use causes significant conflict and violence
- Major driver of climate change.
- Achieve and sustain progress for SDGs and national development

UNFSS

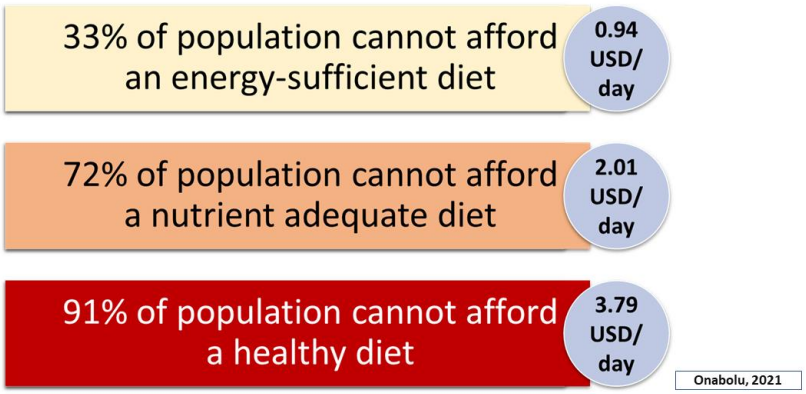
- Food systems has gained much global attention generated from the United Nations Food Systems Summit of September 2021.
  - UNFSS to support governments to identify and implement actions that will transform national food systems towards achieving the SDGs
- Countries prompted to engage national stakeholders in UNFSS Dialogues
- Nigeria: more than 40 Dialogues were convened by the Nigerian government and other actors
  - A total of 79 recommendations for transforming Nigeria's food system were consolidated from these Dialogues.

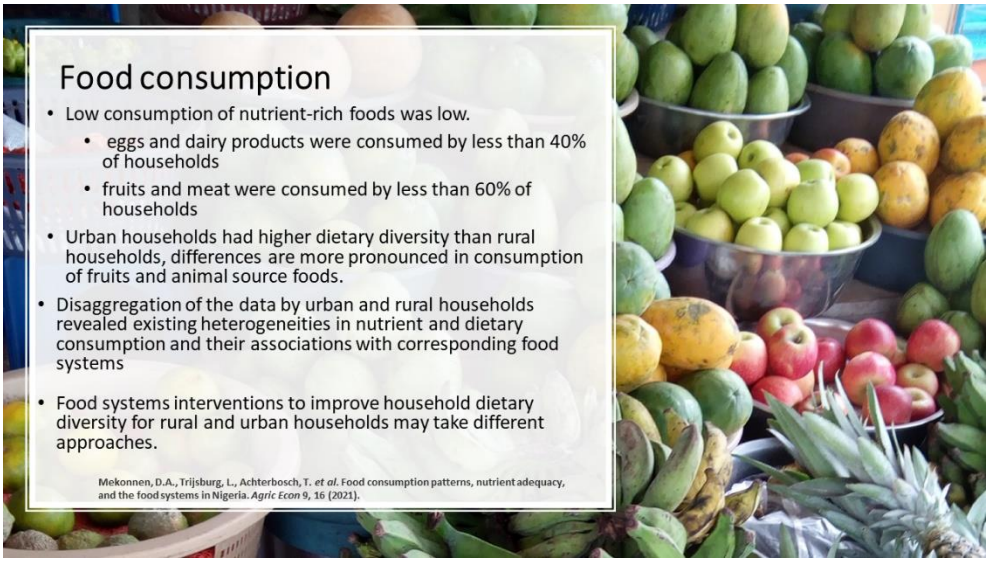
Nigerian Food System: Key features

In Nigeria today, food systems are not functioning optimally:

- High levels of food and nutrition insecurity.
- Fragile and inequitable
- High post harvest losses
- Stagnating agricultural productivity production, dependence on food importation
- Inadequate emphasis on production of nutritious crops
- Mostly provide foods that are expensive, unsafe, and unhealthy.
- High population growth, rapid urbanisation
- Inappropriate marketing of ultra processed foods

Diverse and healthy diets are not affordable for low-income consumers



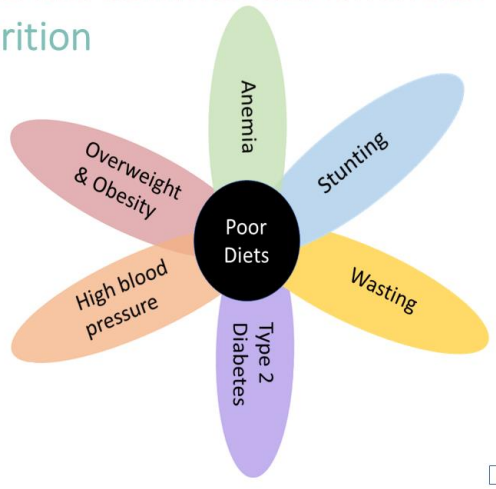


Food consumption

- Another study:
  - Patterns of food spending, food nutrient consumption, and nutrient deficiency profiles of households in Nigeria
  - Widespread nutritional deficiencies with low-income household cohorts bearing a greater burden of the deficiencies.
  - Protein deficiency more prevalent in urban than rural areas.
  - However, the deficiency of micro-nutrients seems to diffuse across urban-rural divides of the country.

Dare Akerele (2015) Household Food Expenditure Patterns, Food Nutrient Consumption and Nutritional Vulnerability in Nigeria: Implications for Policy, Ecology of Food and Nutrition, 54:5, 546-571,

Poor diet is the common denominator in all forms of malnutrition



Onabolu, 2021

- The present features of the Nigerian Food System indicates the need for food system transformation
  - combining positive outcomes for health and for the environment
- Nigeria has made significant progress in charting food systems transformation pathway through the systematic consultative national process

79 recommendations, 6 clusters

Nigeria's national FSD recommendations

- The 79 national recommendations are grouped into 6 clusters
- 1) Invest in food security and nutrition knowledge dissemination, skills development, and information management systems, to enhance agricultural productivity;
- 2) Build sustainable, responsive, and inclusive agricultural input supply and food production systems;
- 3) Develop value chains and market systems for improved productivity, improved livelihoods, and poverty reduction;
- 4) Increase demand for, and consumption of, adequate, nutritious, and healthy foods, including in humanitarian contexts;
- 5) Promote peace-building initiatives, early warning systems, food marketing and regulation standards, and an enabling environment for food systems activities; and
- 6) Link research, innovation, and extension for a sustainable food system.

https://summitdialogues.org/wp-content/uploads/2021/09/National-Pathways-to-Food-Systems-Transformation-06-09-2021-Final.docx

Country Cluster 1: Investing in food security and nutrition knowledge dissemination, skills' development, and information management systems to enhance agricultural productivity

- Scale up appropriate nutrition education programmes for increased consumption of nutrient rich and diversified diets, fortified/bio fortified foods, and reduced household food waste.
- Establish food safety standards for food production, meals, and snacks to ensure provision of safe and healthy foods
- Strengthen technical and vocational training programmes for youth and women for food systems related livelihoods

Country Cluster 2: Building sustainable, responsive, and inclusive food systems

- Strengthen supply chains for agricultural input and improve access for women and youth
- Develop traditional and innovative sources of finance together with business coaching and advisory services Scale-up smart agriculture initiatives that require fewer natural resources and produces more food.
- Scale-up smart agriculture initiatives that require fewer natural resources and produces more food.

Country Cluster 3: Value chain and Market system development for improved productivity, improved livelihoods, and poverty reduction –

- Establish micro-processing hubs to reduce post-harvest losses, prioritizing women processors
- Upgrade market infrastructure to include cold rooms for fresh foods and other perishables
- Re-introduce market boards and improve agro-logistics support

- **Country Cluster 4: Increase demand for, and consumption of adequate, nutritious, and healthy foods, including in humanitarian contexts**
- Promote homestead food production and animal husbandry with improved varieties for household consumption.
- Expand and improve social protection programmes including creation of food banks to deliver healthy, safe, and sustainable diets to poor communities and in humanitarian emergencies
- Establish and scale-up home storage of food through processing and preservation to minimize food waste and build-up household food stocks

- **Country Cluster 5: Promotion of peace-building initiatives, EWS, food marketing and regulation standards and an enabling environment for food systems activities**
- Promote policy reforms and enabling acts to ensure preservation of ecosystems to improve food production during adverse weather conditions.
- Establish conflict early warning systems, and build capacity for peace building and conflict resolution for all communities
- Encourage multi-stakeholder engagement for an all-inclusive policy formulation, regulation of advertisement and marketing of unhealthy foods

- **Country Cluster 6: Linking research, innovation, and extension for a sustainable food system**
- Incentivise private sector to create business solutions that provide healthy food alternatives for consumers
- Develop resilient crop seed varieties, livestock, and aquaculture
- Convert agricultural waste to value-added products to reduce ecosystem degradation and promulgate policies that encourage the use of eco-friendly bags

Stakeholders to work together around these 6 clusters to support national efforts to transform the food system.

Some country actions

- 'Operation Feed Yourself' initiative to encourage the establishment of urban farms and small home gardens across the country.
- Oyo State model recommended for integrated farming arrangements
- MDAs and States asked to make adequate budgetary provision for nutrition in the 2022 budgets
- Commitments made by Nigeria at UN FSS in September 2021
- A4NH – IFPRI Discussion Paper : Food Systems for Healthier Diets in Nigeria A Research Agenda 2021
- NSN – collaboration with FMFBNP for National Nutrition Week
- University research – UI/WUR, etc : encourage low income consumers to adopt healthier diets in Ibadan through food systems innovations

Thank you

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Wageningen Centre for Development Innovation supports value creation by strengthening capacities for sustainable development. As the international expertise and capacity building institute of Wageningen University & Research we bring knowledge into action, with the aim to explore the potential of nature to improve the quality of life. With approximately 30 locations, 6,800 members (6,000 fte) of staff and 12,900 students, Wageningen University & Research is a world leader in its domain. An integral way of working, and cooperation between the exact sciences and the technological and social disciplines are key to its approach.

To explore the potential of nature to improve the quality of life

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The mission of Wageningen University & Research is "To explore the potential of nature to improve the quality of life". Under the banner Wageningen University & Research, Wageningen University and the specialised research institutes of the Wageningen Research Foundation have joined forces in contributing to finding solutions to important questions in the domain of healthy food and living environment. With its roughly 30 branches, 6,800 employees (6,000 fte) and 12,900 students, Wageningen University & Research is one of the leading organisations in its domain. The unique Wageningen approach lies in its integrated approach to issues and the collaboration between different disciplines.