Dhaka Food Agenda 2041
Foresight and Scenario development

Workshop Report
Dhaka Food Systems project

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With organising support from Silvi Razzaque and Abdullah Maimun

1 FAO-Bangladesh
2 Wageningen University and Research
3 Foresight4Food

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This report is a compilation of a workshop sessions held with stakeholders engaged in a foresight and scenario develop process to develop a Dhaka Food Agenda 2041. The report describes the rationale and the different steps undertaken in the process as well as its outputs. Stakeholders have interacted and explored the Dhaka Metropolitan food system and discussed the linkages between issues in the domain of food and nutrition security, food safety, food loss and waste, fresh markets and value chains. In terms of output they have deliberated that one of the major uncertainties is the shift in diets of citizens related to the uncertainty of having thriving small and sustainable businesses versus big- companies (supermarketisation). The participants developed different scenarios and their narratives that are varying from least to most desirable situation. The workshops have led to evidence and dialogue on the needs and opportunities to aim for a sustainable and inclusive food system in Dhaka in 2041. In conclusion, the report presents the steps that will follow the scoping, mapping, analysis of drivers and trends and the scenario development feeding into the further development of the Dhaka Food Agenda 2041.

Keywords: Dhaka, food systems, foresight, scenarios, Bangladesh, food agenda

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On behalf of the FAO-DFS project leadership: John Taylor (FAO) and Marion Herens (WUR)

List of abbreviations and acronyms

CGUFSS	Consultative Group on Urban Food System Strategies
CWG	City Working Group
DFA	Dhaka Food Agenda
DFS	Dhaka Food System
FAO	Food and Agriculture Organization of the United Nations
TWG	Thematic Working Group
WCDI	Wageningen Centre for Development Innovation, Wageningen University & Research
WUR	Wageningen University & Research

Summary

This report is a compilation of a workshop sessions held with stakeholders who are active in Dhaka's food system as part of a participatory process to develop a Dhaka Food Agenda -2041. The participants contributed to scoping and mapping the urban food system and they identified risks, critical uncertainties and scenario's that encompass an imagined future of Dhaka's food system in 2041.

On a process level, stakeholders have interacted and viewed the whole food system and discussed the linkages between issues in the domain of food and nutrition security, food safety, food loss and waste, fresh markets and value chains. These conversations strengthen the relations between the thematic experts and increase the knowledge base of stakeholders by exchanging thoughts and ideas.

In terms of output they have deliberated that one of the major uncertainties is the shift in diets of citizens related to the uncertainty of having thriving small and sustainable businesses versus big- companies (supermarketisation). The participants developed narratives that are varying from least to most desirable situation. The workshops have led to evidence and dialogue on the needs and opportunities to aim for a sustainable, healthy and inclusive food system in Dhaka in 2041. This aligns with the national priorities in the following way:

- **Strategic Dhaka Food Agenda 2041 will be** in line with National priorities and commitments of the Government for Bangladesh, such as;
  - GoB Prime Minister's commitments at the UN Food Systems Summit 2021 with the National Pathway priorities, especially with
    1. Investment in capacity strengthening of government institutions
    2. Coordinated governance through integrated multi-level multi-sector multi-stakeholder approach
- The integrated food system transformation in national policies and action plans of Bangladesh as an integrated tool to achieve Agenda 2030, as envisioned in the Perspective Plan: 2021-2041 (PP2041) to graduate to an upper middle-income country by 2031 and become a prosperous high-income country by 2041;
- The Government of Bangladesh made commitments for:
  - Nutritious and safe food for all, achieve SDG-2 by 2030
  - Continuous access to safe, nutritious, and sufficient food as recognized in the National Food and Nutrition Security Policy (NFNSP) 2020.
  - Stronger rural-urban linkage and synergies with improved infrastructure to empower the smallholder actors as laid out in 8th Five Year Plan (under the 'My Village My Town' initiative) 2021-2025

From the envisioned future for Dhaka's food system, the thematic experts identified a number of directions for change on the short and the long term in the urban food system. The report concludes by sharing a number of steps that will follow the scoping, mapping, analysis of drivers and trends and the scenario development. The Dhaka Food Agenda 2041 will be based on the participatory output and deliberations stemming from this process.

A quick readers' guide

1. Learn more about the **process and methodology**: read chapter 1
2. What are Dhaka's **most important food systems issues** according to the participants? See paragraph 3.3.1
3. Find out **what data were used** to dialogue about Dhaka's food system: Look at the presentation under a link in Appendix 2.
4. **Ten key observations** from data on Dhaka's food-system. Read paragraph 3.4.1
5. Read the consolidated and validated **scenario diagram for Dhaka's food system in 2041** in paragraph 5.2
6. **Imagine future scenario's** by reading the narratives in 5.2.2
7. **Strategic steps for change and transformations** in thematic areas can be found in chapter 6

1 Introduction

1.1 Background and context

Just like many other cities around the world, the greater Dhaka area is expanding, and it becomes increasingly clear that providing the city's residents with adequate, safe and nutritious food is a significant challenge. A number of trends and issues deserve particular attention, and relate to:

- **Population growth:** Dhaka's population is expected to reach an estimated 34 million inhabitants by 2041, increasing pressure on food production and services.
- **Food security and nutrition issues**: While food insecurity and undernutrition persist, especially among the urban poor and vulnerable groups, overweight and obesity levels are increasing among higher income groups.
- **Income growth and consumption shift:** Rising incomes of the population overall are changing food choices, diets, and the ways that people consume foods. People eat more, and are shifting from diets with a high proportion of a limited set of staples toward more diversified diets that are higher in energy and macronutrients. Consumption of specific food groups increases, such as meat, sugar, processed foods, and people eat more often foods outside the home.
- **Growing amounts of food waste:** Hand in hand with increases in incomes and food consumption, the cities are producing higher amounts of food waste. In spite of spending a large share of the annual budget on waste collection, city governments are finding the efforts inadequate. The area of the capital needs an integrated waste management approach to manage and utilize the food waste efficiently.
- **Urban development and planning issues:** Many urban residents are finding access to safe and nutritious food a challenge, as rapid urbanization and increased demand for food threatens peri-urban agricultural land and practices, and overburdens existing market infrastructures. Also, there are issues related to safe food preparation, due to lack of fuel for cooking of foods and lack of clean water.
- **Impacts of climate:** Climate change and the consequential extreme weather conditions arising from it (cyclones, floods, rise in salinity, river erosion etc.) is affecting the capacity of food producers in production areas in- and outside Dhaka. Given the loss of livelihood, home, and cultivable lands induced by climate change, it is projected that rural-urban migration will increase.
- **Livelihoods:** Dhaka's food system is a source of employment, from production to consumption meaning that a great number of people depend on a well-functioning system for their livelihood.
- **Economic sector:** Food offers a series of expanding business opportunities from logistics, to processing and distribution.

In response to such challenges the Support for Modelling, Planning and Improving Dhaka's Food System (DFS) project aims to make Dhaka's food system more inclusive, resilient, and sustainable by supporting the Government of Bangladesh to develop a **Dhaka Food Agenda 2041**.

The Dhaka Food Agenda 2041 will be a stakeholder-created and evidence-informed long-term vision outlining how Dhaka's food system can contribute to safe and nutritious food, health and wellbeing, livelihoods, and the environment of Dhaka's population. It will be a resource document to support policymaking and urban planning by the National Government and Dhaka's city corporations, while guiding all stakeholders towards a common set of goals. The DFA 2041 is being developed in alignment with and complementary to exiting policies, development plans, and goals set by the Bangladesh Government, amongst others the UN Food Systems Summit (UNFSS) National Pathway (2021), the National Food and Nutrition Security Policy (2020), the Bangladesh 8th Five Year Plan July 2020 – June 2025 (2020) and the Perspective Plan of Bangladesh 2021-2041 (2020).

The Dhaka Food Agenda 2041 is being developed through a facilitated participatory process, gathering key actors in the food system, including representatives from city corporations, ministries, utility and waste management agencies, the private sector, consumers, and civil society. These actors are engaged in discussions and provided with relevant information relating to Dhaka's current food security and nutrition situation and what transformations are needed to address critical issues. The development of the Dhaka Food

Agenda 2041 will integrate a foresight process to ensure a holistic and longer term-perspective of Dhaka's food systems. The Foresight4Food foresight framework[1] is being used in Bangladesh to help develop a Dhaka Food Agenda 2041 (Figure 1; further details in chapter 2).

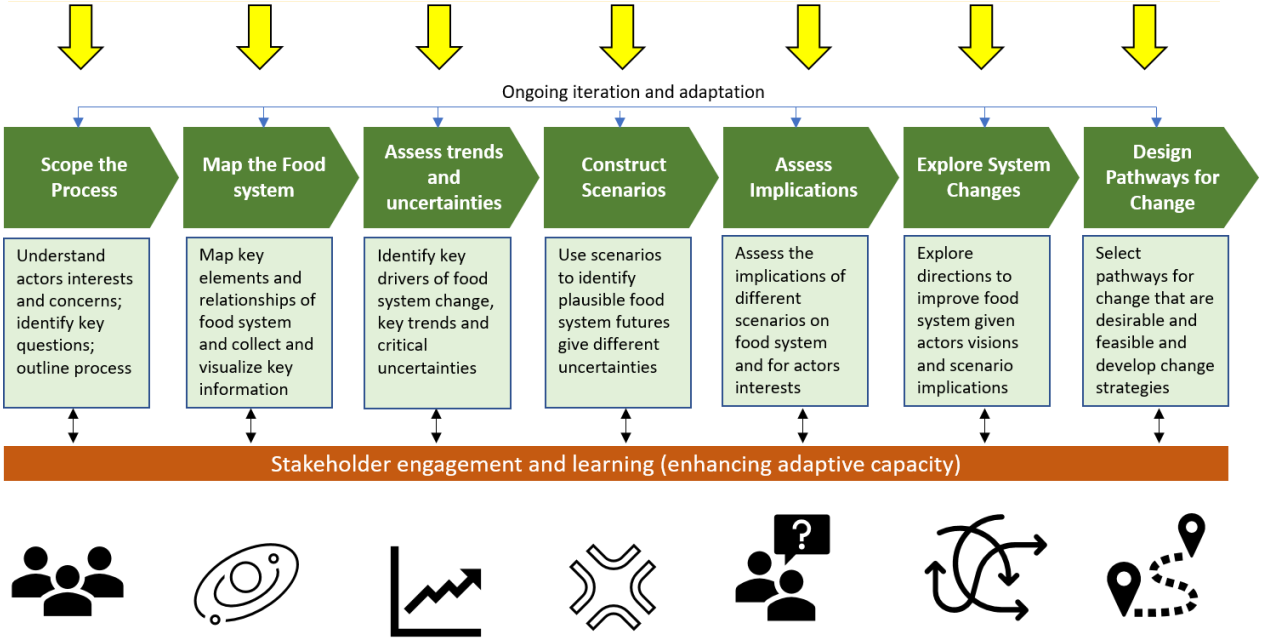


Figure 1 *Foresight and Scenario process development for DFA 2041*

The Dhaka Food Agenda 2041 will:

- Identify and lay out the key challenges for meeting Dhaka's food needs
- Set priorities and goals over specific spans of time
- Propose strategies, policies, planning and implementation guidelines, and monitoring and knowledge management framework, shaping pathways for adaptive learning and transformation.

The overall coordination of the Dhaka Food Agenda will be provided by the Dhaka Food System Consultative Group on Urban Food System Strategies (CGUFSS) – a multi-stakeholder committee – bringing together representatives from the technical working groups (private sector, academia and development partners), local and national government such as city corporations, LGD, and aligned ministries.

The overall process on the Dhaka Food Agenda 2041 is led by the LGD of the Ministry of LGRD&C, in the framework of the *Support for Modelling, Planning and Improving Dhaka's Food System* (DFS) Project, with technical support from the Food and Agriculture Organization of the United Nations (FAO) and Wageningen University & Research (WUR), and funded by the Embassy of the Kingdom of the Netherlands in Bangladesh.

1.2 Scope of the report

This report presents the results of the first phase of the foresight process for the DFA 2041 conducted in the first quarter of 2022. In February 2022, a series of four virtual sessions were conducted in coordination between FAO and WUR to explore the Dhaka food system as a whole and identify possible futures for the next 20 years in the Dhaka area, In this first chapter the rationale of this effort is laid down. Chapter 2 describes the foresight and Scenario development process and methodology in more depth. Chapter 3 to 9 describe the combined results from the online and face to face workshops of the different steps in the process, from the identified major concerns, trends and uncertainties to the scenarios resulting from the stakeholder dialogues and the pathways for change emerging from there.

[1] Woodhill, J., Hasnain, S. (2020): A Framework for Understanding Foresight and Scenario Analysis; working draft. Foresights4Food Initiative. https://www.foresight4food.net/wp-content/uploads/2020/05/Foresight-Approach_May-2020.pdf

2 Methodology for Foresight and Scenario development

2.1 Why a foresight and scenario development process

The DFS project acknowledges that Dhaka's food system requires fundamental transformation to tackle hunger, enable good health, protect the environment, and ensure long term food security for all and is dedicated to contribute to this transformation. Making the necessary changes requires concerted and coordinated efforts from across government, research business and civil society. There is a need to address the 'big' questions, such as:

- In what ways might Dhaka's food system be fundamentally (structurally) different in 2041? What will people be eating? Where will we buy food and what will purchasing and shopping for food be like for our children/grandchildren?
- What different scenarios can we imagine for the future?
- How might different futures for Dhaka's food system affect different groups of citizens stakeholders:
- With an understanding of different future scenarios for 2041 what policy decisions and action can be taken to try and transform food systems towards a more desirable rather than less desirable situation?

At the same time there is a need to deal with uncertainty, because we cannot predict the future. However, we can identify factors that could lead to different possible futures, the so-called "critical uncertainties". By combining different critical uncertainties we can create different "scenarios" for how the future might turn out. Scenarios are not desirable futures or visions – they are what might happen. Thinking in terms of Foresight and Scenarios helps to structure the thinking about the future and how to navigate in turbulent and uncertain times. It helps to improve decision making and learning. In addition, thinking in terms of foresight and scenarios can be aligned with the emerging trends and developments found in existing data and reports. Use of scenarios helps to explore how the future might unfold, to assess the implications of current trends and future uncertainties, to identify future risks and opportunities, to be aware of, and prepared for, different possible futures. Using insights about possible futures to make better policy decisions. Scenarios can help policy makers and organizations assess future risks and opportunities, adapt to changing situations and plan for contingencies. Figure 2 summarizes the overall Foresight4Food approach, which integrates stakeholder engagement with data gathering, research and analysis. The process also integrates established methodologies from systems thinking, scenario analysis, theory of change development, quantitative modelling, and participatory processes for stakeholder engagement and policy development.

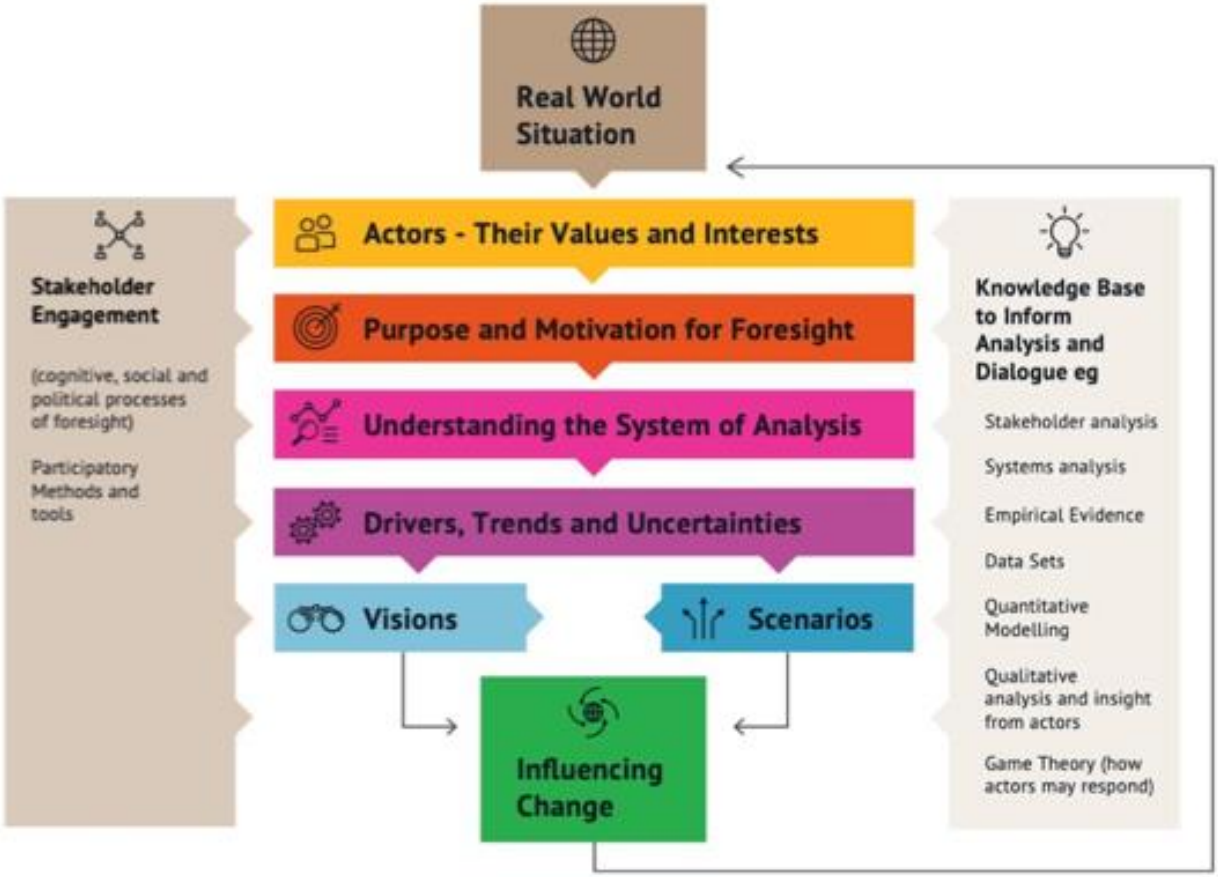


Figure 2 *Overall Foresight and Scenario approach*

2.2 Outline of the process

2.2.1 The overall process

The development of the DFA 2041 is a process of stakeholder engagement, collecting and presenting relevant scientific data and integrate modelling to quantify the foresight process. The DFS project has contributed to evidence finding on food loss and waste, urban consumption, value chains and fresh markets. Besides this data there are number of other data bases which are relevant to understand the trends and uncertainties for Dhaka's food system. The DFS project therefore focuses on three important levels.

First, establishing governance arrangements to dialogue with city level stakeholders and with representatives of Dhaka food systems (experts, policy makers and civil society professionals). A scheme of these arrangements can be found below. The DFS project has established City Working Groups, Thematic Working groups and the CGUFSS. This later group, the Consultative Group for Urban Food System Strategies plays a key role to ensure ownership and to drive the DFA 2041. Figure 3 clarifies the governance arrangement that is established by the DFS project to support the governance of Dhaka's food system and to enable the development of the DFA 2041.

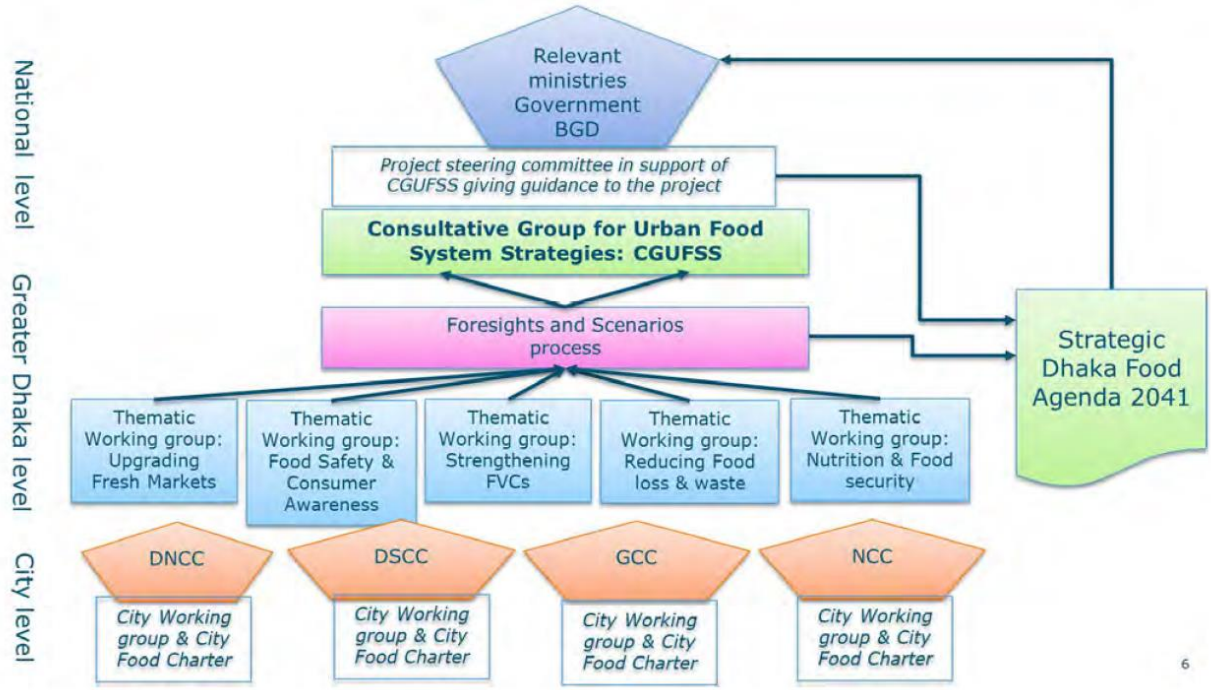


Figure 3 *Stakeholder engagement structure for the Dhaka Food Agenda 2041*

Second, the foresight process itself, which entails a series of workshops, meetings and analyses to have an informed analysis and dialogue with stakeholders. This foresight process will lead to the development of the Dhaka Food Agenda 2041. A series of sessions were organised: online sessions in February 2022 and in person workshops March 2022. The workshops targeted stakeholders representing the thematic working groups which included both members from the city working groups as well as participants of the CGUFSS. It was chosen to work with the members from various thematic areas because of the systems approach used in this project. To analyse food systems and to envision possible scenarios for the future it is crucial to have interaction between the experts from various thematic areas. Jointly they can debate their views on a sustainable, healthy and inclusive food system including diverse food systems aspects (behavioural, technical, environmental and socio-political). During the remainder of 2022 the preliminary work will be developed with additional stakeholder engagement, data gathering, and analysis. Figure 4 illustrates the timeline with a number of multi stakeholder consultations and the relevant platforms to be included in the further development of DFA 2041.

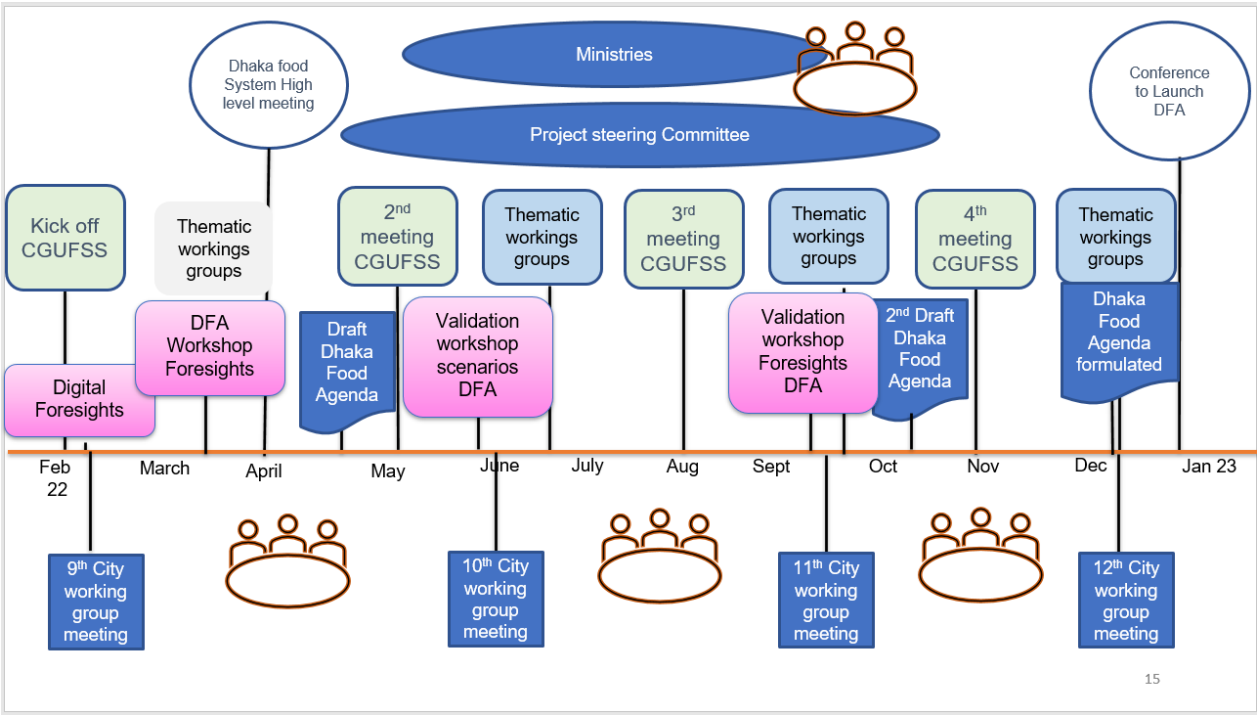


Figure 4 *Timeline of the development process for DFA 2041 (due to changes)*

2.2.2 Use of data

Third, a foresight process is, next to stakeholder driven, typically data driven and deliberately applies a structured approach to the systematic collection of existing data and evidence. The evidence that exists relating to a food system can be sometimes obscured by opinions and every day discourse among experts and policy makers. Therefore, a stocktaking effort was done prior to the interactive workshop series to make an inventory and visualize what data are available on various drivers in the DMA food system and the specific theme areas. The aim of this effort is to create an evidence-based overview of data available from the DFS project on possible drivers and trends that are expected to influence the safety, sustainability and inclusiveness of the DMA food system to function as starting point for the Foresights & Scenarios process. From these drivers, the most crucial and uncertain ones will be selected to develop scenarios. Data will primarily be sourced from DFS products and resources, alongside general policy reports available in Bangladesh.

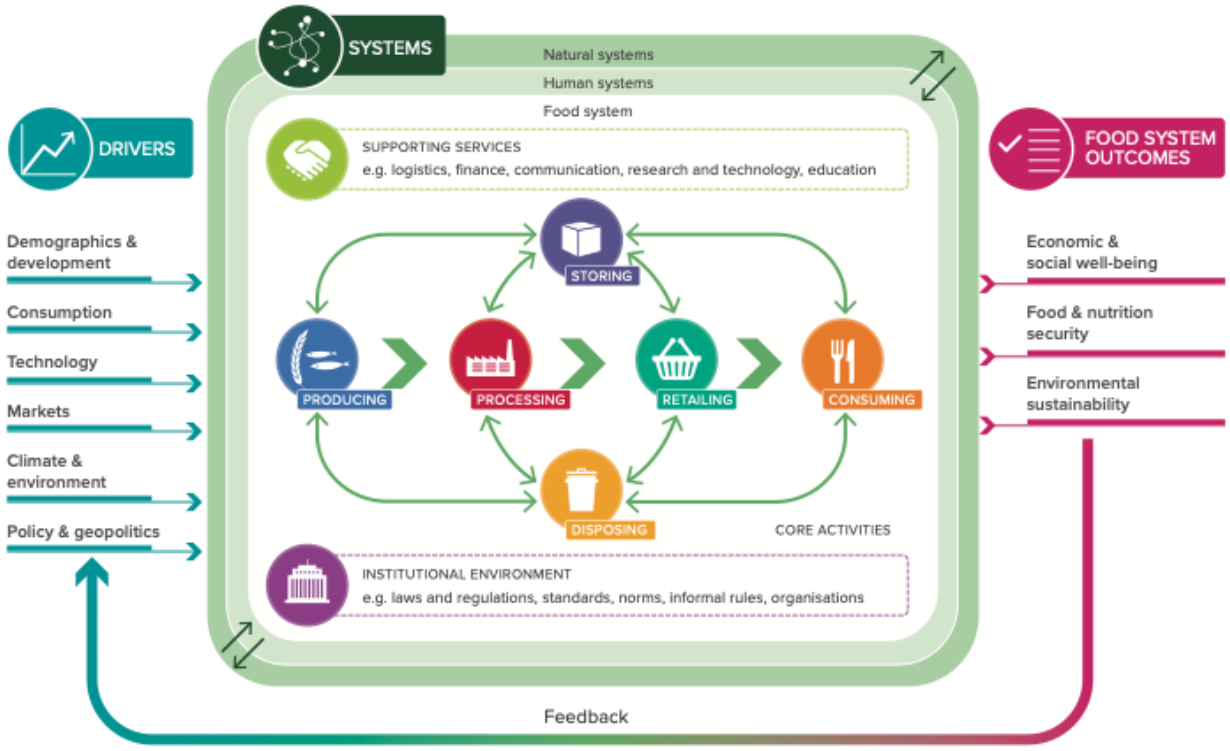


Figure 5 *Food Systems Model*

The stock taking exercise complements the ongoing DFS project activities on interactive GIS modelling and the socio-economic modelling work in the Food Systems foresight dashboard. These are analytical systems being developed to support the planning and governance capacity for Dhaka's future food systems with data that can inform the dialogue of relevant stakeholders and which can develop quantification for the narratives that the stakeholders develop. The modelling work will be further developed to help provide more details for the scenarios. A critical aspect of the participatory approach of the foresight and scenario development process is to present the evidence base and scientific data in a highly accessible way to stakeholders so that participants can take note of the data, discuss the relevance for the trends they observe and analyse what the implications are for future scenarios.

The food systems model was used as an organizing frame to gather data on trends across over 40 parameters (Figure 5). Data were gathered on:

A. Food system drivers

- Demographics
  - Total population and growth
  - Share of urban population
- Climate and Environment
  - Flooding and food production
  - Drought and food production
- Markets and Trade
  - Trade balance
  - Key imports and exports
- Policy & Public Expenditure
  - Total development expenditure and commitments
  - Resources to achieve SDG2

B. Food system activities

- Food production & supply
  - Farmers and income

- Informality and livelihood
- Agriculture sector share of GDP
- Employment in agriculture
- Agricultural land

- Retail
  - Fresh markets customers and access
  - Growing demand of other retailers
- Consumption and diets
  - Diets by income
  - Consumption projections

C. Food system outcomes

- Nutrition and Health
  - Malnutrition
  - Overweight and obesity
- Economic & Social Wellbeing
  - Income level Bangladesh
  - Household income DMA
  - Inequality
- Environmental Sustainability
  - Environmental impact of waste
  - Use of chemicals in agriculture
  - GHG emission in Agri-Food sector

The data and trends were presented in the workshops grouped into statements for further discussion. Participants had time to review these data and discuss these in subgroups. The presentation of all the data is available under a link HERE.

2.3 Who has been involved and how

Representatives from thematic areas participated in their roles as stakeholders from public institutions, academia, civil society, and the private sector covering the major concerns and priority themes in Dhaka's food system. Invitations were guided by a policy brief[2] stating a description of the process and an outline of the steps to be taken towards the DFA 2041. Concretely, participants represented the following types of stakeholders:

- Various Ministries
- City corporations
- Government agencies
- I/NGO, NGOs
- Private sector
- Academia
- Research centres
- Professional networks
- Foundation, volunteer, charity
- CSO, CBO, networks
- Development partners
- UN agencies

The participating stakeholders were facilitated to develop a vision, set goals, and consider solutions for the short, medium, and long term. This process was fuelled by the interactive tools, the presented data and the plenary sharing. Due to COVID restrictions a number of workshops were held virtually (15, 16, 23 February & 2 March) and followed up with face to face workshops (23-24 March).

[2] FAO, WUR (2022): POLICY BRIEF Dhaka Metropolitan Food Agenda 2041, FAO Bangladesh, Dhaka

20 – 40 people participated in each of the virtual sessions and over 60 in the face-to-face event. Nearly 90 different stakeholders across government, business, civil society and research have participated to date. Table 2.1 shares an overview of the participation in the online sessions and face to face sessions. Around 88 participants were representing organisations at either one of the occasions or both. Appendix 3 states the full participants list and the invitations to the online and the face to face workshops on 23 and 24 March.

Table 2.1 *Overview of participation in the various sessions by sector*

Sector	23/24 March	People in both settings (in person and internet)	In person meetings only	online only	Overall process
Academia	7	3	4	0	7
City Corporation	7	2	5	2	9
CSO, CBO, Networks	8	3	5	2	10
UN Agency, inc. WB	1	1	0	1	2
Government Agency	6	2	4	6	12
I/NGO, NPO	13	3	10	5	18
Development partner	2	0	2	0	2
Ministry	6	1	5	0	6
Private sector/ Industry	8	0	8	3	11
Research Institute	2	0	2	1	3
Affiliation Unknown	0	0	0	8	8
TOTAL	60	15	45	28	88

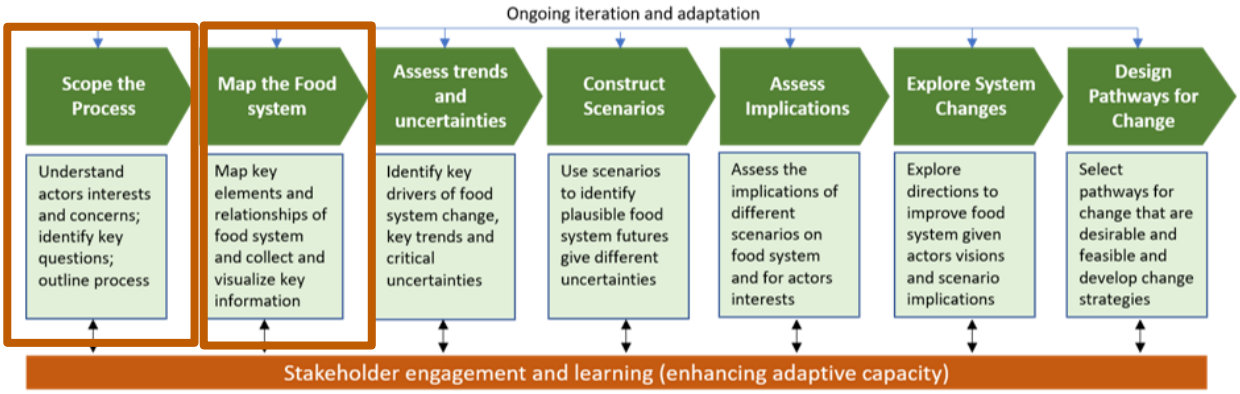
2.4 Facilitation of the process

A team from FAO Bangladesh and WUR lead the workshop process, the data gathering and the logistics. In total a group of 15 facilitators from FAO and WUR guided the four online and the two day face to face workshop (Appendix 2). It was ensured that each break out group would have a Bangladeshi facilitator to encourage participants to speak either in Bangla or in English.

The workshops were participatory and interactive resulting in group work output and small group or plenary conversations. This is inherent to the methodology used whereby the stakeholders' input is central to the process. By working with a team of Bangladeshi facilitators the FAO and WUR team ensure that knowledge of the process of multi stakeholder collaboration is increased and that interactive facilitation skills are strengthened.

3 Scoping and mapping Dhaka's food system

During the workshops the participants became familiar with the foresight process by discussing the challenges of Dhaka's food System, both online and in the face to face workshop. This initial scoping includes background studies and several stakeholder analyses which were conducted as part of the first stage of the DFS project. Building on this **scoping**, we started the **mapping** exercises. The participants developed systems pictures also known as 'Rich Picture' to establish common understanding around the most pressing issues in Dhaka's food system. Participants reviewed the data collected in Dhaka's food system and discussed them in subgroups. Subsequently the participants discussed some of the main trends and key uncertainties, which should be fed into the scenario development (see chapter 4 on drivers, trends and uncertainties).



3.1 Scope the process: exploring issues of Dhaka's food system

3.1.1 Key issues of Dhaka's food system

The foresight process started by asking experts, policy makers and professionals working in Dhaka's food systems, what "keeps them awake at night" and what "surprises them" when thinking about Dhaka's food System. An online tool, MURAL, was used to create interaction and to document what the participants shared. Immediately concerns were raised about healthy food, safe food environments and the rapid growth of Dhaka's population.

The participants also emphasised the efficacy and success of the food system despite the issues that are taking its toll on health and wellbeing of the city dwellers. The major issues such as poverty, illness and disease caused by inadequacies in the food system co-exist with resilience and progress in the system.

Figure 6 *Bundling key issues of Dhaka's food system*

3.1.2 Stakeholders' roles in the food system

The face to face sessions -similarly to the online sessions- started with the challenges that participants identify in Dhaka's food system. Excess of food waste, safe and hygienic food environments, access to healthy foods, access to markets and over- and undernutrition were mentioned. Subsequently, by way of table introductions the participants looked at the food system model and place themselves/their role in the food system. Participants thus interacted with the model and found out to what extent all stakeholder groups that are active in the food system are taking part in the workshop. Working with the system means to engage with or seeing all aspects of the system (zooming out) and as such invite various viewpoints in the system. It was noted through this exercise that actors engaged with production, or private sector stakeholders were less represented in during the sessions. Another insight was that stakeholders belong to different groups; all of the participants are consumers too as well as citizens and as such fulfilling a role in the food system.

3.2 Emerging stakeholder concerns and issues

The next step was to identify key stakeholder groups in Dhaka and their current concerns and future interests regarding Dhaka's food system. Common interests and tensions/ conflicts could then be identified. Participants were given stakeholder roles so that their perspective would be taken into account. The invitations to stakeholders to take another viewpoint (by role play or otherwise) is important for participatory scenario development. It is another way to make space for all voices in the system leading to better/more complete understanding and more inclusive agenda development.

For Dhaka's food system the following Stakeholder Groups were identified:

- **Consumers**
  - Poor
  - Wealthier
- **Retailers**
  - Wet market traders
  - Local stores
  - Supermarkets
  - Home delivery
- **Food Services**
  - Restaurants and hotels
  - Street vendors
- **SME midstream**
  - Traders
  - Processors
  - Wholesalers
- **Corporate midstream**
  - Traders
  - Importers
  - Processors
  - Wholesalers
- **Government**
- **Producers**
  - Urban/peri-urban small-scale farmers
  - Rural small-scale farmers
  - Corporate producers
- **Ancillary services**
  (e.g. transport, packaging, finance, storage)

In a subsequent activity "stepping into other stakeholders' shoes" their concerns, interests and power were described. This exercise helped to create a better understanding of each stakeholder group in the system and to enable policy makers and professionals to take into account various viewpoints needed to design better food systems for all stakeholder groups in Dhaka. From the various viewpoints we distilled some common interests and some observed tensions and conflicts in the system. These provide for the common ground to search for opportunities and possibilities to transform the food system of Dhaka. Common interests related to food quality and food safety, improving infrastructure, better market coordination and better regulations and policies. Potential areas of tension or conflict related to supermarkets vis a vis wet markets and (street) vendors, food imports vis a vis local farmers and food producers, balancing the interests in food pricing of farmers and food producers and consumers.

3.3 Map the food system: Visualising issues and perspectives by theme using Rich Pictures

"A picture tells us more than a thousand words...". Participants worked on a systems map, a so called Rich Picture to visualize a complex situation. Focus of this workshop was the Dhaka metropolitan food system, including the actors, the factors and the relations that shape the main issues. The participatory development of such a systems map is important to include diverging viewpoints and is an important steppingstone to create common understanding, discuss boundaries of the food system and gain focus to the main issues at hand. Participants are invited and stimulated to stretch the boundaries of their perspectives within thematic areas as they interact with a variety of professionals, policy makers and experts whose view and priorities in the system may differ. The rich picture exercise contributed to participants sharing and as such they gained knowledge about Food Systems and the role a foresight process can play to develop the Dhaka Food Agenda 2041.

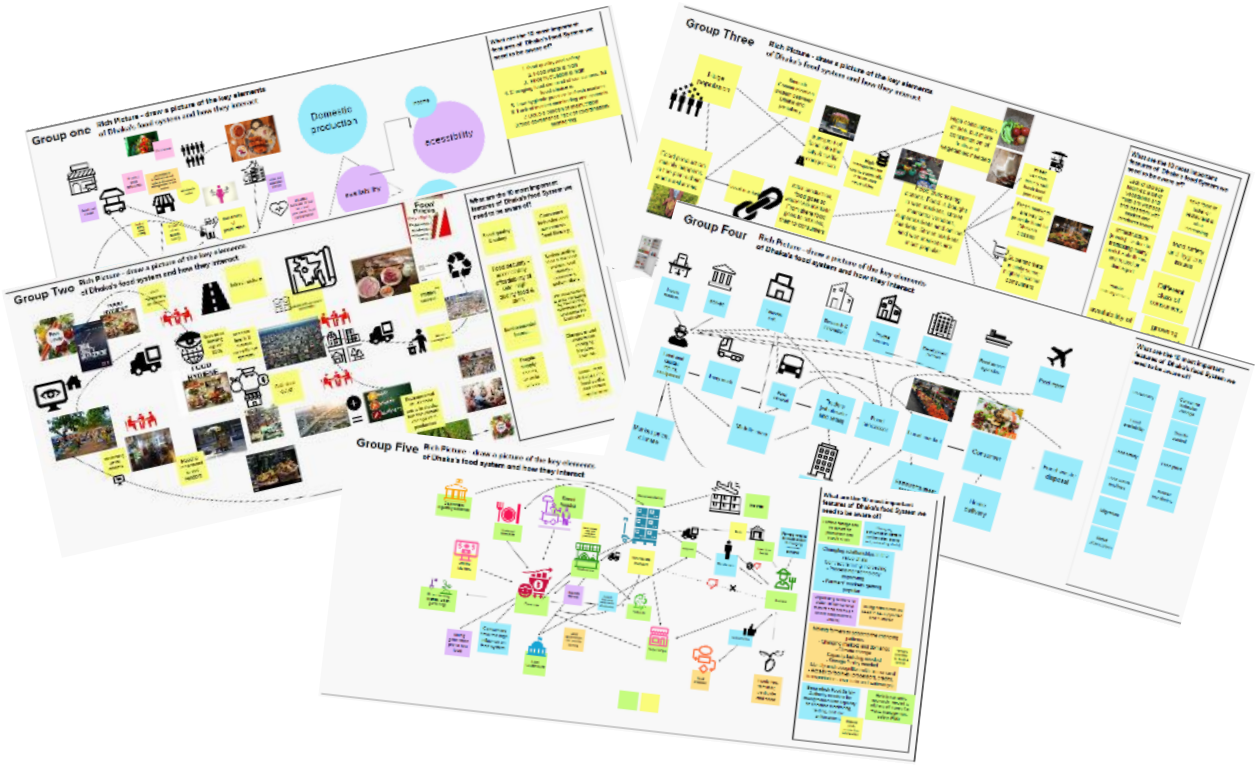


Figure 7 *Rich pictures created in online session*

3.3.1 Workshop sessions

During the online and face to face sessions a number of systems pictures were created. In the online workshop, in five mixed groups the participants shared their perspectives on the food system and in their lively discussions they elaborated on the key issues. Each picture highlighted a different discussion. In group 1 the complexity of all elements in the system emerged. Group 2 focused on the coordination in the system. Group 3 elaborated on the consumer from various perspectives whereas in Group 4 the conversation evolved around the institutions. Group 5 visualised the variety of stakeholders in the system and their interrelatedness. Key insight was that Rich Pictures enable us to relate to the food system and that a variety of perspectives is necessary to get the whole system in the picture. The readable format of the rich pictures can be found in Appendix 5.

Participants shared their concerns and discussed the relations between the various elements in Dhaka's food system. From this, each group listed the (max) 10 most important issues.

Group 1	Group 2	Group 3	Group 5	Group 6
Food quality and safety Food waste is high Price fluctuation is high Changing food demand of consumers Low hygienic practice in fresh markets Lack of market monitoring and controls Double burden of malnutrition food governance /lack of coordination/ monitoring	Food quality & safety Consumer behaviour and awareness, food literacy Food security - accessibility, affordability of safe, high quality food & diets Understanding food & the food system, food literacy, consumers, policymakers Join stakeholders to unite monitoring by the standing committees at CC level across the food system Environmental impact Changes ahead: urbanization, changing lifestyles, incomes Rural-urban linkages to food quality and control mechanisms Fragile supply chains, Volatile prices	Lack of storage facilities: a lot of vegetables and fruits are wasted and loss from wet market and producer level Take-away food in hotel or restaurant is also increasing Infrastructure (roads) --> due to trafficking many perishable items are rotted or damaged Food safety and hygiene issues waste management Different class of consumers availability of fruits, vegetables and protein growing amount of fast food /obesity poor packaging system Increase weight of city dwellers, not aware on nutrition	Traceability Food Availability Food safety Consumer behaviour change Quality Control Food price Market Monitoring Migration Food waste and loss Rapid urbanization	Climate change and its impact on production and supply chain Changing consumption pattern (online sales, eating out, unhealthy diets) Changing relationships in the value chain: * Contract farming increasing * Processing technology improving - *Farmers' markets getting popular Organizing farmers for better influence over market and prices (i.e. under cooperatives, unions) Young entrepreneurs need to be supported and nurtured Making farmers to adopt to the changing patterns: *Changing markets and demands *Climate change * Capacity building needed *Storage facility needed * Identity and recognition with farmer card/farmers data base * Access to facilities processors, credits, transportation * esp. train and waterways. Bangladesh Food Safety Authority needs to be strengthened with capacity to enhance monitoring, testing, and law enforcement Holistic systemic approach needed to address all issues (i.e. waste management, safety, FNS)

3.3.2 From Dhaka's Rich Picture, to the Thematic Areas in Dhaka

In the second round of workshops, which were held face-to-face Rich Pictures were developed zooming in further on specific aspects of Dhaka's food system. Participants interacted about how different stakeholders connect within the food system on these specific themes as identified in the DFS project. The theme areas explored were: food safety and consumer awareness, nutrition and food security, fresh markets, food value chains, food loss and waste. The stakeholders from each thematic area drew a Rich Picture and from their conversations the facilitators documented the narrative, its opportunities, challenges and potential conflicts in the thematic area of the food system.

Overview of all rich pictures

Thematic Aria 1: Promoting Nutrition and Food Security

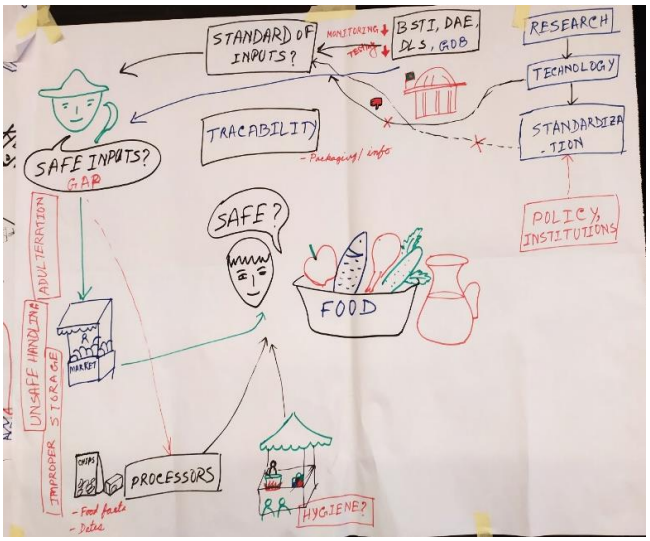
Narrative

With time the form of malnutrition is changing. Before where the concern was more about stunting and wasting now a great concern is about obesity. Thus our thinking is not only limited now within the production and availability of the food to ensure food security but also the whole food system to ensure safe and nutritious food for all. Way of purchasing food is now changing. Along with the conventional wholesale and retail market, street food vendor, the demand for supermarkets, restaurants, food industries and online services are increasing. To ensure safe and nutritious food at the city level some initiatives like urban gardening at the poor community level, rooftop gardening, farmers market are appreciated. Occasionally, different departments of government have taken initiatives to sell fish and other livestock products at fair prices directly to the consumers, maintaining proper temperature and quality. For poor people there are over 50 open market selling points (OMS) which fall under the TCB (Trading Corporation of Bangladesh, Ministry of Commerce) in Dhaka city where necessary food items are selling at subsidized price although still these are not enough. There is a lack of knowledge about healthy food, processed food, way of cooking, cleaning and preservation. Rising women employment and changing culture making people more dependent on processed and ready to cook/eat foods. Because of having unhealthy foods non communicable diseases are increasing which is also leading higher heath cost. Mass media awareness campaign is important. Research organizations are playing key role to invent more varieties of agricultural products keeping in mind the climate change and different area context. Better coordination among different stakeholders is also very important.

Opportunities	Challenges	Conflicts
• Good varieties of foods and fortified foods are available which can be more promoted to get them familiarized. • Promoting urban gardening, roof top gardening to ensure self-produced fresh healthy food. • Mass awareness campaign can help to make people right choice of healthy food. • Capacity building of the stakeholders to ensure they provide safe and nutritious food. • Better coordination among stakeholders and mutual reinforcement.	• Policy is in place but due to lack of coordination among different stakeholders implementations are hampered. • Lack of access to information about safe and nutritious food. • Unhealthy junk foods are more advertised than healthy foods which misleads people. • Lack of availability of urban focused food system/nutrition data • Lack of knowledge and practice for diversified food consumption and crop production.	• Consumers even knowing about the unhygienic conditions of the roadside foods are eating those frequently. • It is observed that because of rise of women employment time for cooking is getting reduced and households are getting more dependent on processed and ready to eat food. It is also leading more dependence on hotel restaurant's food which are questionable. For these, women are often judged for not giving enough time on cooking (traditional Bengali food). Ensuring good quality and hygienic food of the service providers (hotel-restaurants etc.) can help.

Thematic Area 2: Food Safety and Consumer Awareness

Narrative



While we all consume foods, we do not have enough information about the safety of the foods we consume, due to lack of traceability. Sometimes, we do not have safer alternatives, and have to consume whatever is available. Food safety has to be ensured throughout the value chain however, farmers and other producers do not have access to safe inputs of production. Standards of inputs (fertilizers, feed, fodder) are not adequately monitored. Farmers, producers, transporters, small scale processors, vendors, workers at hotels or restaurants, and other food handlers do not have sufficient knowledge/ awareness and training about food safety, grading, standards, and certifications. They also do not have access to necessary infrastructures such as, storage, transportation, cold chains, and processing facilities. Adulteration happens at various stages after harvesting, up until foods reach markets. Market vendors also do not have proper knowledge and facilities for safe food handling which increases the risks of cross-contamination and zoonotic diseases. Large scale commercial food processors often do not comply with food safety and dietary standards. Processed and packaged foods do not have enough information (food facts, ingredients, dietary and nutrition value, and expiry dates) on the packaging.

Monitoring from the government throughout the value chain is weak, coupled with inadequate testing and laboratory facilities and technologies. Research institutes, especially government ones, are inventing technologies for more resilient and environment friendly food production, but technology transfer to farmers-level has been very limited. The government is also developing or upgrading food safety standards (i.e. compliance with CODEX), although the implementation and enforcement of relevant laws have been considerably low. Collaboration among academia/ research institutes and businesses, commercial processors, and government agricultural extension bodies has been weak. Knowledge dissemination and technology transfer across borders needs to be enhanced. Further investment is required to strengthen institutional capacity of the relevant authorities. Multi-sectoral and multi-level partnerships can help ensuring safe foods for all.

Challenges	Opportunities	Conflicts
• Weak monitoring system and infrastructure (i.e. testing facilities) throughout the supply chain. • Wastage and loss of foods due to shortage of proper storage, processing and preservation facilities, impelling value chain actors to take unsafe preservation methods (i.e. using harmful chemicals for preservation). • Lack of proper knowledge and training about safe food production, transportation, processing and handling. • Lack of access to information about food safety both among producers/ processors and consumers. • Unavailability of safe inputs and technologies/ methods and lack of initiatives in ensuring quality inputs and effective technology transfer. • Profit maximizing intention and unethical business practices among the traders/ processors.	• Promoting urban agriculture (urban farming, rooftop gardening, peri-urban agriculture) to shorten the value chain, which can reduce requirements for monitoring and ensure better sourcing. • Build capacity of the food producers/ farmers, processors, transporters, sellers/ handlers, restaurants and vendors on food safety, Good Agricultural Practices (GAP) and hygiene. • Build infrastructural and institutional capacity to strengthen monitoring and traceability throughout the value chain. • Raise awareness among all actors about food safety, responsible consumption and ethical business practices. • Involve communities and consumers into monitoring and to create demand for safe foods. • Stronger collaboration with research institutes and academia, and wider knowledge and technology sharing across borders.	• The government is encouraging Good Agricultural Practices (GAP), food safety, and environment-friendly production systems. However, it is not ensuring availability of safe or quality inputs, necessary technologies, and infrastructure required for that. • The government is setting standards for food safety and enforcing monitoring initiatives (i.e. carrying out mobile courts and financial penalties), however, it is not investing or taking initiatives to strengthen the capacity of relevant actors (farmers, vendors, traders, processors, hotels/ restaurants) to produce and supply safe foods. • Consumers prefer safer foods but businesses tend to maximize profits even if it requires compromising food safety standards. Thus, consumers do not always enjoy freedom of choice.

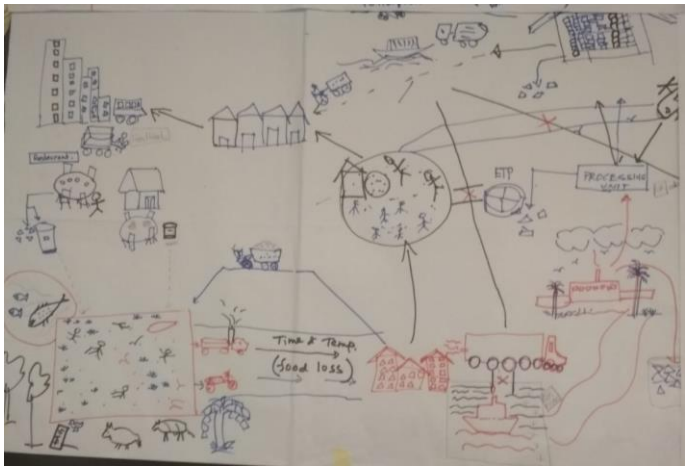
Thematic Area 3: Food Loss and Waste

Narrative
There are many key steps are involved in the food system actors. From the producer to the consumer there are food loss and waste in every step of the food system. However, raising awareness among all actors in the food system needs to be implemented as soon as possible. The producer shopkeeper, vendor, retailer, whole seller, and food transporter need to have the proper knowledge about the shelf life of the product. Currently, 52% of food waste occurs in restaurants. Inadequate forecasting of customers' demand is a major problem of occurring food waste in restaurants. Currently Dhaka produces approximately 5000 tonnes of food waste every day (BIDS 2016). The food from the wet market can produce significant quantities of solid organic waste. comprised spoiled and unsold food products. Proper forecasting of production and consumption based on data and scientific evidence on the national level is required. Researchers and policymakers work more collaboratively on how to produce more commercial products. Proper utilization of fish waste can create a pollution-free environment. This study critically analysed the waste management policy gap in Bangladesh and clearly identified each stage of the food loss production supply chain. however, if we have proper knowledge of properly converting into a product from waste, only then we can see the economic value as well. Finally the use of by-products can contribute to the high commercial value and consequently to economic growth in the future. Government should initiate laws, initiate to set up such industries.

Challenges	Opportunities	Conflict
• Lack of proper Innovative investment opportunities in the food loss and waste sector. • Need to implement immediate study and strategy on food loss and waste management. • Lack of proper knowledge and training about safe food production, transportation, processing, and handling. • Lack of adaptive planning of employment in the food waste management sector. • Unavailability of technologies/ methods and lack of initiatives in ensuring quality inputs and effective technology transfer.	• Raising awareness about biodegradable and recycling products among actors producers to the consumer is increasing. • Private sector investment can play a key role in ensuring the product recycling process. • Demand for recycling products is increasing, and the government should include recycling product-related studies in their curriculum.	• The government is not investing or taking initiatives to strengthen the capacity of relevant actors in waste management.

Thematic Area 4: Food Value Chains

Narrative

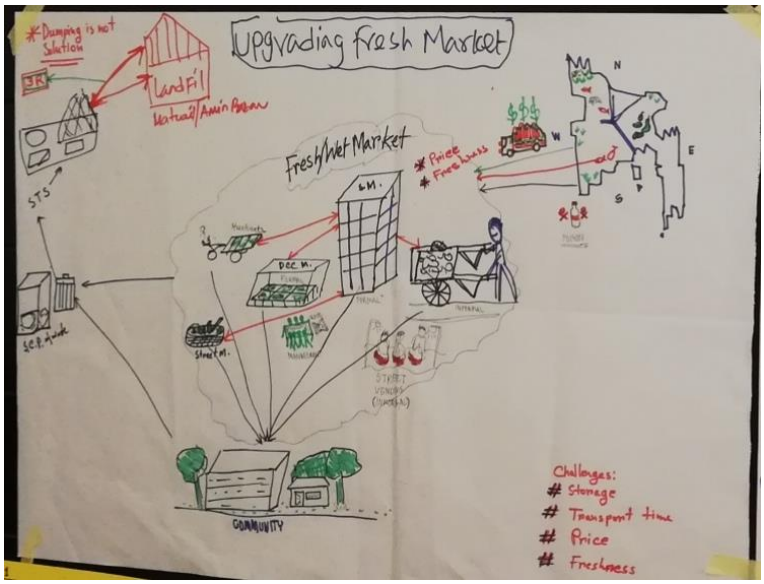


Large scale food production generally happens in the rural areas of the country. They buy their inputs (e.g. seeds, feed, pesticide, and insecticide) from the local markets. Generally, manually driven vans are used to transport inputs from the local market to the farms. Change in input price often play an important role in farmers' choice of crop to be produced. Farmers choose to produce the food item that they believe will provide highest profit. Therefore, the flow of information from the markets to the farmers is necessary for their decision making. They often get training on good farming practices from government and non-government organizations. Farmers take their produce to the local markets and sell them to the local aggregators. In some cases, products are bought by the large super markets of big cities. Trucks and large boats are common mode for food transportation. Due to poor road infrastructure and congestion, the transportation of food items takes a long time. It leads to food loss as the trucks do not have any mechanism to keep the food items cool. The food items bought by the supermarkets are stored in their hubs and processing centres. Processing units can be sources of pollution and it needs to be ensured that they comply with the industry regulations to dispose the waste safely. On the other hand, the aggregators sell the food items to the wholesaler in Dhaka. Food items are also imported from various countries. They arrive at the ports by plane or large ships. This can create a conflict between the locally produced food items and imported food items. Food items from these channels reach wet-markets and hotel-restaurants. Finally the food items are bought and consumed by the consumers. During food processing for cooking and consumption, food waste is produced at the restaurants and households. Some part of this organic food waste has great potential for converting into fertilizer for further use as inputs for the farmers.

Challenges	Opportunities	Conflicts
• Information on market demand for food items and prices do not reach all the value chain actors equally. Farmers make their decision to cultivate a particular crop depending on their perceived market demand and estimation of potential market price. However, farmers do not have any sources to gather this information. Therefore, they are always likely to make lower profit. • Bangladesh is losing agricultural land due to the rapid haphazard development. Innovation in agriculture sector has been offsetting the loss of land. However, in the face of growing population and reducing agricultural land it will become difficult for Bangladesh to ensure adequate supply of food. • Value chain actors need to be aware of food preservation techniques. A large amount of food is wasted due to improper handling of food items. In addition, transportation infrastructure are not good enough to support safe transportation of the food items.	• Small businesses are growing all over the country. These entrepreneurs can be the driving force for ensuring sustainable food supply chain. • Government is taking initiatives to create publicly accessible data hubs. If properly established, this can help to ensure better awareness among the value chain actors regarding market demand and prices. • Farmers have gained years of agriculture related experience. Their local knowledge can be a great asset for ensuring sustainable food value chain. • SME farmers and processors are the workforce for skill training on VC and SC upgrading initiatives.	• To increase production, hybrid varieties are being used more compared to the local varieties. It is making the local crop varieties less likely to survive. • Wet-markets are competing with the super markets for consumers. Though the wet-markets are still more popular but they are not upgrading to meet the changing demand. • Street food vendors are competing with processed food vendors (e.g. CP, KPC, BFC) & on line (home delivery) for consumers to meet the changing demand.

Thematic Area 5: Fresh Markets

Narrative



The food system consists of all the value chain of all the foods produced and consumed. But unlike a simple value chain it also incorporates the markets, their infrastructure, the regulatory practices of the market, focus on consumer awareness and nutrition.
SO the food system provides a much more consumer and health focused overall objective compared to the simple combination of all food value chain.
So the availability of seed, inputs, practices during the farming/ production (use of antibiotics or pesticide or other harmful materials or growth ingredients) play major role in production and pricing.

Food sources area and food type wise which is supplied to Dhaka are

- Rice: Northwest (Dinajpur/Bogura) / Mid-west (Kushtia/Jashore)
- Vegetables: Jashore, Barisal (south), Bogura, Rangpur, Mymensingh, Narsingdi
- Fish: Mymenshing (mid north), Jashore, Satkhira, Khulna, Barisal, Bhola (south, southwest) Chattogram (Sea fish and imported fish), Pabna – Sirajganj, Sylhet, Kishoreganj, Bhairab (natural sources)
- Milk: Pabna – Sirajganj belt of Jamuna river
- Fruits: Northwest (Rajshahi, Dinajpur), Mymenshing, southeast (CHT), south Barisal

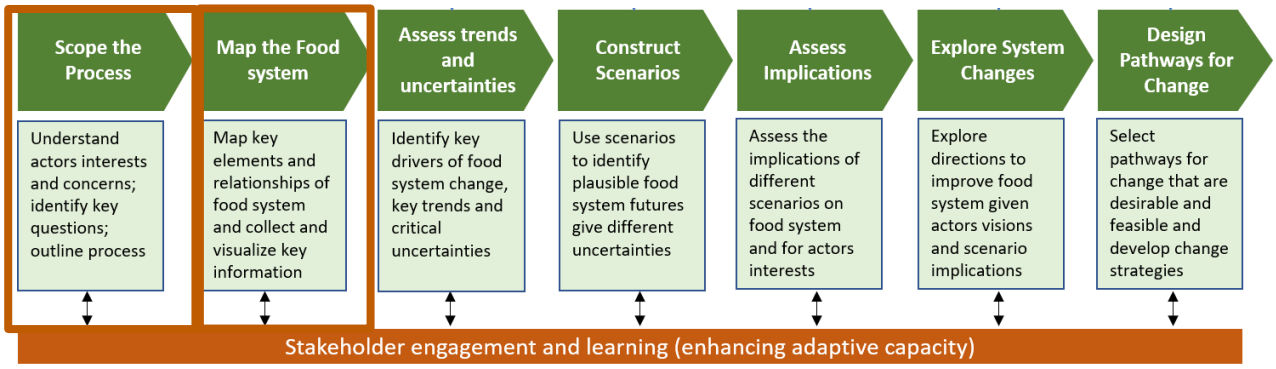
These foods enter Dhaka through mainly three road-routes, Airport Road from north, Gabtali from South and west. Jatrabari from South-east and through water ways from south and at times north as well. The aggregators and the traders buy these products form the farmers in the local production hubs and transfer those to the Urban wholesale markets. Food waste during the long transportation, being a tropical country and lack of refrigerated transport results in cause high food waste at this level.

Imported foods are mainly sold through wholesale markets in the port city of Chattogram, from there it is sold in wholesale to wholesale markets in Dhaka. And then it follows the same channel. Some wholesalers of Dhaka directly import from abroad, avoiding the wholesale markets of Chattogram altogether.
In Dhaka there are, specialized wholesale markets for vegetable, fish, rice, grain and imported foods. The food comes into Dhaka through these specific markets. For example, sea fish from Chattogram comes in Jatrabari/Sayedabad and Karwan Bazar, but usually is not available in Abdullahpur wholesale market, since it is in the north of Dhaka.
Shyampur market is primary source of imported onion, garlic, fruits and ginger. Fresh markets usually buy from these wholesale markets. Superstores buy mainly form these urban wholesale markets but at times they buy from the local production hubs as well.

Fresh markets, supermarkets and small-scale wholesale markets even, are the source of food for the consumer and the hotels and restaurants of Dhaka.

Challenges	Opportunities	Conflicts
• Weak Good Agriculture Practices (GAP) for ensuring food safety at producers and traders level will hamper food safety. • Weak fresh market regulation system and supply chain. • Lack of information among the rural and urban wholesale markets, allowing the traders to make unnatural profit at times of crisis or shortage. • Lack of hygiene in fresh market are making more health conscious customers avoid fresh markets.	• As consumers are getting more health conscious, they are also looking for fresher, unprocessed and more varieties of food, and thus the importance of or the popularity of fresh foods remain. • As prices are increasing, low and middle income people are depending more on fresh markets for food. • Mobile courts are becoming more frequent now. This can help regulate and standardize the markets. • If markets can be improved, made more efficient and well managed then the customer number can be increased dramatically.	• Poor regulatory practices, less incentivized by the City authority to market management hindering upgradation and accessibility to fresh market. • Weak accountability among the market management structures. • budget allocations do not match with commitments.

3.4 Map the food system: Data collection and dialogue



Collecting and visualizing data is key to a thorough understanding of the food system and to highlight the evidence base that is crucial to data informed agenda and policy development. A stock taking exercise was done based on data collected by the DFS project prior to the workshop sessions. Trends (historic, projections) and current data on key food system element such as drivers, outcomes, activities were collected and visualized. Where possible data were used on Dhaka or on urban areas in Bangladesh, where absent the team used Bangladesh country data. During the online session a selection of key data and the observations were presented and shared. In the face-to-face workshop the full set of data was printed and put up on the wall. A gallery walk was organized by sending the participants in small groups past the posters and engaging them in discussion. The gallery walk enabled the participants to dialogue, discuss the data for validation and for deepening their knowledge of the facts and figures of Dhaka's food system.

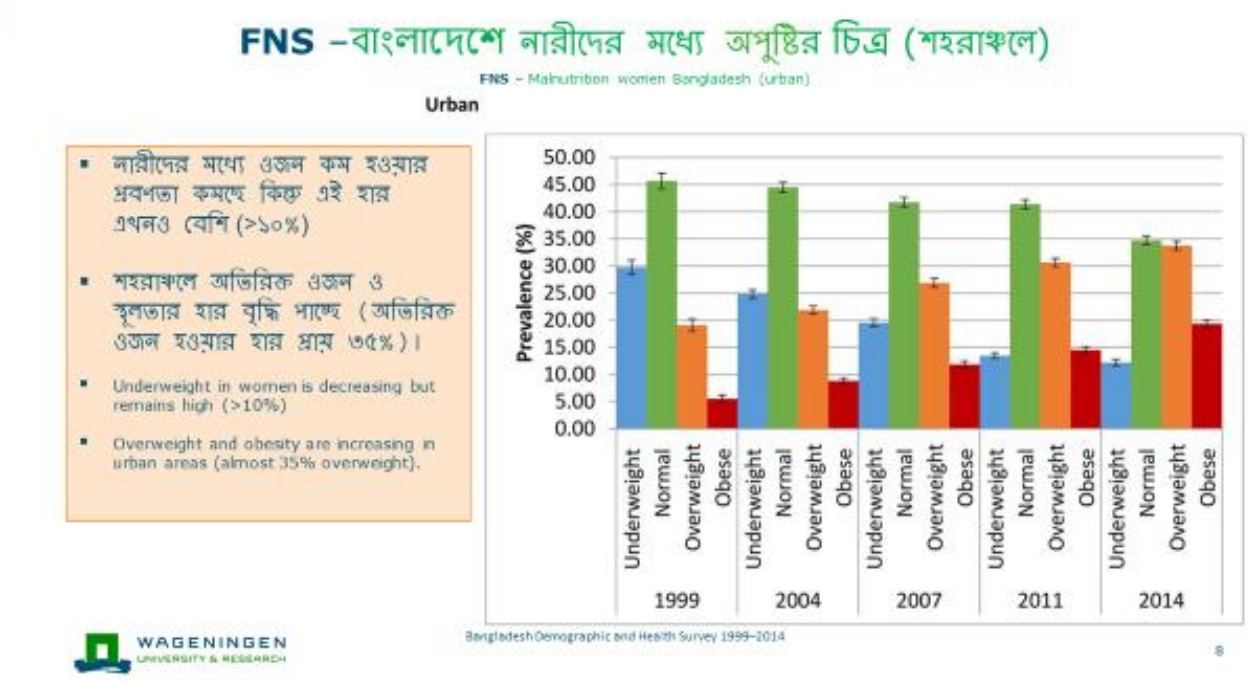


Figure 8 *Example from the data set on Food and Nutrition Security: Malnutrition of women living in urban areas in Bangladesh*

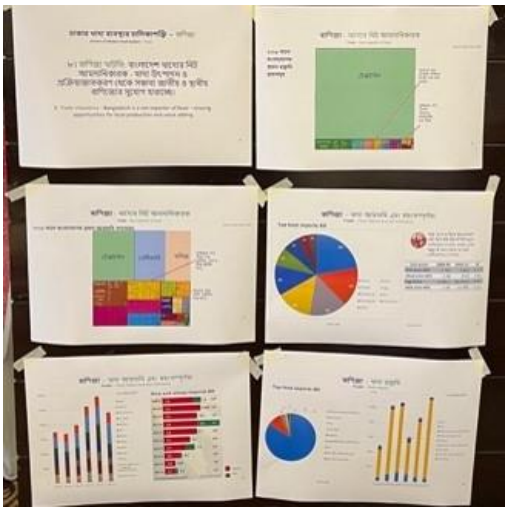
3.4.1 Ten key observations emerging from the data

Based on a preparatory stocktaking exercise by the organizing team, ten key observations and associated questions to guide the foresight and scenario work emerged from reviewing the available data:

1. A **growing population** in Bangladesh, in combination with urbanisation leads to an increasing demand for food
2. Dhaka has a significant and **growing triple burden of malnutrition** – with high rates of poverty, malnutrition and stunting remaining high while overweight and obesity is likely to increase rapidly
3. **Increasing wealth** over the coming decades will dramatically **reshape food consumption and demand** increasing **food waste**. At the same time, Dhaka is likely to see significant **food inequality** in terms of quality, safety and diversity of diets between its richer and poorer resident
4. Food supply for Dhaka incurs large quantities of **food loss and waste** and has a huge **environmental footprint**, and will get bigger – how can this be managed?
5. Vast numbers of **very poorly paid people are involved in supplying food** for Dhaka (famers, processors, traders, retailers) – there is a dilemma between cheap food vs living incomes for people in the food supply chain.
6. Most food is purchased from local **fresh markets**, but these markets must be safe, hygienic and supply a diverse selection of fresh foods. Upgrading is crucial, but what will be their role in the future?
7. **Where will food come from**? Urban and peri-urban production? Bangladesh's rural areas? Imports? What are the environmental, socio-economic and food and nutrition security implications and how should this be managed?
8. **Trade imbalance** - Bangladesh is a net importer of food – missing opportunities for local production and value adding
9. **Climate change** will have a big impact on Bangladesh and Dhaka – what are the implications for food supply and distribution for Dhaka?
10. Commitments are made at national level to improve food and nutrition security for all, but **budget allocations** do not match those commitments.

3.4.2 Reflections on data

During the workshops the participants reflected on the data. The data were posted around the room, grouped by the 10 themes, and reviewed by participants working in pairs. The full set of slides is available under this link.



The participants were invited to do a gallery walk. They discussed in small groups what they noticed, what were important messages, what data would they disagree on and what linkages do they see between the trends. Reflections were shared in subgroups (per theme) in table discissions, summarized in Table 4.1.

Table 4.1 *Outcome of the gallery walk: Reflections on data and trends*

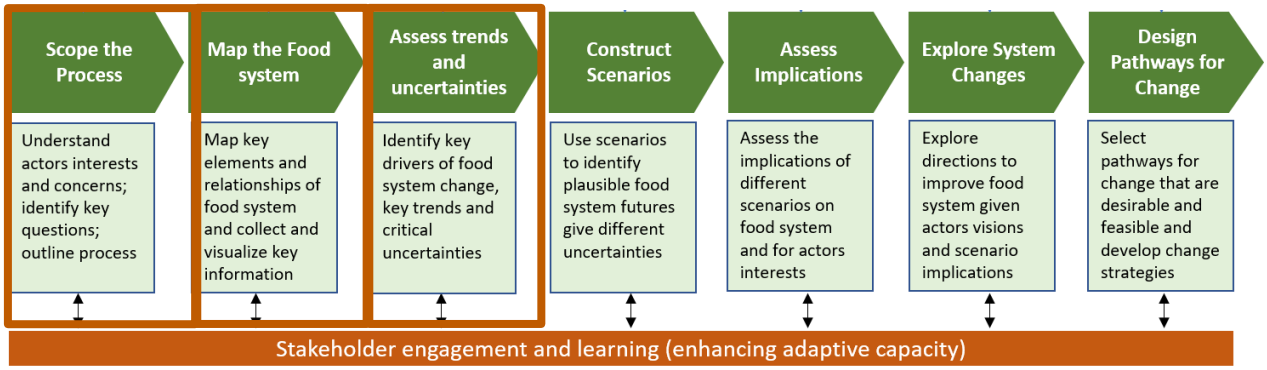
Table group	Important messages from gallery walk	Any disagreements on data	Linkages between trends	Participants' insights
1 NFS	Triple burden malnutrition is increasing in Dhaka and 48% of the urban population live in the slum areas. What is the condition in terms of Dhaka? Importance of Upgrading fresh market to ensure the availability of safe, nutritious and healthy food as around 85% of the family purchase from the fresh markets. Increasing wealth will dramatically reshape food consumption and demand. At the same time significant food inequality may prevail in terms of quality, safety and diversity of diets between its richer and poorer residents.	Missing info: As triple burden of malnutrition is increasing in Dhaka, A trend on child obesity/overall obesity will be good to observe. The consumption of beef and poultry are expected to increase strongly followed by fruits, vegetables and dairy.	With the growing urbanization overweight and obesity is increasing. The higher the income the greater the possibility of having large fish, meats and fruits. National Income is increasing but at the same time income and food inequality is also increasing which will create a very negative impact in the society and food system.	Climate change cross-cutting threat for food and nutrition security After the pandemic situation on one hand many people have either lost their job or getting less payment than before and on the other hand price of daily essentials are substantially increasing. If it keeps continuing then consumption of beef, poultry may increase but only for a certain class people. Most of the general people will not be able to increase their consumption.
2 FSCA	Increasing wealth will dramatically reshape food consumption and demand. At the same time significant food inequality may prevail in terms of quality, safety and diversity of diets between its richer and poorer residents Fresh markets are the chief points of food adulteration Smart people are needed to build and maintain a smart city More freedom of choice is needed in picking up what to eat	Natural disasters and climate change may affect food production and supply chains throughout the country, not only the southern or northern regions As presented in the data, 48% of urban population lives in slums – this should be lower from overall perception. The definition of slum-dweller should be made clear, so that people can distinguish what settlements are being considered as slums. .	National Income is increasing but at the same time income and food inequality is also increasing which will create a very negative impact in the society and food system. Price of rice is increasing, although consumption of rice, especially of the lower categories, are decreasing because of increase in income and its reflection on dietary choices Cultivable land is decreasing because of conversion of agricultural lands for other uses, however, the demand for food is increasing with growing population Policy to conserve agricultural lands should be implemented	Food value chain needs to be strengthened, shortened, and made smoother and systematic to better control prices Cold chains are needed to be developed throughout the value chain to reduce food loss and to manage food wastes More data and information are needed on food purchase and consumption habits More urban-specific reports or links to such information can be shared

Table group	Important messages from gallery walk	Any disagreements on data	Linkages between trends	Participants' insights
3 FLW	Waste recycling and waste management plants should be introduced besides the food processing plant. Agricultural budget needs to be increased in the waste management sector. Production and supply chain system is hampered due to climate change. People should produce their own and reduce dependency on imported items.	Fish consumption will not be reduced in the future it will be higher than the meat is the opinion of the participants. They found a lack of data on food loss and waste systems.	The good sign is that people are returning to natural products. Suppose we should increase awareness on social media and mass media about the various use of waste. So more people will feel interested in the sustainable utilization of the waste products.	
4 SFVC	GDP is growing but the income disparity is also increasing. Malnutrition is a major concern in the slum areas as the communities are not aware of the nutritional value of food items Infrastructure of the wet-markets need to be upgraded and also monitoring should be strengthened in the markets People are migrating from the rural areas to the urban areas for better life standard. But this is also reducing the workforce in agriculture sector. As a result, labor cost is increasing and farmers' profit margin is reducing.	The fact that the poor is spending more than 50% of their income seemed high in the opinion of the participants	Increasing disparity in income is reducing the affordability of the urban poor. It is becoming increasingly difficult for them to buy nutritious food items	

Table group	Important messages from gallery walk	Any disagreements on data	Linkages between trends	Participants' insights
5 FM	Importance of **Upgrading** fresh market to ensure the availability of safe, nutritious and healthy food as around 85% of the family purchase from the fresh markets. With increased population and growing inequality the importance of Fresh market as cheaper source of food is increasing As the sheer number of poor or low income people is increasing, the number of people using Fresh markets and the primary source is increasing With increased pressure on fresh markets, pollution and waste from the fresh market will also increase As more people will be more health/ hygiene conscious, more people will prefer to buy food from supermarkets With more pressure on fresh markets, fresh markets will lack the capacity and the infrastructure to handle this extra pressure Infrastructure and monitoring of the wet markets need to be upgraded.	The consumption of beef and poultry are expected to increase strongly followed by fruits, vegetables and dairy. Not a consensus, but there was an opinion that fresh markets are not that cheaper in some areas	The higher the income the greater the possibility of having large fish, meats and fruits. Increasing inflation and inequity is causing chronic or temporary food insecurity among the poor or low income groups. This both due to their lower income and/or simultaneous inflation Females and those who have ability m do not enjoy fresh markets due to unhygienic environment	After the pandemic situation in one hand many people have either lost their job or getting less payment than before and on the other hand price of daily essentials are substantially increasing. If it keep continuing then consumption of beef, poultry may increase but only for a certain class people. Most of the general people will not be able to increase their consumption.

4 Assessing trends, drivers and critical uncertainties

4.1 Drivers' trends and uncertainties

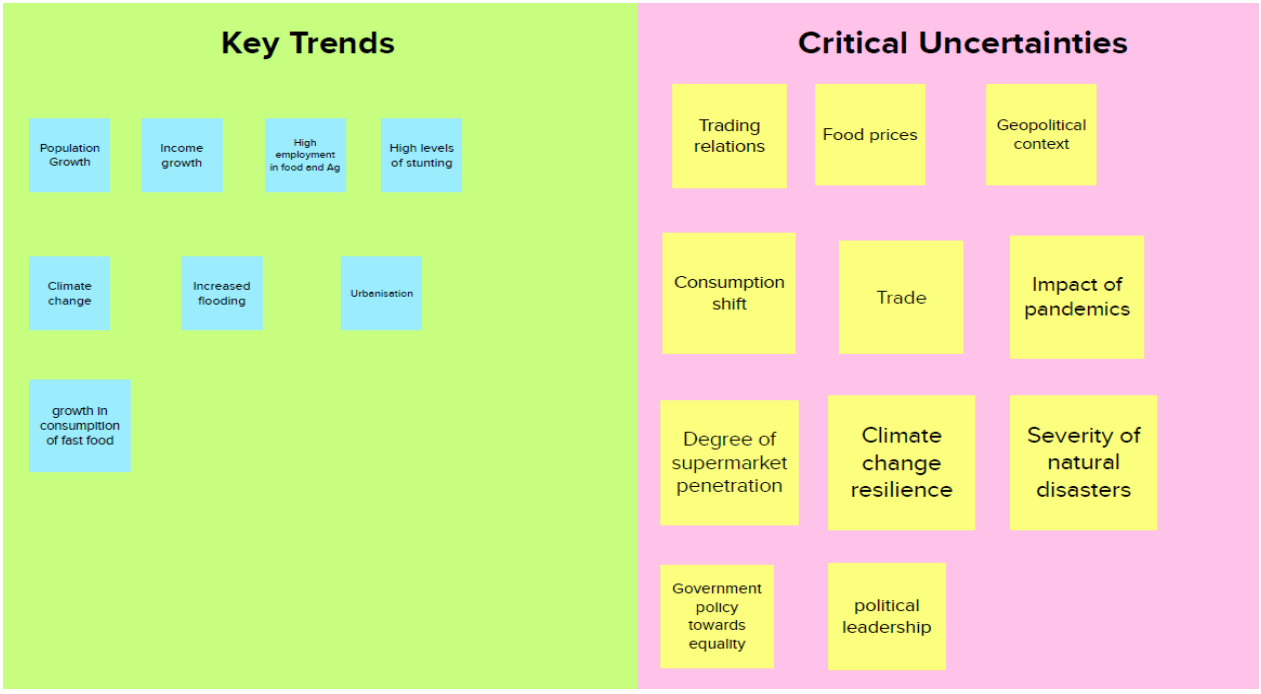


At the core of foresight and scenario analysis are the drivers that are likely to shape how systems will change. Drivers are of two types:

1. Those that are a continuation of current trends.
2. Those which are unpredictable or rare events which may create future shocks to the system.

4.1.1 Identified trends shaping the future of Dhaka's food system

The workshop sessions in February and March aimed at a joint analysis of critical drivers, trends and uncertainties. Here is a picture of the participatory output:



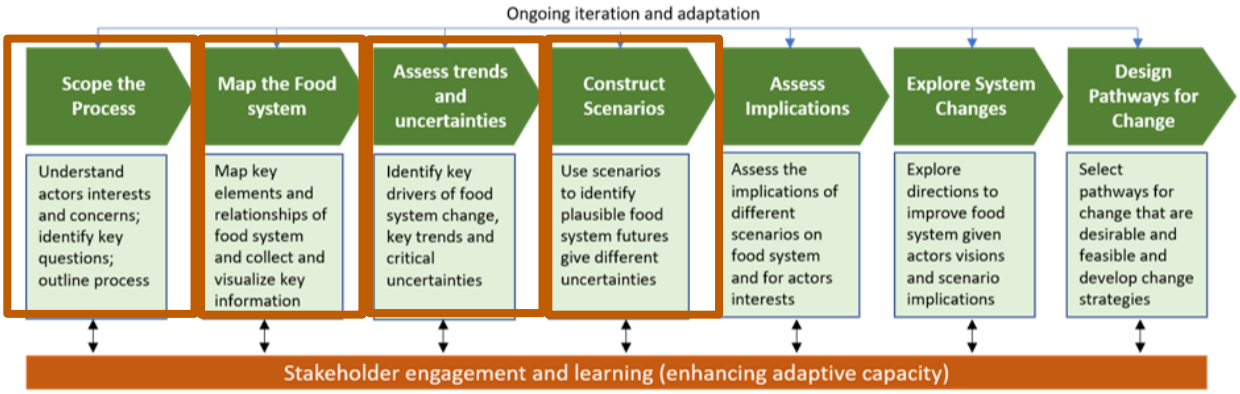
The key trends and drivers of food systems' change for Dhaka were listed as:

1. Population growth and urbanization
2. Climate change with increased extreme weather events
3. Increasing household income (on average) and growing middle class
4. Increasing and changing food demand
5. Continuing triple burden of undernourishment, micro-nutrient deficiency and increasing obesity
6. Degradation of natural resources
7. Growing population of urban slum dwellers
8. Vulnerability of small-scale farmers
9. Growth in demand for convenience (fast) food
10. Continued high level of employment in agriculture and food sector
11. Pressure on infrastructure
12. High levels of food waste and food related pollution
13. Risk of human and animal pandemics

Analysis of the data and building further on stakeholder views the team identified these seven key trends that drive Dhaka's future food system.

1. Population growth and urbanization
2. Climate change with increased extreme weather events
3. Increasing household income (on average) and growing middle class
4. Increasing and changing food demand
5. Continuing triple burden of undernourishment, micro-nutrient deficiency and increasing obesity
6. Degradation of natural resources
7. Continued high level of employment in agriculture and food sector

4.2 Critical uncertainties for Dhaka's food system towards 2041



During the Face to Face sessions in March participants validated the drivers/trends and uncertainties. The analysis of data and stakeholder consultation led to six major critical uncertainties being identified. In the discussions participants zoomed in on the extremes called "polar opposites" to further identify possible consequences on both ends. These are elaborated here:

Uncertainty 1: Resilience to climate, resource degradation and disease
In 2041, will people in Dhaka go hungry or suffer malnutrition because of shocks to the food system from climate, resource degradation or disease? Or will Dhaka be able to provide nutritious safe and affordable food despite shocks from climate, environment or disease?

Uncertainty 2: Trade
In 2041, will Bangladesh struggle with trade to meet food demands and earn export income? Or will Bangladesh have open, fair and reliable trading relations with its neighbors and the world?

Uncertainty 3: Equity
In 2041, will economic development create a more equal society where most people can afford a healthy diet? Or will many people in Dhaka be living in slums and struggling to afford a healthy diet?

Uncertainty 4: Food price
In 2041, will food prices be high, unstable and unpredictable? Or: Will food prices be affordable, stable and predictable?

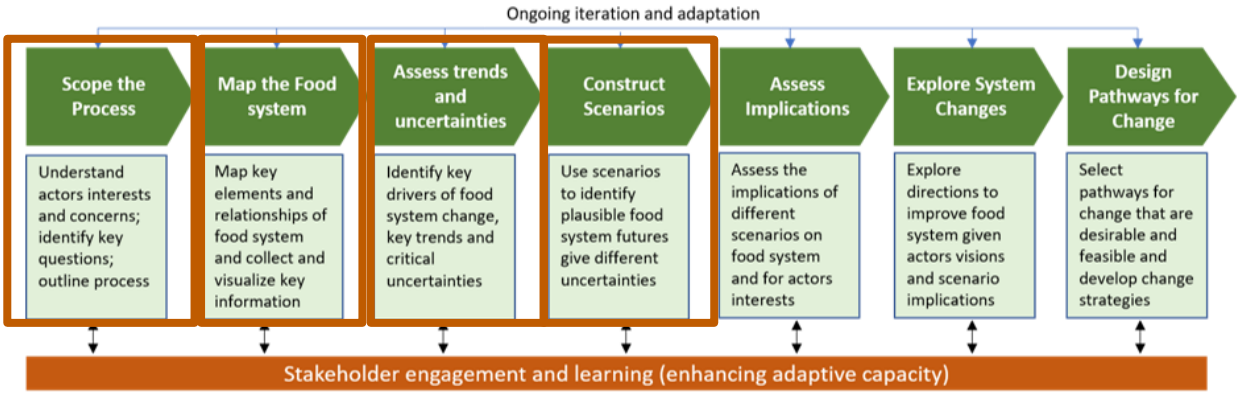
Uncertainty 5: Consumption patterns
In 2041, Will people in Dhaka be consuming a diet that is good for human health and good for the environment? Or: Will people in Dhaka be consuming an unsustainable die bad for health and bad for the environment?

Uncertainty 6: Future business structure of Dhaka's food system
In 2041, Will a large number and diversity of micro small and medium scale businesses remain and be viable in Dhaka's food system? A lot of food is still bought in local markets and small shops. And much of Dhaka's food is produced, processed and distributed by micro-small and medium scale businesses. Or: Will Larger scale businesses / corporations come to dominate Dhaka's food system? Most food will be bought in supermarkets. Food is produced, processed and distributed mainly by larger businesses.

Critical Uncertainties	Polar opposites / Uncertainty extremes		
Climate resilience	Food continues to be reliably produced, accessible and affordable despite climate change	⟷	Climate change causes increased food insecurity with disruption to food production and supply chains
Trade	Bangladesh has open and reliable regional and global markets for food imports and exports	⟷	Geopolitics, climate change and food insecurity lead to closed and/or erratic regional and global food markets
Business structure	Food is produced, supplied and retailed through a significant micro, small and medium scale enterprise sector	⟷	Food production, supply and retail becomes dominated by larger scale and consolidated agri-food businesses
Equity	Economic development, government policies and effective social protection lead to greater equality and ability of all to afford healthy diets	⟷	Economic development leads to growing inequalities and urban slums with many unable to afford healthy diets
Consumption patterns	People consume healthy and environmentally sustainable diets, due to government policy, consumer awareness and responsible business	⟷	Consumption of unhealthy and resource intensive diets, due to consumer ease, price, marketing influence and profit maximization
Food price	Food prices are stable and a healthy diet is affordable	⟷	Food prices are highly variable and many unable to afford a healthy diet

Figure 9 *Summary of critical uncertainties*

5 Constructing scenarios



5.1 Selecting the components for the scenarios

The most important outcome of the workshops is the scenario matrix which is the foundation to discussing Dhaka's food system in 2041. Based on the critical uncertainties four different scenario quadrants were developed, each with four different narratives that can be explored.

The four scenarios have each very different outcomes. During the in person workshops these scenarios were discussed bearing in mind the implications for different stakeholders. Figure 6 is a simple depiction of the process to develop scenarios:

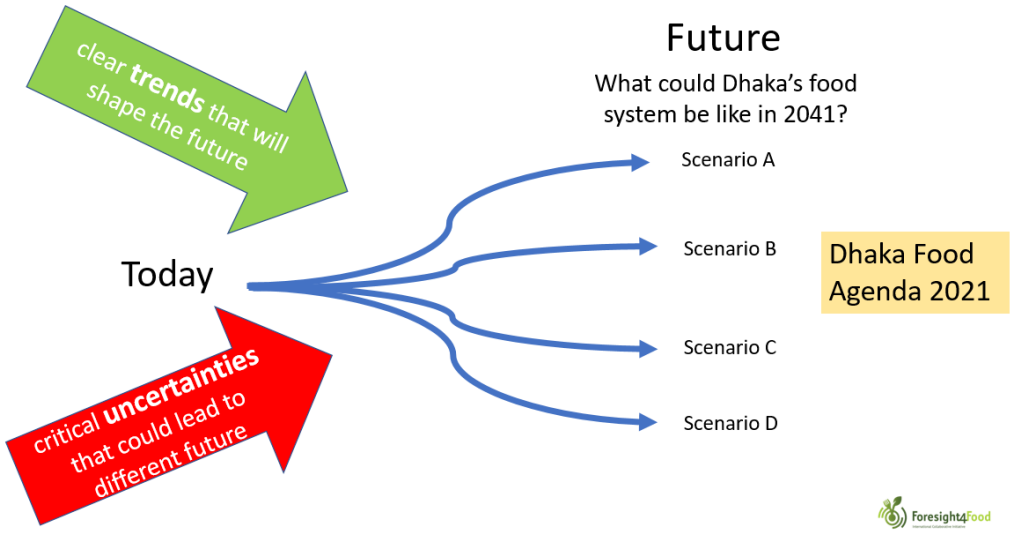


Figure 10 *Components to draft different scenarios*

5.1.1 Participatory scenario development

Different scenarios were constructed by four groups. Each group worked with two critical uncertainties to construct four different scenarios. By working with this variation of quadrants the team could explore which critical uncertainties resonate most with the participants to address the key issues of Dhaka's future food system in a consolidated scenario diagram.

- **Group 1:** Climate resilience (horizontal axis) and Openness of trade (vertical axis)
- **Group 2:** Consumption shift to nutritious and sustainable diets (horizontal axis) and equitable policy development (vertical axis)
- **Group 3:** Fresh markets (vertical axis) and consumption shift towards healthy and sustainable diets (horizontal axis)
- **Group 4**: Fresh markets (vertical axis) and Environmental Pollution (horizontal axis)

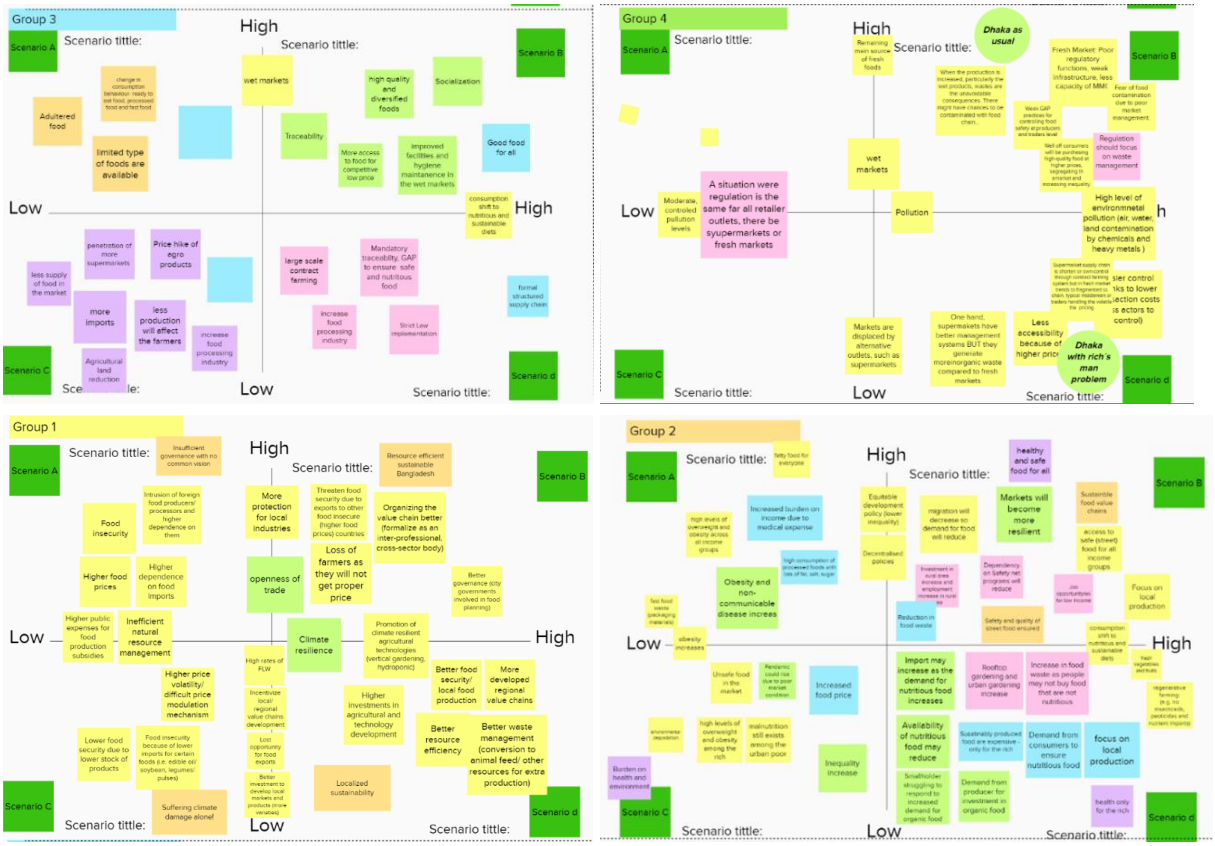


Figure 11 *Example of the online workshop: imagining Dhaka's future using various critical uncertainties*

Selecting two critical uncertainties

In consultation with the food systems experts in the workshop, the facilitation team and the lead facilitator a choice was made to draw further upon the critical uncertainty of business structure and consumption patterns. These two primary uncertainties were selected from the initial list of eight critical uncertainties. They were considered as the uncertainties that would most influence the future structure of Dhaka's food system. They are also largely independent of each other.

The other uncertainties, resilience, trade, equity, and food prices, were labeled as secondary and still of influence in future scenarios. Figure 12 shows the initial scenario matrix with two main critical uncertainties. In addition the secondary uncertainties are depicted such as climate resilience, trade, equity and food price all of which will impact the future of Dhaka's food system (and beyond). This diagram is the foundation for the elaboration of implications for stakeholders and the narratives.

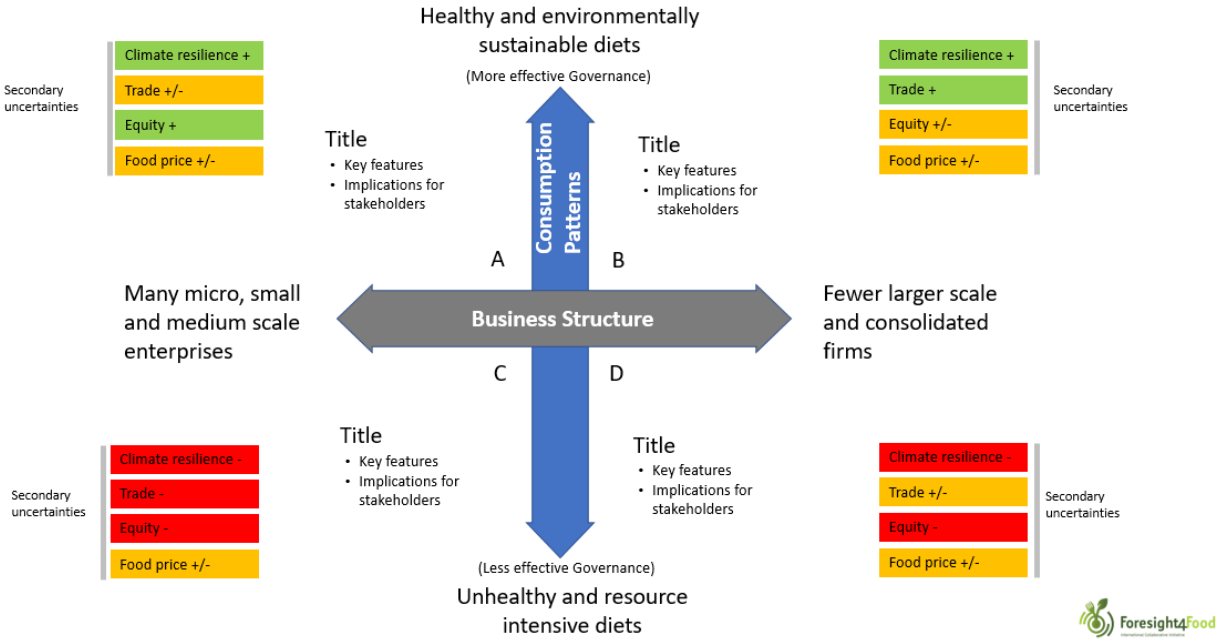


Figure 12 *First scenario matrix based on two critical uncertainties*

5.2 Initial interactive exploration of scenario's and implications for stakeholders

5.2.1 Piloting the selected uncertainties and implications for stakeholders

Each quadrant in the diagram represents a possible future. The scenarios help to understand what futures might come into existence and they help to think about what aspects of each envisioned future is desired or rather unwanted. Each envisioned future contains parts that could be either stimulated or mitigated.

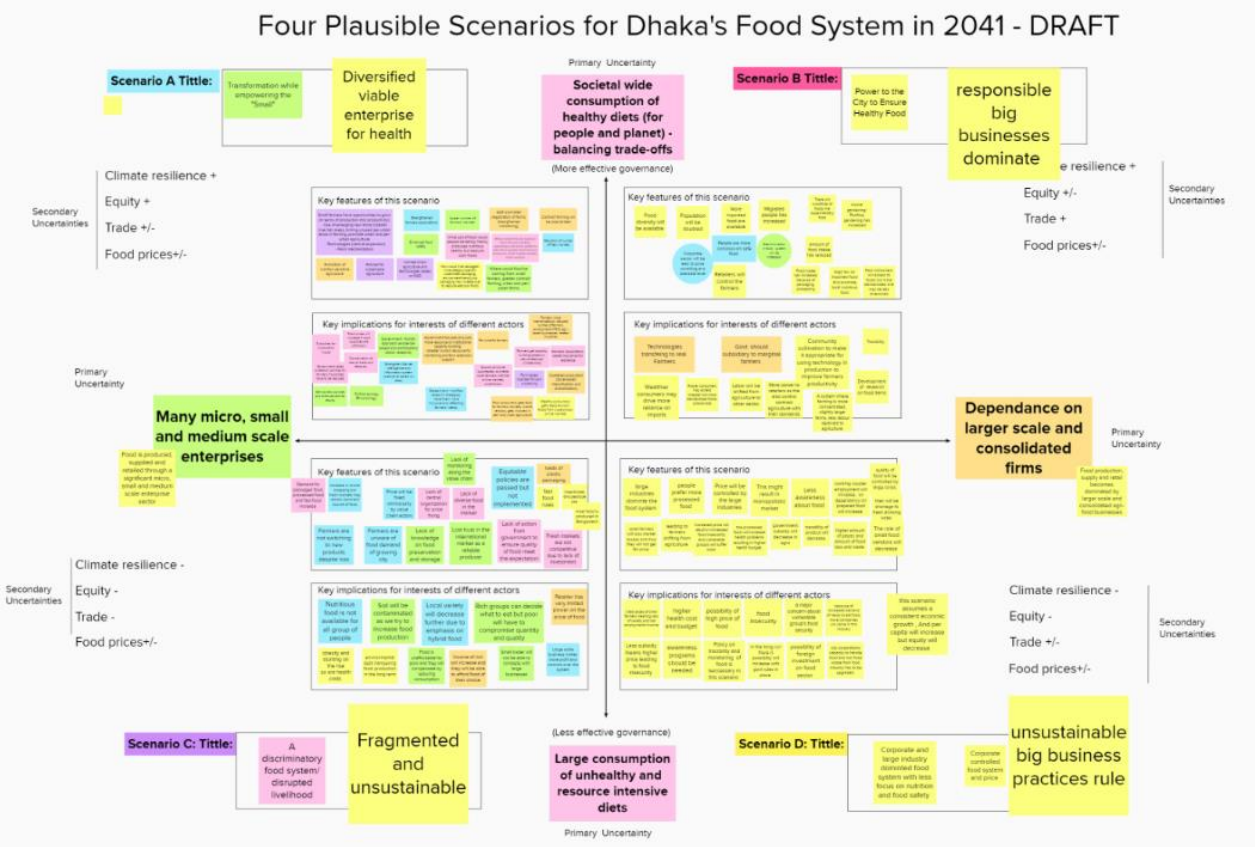


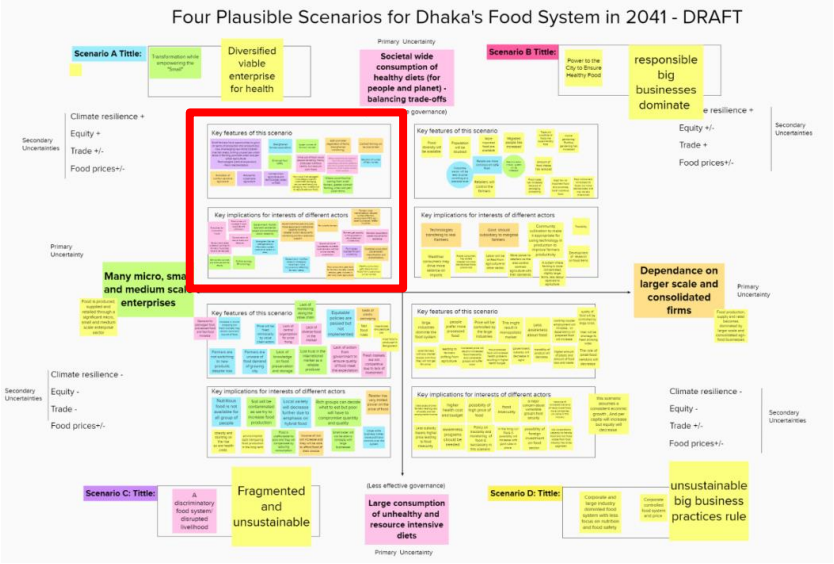
Figure 13 *Exploration of scenario development*

The participants of the online workshop on March 2 discussed each quadrant in the scenario diagram. What would it mean for children growing up to have that particular scenario? What would be their lived experience? The participants added what they envisioned to happen in each of possible futures.

For example As the participants discussed in the lower right quadrant (Scenario D) called "unsustainable business practices rule" This could lead to reduced domestic agricultural production, a shortage of fresh drinking water and a high consumption of processed food. Subsequently this could lead to increased health issues, food insecurity and loss of livelihoods.

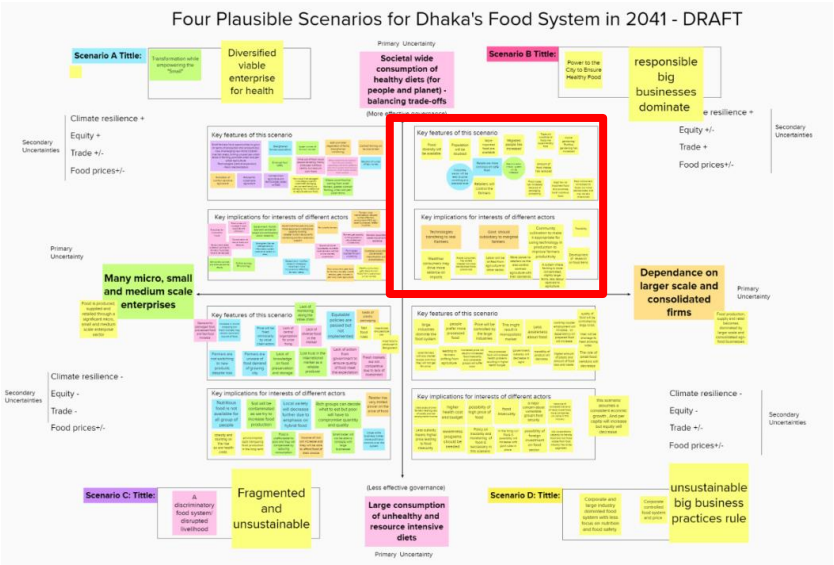
Each scenario (A, B, Cand D) was given a title and will be described in the next paragraphs.

Scenario A: "Diversified viable enterprises for health"



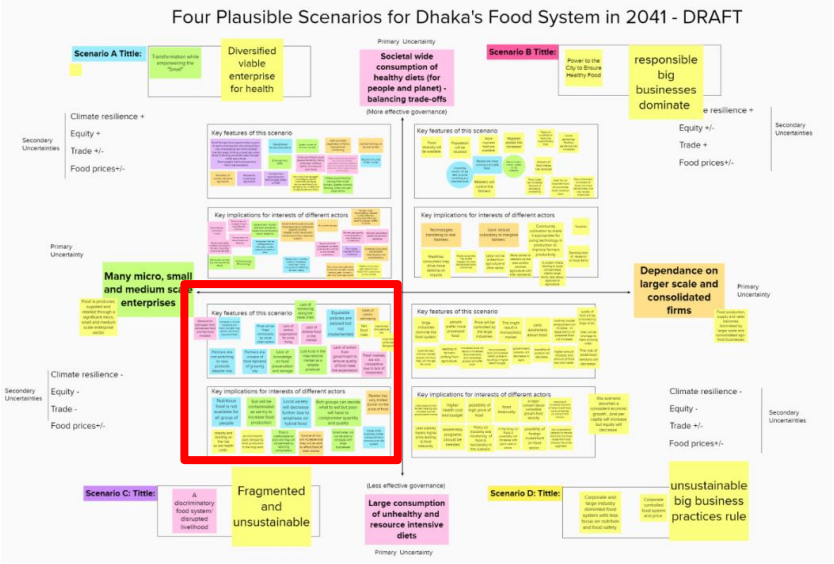
This diagram depicts the upper left part of the quadrant: There are many micro, small and medium enterprises and consumers have shifted to healthier diets that need less intensive resources. It means that farmers could get a fairer price, that nature is better protected and healthy food is more available and affordable to both poor and wealthy consumers.

Scenario B: "Responsible big businesses dominate"



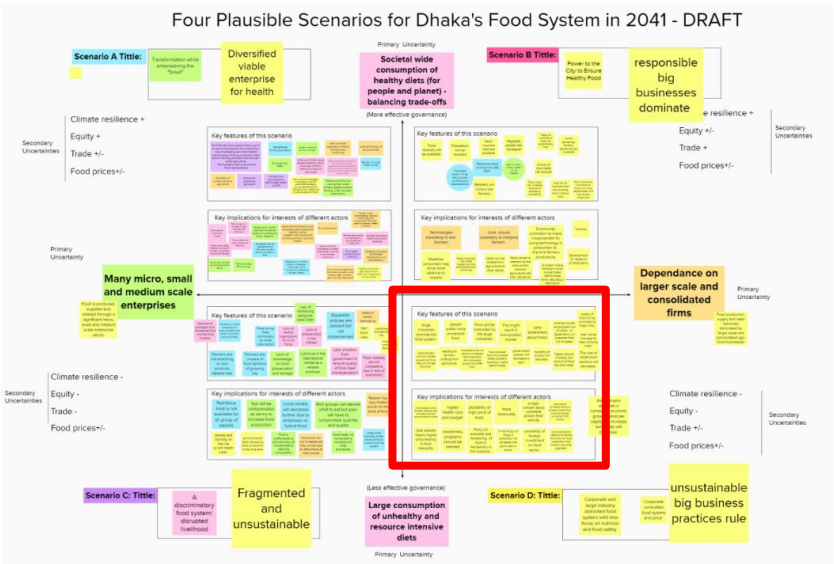
T**he upper right quadrant is based on a high consumption of healthy diets and less resource intensive input (vertical axis) as well as the dominance of large companies and firms (horizontal axis).** Here implications are that farmers would need subsidies from the government to remain viable, the (cultural) diversity of local food may be lost and the businesses will control consumption patterns. Food waste could possibly increase and packaging will lead to an environmental burden.

Scenario C: "Fragmented and unsustainable"



This diagram is developed using the lower left quadrant: Many micro, small and medium enterprises and a high consumption of unhealthy and resource intensive diets (vertical axis). The participants discussed that the difference between those who can afford healthy food and those who can't will increase. Another consequence of this possible future is the limited power small retailers have on the type of food and the prices. For healthy food Dhaka may become more dependent on the international market.

Scenario D: "Unsustainable and big business practices rule"



This is the quadrant with high dependency on large scale firms (horizontal axis) and a high level of unhealthy and resources intensive diets (vertical axis). One could state that this scenario entails the most undesirable aspects possibly leading to high health issues, maybe higher mortality rates and with a high dependency on a low number of big business owners monopolising the market. Again, this does not mean that this scenario 'will happen' but it informs the discussion of decision makers to talk about; what is needed to make sure that there are good policy incentives for smaller and sustainable businesses. It further raises the question how to shift consumption patterns towards healthier diets.

During the face to face workshop the participants discussed at theme tables what the possible futures would implicate for their specific themes. For example: What would it mean to food and nutrition security or the domain of food loss and waste in Dhaka if a there would be a high increase in micro, small and medium enterprises and if there would be a high level of consumption of healthier diets?

5.2.2 Developing consolidated scenarios and their narratives

At the second round of workshops in Dhaka the consolidated scenario diagram presented and refined further. First, we drew two axes on the floor in a room. Next, participants were asked to "place" themselves at different points on the matrix according to different questions about stakeholder interests. For example: if you were owning a big business in the food industry, what scenario would be most preferential to you? Now participants took a position and shared the viewpoint from that stakeholder's perspective. This exercise surfaced many different assumptions and led to a shared understanding of the different scenarios.

In preparation of this workshop the titles of the four scenarios had been finetuned and presented as shown in the next picture:

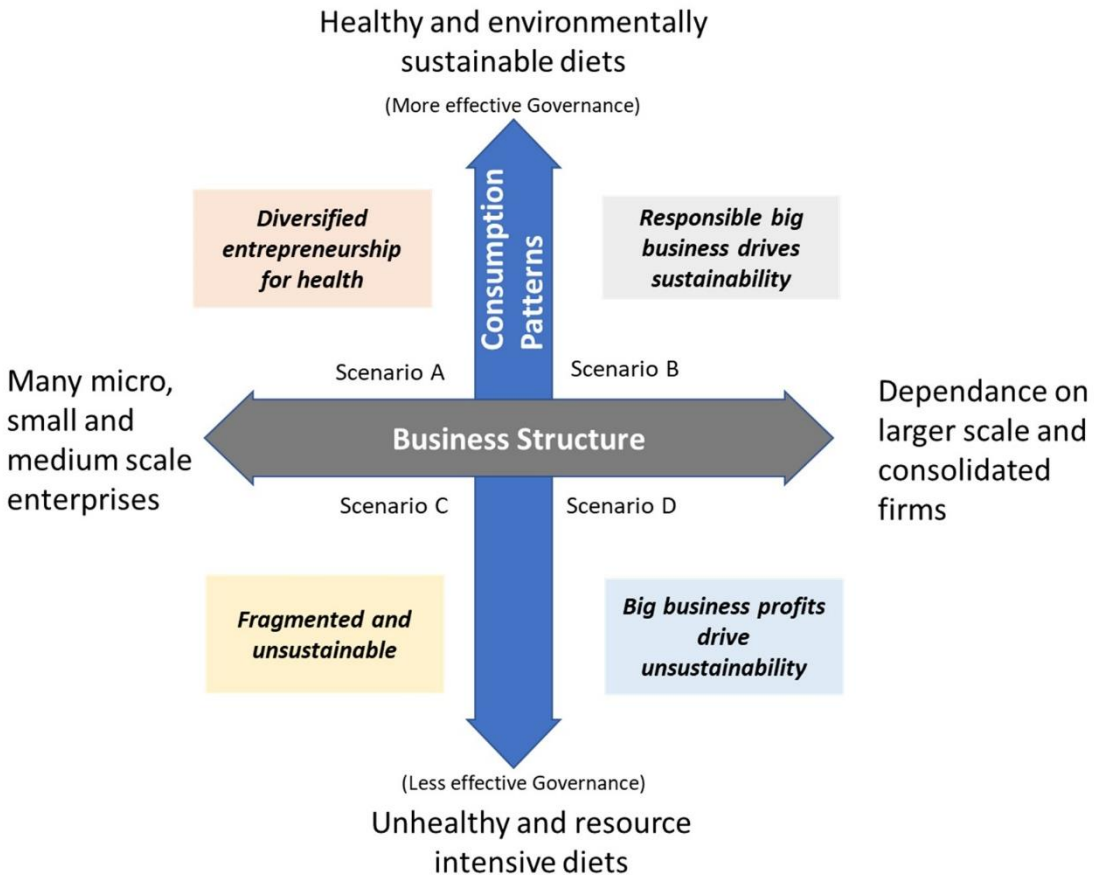


Figure 14 *Consolidated Scenarios*

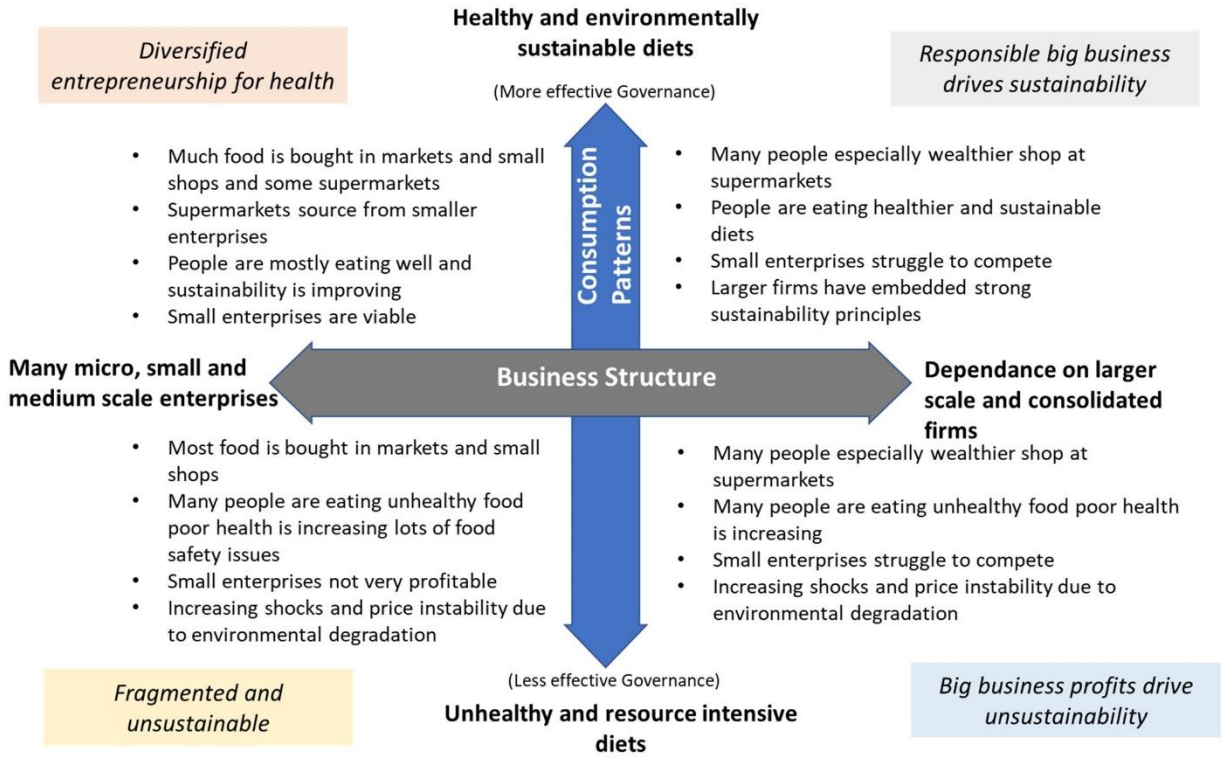


Figure 15 *Scenario with summary of the narratives in four quadrants*

Scenarios and their narratives

Next, in eight subgroups participants discussed the different scenarios and their implications. Each scenario was discussed by two groups. The groups outlined the key features of each scenario, and discussions were captured in brief video recorded narratives by the participants, of which the transcripts can be found in Appendix 6. The summaries of each scenario narratives are presented below.

Scenario A: Diversified and viable small-scale entrepreneurship for healthy people and planet • Food is mostly bought at markets and small shops and some supermarkets • Supermarkets source their products from smaller enterprises • People are mostly eating well and sustainability is improving • Small enterprises are viable	**Scenario B**: Responsible big business driving sustainability • Many people especially the wealthier shop at supermarkets • People are eating healthier and they purchase sustainable products. • Small enterprises struggle to be viable and to compete with big businesses. • Larger firms have embedded strong sustainability principles.
The imagined future of scenario A for Dhaka's food system in 2041 as a narrative from stakeholders' perspectives: **Vendors** are selling a wide range of fresh produces, vegetables, fishes, and fruits coming from the nearby peri-urban neighbourhoods and also from all around the country. **Citizen: "**I am shopping for my family and I think I have everything I need. The products are fresh and prices are good for me. I could easily see and get all the information I need about the products from the labelling and grading." **Citizen:** "The market is clean and well-maintained. Whatever I bought, I mean fishes and chicken were handled and processed safely and hygienically" **The small business owner:** "I am happy with the prices and I manage to sell all my products by grading them according to freshness. I also sell	The imagined future of scenario B for Dhaka's food system in 2041 as a narrative from stakeholders' perspectives: **Supermarkets and big retailers** are providing quality, safe foods at a reasonable price and most of the people are being able to buy quality food from there to meet their nutrition need. Large scale and consolidated firms have incorporated micro, small and medium size enterprises so that they can survive and continue to earn. **The government** has built stakeholders capacity in terms of growing the food, processing the food and distribute the food. Also they have ensured the implementation of the policies and of course maintained strong monitoring system in terms of price and quality. **The community** demanded healthier diets, which also helped to develop this food system today.

through the online e-commerce platform. I can also store the excess products in the shared storage facility in the market." **Nutrition** research would state: "A recent study shows that the rates of both malnourishment and obesity are decreasing in Dhaka, as people eat more diversified, fresh and healthy foods. The country is now self-sufficient in producing all major foods." **The Government** contributed: The BFSA and BSTI are continuously training up producers and vendors about food safety standards, Good Agricultural Practices, and safe food handling, which is clearly reflected in the markets. Products are properly labelled with sufficient information and certification. The Food Planning and Monitoring Unit is providing market forecasting and shares information to the producers under an integrated information system. The Department of Agricultural Extension and the research institutes attached to them are transferring necessary technologies to the small farmers. **Education institutes** Sustainable food production, processing, consumption, and disposing methods have been integrated into the national education curriculum which has helped to change the mindset and get everyone working for the common goals.	**Big markets like superstores** have increased and lots of cooperation like superstores, farmers, big and small farms have come under a same umbrella. **Superstores are creating spaces for small farmers and small vendors.** Along with that they are also providing the small enterprises to use their online platform and spaces to sell their products **Consumers** are also getting more options as the super stores are selling different types of foods of different grades in different prices. So now people have more choices to purchase organic to process food. In conclusion: **Big businesses** have become more responsible, all stakeholders are incorporated in the food system and it is also creating a sustainable win-win situation for all."
Scenario C: Fragmented and unsustainable • Most food is bought at markets and in small shops • Many people are eating unhealthy food resulting in poor health is increasing • There are lots of food safety issues • Small enterprises not very profitable • Increasing shocks and price instability due to environmental degradation	**Scenario D:** Big business profits driving unsustainability • Many people especially the wealthier shop at supermarkets • Many people are eating unhealthy food, poor health is increasing • Small enterprises struggle to be viable and to compete with big businesses • Increasing shocks and price instability due to environmental degradation
The imagined future of scenario C for Dhaka's food system in 2041 as a narrative from stakeholders' perspectives: **Street food vending and unplanned wet markets** are mushrooming to supply food for the city dwellers. As the drive for higher profits increases among the vendors, they are increasingly exploiting existing regulations. As a result, availability of safe food decreases and the city dwellers are suffering from malnutrition and foodborne disease especially for the poor situation is worst. There is need for greater trust among various stakeholders and everybody's contribution. At this moment there are **36 million people**, which is huge number of people. Among them **15 million people living in slum areas** in an unhealthy environment. **The poor citizen's** view on food quality: They just want food to live and they just take food rather than healthy diet. **The waste management system** in the slum areas is worst. There is no significant system to handle the waste materials which is generating from slum areas. **The transport system** in the slum areas is really not good, traffic accident happening there & huge food losses are found.	The imagined future of scenario D for Dhaka's food system in 2041 as a narrative from stakeholders' perspectives: **The citizen**: "I purchase food from supermarkets and online stores". **A citizen**: "Yesterday I saw a news and found out that about 60% of the people are suffering from obesity. Junk food lacks necessary nutrition and so many people are suffering from malnutrition as well. **Research** has proved that among city dwellers 75% of people are suffering high blood pressure, heart and cancer diseases. **The market** is now being dominated by the big players only. The super-giant corporate companies and large agro farms are dominating the markets. They are caring only about the profit and they don't care about the sustainability or health issues. As a result inequality is increasing. **The rich** are becoming richer and the poor are becoming poorer. The citizens, small and medium entrepreneurs the market food vendors are suffering from this situation. **Large agro-farms** and superstores are benefitting. Those who involved in food business in Dhaka city, their main motive is to earn profit. Most of the cases, they are unable to provide safe and nutritious food for **poor people in Dhaka city.**

6 Considerations for change and directions for thematic working groups

6.1 Theme area issues and directions for change

The workshops were composed by a variety of stakeholders representing thematic expertise (Thematic Working Groups) on food safety, fresh markets, nutrition and food security, food loss and waste and food value chains. They were enabled to use the scenario analysis to start brainstorming ideas for change that lead towards more sustainable inclusive and nature positive urban food systems.

Besides the overall key changes or transformations the theme groups discussed what the long term and short-term interventions and incentives were that lead to these changes. The participants at their theme tables also identified what the current existing networks are. The tables below represent the work done by each group.

Nutrition and Food Security				
Changes / Transformations		How to get there?		What existing networks support this?
		Long term	Short Term	
1.	Sustainable production	• Policy formulation and implementation • Capacity building of producers • New agric. Varieties/technology development & adoption	• Access to information • Providing trainings/workshops	• Ministries, City corporation, NGOs, Civil society, Educational institutes • Ministry of food, BSFA, Ministry of Road, transport and highways, Ministry of Agriculture.
2.	Effective market system	• Developing integrated market system • Empower regulatory bodies to ensure policy & strategy implementation	• Contract farming, cooperative groups. • Market monitoring	
3.	Consumption patterns	• Impose high tax on fast-food	• School based training programme • Media/awareness campaign	
4.	Increase availability of food in urban areas	• Roof top gardening • Urban gardening	• Training • Linkage development	
5.	Social safety net programme		• Distribute micronutrient enriched food. Et. Zinc.	

Improving food safety and consumer awareness				
Changes / Transformations		How to get there?		What existing networks support this?
		Long term	Short Term	
1.	Empowered consumers	• Education (curriculum) • Access to information (food facts/nutrient value)	• Awareness (mass media) • Capacity building	• Authorities like BFSA, BSTI, BAB, BCSIR, IPHN, DLS, DAE, LGIL, DOF, City corporations, CAB, NGOs (weak in coordination, collaboration and integration) • Linkages with research institutions and academia • Private Public Partnerships.
2.	Strengthening institutions	• Resources allocation, human resource, financial resource • Technology, testing, diagnosing facilities • Setting standardisation	• Action research • Training, skills development	
3.	Enforcement	• Widespread monitoring • Licensing • Certification	• Mobile court, surveillance • Media	
4.	Digitalisation	• Strengthening networking • Policy & institutional integration	• Wider ICT integration into public services • Digital literacy • Favourable policies for ICT adaptation	
5.	Integration of authorities	• Developing joint action plan across Ministries and authorities	• Collaboration & coordination in development plans	

Food Loss and Waste				
Changes / Transformations		How to get there?		What existing networks support this?
		Long term	Short Term	
1.	Handling and packaging	• Phasing out plastic • Mechanised harvesting • Policy development	• Introducing biodegradable packaging • Training	• Relevant govt. organisations • DAE, DOF, DLS, BFSA, CAB, DOE, Law enforcement agency. • City corporations • NGO, Private organisations, civil society • Transport association.
2.	Transportation	• Refrigerated van • Cool chambered vehicle	• Cool chain management (Ice, cold water)	
3.	Storage	• Establish cold storage (multichambered) • Policy development and implementation	• Awareness and training • Cool chain management	
4.	Category based waste management protocol	• Waste management plant (diversified products) • Training • Policy formulation	• Category wise proper collection • Hygiene and sanitation maintain	
5.	Awareness building	• Training • Inclusion in curriculum	• Campaign • Training/workshop • Documentary (video)	

Strengthening Food Value Chains				
Changes / Transformations		How to get there?		What existing networks support this?
		Long term	Short Term	
1.	Ensure good agriculture practices	• Incorporate learning from pilot and expand the good agric. Practices throughout the country	• Piloting good agricultural practices. Guidelines to measure the effectiveness	• Online publicly accessible platforms for knowledge and data sharing. • Allocate resource for project implementation • Digitalise traceability of food.
2.	Require storage facilities for perishable and non-perishable goods	• Scale up storage facilities if it is benefited	• Develop storage facilities in the pilot area and develop operation mechanism	
3.	Specialised transportation and processing facilities at producer level	• Scale up	• Transport allocation for the pilot area	
4.	Improve E-commerce	• Policy formulation on E-commerce and increase monitoring	• Joint monitoring of online shops by consumer and suppliers	
5.	Upgradation and modernisation of wet-market	• Develop SOP for wet markets and manage a location that is visible for all.	• Improve hygiene in the market – wash facilities	

Fresh Markets				
Changes / Transformations		How to get there?		What existing networks support this?
		Long term	Short Term	
1.	Remote order & delivery facility	• Area wise mandatory policy (e.g. one in every ward) • Tax incentives	Online & delivery facility available in markets and in the area.	• Government support in policy development & implementation • Awareness building of stakeholders. E.g. Gain, WBB, Trust, WB, BRAC, USAID, ActionAid, etc.
2.	Hygienic Market	Policy to include mandatory hygiene facilities in design approval	• Immediate infrastructure modification • PPP (public private partnerships)	
3.	Safe Food in Markets	Food tracking system (source of certification)	• Market monitoring (internal + external) • Awareness based mobile court.	
4.	Inclusive Market	Mandatory building design approval. Considering gender, vulnerable people & PWDs.	Partial and immediate modification	
5.	Availability of organic food	• Policy to establish organic corner in every market & • At least one organic market (farmers market) in each ward	• Establishing a temporary market • Convincing MMC to establish temporary stalls.	

6.2 Next steps

A review of the process and the workshop outcomes will lead to a summary of five key directions to pursue in developing a Dhaka Food Agenda 2041. These areas will be further analyzed, sustained with evidence and with intensified stakeholder consultation.

Several expert meetings will be held to quantify scenarios as developed by the participants. For example: what would it mean for the quantity of production of sustainable (organic) food if consumer patterns change. And what are possible health related costs if healthy diets remain available only for the few?

Part of the process is to further quantify these patterns and adding spatial dimension to these changes (where will the major changes occur geographically in Dhaka?). Stakeholder interviews will be used to validate the current steps and to unlock existing knowledge and build relations that are necessary for the development of the DFA-2041.

The outputs of the workshops will be presented to the second Consultative Group meeting (CGUFSS) meeting in June.

Appendix 1 Link to stock taking of data

Link to all the data from stock taking exercise.

Appendix 2 Participants

Category	Name	Designation	Organization	Online	23-Mar	24-Mar	in-person (23&24Mar)	Theme	Cell Number	E-mail
Ministry	Md. Belal Hossin	Deputy Secretary	Local Government Division	No	Yes	No	Yes	General	1711104702	belallgd@gmail.com
Private sector/ Industry	Shamim Ahmed	President	Bangladesh Meat Importer Association (BMITA)	No	Yes	No	Yes	FM	1911004026	shamimshofi@gmail.com
Private sector/ Industry	Amjad Hossin	Secretary	Bangladesh Meat Importer Association (BMITA)	No	Yes	No	Yes	FM	1715125159	amzad@aleb-bd.com
Government Agency	Mofazzal Hossin	Manager	IDCOL	No	Yes	No	Yes	FWL	1717322949	farid@idcol.org
Ministry	Molla Mohammad Anisuzzaman	Deputy Secretary	GED, Planning Division	No	Yes	No	Yes	General	1918958563	anismonir@gmail.com
Ministry	Mohammad Monir Hossin Howlader	Deputy Secretary	Ministry of Commerce	No	Yes	Yes	Yes	FSCA	1552303911	hawlader2475@gmail.com
Government Agency	Mohammad Ali Siddique	CSO & Head	GQN Division, BRRI	No	Yes	Yes	Yes	FNS	1711685653	mastpgpbd@yahoo.com
I/NGO, NPO	Ziaur Rahman	Senior Project manager	WBB Trust	Yes	Yes	Yes	Yes	FM	1817046486	ziaur@wbbtrust.org
City Corporation	Md. Shahadat Hossain	Sanitary Inspector	NCC	No	Yes	Yes	Yes		1827617786	sahadatmg1969@gmail.com
I/NGO, NPO	Dr. Faruk Ul Islam	Head of Business Development, Marketing & Communication	Practical Action	Yes	Yes	No	Yes	FWL	1712532388	faruk.islam@practicalaction.org
Government Agency	Uday Sankar Das	Senior Planner	Urban Development Directorate	No	Yes	Yes	Yes	FSCA	1716007110	uday2104@yahoo.com
City Corporation	Sumona Sharmin	Urban Planner	GCC	Yes	Yes	Yes	Yes	FM	1710127619	sharmin.sumana@gmail.com
Private sector/ Industry	Md Mostafa Al Mainul Islam	Executive	Agora Ltd	No	Yes	Yes	Yes	FSCA	1712714463	mostafa.islam@rahimafrooz.com
Government Agency	Fatama Nusrat Ahsan	Metropoliton Agriculture Officer	DAE	No	Yes	Yes	Yes	FWL	1918800397	nusratdae32@gmail.com

Category	Name	Designation	Organization	Online	23-Mar	24-Mar	in-person (23&24Mar)	Theme	Cell Number	E-mail
Academia	Md. Mahjib Hossin	Environment Engineer	CBFR, Brac University	No	Yes	Yes	Yes	FWL	1581400768	mahjib.hossain@bracu.ac.bd
Ministry	Rejwanul Hoque	Deputy Secretary	RTHD	No	Yes	No	Yes	FVC	1715238975	rejwan1976@gmail.com
I/NGO, NPO	G. M. Sumon	PM	GAIN	No	Yes	Yes	Yes	FM	1714970190	gsumoon@gmail.com
City Corporation	Dr. S. M. Wasimul Islam	AHO	DNCC	No	Yes	Yes	Yes	General	1735843693	dr.smtuhin@gmail.com
City Corporation	Md. Aminul Islam	CEO	GCC	No	Yes	No	Yes	General	1712196525	aminul5969@gmail.com
Government Agency	Shamsuzzaman Masum	UFO (R)	DoF	Yes	Yes	Yes	Yes	FWL	1670567306	msmdof36@gmail.com
Research Institute	Dr. Md Tariqul Islam	Director (Research)	BARI	No	Yes	No	Yes	FNS	1779519121	ratiqul1965@gmail.com
Academia	Dr. Taznoore Samira Khanam	Post Doc	BIDS	No	Yes	Yes	Yes	FNS	1316171424	taznoorlo@gmail.com
Private sector/ Industry	Md. Anwar Ul Hassan	DGM (mkt)	Milk-Vita	No	Yes	No	Yes	FSCA	1904441190	anwarhassan211166@gmail.com
CSO, CBO, Networks	Dr. monjur-e-Khuda	Treasurer	CAB	No	Yes	Yes	Yes	FSCA	1716066567	rmonzur@gmail.com
CSO, CBO, Networks	Shaheda Begum	Secretary	GCC Town Federation	No	Yes	Yes	Yes	FWL	1754136633	
CSO, CBO, Networks	Rina Halim	President	GCC Town Federation	Yes	Yes	Yes	Yes	FWL	1712106568	
I/NGO, NPO	Rehana Noor	Deputy Manager BRAC	BRAC	No	Yes	No	Yes	FNS	1535868857	rehana.noor@brac.net
I/NGO, NPO	Khademul Rashed	SPO	IRB	No	Yes	Yes	Yes	FSCA	1777773851	khademulrashed@islamicrelief.bd.org
I/NGO, NPO	Ripon Kormoker	PO (ASDB)	IRB	No	Yes	Yes	Yes	FNS	1732404531	
Government Agency	SK Shaheenur Islam	Deputy Chief Epidemiologist	DLS	Yes	Yes	Yes	Yes	FSCA	171282407	sislam73@gmail.com
CSO, CBO, Networks	Selina Begum	President	DSCC Town Federation	Yes	Yes	Yes	Yes	FSCA	1981610180	
I/NGO, NPO	Maksudul Alam	Coordinator	Concern Worldwide	Yes	Yes	Yes	Yes	FNS	1713330951	maksudul.alam@concern.net
I/NGO, NPO	Washim Akhter	Program Coordinator	BRAC	No	Yes	Yes	Yes	FM	1710897473	washim.akter@brac.net
I/NGO, NPO	Sajal Kumar Saha	Program Manager	BRAC	No	Yes	No	Yes	FM	1730374296	sajal.saha@brac.net
Private sector/ Industry	Syed Hassan Habib	AGM	Bengal Meat	No	Yes	Yes	Yes	FWL	1713424290	habib@bengalmeat.com
Development partner	Aklima Parvin	Senior Project manager	IFPRI	No	Yes	No	Yes	FNS	1718011142	a.parvin@cgair.org
Academia	KHM Nazmul Hussain Nazir	Professor	BAU	Yes	Yes	Yes	Yes	FSCA	1893195552	nazir@bau.edu.bd
CSO, CBO, Networks	Momtaz Begum	President	DNCC Town Federation	Yes	Yes	Yes	Yes	FNS	1720050553	
Private sector/ Industry	Md. Istiar Ali	Market Development officer	Paragon Group	No	Yes	Yes	Yes	FM	1735136609	istiar.ali@paragon.com.bd
I/NGO, NPO	Naima Akter	Project Manager	WBB Trust	Yes	Yes	Yes	Yes	FNS	1673358606	naima_2810@yahoo.com
CSO, CBO, Networks	S B Naseem	Member	BSAFE Foundation	No	Yes	Yes	Yes	FSCA	1819777578	sbnaseem@hotmail.com

Category	Name	Designation	Organization	Online	23-Mar	24-Mar	in-person (23&24Mar)	Theme	Cell Number	E-mail
I/NGO, NPO	Sazzad Latif	MC	BBF	Yes	Yes	Yes	Yes	FSCA	1882627722	latif.sajjad@yahoo.com
CSO, CBO, Networks	Md. Magfur Rahman	Assistant Director	Department of Consumers Right Protection	No	Yes	Yes	Yes	FSCA	1739673233	magfurrahman85@gmail.com
Research Institute	Shamim Ahmed	SSO	BLRI		Yes	No	Yes	FVC	1737293049	sahmed_blri@yahoo.com
UN Agency	Md Mahmud Hossain	Senior Advisor	FAO	Yes	Yes	No	Yes	FWL	1818415912	mdmahmud.hossain@fao.org
Academia	Prof. Dr. Kasphia Nahrin	Professor	Jahangirnagar University	Yes	Yes	Yes	Yes	FNS	1912433954	kasphia_urp@yahoo.com
Academia	Prof Dr. Shafiq-Ur-Rahman	Professor	Jahangirnagar University	No	Yes	Yes	Yes	FVC	1711398754	shafiq_urp@yahoo.com
Private sector/ Industry	Uzma Chowdhury	Director	Pran Group	No	Yes	No	Yes	FVC	1912256666	uzma@prangroup.com
Academia	Dr. Khaled Hossain	Professor	HSTU	Yes	Yes	Yes	Yes	FNS	1706877533	khossainhstu@gmaill.com
I/NGO, NPO	Rafid Mahmud Khan	Deputy Manager	BRAC	No	Yes	No	Yes	FNS	1838870796	rafidmahmudk@gmail.com
City Corporation	Dr. S M Wasimul Islam	Asst. Health Officer	DNCC	No	Yes	Yes	Yes	General	1735843693	
City Corporation	Dr. Azizun Nesa	Asst. Health Officer	DNCC	No	Yes	No	Yes	General	1756209482	
City Corporation	Dr. Shihab Uddin	Asst. Health Officer	DSCC	Yes	Yes	Yes	Yes	FM	1629572994	shihabuddin966@gmail.com
CSO, CBO, Networks	Wais Kabir	Member	BSAFE Foundation	No	No	Yes	Yes	FSCA	1715036732	waiskabir@hotmail.com
Ministry	Md. Mahbubur Rahman	Research Director	MoFood	Yes	No	Yes	Yes	FVC	1715281680	rmahbubur10@yahoo.com
I/NGO, NPO	Md. Guljer Ahmed	Program officer	Nutrition International	No	No	Yes	Yes	FNS	1717510152	gahmmed@nutritionintl.org
Development partner	Md Imrul Hasan	Sr. Food Safety Specialist	USAID	No	No	Yes	Yes	FSCA	1613041870	imrul2007@gmail.com
Private sector/ Industry	Md. Zakir Hussen	Sub Assistant Manager	PRAN-RFL Group	No	No	Yes	Yes	FVC	1769696667	bd36@prangroup.com
Academia	Dr. Khaleda Islam	Professor	INFS, DU	No	No	Yes	Yes	FNS	1715312079	
Ministry	Dr.Md Abdul Latif	Deputy Secretary	Ministry of Fisheries & Livestock	No	No	Yes	Yes	FVC	1742864906	alatif_7@yahoo.com
Private sector/ Industry	Mohammad Hares		Bengal Meat	Yes	No	No	No	General		hares@bengalmeat.com
I/NGO, NPO	Dr. Dewan Imtiaz Rahmn	Public Health Epidemiologist	Save The Children	Yes	No	No	No	General		dewan.imtiazrahman@savethechildren.org
I/NGO, NPO	Ataur Rahman Miton	President	Bikoshito Bangladesh Foundation	Yes	No	No	No	General	1919002021	miton@hungerfree.net
I/NGO, NPO	Faizah A. Eerina	Senior Officer	JAAGO Foundation	Yes	No	No	No	General		faizah.eerina@jaago.com.bd
Government Agency	Shamsuzzaman Masum	Upazila Fisheries Officer (Reserve	District Fisheries Office, Dhaka	Yes	No	No	No	General		msmdof36@gmail.com

Category	Name	Designation	Organization	Online	23-Mar	24-Mar	in-person (23&24Mar)	Theme	Cell Number	E-mail
I/NGO, NPO	Shamim Ahsan Chowdhury	Advocacy Advisor	SNV Netherlands Development Organisation (SNV)	Yes	No	No	No	General	1716159399	shamim423@gmail.com
CSO, CBO, Networks	Ahmad Ekramullah	Program Coordinator	CAB	Yes	No	No	No	General		cabdhaka2013@gmail.com
	Md Zahirul alam			Yes	No	No	No	General		zahirulalamncc@gmail.com
Research Institute	Dr. Tasnim Farzana	PSO, IFST	BCSIR	Yes	No	No	No	General	1816399078	triptiot@yahoo.com
UN Agency	Dr. Samina Yasmin	Agriculture Economist	World Bank	Yes	No	No	No	General		syasmin@worldbank.org
I/NGO, NPO	Sakib Khaled	Manager - Portfolio Development	Swisscontact Bangladesh	Yes	No	No	No	General		sakib.khaled@swisscontact.org
Private sector/ Industry	Fahim Uddin	Managing Director and Founder	GARBAGEMAN LTD	Yes	No	No	No	General	1717308906	fahim.garbageman@gamil.com
Government Agency	Afia Akhter	District Training Officer	DAE	Yes	No	No	No	General	1727549119	
City Corporation	Abdullah Al Baki	ZEO	DNCC	Yes	No	No	No	General	1731846899	aabaki247@gmail.com
Government Agency	Md. Taif Ali	Research Officer	BFSA	Yes	No	No	No	General	1738244224	taif.ali@bfsa.gov.bd
	Anamul Haque			Yes	No	No	No	General		
	Bamir Mir			Yes	No	No	No	General		
CSO, CBO, Networks	Tahmina Akter Tonni	Cashier	DNCC Town Federation	Yes	No	No	No	General	168551161	
Private sector/ Industry	Kamruzzaman Kamal		PRAN-RFL Group	Yes	No	No	No	General		
Government Agency	Dr. Mohammad Razu Ahmed	Deputy Director	DAM	Yes	No	No	No	General	1718009999	razu.ahmeddae@gmail.com
	Nawshin Tabbassum			Yes	No	No	No	General		
	Jahir			Yes	No	No	No	General		
	Wakel Ahmed			Yes	No	No	No	General		
Government Agency	Md Miskatul Alam	Deputy Senior Exective	TCB	Yes	No	No	No	General	1913966724	tcbcms@tcb.gov.bd
	Malay Kumar Das			Yes	No	No	No	General		
	Asma Khatun			Yes	No	No	No	General		
City Corporation	Md Moinul Islam	Urban Planner	NCC	Yes	No	No	No	General		townplanning@ncc.gov.bd
Government Agency	Taslima Mostary	Deputy Director	BFSA	Yes	No	No	No	General	1744223991	dd.risk@bfsa.gov.bd

Facilitators

Category	Name	Designation	Organization	Online	23-Mar	24-Mar	in-person (23&24Mar)	Role
Academia	Riti	Specialist	WUR	Yes	Yes	Yes	Yes	Facilitation
Academia	Marion	Project coordinator/Sr researcher	WUR	Yes	Yes	Yes	Yes	Facilitation
Academia	Melanie	Specialist	WUR	Yes	Yes	Yes	Yes	Facilitation
Academia	Peter	Specialist	WUR	Yes	Yes	Yes	Yes	Facilitation
Academia	Saeed	Specialist	WUR	Yes	Yes	Yes	Yes	Facilitation
Academia	Lotte	Specialist	WUR	Yes	Yes	Yes	Yes	Facilitation
Academia	Charlotte	Specialist	WUR	Yes	No	No	No	Facilitation
Academia	Jim	Chief facilitator	WUR / Oxford	Yes	Yes	Yes	Yes	Facilitation
UN Agency	Nazrul	City Coordinator	FAO	Yes	Yes	Yes	Yes	Facilitation
UN Agency	Anowarul	City Coordinator	FAO	Yes	Yes	Yes	Yes	Facilitation
UN Agency	Sahidul	City Coordinator	FAO	Yes	Yes	Yes	Yes	Facilitation
UN Agency	Sharifa	City Coordinator	FAO	Yes	Yes	Yes	Yes	Facilitation
UN Agency	Syed	Specialist	FAO	Yes	Yes	Yes	Yes	Facilitation
UN Agency	Asif	Specialist	FAO	Yes	Yes	Yes	Yes	Facilitation
UN Agency	Jessica	Specialist	FAO	Yes	Yes	Yes	Yes	Facilitation
UN Agency	Sajia	Specialist	FAO	Yes	Yes	Yes	Yes	Facilitation
UN Agency	Nuary	Specialist	FAO	Yes	Yes	Yes	Yes	Facilitation
UN Agency	Mohibullah	Specialist	FAO	Yes	Yes	Yes	Yes	Facilitation
UN Agency	Zahangir	Specialist	FAO	Yes	Yes	Yes	Yes	Facilitation
UN Agency	Pedro Andres	Specialist	FAO	Yes	Yes	Yes	Yes	Facilitation
UN Agency	Jainal	National Project Coordinator	FAO	Yes	Yes	Yes	Yes	Facilitation
UN Agency	John	Chief Technical Advisor	FAO	Yes	Yes	Yes	Yes	Facilitation

Appendix 3 Programme online sessions and face to face workshop 23-24 March

Session One: Introduction to Technical Working Groups and Foresight Process

15 February – 2pm to 4:30pm (virtual)

Time	Activity	Process	Notes
2:00 (10 min)	Welcome	Brief introduction for purpose of workshops and introduce Jim	Project team
2:10 (25 min)	Participant Introductions	Jim says hello and gives task, Break out groups of 7 – random – each person is asked to introduce themselves name, organisation and technical group and then say one thing that surprises them (good or bad) about Dhaka's food system	Riti to split into groups of 7 Use mural to capture ideas – facilitator in each group to share mural and writ up surprises, Can also use chat
2:35	Introduction to the Agenda 2021 Project and overview of technical working groups	Presentation by team using shorter version of try out slides	Team slide presentation
3:00	Break		
3:10	Presentation of Foresight Approach	Presentation by Jim set within context of Dhaka FS	Jim slide presentation
3:25	Identifying Stakeholder concerns and interests	Break into 8 stakeholder groups – poor consumers, wealthier consumers, market traders, supermarkets, agri-food firms, urban/peri-urban farmers, rural farmers, government policy makers (local and national)	Each group facilitator explains concerns ad interests in Bangla and goes around the group asking for contributions, for each category ask how gender may influence concerns and interests Mural Board
4:10	Discussing concerns and interests	Looking at concerns and interests between stakeholders and where they are common interests or potential conflicts of interest	Plenary session with participant input
4:25	Wrap up and outline of day 2		

Session Two: Mapping the Dhaka Food System

(visualising the main features of food consumption and procurement for Dhaka)

16 February – 2pm to 4:30pm (virtual)

Time	Activity	Process	Notes
2:00 (10 min)	Recap of day 1	Summarise out comes of day one and give next step of foresight process	
2:10	Reviewing key data and trends of Dhaka food system	Presentation of the data slides with key messages but indicating that this is preliminary data gathering	Core set of slides with Bangla translation
2:30	Development of rich picture of Dhaka food system	Group of 10 work on rich picture as per guidance slide	Important to follow guidance notes Mural Board
3:20 (10 min)	Break		
3:30	Reflections on rich pictures	Groups make comment on key aspect of discussion, facilitator reflects on pictures	
3:40	Brainstorming critical uncertainties	Small groups brainstorm critical uncertainties as per guidance slides	Small groups Mural Board
4:20	Review critical uncertainties	Facilitator reviews work of small groups in Plenary and asks for comments	
4:25	Wrap up and outline of day 3	Closing comment from Team	

Session Three: Future Scenarios for Dhaka Food System
(exploring how the Dhaka food system might* be *in 2041)
23 February – 2pm to 4:30pm (virtual)

Break

Time	Activity	Process	Notes
2:00 (10 min)	Recap of day 1&2	Summarise out comes of day one and give next step of foresight process	
2:10	Reviewing key trend and uncertainties	Gain input from participants on reformulated key trends and uncertainties	Mural Board
2:45	Developing scenario narratives	Groups work on each of the scenario quadrants	
3:15	Reviewing scenario narratives	Discussion of outputs in groupwork	
4:00	Finalising scenario narratives	Add titles and include participant comments from review	
4:15	Wrap up and outline of day 4		

Session Four: Implications and Directions for Systems Change
2 March – 2pm to 4:30pm (virtual)

Time	Activity	Process	Notes
2:00 (5 min)	Welcome Back	Comments from Pedro/John	Some reflections on progress and implications
2:05 (20min)	Participant Reflections	What have been our insights so far and what are the implication for the thematic working groups and Agenda 2041	Small groups with key points on Mural (split randomly into groups of four)
2:25 (15 min)	Review of work to date and presentation of draft integrated scenarios	Presentation summary by Jim of possible integrated scenarios and background work.	Slide presentation
2:40 (40 min)	Review of scenarios and assessment of implications for different stakeholders	Four groups each group reviews one scenario and identifies most important implications for different stakeholder interests	Mural framework to support discussions (split randomly into 4 groups but with nominated facilitators)
3:20 (15 min)	Feedback from groups	Each group provides feedback on key points	
3:35 (5 min)	How to identify directions for change	Explanation by Jim	
3:40 (35 min)	Identifying directions for change and enabling conditions	Small group session brainstorm session	Mural template Break randomly into groups of 4
4:15 (10 min)	Group feedback and discussion	Groups report back on a few highlight points	
4:25	Wrap up	Info on face-to-face session	

Programme Workshop 23-24 March

March 23	
Time	**What**
10.00 AM	Welcome and formal opening
10.30 AM	Participant introductions
10.50 AM	Introduction to Foresights and Scenario development
11.00 AM	Understanding Dhaka's Food System
01.00 PM	Lunch break
01.45 PM	Thematic tables at work - rich picture
03.30 PM	Review foresights process
04.00 PM	Consolidation and wrap-up
05.00 PM	End of day 1

March 24	
Time	**What**
10.00 AM	Welcome
10.15 AM	Participant reflection
10.30 AM	Scenario, implications & SH reflections
11.30 AM	Development and presentation of scenario story lines
01.00 PM	Lunch break
03.30 PM	Review foresights process
04.00 PM	Consolidation
04.15 PM	Closure of the workshop

Appendix 4 Examples Invitation online workshops & in person workshops

Support for Modelling, Planning and Improving Dhaka's Food System (DFS) Project
Local Government Division
Ministry of Local Government, Rural Development and Cooperatives

Memo no: GCP/BGD/066/NET/LGD/২০২2 /TWGs/2 Date: 06/02/2022

Subject: Invitation to nominate a relevant person to join the Thematic Working Group (TWG) of *Food Safety and Consumer Awareness* on Foresight and Scenario Planning under the Dhaka Food System (DFS) Project

Dear Sir/ Madam,

It is our pleasure to inform you that the Local Government Division (LGD) of the Ministry of Local Government, Rural Development and Co-operatives (MoLGRD&C) is leading the implementation of the '**Support for Modelling, Planning and Improving Dhaka's Food System (DFS)' Project**, with technical support from both the Food and Agriculture Organization of the United Nations (FAO) and Wageningen University & Research (WUR, the Netherlands), in four City Corporations (Dhaka North-South, Gazipur, Narayanganj) of the Dhaka Metropolitan Area (DMA). The Project aims to achieve a safe, sustainable, inclusive, and resilient food system for DMA. With this goal in mind the Project is supporting the Government to develop a set of priorities, policies, strategies, and implementation mechanisms for the food system transformation of DMA by 2041, to be called the 'Dhaka Food Agenda 2041' (DFA 2041).

Developing the DFA 2041 engages a diverse range of stakeholders under a multi-stakeholder platform, to consult and work out a set of strategies. Thematic Working Groups (TWGs) will be established under the leadership of the Local Government Division (LGD) and serve as a vital component of the platform. They will work in synergy with the central advisory body Consultative Group of the Urban Food System Strategies (CGUFSS) of the Project of the Project and support developing a comprehensive and inclusive DFA. TWG members will render their technical expertise, knowledge, and advocacy support to (i) formulate a set of food system strategies, policies, and programme interventions, (ii) promote an enabling policy environment, and (iii) provide a coherent framework facilitating coordination of policies, plans and actions across ministries and multiple levels. Further details about the TWGs can be found in the attached policy brief.

The DFS project offers a series of growth opportunities to TWG members and their respective organizations. This ranges from necessary trainings, capacity strengthening programmes, opportunities to co-organize national-level advocacy events with media exposure, participation in relevant workshops and conferences, acknowledgement in publications, and promotion and dissemination of these publications, research findings, and project learnings.

We appreciate your contribution towards improving Bangladesh's food system as one of the prominent organizations in the sector. We request you to kindly nominate a relevant person from your organization to assume the responsibility of joining efforts to transform Dhaka's food system as a member of the TWG. This will require six to eight (6-8) meetings/workshops over a period of twelve (12) months. **The first round workshops will take place virtually, in coherence with the current health situation, on February 15, 16, 23 and March 2, 2022 from 2:00 pm to 4:30 pm.**

Please let us know of your interest in reply to this email by nominating a relevant person from your organization. I. For more information, please contact Dr. Pedro A. Garzon Delvaux (pedro.garzondelvaux@fao.org).

Yours sincerely,

Mr. John Taylor
Chief Technical Adviser
Dhaka Food Systems Project
FAO Bangladesh

সাপোর্ট ফর মডেলিং, প্ল্যানিং অ্যান্ড ইমপ্রুভিং ঢাকা ফুড সিস্টেম
স্থানীয় সরকার বিভাগ
স্থানীয় সরকার, পল্লী উন্নয়ন ও সমবায় মন্ত্রণালয়

মেমো নং: GCP/BGD/066/NET/LGD/2022 /TWGs/2 তারিখঃ ০৬/০২/২০২২

বিষয়ঃ ঢাকা ফুড সিস্টেম (ডিএফএস) প্রকল্পের অধীনে দূরদর্শিতা এবং দৃশ্যকল্প পরিকল্পনার বিষয়ে খাদ্য সুরক্ষা এবং ভোক্তা সচেতনতার জন্য থিম্যাটিক ওয়ার্কিং গ্রুপে (TWG) যোগদানের জন্য একজন ব্যক্তিকে মনোনীত করার জন্য আমন্ত্রণ।

প্রিয় মহোদয়,
অতি আনন্দের সাথে আপনাদের জানাচ্ছি যে, স্থানীয় সরকার, পল্লী উন্নয়ন ও সমবায় মন্ত্রণালয়ের স্থানীয় সরকার বিভাগ (এলজিডি) সাপোর্ট ফর মডেলিং, প্ল্যানিং অ্যান্ড ইমপ্রুভিং ঢাকার ফুড সিস্টেম' (ডিএফএস) বাস্তবায়নে নেতৃত্ব দিচ্ছে। জাতিসংঘের খাদ্য ও কৃষি সংস্থা (এফএও) এবং WUR, নেদারল্যান্ডস উভয়ের প্রযুক্তিগত সহায়তায় প্রকল্পটি ঢাকার চারটি সিটি কর্পোরেশনে (ঢাকা উত্তর-দক্ষিণ, গাজীপুর, নারায়ণগঞ্জ) পরিচালিত হচ্ছে। প্রকল্পটির লক্ষ্য ঢাকা মেট্রোপলিটন এরিয়ার জন্য জন্য একটি নিরাপদ, টেকসই, এবং স্থিতিস্থাপক খাদ্য ব্যবস্থা অর্জন করা। এই লক্ষ্যকে মাথায় রেখে প্রকল্পটি সরকারকে ২০৪১ সালের মধ্যে DMA-এর খাদ্য ব্যবস্থার রূপান্তরের জন্য অগ্রাধিকার, নীতি, কৌশল এবং বাস্তবায়ন প্রক্রিয়ার একটি সেট তৈরি করতে সহায়তা করছে, যাকে বলা হবে 'ঢাকা ফুড এজেন্ডা ২০৪১' (DFA 2041)।

'ঢাকা ফুড এজেন্ডা ২০৪১' ডেভেলপ করার জন্য পরামর্শ এবং কৌশলগুলির একটি সেট তৈরি করতে একটি মাল্টি-স্টেকহোল্ডার প্ল্যাটফর্মের অধীনে বিভিন্ন স্টেকহোল্ডারকে নিয়ে কাজ করে। থিম্যাটিক ওয়ার্কিং গ্রুপ (TWGs) স্থানীয় সরকার বিভাগের (LGD) নেতৃত্বে প্রতিষ্ঠিত হবে এবং প্ল্যাটফর্মের একটি গুরুত্বপূর্ণ উপাদান হিসেবে কাজ করবে। তারা প্রকল্পের প্রকল্পের আরবান ফুড সিস্টেম স্ট্র্যাটেজিস (CGUFSS) এর কেন্দ্রীয় উপদেষ্টা সংস্থার সাথে সমন্বয় করে কাজ করবে এবং একটি ব্যাপক এবং অন্তর্ভুক্তিমূলক ডিএফএ বিকাশে সহায়তা করবে। TWG সদস্যরা তাদের প্রযুক্তিগত দক্ষতা, জ্ঞান এবং সহায়তা প্রদান করবে (i) খাদ্য ব্যবস্থার কৌশল, নীতি এবং কর্মসূচির হস্তক্ষেপের একটি সেট তৈরি করতে, (ii) একটি সক্ষম নীতি পরিবেশ প্রচার করতে এবং (iii) মন্ত্রণালয় এবং একাধিক স্তরে নীতি, পরিকল্পনা এবং কর্মের সমন্বয় সাধনের জন্য একটি সুসংগত কাঠামো প্রদান করতে।

DFS প্রকল্পটি টিডব্লিউজি (TWG) সদস্যদের এবং তাদের নিজ নিজ প্রতিষ্ঠানের জন্য একটি দক্ষতা বৃদ্ধির সুযোগ প্রদান করে। এর মধ্যে রয়েছে প্রয়োজনীয় প্রশিক্ষণ, সক্ষমতা শক্তিশালীকরণ কর্মসূচি, মিডিয়া এক্সপোজারের সাথে জাতীয় পর্যায়ের অ্যাডভোকেসি ইভেন্টগুলিকে সহ-সংগঠিত করার সুযোগ, প্রাসঙ্গিক কর্মশালা এবং সম্মেলনে অংশগ্রহণ, প্রকাশনাগুলিতে স্বীকৃতি, এবং এই প্রকাশনাগুলির প্রচার এবং প্রচার, গবেষণার ফলাফল এবং প্রকল্প শিক্ষা।

এই খাতের অন্যতম প্রধান সংস্থা হিসেবে বাংলাদেশের খাদ্য ব্যবস্থার উন্নয়নে আমরা আপনাদের অবদানের প্রশংসা করি। TWG-এর সদস্য হিসাবে ঢাকার খাদ্য ব্যবস্থাকে রূপান্তরিত করার প্রচেষ্টায় যোগদানের দায়িত্ব গ্রহণ করার জন্য আমরা আপনার প্রতিষ্ঠান থেকে একজন এই সংক্রান্ত ব্যক্তিকে মনোনীত করার জন্য অনুরোধ করছি। এর জন্য বারো মাস ধরে ছয় থেকে আটটি মিটিং/ওয়ার্কশপের প্রয়োজন হবে। ১৫, ১৬, ২৩ ফেব্রুয়ারি এবং ২ মার্চ, ২০২২ তারিখে বিকাল ২:০০ থেকে বিকাল ৪:৩০ পর্যন্ত বর্তমান স্বাস্থ্য পরিস্থিতির সাথে সামঞ্জস্য রেখে প্রথম রাউন্ডের কর্মশালাগুলি অনুষ্ঠিত হবে।

আপনার প্রতিষ্ঠানের একজন ব্যক্তিকে মনোনীত করে এই ইমেলের উত্তরে আপনাদের আগ্রহের বিষয়ে আমাদের জানান। আরও তথ্যের জন্য, অনুগ্রহ করে ড. পেড্রো এ. গারজন ডেলভাক্স (pedro.garzondelvaux@fao.org) এর সাথে যোগাযোগ করার অনুরোধ জানাচ্ছি।

আপনার বিশ্বস্ত

জন টেইলর
প্রধান কারিগরি উপদেষ্টা
ঢাকা ফুড সিস্টেম প্রকল্প
এফএও বাংলাদেশ

REMINDER - CONFIRMATION

Dear Sir/ Madam,

We appreciate your contribution towards improving Bangladesh's food system as one of the prominent organizations in the sector.

It is a pleasure to share that FAO and partners, under the leadership of the Ministry of Local Government, Rural Development and Co-operatives (MoLGRD&C) are organizing a participatory platform to support the Government to develop a set of priorities, policies, strategies, and implementation mechanisms for the food system transformation by 2041, to be called the **'Dhaka Food Agenda 2041'**. This initiative is presented in attachment.

This initiative is undertaken under the 'Support for Modelling, Planning and Improving Dhaka's Food System (DFS)' Project aiming to achieve a safe, sustainable, inclusive, and resilient food system for the greater Dhaka. We request you to kindly nominate a person from your organization to join our efforts to transform Dhaka's food system as a member of the deliberating Thematic Working Groups (TWG). This will require three to four (3-4) meetings/workshops over a period of six (6) months.

The nominated person from your organization is invited to attend a round of day workshops taking place in-person on **March 23 and 24, 2022 starting at 9:00 am – 4:30 pm**. Please note that DFS project offers a series of capacity building and networking opportunities to TWG members and their respective organizations. During the event, would be looking forward that you or your colleagues to start focusing on the theme of **Food Loss and Waste management (FLW)**.

Venue: Amari Hotel (House No, 47 Rd No 41, Dhaka 1212).

Please let us know of your interest in reply to this email by nominating a relevant person from your organization. For more information, please contact Dr. Pedro A. Garzon Delvaux (pedro.garzondelvaux@fao.org).

We are looking forward to your participation,
Best regards,
Pedro Andrés

মহোদয়,

বাংলাদেশের খাদ্য ব্যবস্থার উন্নয়নে এই খাতের অন্যতম প্রধান সংস্থা হিসেবে আমরা আপনাদের অবদানের প্রশংসা করছি।

আপনাদের অতীব আনন্দের সাথে জানাচ্ছি যে FAO এবং বিভিন্ন সহযোগী সংস্থা, স্থানীয় সরকার, পল্লী উন্নয়ন ও সমবায় মন্ত্রণালয়ের (MoLGRD&C) নেতৃত্বে একটি অংশগ্রহণমূলক প্ল্যাটফর্ম গঠন করছে যা বাংলাদেশ সরকারকে ২০৪১ সালের মধ্যে ঢাকা মহানগর অঞ্চলের খাদ্য ব্যবস্থার রূপান্তরের জন্য প্রয়োজনীয় অগ্রাধিকার, নীতিমালা, কৌশল এবং সেগুলো বাস্তবায়নের উপায়সমূহ তৈরি করতে সহায়তা করবে, যাকে 'ঢাকা ফুড এজেন্ডা ২০৪১' হিসেবে অভিহিত করা হবে। এসংক্রান্ত বিস্তারিত সংযুক্তিতে রয়েছে।

বৃহত্তর ঢাকা মহানগর অঞ্চলের জন্য একটি একটি নিরাপদ, টেকসই, অন্তর্ভুক্তিমূলক এবং ঘাতসহ খাদ্য ব্যবস্থা গড়ে তোলার লক্ষ্যে 'সাপোর্ট ফর মডেলিং, প্ল্যানিং অ্যান্ড ইমপ্রুভিং ঢাকা'স ফুড সিস্টেম (ডিএফএস)' প্রকল্পের অধীনে এই উদ্যোগ নেওয়া হয়েছে। থিম্যাটিক ওয়ার্কিং গ্রুপের একজন (TWG) সদস্য হিসেবে যোগদান করতে এবং এজন্য আপনার প্রতিষ্ঠান থেকে একজন ব্যক্তিকে মনোনীত করার মাধ্যমে ঢাকার খাদ্য ব্যবস্থার উন্নয়নে আমাদের এই প্রচেষ্টায় যোগদান করতে আমরা আপনাকে বিনীত অনুরোধ জানাচ্ছি। এই প্রক্রিয়ায়, আগামী ছয় মাসের মধ্যে তিন থেকে চারটি সভা বা ওয়ার্কশপে অংশগ্রহণের প্রয়োজন হবে।

আপনার প্রতিষ্ঠান থেকে মনোনীত ব্যক্তিকে আগামী মার্চ ২৩ ও ২৪ তারিখে সকাল ৯:০০ টা থেকে বিকাল ৪:০০ টার মধ্যে অনুষ্ঠেয় দিনব্যাপী (সামনাসামনি) ওয়ার্কশপগুলোতে অংশগ্রহণের জন্য আমন্ত্রণ জানাচ্ছি। উল্লেখ্য, DFS প্রকল্পের পক্ষ থেকে TWG সদস্য ও তাদের প্রতিনিধিত্বকারী প্রতিষ্ঠানসমূহের জন্য সক্ষমতা বৃদ্ধি এবং নেটওয়র্কিংয়ের সুযোগ প্রদান করা হবে। উক্ত ওয়ার্কশপগুলোতে আপনি অথবা আপনার মনোনীত সহকর্মী খাদ্যের অপচয় ও খাদ্যবর্জ্য (FLW) থিম বা বিষয়ের উপর গুরুত্বারোপ করবেন বলে আশা করছি।

ঢাকায় অনুষ্ঠেয় ওয়ার্কশপগুলোর স্থান শীঘ্রই জানানো হবে।

অনুগ্রহ করে এবিষয়ে আপনার আগ্রহের কথা আপনার প্রতিষ্ঠান থেকে সংশ্লিষ্ট ব্যক্তিকে মনোনীত করে এই ইমেইলের উত্তরে আমাদের জানান। এসংক্রান্ত আরও তথ্য ও বিস্তারিত জানতে যোগাযোগ করুন: Dr. Pedro A. Garzon Delvaux (pedro.garzondelvaux@fao.org)।

আমরা আপনার সদয় অংশগ্রহণের অপেক্ষায় আছি।

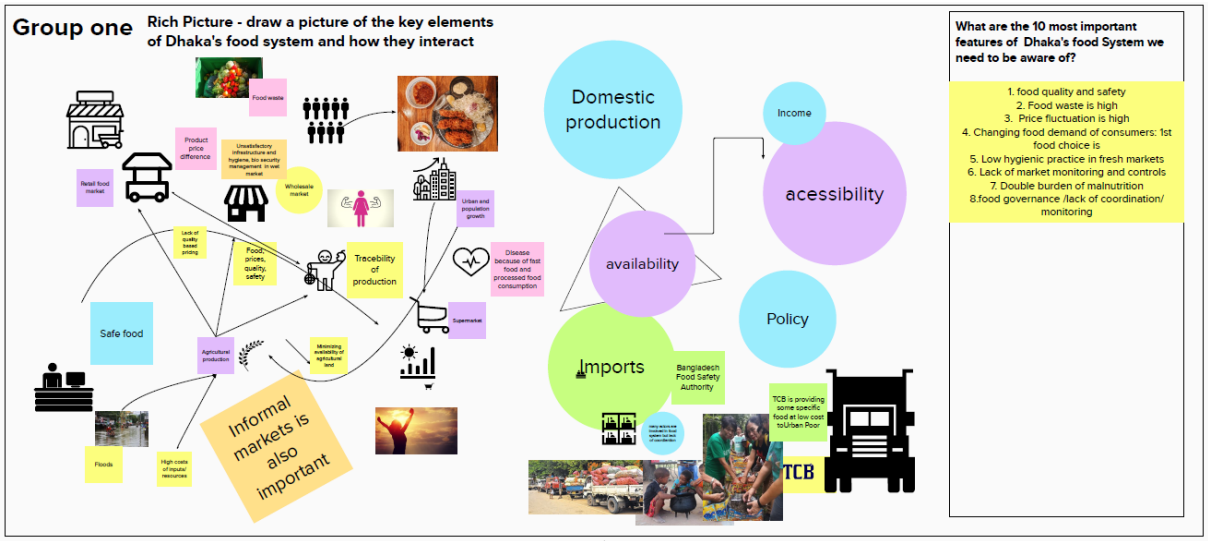
শুভেচ্ছান্তে

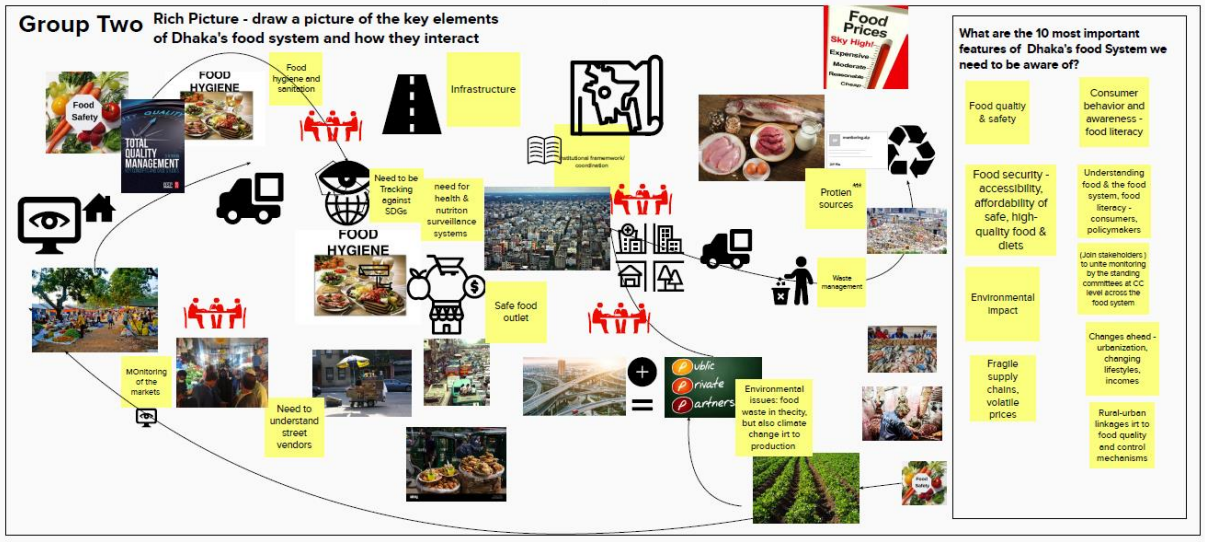
Pedro Andrés

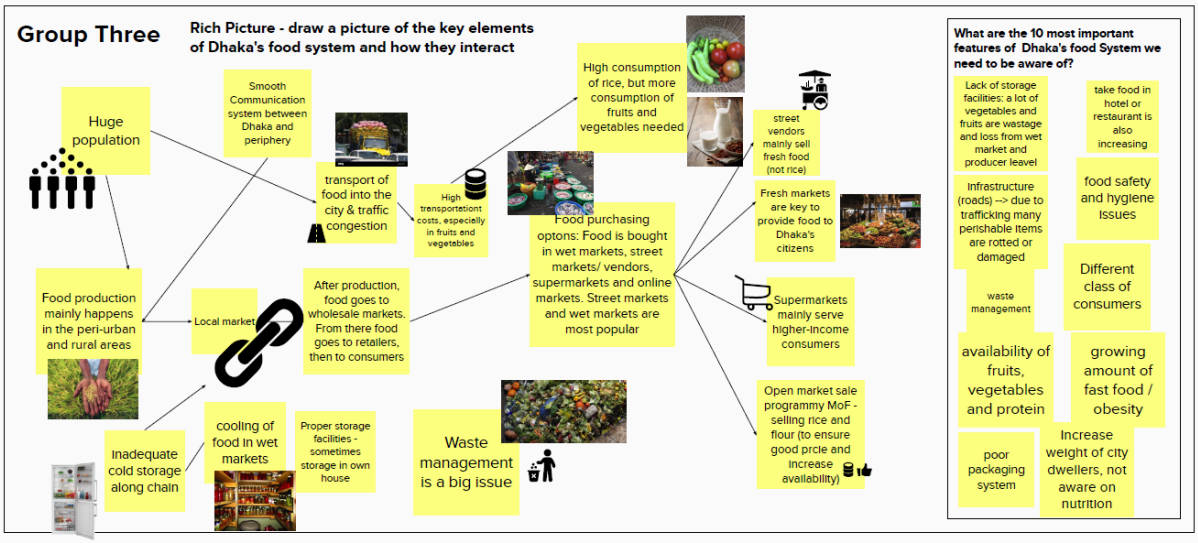
Pedro Andrés Garzon Delvaux, *PhD.*
Food System Policy Economist
Dhaka Food System Project
FAO Representation in Bangladesh
Road#8, House#37, Dhanmondi R/A, Dhaka 1205, Bangladesh
Email: pedro.garzondelvaux@fao.org
Website: www.fao.org/bangladesh

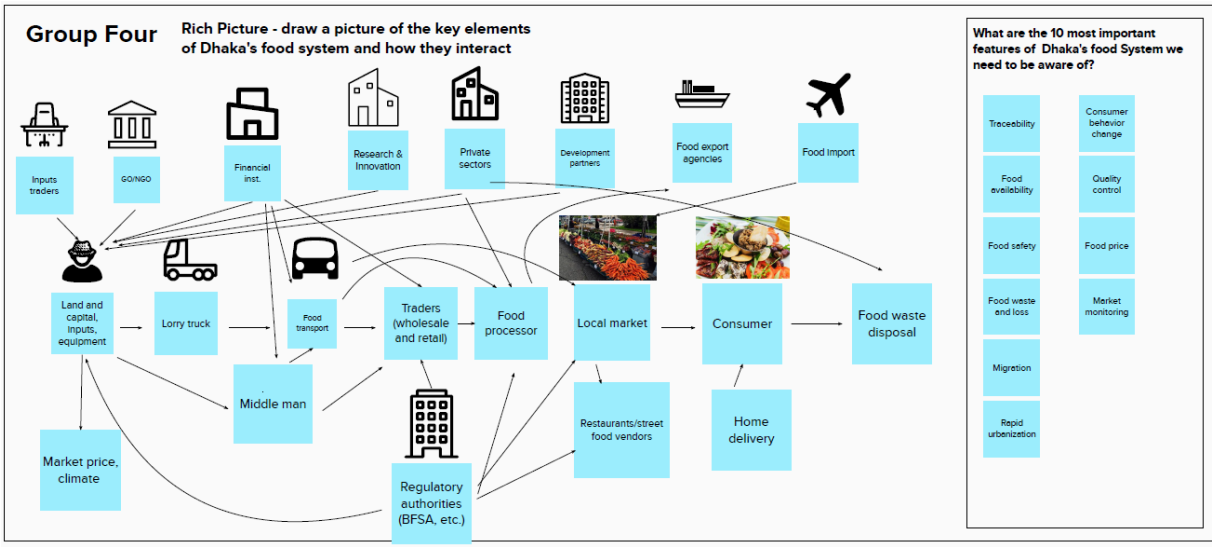
Food and Agriculture Organization of the United Nations

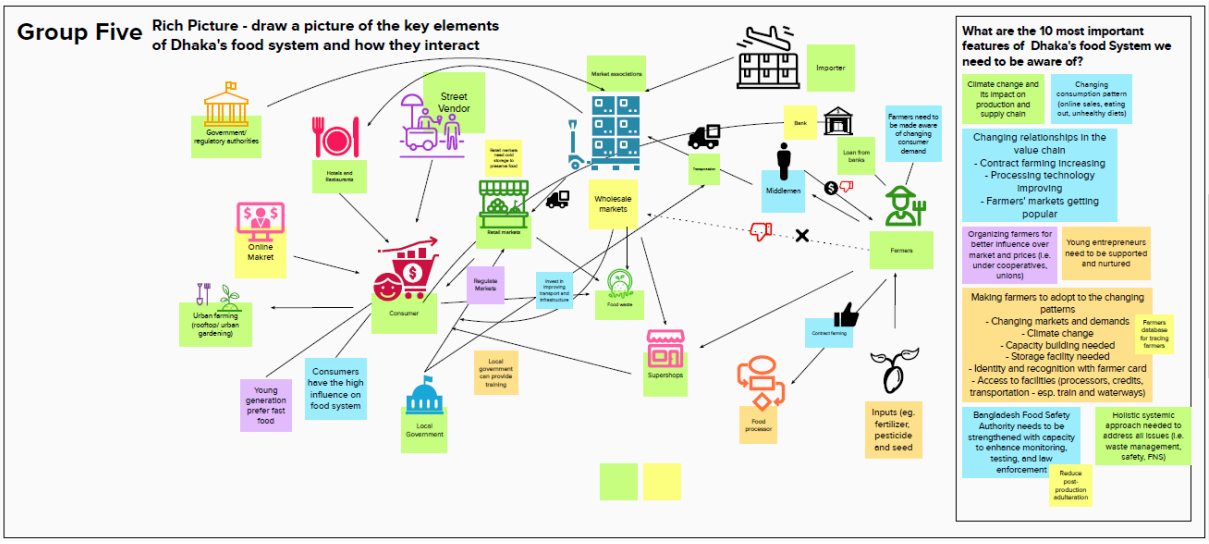
Appendix 5 Rich pictures











Murals
Photos of rich pictures and worksheets

Appendix 6 Transcribed narratives for the scenarios

Scenario A: Diversified and viable small scale entrepreneurship for healthy people and planet

Script (A1)
[Background: A journalist/ television news reporter goes to a fresh market to report about the market condition, prices, and key actors' reactions.]

"Hello viewers, today we came to a neighbourhood fresh market to see the Dhaka market situation. We see a lot of consumers coming for weekly groceries and fresh products. Here we have small but very organized vendors selling a wide range of fresh produces, vegetables, fishes, and fruits coming from the nearby peri-urban neighbourhoods and also from all around the country. Let's have a chat with a customer:

How do you feel about the food choices and prices?
I am shopping for my family and I think I have everything I need. The products are fresh and prices are good for me. I could easily see and get all the information I need about the products from the labelling and grading.

How is your shopping experience here?
The market is clean and well-maintained. Whatever I bought, I mean fishes and chicken were handled and processed safely and hygienically.

Thank you for your time. Let's check the other side of the story – what do the vendors think?

I see you are a small vendor, do you make enough for your family out of this business?
I am happy with the prices and I manage to sell all my products by grading them according to freshness. I also sell through the online e-commerce platform. I can also store the access products in the shared storage facility in the market.

How is your working condition? Are you happy with it?
I have the necessary facilities here. I can access drinking water and washrooms when I need. I segregate wastes produced at my shop and dispose it properly.

Would you like to suggest anything to further improve the market environment?
The City Corporation is helping us to dispose the wastes and manage garbage properly. I think, the air circulation inside the market can be improved.

We see a very pleasant condition here. Everyone is happy and enjoying being here. There is no dissatisfaction about prices, as prices are being modulated by the Price Commission at all levels. A recent study shows that the rates of both malnourishment and obesity are decreasing in Dhaka, as people eat more diversified, fresh and healthy foods. On the other hand, the country is now self-sufficient in producing all major foods. The BFSA and BSTI are continuously training up producers and vendors about food safety standards, Good Agricultural Practices, and safe food handling, which is clearly reflected in this market. Products are properly labelled with sufficient information and certification. The Food Planning and Monitoring Unit is providing market forecasting and demand information to the producers under an integrated information system. The Department of Agricultural Extension and the research institutes attached to them are transferring necessary technologies to the small farmers. Sustainable food production, processing, consumption, and disposing methods have been integrated into the national education curriculum which has helped to change the mindset and get everyone working for the common goals. So, we have a safe, sustainable, resilient, balanced, and equitable food system with all the actors working together."

Script (A2)

Khademul Rashed comes from Islamic Relief of Bangladesh, he stated that basically it works on SME considering the five (05) levels: these are farmer, micro enterprise, retailer, wet market and wholesaler. There are some opportunities and uncertainties from them. Farmer level's opportunities are increase in production and increase in demand and the uncertainties are expectation of price and production and unavailability of labour. The opportunities of micro enterprise are minimum transactional cost and coverage rural communities where the uncertainty is lack of the capacity. The opportunity of retailer is freshness, availability and accessibility of food and the uncertainty is the competitive market. In wet market is the opportunity is availability of the diversified food and the uncertainty is lack of quality and hygiene issue. The main opportunity of wholesaler is development of transportation and the uncertainty is lack of storage facility. We want to see the adaptation of our farmer, producer, processor, retailer with the good agriculture practices and ensure them proper transportation and storage facilities and distribution channel so that the consumer can get safe and nutritious food.

Scenario B: Responsible big business driving sustainability

Script (B1):
[Background: A journalist/ television news reporter does an interview at the Global Food Summit 2041 with one of the attendees]

Sajia (Journalist): Welcome Ms. Naima to Global Food system Summit 2041. We have heard Bangladesh is really doing great to ensure healthy and sustainable diet. Would you like to share with us how it was possible for Bangladesh to make this transformation?

Ms. Naima Akter: Thank you for the question. Currently in Bangladesh supermarkets and big retailers are providing quality, safe foods at a reasonable price and most of the people are being able to buy quality food from there to meet their nutrition need. Large scale and consolidated firms have incorporated micro, small and medium size enterprises so that they can survive and continue to earn.

Yes it is true that after the Food System Summit 2021 our government became more committed to healthy, safe and sustainable diet and it is also true that government could not do it alone. They have taken enormous initiatives to identify the gaps in the food system and brought all the stakeholders at the same platform. It did not stop by bringing all the stakeholders in the same platform, they also build stakeholders capacity in terms of growing the food, processing the food and distribute the food. Also they have ensured the implementation of the policies and of course maintained strong monitoring system in terms of price and quality.

It is not only the thing dependent on producer side or at the distributer side, also the consumers need to be aware of the food they are taking. Their awareness is also very important. The urge from the community people to consume healthy diet also helped to develop this food system today. Along with this, government took initiative to ensure climate resilient food production, processing system and storing the food properly like different seasonal food. I must mention it is not only the government all the time, when all the stakeholders participate properly then it is possible. I must thank all the food system stakeholders to make it possible to ensure healthy and sustainable diet and the responsibility of the big business. It proves that "together we are strong and can bring any desirable change".

Script (B2)

Professor Dr. Kashfia Nahrin: "I am going to present in this 2041 Food Summit about Bangladesh and I am proudly saying that we are standing in a situation that our food system is very much participatory and big businesses are driving to sustainability. Now big markets like superstores have increased and lots of cooperation like superstores, farmers, big and small farms have come under a same umbrella. Superstores are creating spaces for small farmers and small vendors. Along with that they are also providing the small enterprises to use their online platform and spaces to sell their products. Now government has been taken a lot of initiative for monitoring the food quality, waste management and rational level use of chemical for the food for more healthy options. Consumers are also getting more options as the super stores are selling different types of foods of different grades in different prices. So now people have more choices to purchase organic to process food. Like small vendors and small sellers they are also empowered and within the food system. At the same time big companies are making profit but they are not making any discrimination and government policy is also supporting to increase nutrition and food security system. Different social, economic, environmental sustainable steps are being taken by the government. Therefore, finally I would say

that big business have become more responsible, all stakeholders are incorporated in the food system and it is also creating a sustainable win-win situation for all."

Scenario C: Fragmented and unsustainable

Script (C1)
"At present Dhaka carries a lot of 30 million peoples, among of them 32% are living below poverty line. Therefore, a high portion of people could not afford safe notorious healthy diet. Food value chain now unsustainable and middleman make more profit while farmers and consumer losing more. Street food vending and unplanned wet markets are mushrooming to supply food for the city dwellers. City administration do not have adequate resources to contract infrastructure also don't have enough manpower to monitor food regulation in city areas. As the drive for higher profits increases among the vendors, they are increasingly exploiting existing regulations. As a result, availability of safe food decreases and the city dwellers are suffering from malnutrition and foodborne disease specially for the poor situation is worst. At this point poor people needs more support. Only government cannot improve this situation of them. City corporation also need support and help from private organizations and NGOs as well as from mass people. There is need for greater trust among various stakeholders and everybody's contribution. We can only progress when we act unitedly otherwise, we will fall further worst situation as a city, as a nation. Incorporation we need greater collaboration, greater cooperation, increased participation and commitment among all citizens, institutions as well as all the stakeholders for a sustainable food system 2041."

Script (C2)
Prof. Nazmul Hossain Nazir: "Today I will discuss about the unsustainable food system in Bangladesh particularly in Dhaka city. What are the causes, what are the point we need to focus on Dhaka city? At this moment there are 36 million people, which is huge number of people. Among them 15 million people living in slum areas and this kind of people are living in unhealthy environment. It is tremendously uncomfortable for the country. They are taking unsafe food and they don't care about quality of the food. They just want food to live and they just take food rather than healthy diet. So as a consequence, they are suffering from nutritional deficiency disorders as they did not take proper nutrition or balanced nutrition so they are exerting huge thrash in the total treatment system in the Dhaka city and they are generating huge amount of waste materials and these materials are particularly exerting the health problem to other people also. The waste management system in the slum areas is worst. There is no significant system to handle the waste materials which is generating from slum areas. There is plenty facility to produce the food in slum areas and they are increasing the food waste also. There is no food storage system in slum area so they suffering from different infectious diseases which is increasing day by day. They suffering different kind of diseases. These kinds of diseases spread into healthy people also, those who are living in the high-class society. These are spreading into other stakeholders. So present health management system in slum areas the government is trying to pop up this situation but it is totally impossible to pop up the situation by government. But we are trying heart and soul from our side. The transport system in the slum areas is really not good, traffic accident happening there & huge food loss happening there. So, food excess is not good in slum areas."

Scenario D: Big business profits driving unsustainability:

Script (D1)
Mahjib Hossain Imon: "I purchase food from supermarkets and online stores. Me and my wife we both are busy with our office and work. We cannot cook food at home so most of the time we end up ordering food from restaurants. This is the living condition of the most of the people right now. As a result health situation is decreasing and obesity level is increasing day by day.
Yesterday I saw a news and found out that about 60% of the people are suffering from obesity. Moreover, junk food lacks necessary nutrition and so many people are suffering from malnutrition as well. Along with that immunity of people is reducing and more and more people are going to the hospital now. Statistics showed that blood pressure level is increasing and 75% of people are suffering now from blood pressure, heart and cancer diseases as well.
If we talk about the food production climate change plays an important role in food production. Due to the increase of the temperature, sea level is rising and other factors like over population is hampering the food production. Due to the invention of new hybrid varieties we are still somehow tackling the situation. Now

let’s have a look at the market situation, market is now being dominated by the big players only. The super-giant corporate companies and large agro farms are dominating the markets. They are caring only about the profit and they don’t care about the sustainability or health issues. As a result inequality is increasing, the rich are becoming richer and the poor are becoming poorer.
Government is denying to control them by developing different policies but there is a lack of implementation process. So the situation is worsening day by day. Under the current scenario the food citizen, small and medium entrepreneurs the cheap and market food vendors are sufferer of this situation. On the other hand large agro farms and superstores are being benefitted. So If I sum up the whole scenario we can see that the health problems are increasing, the immunity of the people is reducing and obesity is increasing. The life is very difficult in this city for the low income people and markets are dominated by the corporates and large agro farms.

Script (D2)
Md. Abdul Latif, poor and senior citizen of Dhaka city. He takes food regularly but most of the time the food are not so good and healthy. He buys food from super shops and restaurants. These food are not enough nutritious and good for health. His health condition is too bad to work properly. His health condition is not good and that’s why he is unable to attend his job regularly. It affects his earnings. Due to less earnings, he always buy unhealthy food. His wife also engaged with some other job and her income is also very small as like her husband. They buy unhealthy food from their poor earnings. Most of the time they feel very sick. Sometimes they need to go to hospital. Those who involved in food business in Dhaka city, their main motive is to earn profit. Most of the cases, they are unable to provide safe and nutritious food for poor people in Dhaka city.

Wageningen Centre for Development Innovation
Wageningen University & Research
P.O. Box 88
6700 AB Wageningen
The Netherlands
T +31 (0)317 48 68 00
wur.eu/cdi

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

Wageningen Centre for Development Innovation
Wageningen University & Research
P.O. Box 88
6700 AB Wageningen
The Netherlands
T +31 (0) 317 48 68 00
wur.eu/wdci

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