KEEPING FOOD MARKETS WORKING IN PEMBA, MOZAMBIQUE

Policy options toolkit

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gain
Global Alliance for
Improved Nutrition

ACRONYMS AND ABBREVIATIONS

EAP	Expert Advisory Panel
FAO	Food and Agricultural Organization
GAIN	Global Alliance for Improved Nutrition
GRCN	Resilient Cities Network
HLPE	High Level Panel of Experts on Food Security and Nutrition
IPC	Integrated Food Security Phase Classification
KFMW	Keeping Food Markets Working
MUFPP	Milan Urban Food Policy Pact
ODI	Overseas Development Institute
SETSAN	Technical Secretariat for Food Security and Nutrition
SME	Small and Medium sized Enterprises
SUN	Scaling Up for Nutrition
UCLG	United Cities and Local Governments
UNICEF	United Nations Children's Fund
VAM	Vulnerability Analysis and Mapping
WASH	Water Sanitation and Hygiene
WFP	World Food Programme
WHO	World Health Organization

ABOUT GAIN AND GAIN'S COVID-19 RESPONSE

The Global Alliance for Improved Nutrition (GAIN) is a Swiss-based foundation launched at the UN in 2002 to tackle the human suffering caused by malnutrition. Working with governments, businesses and civil society, we aim to transform food systems so that they deliver more nutritious food for all people, especially the most vulnerable.

GAIN's Keeping Food Markets Working (KFMW) programme is an emergency response to the COVID-19 crisis, providing rapid support to food system workers, to small and medium enterprises supplying nutritious foods, and to keeping fresh food markets open. To find out more about this program see https://www.gainhealth.org/impact/our-response-covid-19.

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COVER PAGE PHOTOGRAPHS
Left: vegetables and fruit, Mercado Central, Pemba; Right: eggs, potatoes and onions, Mercado Central, Pemba
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1. INTRODUCTION

GAIN's policy and coordination work under the **Keeping Food Markets Working (KFMW)** programme, during and beyond COVID-19 focuses on collecting evidence and understanding urban food environments and the wider food systems in which they are embedded (See Appendix D). Efforts centre on **urban traditional food markets** as well as the **co-design of policy options** to be considered by policymakers in six cities, and/or urban counties[1]. The six cities/urban counties are: Beira and Pemba (Mozambique), Machakos and Kiambu (Kenya) and Rawalpindi and Peshawar (Pakistan). These endeavours aim to enhance good governance, urban food and nutrition security, and market resilience—with an emphasis on vulnerable urban communities, including those on low incomes, while applying a gender lens.

Figure 1: Pemba—policy workshop 1, June 2021

Between September 2020 and September 2021[2], GAIN adopted a **participatory approach** to its policy and coordination work. It engaged with a range of urban food systems stakeholders including policymakers, traditional food market vendors and market committees, and other small and medium sized enterprises (SMEs).

Activities included:

i. Mapping stakeholders, urban food systems and food related governance.

ii. Conducting Rapid Needs Assessments of the perceptions and practices of traditional urban market stakeholders under COVID-19, using vendor surveys, key informant interviews and focus groups with policymakers, vendors, women's groups, and SMEs, as well as desktop research and satellite imagery analysis[3].

iii. Sharing assessment feedback and co-designing policy options in two policy workshops (See Figure 1, Chapter 4 and Appendices A and B).

An **Expert Advisory Panel** comprising 12 members (See Appendix C), of which at least two are based in each country (Mozambique, Kenya, and Pakistan), are part of this GAIN initiative. The panel is an advisory body, providing the KFMW initiative the benefit of their diverse expertise, including in the areas of public health, food systems, food safety, small and medium sized (food related) enterprises, and urban governance. Eighty percent of the panel are women. Additionally, there are two GAIN co-chairs, Ann Trevenen-Jones[4] who is based in the Netherlands and Obey Nkya, who based in Tanzania.

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1 GAIN is also collaborating with local stakeholders, including local policymakers, traditional markets, and universities, to design a city level, food systems data dashboard (prototype), in Beira (Mozambique), Kiambu (Kenya) and Rawalpindi (Pakistan). This responds to the need for accessible and disaggregated food systems data at the city level, in 'one place', which policymakers and other stakeholders can use to better inform decisions and activities.

2 See Appendix A.

3 https://www.gainhealth.org/impact/our-response-covid-19/effective-policymaking-and-coordination-during-pandemic/urban

4 Sharelle Polack (GAIN, Switzerland) was a former co-chair until June 2021.

Policy options toolkits, like this one, are tailored to each city/urban county. These toolkits are designed to build on the understanding of the local context during COVID-19, to be attentive to stakeholder voices as well as local government mandates, budgets and any existing food and nutrition policy and to be practical. Four thematic policy areas with supporting activities and a selection of policy options, from which empowered local government (city/urban) policymakers can choose to address their prioritised challenges are presented in this toolkit.

Responses, successes and learnings during the pandemic and the way it has spotlighted the existing fragility of urban food systems presents an opportunity to act to reshape urban food systems towards equitable, inclusive, sustainable, and resilient systems that advance food and nutrition for all. Following the sharing of these toolkits with local policymakers, case studies will be developed as a means of more widely sharing the value and learnings of this policy and coordination work with other cities.

POLICY OPTIONS in this toolkit are a selection of actions or levers that strive to:

i. Coherently connect, where possible, with existing food systems and nutrition policy strategies across government spheres as well as those explicitly or implicitly recognised in local government mandates, regulations and plans.

ii. Be part of an emergency response that addresses the particularities of cities/urban counties and their food environments; while being attentive to those most vulnerable, like the urban poor, informal market vendors as well as being gender sensitive.

iii. Foster present and future proactive, participatory 'one city' action by local policymakers and other urban food system stakeholders.

Where policy options are framed by the 2030 Sustainable Development Agenda's commitment **to people, planet, prosperity, peace, and partnerships**.

2. URBAN FOOD SYSTEM CHALLENGES UNDER COVID-19

The COVID-19 pandemic together with the ensuing economic crisis have threatened public health and had an additional impact on food and nutrition security, particularly for the most vulnerable. Emergency responses are further hampered by insufficient reporting of the impact of the pandemic on women and children. COVID-19 has also worsened the impact of existing challenges, like climate change, issues of long, complex food supply chains, and inequality in urban communities. Additionally, pandemic responses like school closures, lockdowns and curfews have had unintended impacts e.g. cessation of regular school meals, job losses, increased food waste and disrupted access to food.

2.1 COVID-19 and urban traditional food markets

Urban traditional food markets, sometimes referred to as informal or wet markets, are a vital node in cities and urban areas food systems. These markets are closely linked to urban residents' food availability, accessibility (including affordability) and food safety, and hence support food security and nutrition, provide income and job opportunities—particularly for women and those with low incomes[5,6]. However, markets also contribute to food loss and waste.

Urban traditional food markets are not uniform in shape, function, or situation along the formal-informal space. Many cities have formally mandated central retail, wholesale markets, or neighbourhood markets. However, there are also purely informal permanent and periodic markets that operate outside of local government jurisdiction, or markets that have extended beyond their formally gazetted areas. While these markets may look similar, they have unique governance needs and opportunities.

2.2 COVID-19, rapid urbanisation and Zero Hunger

Rapid urbanisation in sub-Saharan Africa and South-Asia places stresses on urban infrastructure. It drives demand for more affordable housing alongside improved water, sanitation, and hygiene (WASH) systems and for transforming local food systems. The way people intersect with the wider food system in urban areas differs from what is seen in rural communities in several aspects. For example: by types and diversity of available food; affordability and availability of convenient and processed foods; constraints to urban agriculture and dependence on long food supply chains extending outside the city. Furthermore, vulnerable urban communities, like those with low incomes, in Africa and South Asia, face an increased incidence of malnutrition from underweight, micronutrient deficiencies, and overweight/obesity, with tremendous impact on health and well-being[7]. For these reasons, progress towards achieving **Sustainable Development Goal 2 on Zero Hunger**—*to end hunger, achieve food security and improved nutrition and promote sustainable agriculture*—has also been lagging. Additionally, during the **COVID-19** crisis, dietary diversity has decreased and child malnutrition and mortality—particularly in low- and middle-income countries—is expected to increase[8,9].

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5   https://www.ifpri.org/blog/growing-cities-growing-food-insecurity-how-protect-poor-during-rapid-urbanization

6   https://data.unwomen.org/features/three-ways-contain-covid-19s-impact-informal-women-workers

7   https://www.gainhealth.org/sites/default/files/publications/documents/gain-mufpp-ruaf-a-menu-of-actions-to-shape-urban-food-environments-for-improved-nutrition-october-2019.pdf

8   http://www.fao.org/3/cb4474en/online/cb4474en.html

9   https://www.nature.com/articles/s43016-021-00319-4

2.3 COVID-19, local government and urban food systems

The pandemic has placed an enormous burden on local governments service resources and budgets. Local governments are instrumental in providing an enabling environment for all residents, within the administrative area. They are at the forefront of urban planning and development and delivering essential basic services including water, sanitation, health, food systems, education, and mobility (for more details on food systems and urban food environments, see Appendix D). As such, local governments are closely involved in the emergency response to the impact of COVID-19 and further designing policy and coordination tools to support long-term resilience beyond the pandemic.

As part of efforts to overcome challenges arising from COVID-19, local governments, in cities and urban counties, have been coordinating with national and provincial governments alongside initiatives from local and/or international organisations. For example, on expanded forms of social safety nets, reduced/ temporary removal of taxes and bank charges, communication campaigns, and nutritional and medical support services. Even so, many of those in the informal sector, like food market workers and street vendors, have not benefited sufficiently from these measures because of their informality (lack of necessary records/papers).

Within local governments, policymakers have a variety of mandated powers and policy options that can be better shaped to respond to the pandemic and mitigate impacts on food security and nutrition. Applied principles of good governance alongside other policy options like regulation, urban planning, economic incentives, public procurement and communication campaigns, can help reshape the food system within cities/urban counties. A key component of this is the routine and quality multi-stakeholder engagement by policymakers which fosters a dynamic space for the address of equity, inclusivity and innovation. Stakeholders should encompass those elected and administrative in the public sector, the private sector, including SMEs and public and private partnerships, community-based organisations, non-government/non-profit organisations, research centres and academics.

Ultimately, local policy and coordination around emergency responses to the pandemic also contribute to pursuing the realisation of the 2030 Sustainable Development Goals and addressing urban **resilience** i.e., the capacity for people, nature and their social, economic and environmental systems, to cope with sudden change and continue to develop. It involves mitigation, adaption, transformation and innovation, and learning[10].

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10 Resilience description informed by Stockholm Resilience Center interpretation. See: https://www.stockholmresilience.org/research/research-news/2015-02-19-what-is-resilience.html

3. MOZAMBIQUE: PEMBA AND COVID-19

Figure 2: Location of Beira and Pemba.

3.1 Mozambique

Mozambique, including the cities of Beira and Pemba, is rapidly urbanising (Figure 2). Almost 40% of the population now resides in cities/urban areas[11]. Adolescents (under the age of 18 years of age), the fastest growing demographic, presently comprises about 52% of the population[12]. At the start of the pandemic, Mozambique was recovering from two socio-economic and environmental shocks, namely: hidden debt crises and a succession of cyclones (2019—2021)[13]. Despite a reported 1.3% economic contraction during the pandemic, future economic growth is predicted to be positive[13].

Even so, cities/urban areas remain challenged by inequality and urban development capacity constraints. Poverty is widespread with some 80% of urban residents living in neighbourhoods (bairros) with limited basic services such as health, potable water and sanitation[14]. Communities in Mozambique face on-going public health challenges like tuberculosis, malaria, and HIV/AIDS as well as poverty, climate change and in some places, conflict[15].

In mid-March 2020, the first COVID-19 cases were reported. In February 2020, 1.6 million Mozambicans were estimated to be living with severe to acute food insecurity (as per the Integrated Food Security Phase Classification), and 67.5 thousand children were acutely malnourished[16]. At the start of the pandemic, this situation was projected to worsen, with a rapid increase in COVID-19 cases and deaths[17] and an estimated three million residents projected to face high levels of food insecurity, across the country[18].

An advisory body to National Government, the Technical-Scientific Commission for the Prevention and Combat of the Pandemic, was established early in the pandemic. Government COVID-19 containment measures avoided a full lockdown, and introduced an evening curfew, reduced trading hours and number of stalls in the food markets, social distancing, face masks, regular handwashing, and intermittent border closures. An overwhelming majority of Mozambicans surveyed (82% women; 86% men) reported a decrease in household income since the beginning of the pandemic[19]. Earning an income, food security and health care were the top priorities reported. Additionally, almost 80% of Mozambicans raised mental health concerns, because of the pandemic and curfew response[19]. These priorities and mental health concerns were equally shared by men and women[19].

11 https://knoema.com/atlas/Mozambique/Urban-population
12 https://www.unicef.org/mozambique/en/adolescent-social-norms
13 https://openknowledge.worldbank.org/handle/10986/35214
14 https://documents1.worldbank.org/curated/en/248561541165040969/pdf/Mozambique-Poverty-Assessment-Strong-But-Not-Broadly-Shared-Growth.pdf
15 http://www.healthdata.org/mozambique
16 https://doi.org/10.4060/ca9123en
17 https://covid19.who.int/region/afro/country/mz
18 https://doi.org/10.4060/ca9123en
19 https://reliefweb.int/sites/reliefweb.int/files/resources/mozambique_rga_infographics.pdf

3.2 Pemba

Pemba, the capital of Cabo Delgado province, is a port city located on a peninsula in north-east Mozambique. This city is a popular tourist destination. It is also situated in an oil and gas rich province that has seen increasing conflict since 2017. As a consequence of conflict and climate driven internal displacement, the estimated population of Pemba is likely to be considerably higher than the 200,500 reported in the 2017 Census[20] and in greater need of basic health, social protection and other essential services. The city of Pemba is under pressure not only from the need to provide services and facilitate the well-being of its residents (including internally displaced residents) within its administrative area, but also from the relationships, including food systems, between the city, peri-urban belt and the nearby surrounding communities.

Intensified conflict in early January 2021 saw thousands of families taking refuge in the city of Palma (approximately 425 km north of Pemba), only to be forced to flee again along with other residents following a devasting insurgent attack in late March 2021. Save the Children described unaccompanied children finding their way to Pemba, after thousands of people were either killed or forced to flee Palma and other villages[21]. By June 2021, the UN Office for the Coordination for Humanitarian Affairs stated that more than 900,000 people in Cabo Delgado province were severely food insecure and women and children at risk of gender-based violence and sexual exploitation[22]. Displaced people were suffering from repeated displacement, loss of livelihoods and assets, in urgent need of shelter and protection services, while also drawing on negative coping mechanisms like child marriage[22].

Communities in this province also face multiple health challenges including malaria, HIV/AIDS, diarrhoea and cholera. Climate-change induced disasters are also impacting people and the natural environment in this area. In 2019, Cyclone Kenneth, the strongest cyclone in modern records to hit Mozambique, made landfall just north of Pemba causing widespread damage to roads, homes, livelihoods and health[23]. This was followed by flooding in early 2020 and dry conditions during the late 2020 vegetable growing season. These impacts have further undermined the well-being of residents and their capacity to pursue prosperous livelihoods as well as disrupting essential services from health care to energy and potable water. In April 2021, the Famine Early Warning Systems (FEWS) network projected that the food security outlook for the periods: April–May 2021 and June–September 2021, for the entire Cabo Delgado coastline, including Pemba, would be at Crisis (IPC Phase 3[24]) level[25]. Malnutrition is at Alert (IPC Phase 2[24]) level in Pemba for the same period with concerns for the health and wellbeing of children and pregnant women. Children are consuming low quality and quantity diets, as result of these food crises[26]. The incidence of infectious diseases is also rising for children because of their nutritional vulnerability and poor household access to potable water and sanitation[27].

It is under these circumstances, among communities already vulnerable, that the COVID-19 pandemic spread in 2020. The International Committee of the Red Cross (ICRC) stated in September 2020, that 'the risk of contracting COVID-19 in Pemba, one of Mozambique's most concerning virus epicentres, is very real'. Most of the displaced find shelter with families or relatives, putting an additional burden on them and increasing the kinds of overcrowded conditions that help propagate the spread of COVID-19, as physical distancing becomes impossible[28].

20 https://www.citypopulation.de/en/mozambique/admin/cabo_delgado/0201__pemba/

21 https://www.savethechildren.net/news/horror-cabo-delgado-unaccompanied-children-arrive-pemba-after-violence

22 https://reliefweb.int/sites/reliefweb.int/files/resources/Mozambique_20210615_Humanitarian_Response_Dashboard_April2021.pdf

23 https://www.unocha.org/southern-and-eastern-africa-rosea/cyclones-idai-and-kenneth

24 Integrated Phase Classification (IPC) is a measure of food insecurity. See: https://fews.net/sectors-topics/approach/integrated-phase-classification

25 https://reliefweb.int/sites/reliefweb.int/files/resources/MOZAMBIQUE_FSOU_April_2021_Final.pdf

26 https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/hno_nut_cluster_final27.01.21.docx

27 https://reliefweb.int/sites/reliefweb.int/files/resources/IPC_Mozambique_FoodSecurity%26Nutrition_2021Apr2022Feb_Snapshot_English.pdf

28 https://www.icrc.org/en/document/mozambique-families-fleeing-attacks-seek-shelter-covid-19-hotspot-countrys-largest

> **"When this disease appeared, we lost many things.** Every day we have vegetables returning home with us from the market. **We're unable to sell the products** the way we did before this disease. It's not like it used to be- regarding the sales. ... or the vegetables, they spoil, we have to burn it. **We throw it away. The customers disappeared. Due to this disease, we don't know what we're going to do. And there's no money.** If there was money, you could buy what you want."

—FOCUS GROUP [WOMEN VENDORS] PEMBA

3.2.1 FINDINGS FROM GAIN'S RAPID NEEDS ASSESSMENT

In early 2021, traditional food market vendors in Pemba were surveyed as part of GAIN's Rapid Needs Assessment. About half of those surveyed had been local vendors for fewer than three years. Women vendors mostly sold fruits and vegetables with male vendors typically selling eggs, dairy, and packaged foods. The impact of COVID-19 on the pandemic was widely observed, including a significant decrease in customer numbers, suppliers increasing food prices, and delayed deliveries from suppliers—with some suppliers ceasing deliveries altogether. Vendors appreciated the mandated measures of social distancing and wearing masks. They too were proactively taking steps to clean surfaces, remind customers of social distancing and were using market strategies to improve sales e.g. through discounts and credit. Vendors felt that better communication was needed about the pandemic and that there was a need for handwashing stations to be installed in the market[29].

The qualitative Rapid Needs Assessment[30], comprising key informant interviews and focus group discussions, found that while people agreed that wearing face masks in the markets was an important COVID-19 safety measure, many were not wearing face masks correctly, and that overall, compliance with safety measures has slackened over time. Vendors who participated in this assessment were trying to comply with measures but were frustrated that customers' were less compliant. They also called for better enforcement of the COVID-19 safety regulations in the markets. In some instances, focus groups reported that youth were standing in for the usual adult vendors in the markets because the regulations do not require them to wear masks.

Markets were still recovering from the destruction caused by Cyclone Kenneth in 2019. This, together with mandated social distancing and the knock-on effect of numerous vendors being moved out of market spaces to ensure sufficient safe spacing, resulted in a reported scarcity of some food products. This measure was viewed as a particular source of tension between vendors and the local government. The government officials focus group noted that everyone is a 'vulnerable group' in Pemba because the market economics of demand and supply are interlinked, and both have suffered during the pandemic. This vulnerability is further deepened by the significant market dependence on food supply from sources outside the city area and from South Africa and Zimbabwe (cross-border). Vendors also felt that food waste could be reduced if the markets had storage facilities and that this in turn would improve their financial position[31].

3.2.2 INSIGHTS FROM POLICY WORKSHOPS

Engagements during both policy workshops (See Appendix A), in Pemba, confirmed the findings of the Rapid Needs Assessments and provided further insights into the current food environment and pandemic circumstances. Workshop 1 participants comprised a variety of urban food environment stakeholders from

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29 https://www.gainhealth.org/resources/reports-and-publications/covid-19-vendor-survey-factsheet
30 https://www.gainhealth.org/resources/reports-and-publications/covid-19-qualitative-assessment-factsheet
31 https://www.gainhealth.org/resources/reports-and-publications/covid-19-qualitative-assessment-factsheet

> **"The cyclone destroyed our houses, yes. [We] don't know where to leave our children... We still haven't forgotten about the cyclone.... when you know a cyclone is coming, you already start worrying... [Cyclone Kenneth] It damaged the market. Since it fell down, that market, since the time it was damaged by the cyclone, we've been without a market to work at."**
>
> —FOCUS GROUP [WOMEN VENDORS] PEMBA

vendors to SMEs, women vendor groups and government officials. Workshop 2 built on Workshop 1 and focused on policymakers with an emphasis on local government officials. Policy option responses were co-designed during these workshops (See Chapter 4).

Through-out the needs assessment and workshops, urban traditional food markets were the predominant source of food for most of Pemba's residents as well as facilitating job creation and income. Climate change was an on-going challenge to the urban food environment with floods, a dry growing season and Cyclone Kenneth causing significant disruption and driving food supply and access-related infrastructure challenges. COVID-19 and conflict in the surrounding communities were also said to be harming food availability and access in Pemba. The dependence of the city's food environment on local rural producers and food imports from South Africa and Zimbabwe was highlighted as a vulnerability.

Against this backdrop, participants noted that food producers had lost large tracts of productive land to climate change damage which in turn reduced food availability. They highlighted the increasing amount of food being lost and wasted along the supply chain and in the markets, which was causing food prices to rise, as well as the lack of formal, safe, and hygienic market structures. Consecutive social, economic, and environmental shocks had greatly reduced residents (including vendors) assets and access to income and dignified livelihoods. The perception was of many more children selling food informally and not attending school alongside an increase in women vendors in informal markets. These impacts, together with COVID-19, highlighted the critical need to address credit options and supplier-vendor business models to support and reinvigorate urban traditional markets. The urgent need to provide social safety nets, health and educational support to vulnerable women and children was further underscored.

The variety of Pemba's traditional food markets with formal (those controlled directly by municipality) and informal markets and street vendors was emphasised by participants. Informal markets and street vendors were said to be in the majority and found in all 13 of Pemba's neighbourhoods (bairros). They were especially prevalent in the neighbourhoods of Alto Gingone, Josina Machel, Chuiba, Maranganhe, Eduardo Mondlane and Machara. The widely held perception was of an increasing number of market vendors becoming street vendors due to COVID-19 market spacing regulations forcing them out of the markets and the destruction of and insufficient rebuilding of markets damaged by Cyclone Kenneth. The influx of internally displaced people was also said to have resulted in a plethora of informal 'mini' food markets, spread across the city and peri-urban area. Informal markets were viewed as a health risk because of poor sanitary conditions e.g. lack of toilets as well as food and handwashing stations and exposure to the elements. Vendors selling food off the ground were also viewed as a food safety risk—but the practice considered unavoidable. The lack of regulation of informal markets contrasted with better regulation of formal markets. However, participants felt that all markets needed improved basic services like health, potable water, sanitation, energy, and waste management as well as cold room storage. There was a greater need for this in the informal markets and there was a critical need to facilitate access to them for street vendors.

Participants prioritised the need to address market and street vendor regulation, provision of essential services and cold room storage, building back better, smartly, and more swiftly regarding market infrastructure. Developing a wholesale fresh food market as a hub for a competitive and high-quality supply service to Pemba (including informal markets) was listed as a key priority. The Alto Gingone market was said to be

emerging spontaneously as a wholesale market, and if formalised with the municipality it could be a next step to achieving this goal. Investment in communications was also raised, with the view that communications should be aimed at informing all stakeholders in the urban food system about food availability, access (including prices), nutrition and other needs, as well as at alerting stakeholders to health, food security and nutrition and climate change risks.

Urban agriculture was considered to be an untapped resource that could improve the resilience of Pemba's food environment. While participants recognised the limited available space for urban agriculture in Pemba (on the peninsula), they felt that more could be achieved through urban planning and exploring agricultural innovation, alternative practices, and technology. Connecting the City of Pemba food system, more cohesively, with urban food production in the nearby districts of Metuge, Mecufi and Ancuabe was suggested alongside exploring possible local greenbelts between these districts and Pemba that might be extended and/or diversified to support urban agriculture.

3.3 Pemba: governance of markets

Mozambican municipalities, like that of the City of Pemba, are mandated with the responsibility of regulating (e.g. by-laws or 'posturas'), investing and overseeing markets and fairs. Markets managed by the municipality are regarded as formal markets and have licence fees and inspections. Florete Simba Motarua, from the Liberation Front of Mozambique (FRELIMO), is the current president (mayor) of the Municipal Council of Pemba.

Under the leadership of the president (mayor) of Pemba's municipality there are several councils and departments, namely: Institutional Development and International Cooperation; Planning and Finance; Economic Activities and Markets; Urbanization; Education; Health; Social Action; Infrastructure and Municipal Works; Sanitation Basic, Parks and Gardens; Youth, Sports, Culture and Tourism; and Transport, Logistics and Equipment. Six formal municipalities are listed for Pemba, these are: Central, Natite, Ingonane, Cariaco, Alto Gingone, and Metula. It is evident that although markets are managed under Economic Activities and Markets many aspects are spread across the other departments, for example as linked to planning, urbanisation, transportation, and sanitation. This underscores the value of having a technical advisory and/or management committee (internally and when engaging with diverse stakeholders) regarding urban traditional (formal and informal) markets, with members from several municipality councils and departments. (See Chapter 4 and Table 2)

> "**The [food] products [sold] are diverse. But a good part of them is not produced here in the city** because we have a very small city. This municipality is small and agricultural areas are very small, they are small producers, really small, **we depend on neighbouring districts**. When I say diverse products, **we have fruits, we have vegetables, tubers and other variants**. ... Pineapples, for example, come from Zambézia. Citrus fruit, some come from the districts, **we also sell citrus fruit from South Africa in the markets. Apples come from South Africa**. Some other products come from Balama, Montepuez, Quissanga [districts around the city of Pemba]... **the main thing [markets do] is to guarantee the supply of market foods, ... make them available to citizens and at more affordable prices than in the supermarkets…**"

—KEY INFORMANT INTERVIEW [GOVERNMENT OFFICIAL] PEMBA

4. POLICY OPTIONS FOR PEMBA

Various policy options or levers can be adapted, modified, and applied to transform Pemba's food environment during the pandemic, as an emergency response, especially aimed at keeping urban traditional markets working. In designing and implementing this emergency response, the importance of and longer-term commitment to the vision of a more equitable, inclusive, sustainable, and resilient food environment that has the capacity to advance healthy diets for all needs to remain at the centre. Of the numerous available policy options e.g. regulation, public procurement, urban planning, regulations, zoning, multi-stakeholder engagement and communications and information campaigns, only a selection are feasible or timely in a crisis like this pandemic. Existing options can be expanded or adapted. Typically, policymakers will need to employ more than one option in response to the challenges identified, both simple and complex. Additionally, national pandemic measures impact policy options in Pemba's food environment (See Chapter 3 and Appendix D). Flexibility, learnings, and examples of best practices are also needed.

Insights from GAIN's Rapid Needs Assessment provided a foundation on which stakeholders, including policymakers could co-design policy options for response. Understanding the wider public health, food security and nutrition situation as well as local experiences and types of foods sold by female and male vendors in Pemba's traditional food markets, for example, facilitated informed tailoring of policy options. (See Chapter 3. Rapid Needs Assessment Factsheets are also available—refer Appendix A)

Given the emphasis in GAIN's KFMW COVID-19 initiative, themes and policy options are directed at actions policymakers can adopt and/or further explore. **Four themes** with associated policy and coordination activities emerged from the Rapid Needs Assessment and policy option workshops, with stakeholders in Pemba (See Table 1). These themes are:

  i. Good governance and urban food environments.

 ii. Knowing your city.

iii. Mobilised, food proactive city.

iv. Externally networked city.

Icons associated with each of these themes can be found in Table 1. These serve as visual cues to highlight themes and the different linkages between themes and the range of co-designed policy options (See Table 2).

Stakeholders identified and defined specific problem statements. Perceived causes and impacts together with stakeholder roles and responsibilities, as well as prioritised problem-solution areas were critically explored during the workshops. Appendix B provides an example of a problem statement as well as problem and objective trees (Figure 3 and Table 3) that were developed during Pemba Policy workshop 2. Table 2 presents a selection of prioritised key problems alongside possible policy options—as co-designed.

Table 1: Urban food environment policy and coordination themes

Theme	Description and activities

Good governance and the urban food environment	Good governance in the context of the urban food environment encompasses a diversity of communities, dietary preferences, and environmental factors. During a crisis, like the pandemic, it may seem as if enhancing existing and/or developing new, good governance tools and practice are less of a priority. However, taking time during response planning and coordination to be clear about good governance provides a vital foundation and leadership for responses. This need not entail a lengthy process or extensive documentation. Rather, the emphasis is on coherence and being practical.
	
	Three helpful ways to interpret good governance are:
	
	  i. a **nutritious food environment vision**, catering to people and planet.
	  ii. a **commitment statement**.
	  iii. principles.
	
	These three interpretations can guide daily, routine public sector practice, show leadership and can inspire and harness urban residents, food market committees and organisations—whether non-profit, public, or private sector. Examples of visions include 'Good Food Charters' like this one for Bristol (https://bristolgoodfood.org/).
	
	In Mozambique, the **Technical Secretariat for Food Security and Nutrition (SETSAN)** is a valuable national unit for supporting good governance. The **Scaling up Nutrition** movement (SUN: https://scalingupnutrition.org) is another country-level resource which already supports in Mozambique, Kenya and Pakistan. SUN aims to inspire '*new ways of working collaboratively to end malnutrition, in all its forms….[with government …uniting] people—from civil society, the United Nations, donors, business and researchers—in a collective effort to improve nutrition*'. (See: https://scalingupnutrition.org/about-sun/the-vision-and-principles-of-sun).
	
	It is useful to critically think of how these interpretations intersect the local, urban **sustainable development goals (SDGs)** strategy and implementation thereof. Local policymakers may find this cities and SDGs guidance document of value: https://sdgcities.guide/
	
	Principles of 'good governance' to consider with a traditional food market lens are:
	
	• Participation and representation (e.g. inclusive, equitable and gender attentive multi-stakeholder platforms—informal or formal).
	
	• Fair and due process with respect to 'appointments' to technical and management food and nutrition committees.
	
	• Effective, efficient, and quality service delivery and public asset management, informed by best practice and appreciation of the local, urban food environment as a social, economic, and environmental investment.
	
	• Knowledge, empowerment, and communication.
	
	• Accountability, transparency, and learning.
	
	• Resilience and sustainability: with an openness to innovation, systems thinking and transformation e.g. circular, regenerative food systems and urban planning market synergies with, for example, roads, transport, energy, and WASH infrastructure.
	
	• Respect for human rights (including the right to safe and nutritious food).
	
	• Respect for the law and ethical conduct.

Theme	Description and activities

Know your city: people, food, and environment

Know and understand the character and dimensions of your city/urban community's food environment within the administrative area. The focus here is urban residents, food security and nutrition, specifically around urban traditional food markets and vulnerable communities. Examples of theme activities are:

A. Health, food security and nutrition data

Having information about residents—who they are, their health and food security and nutritional well-being—and the food environment, gives policymakers a better picture of who is and may become vulnerable, gender sensitivities, food, and nutrition status, localised climate change, needs and opportunities as well as data gaps. It is important to have this information in one, accessible place for as many stakeholders, as possible, to update and use. Pemba, like many cities in Africa and Asia, lacks comprehensive, easily accessible data on the food environment. There is an opportunity to start identifying and bringing together as much robust, relevant data, as quickly as possible and to form relationships with those who can help support data collection and access.

Secondary data about the local population (e.g. size, age, gender, income, serviced households, health etc.) are often available even if not always most recent. National statistics and local government databases are useful data resources, as are internal government departments (e.g. public health, agriculture, development and planning, water and sanitation). Municipalities, like Pemba, also have some records about the food markets. It is valuable to know about the number of vendors, gender and age composition of vendors and market committees, number and type of traditional markets, food diversity and prices, in the administrative area.

Less available and accessible are food security and nutritional well-being data specific to local, urban administrative governance areas. Local universities as well as organisations, like the United Nations Children's Fund (UNICEF), Food and Agricultural Organisation of the United Nations (FAO) and World Food Programme (WFP) can provide secondary data and facilitate rapid assessments and primary data collection, at the city or urban community level—this is especially so during crises like this pandemic.

Other data sources, at a city, sub-national and national level, include: reliefweb (https://reliefweb.int), annual *State of the Food Security and Nutrition* reports (http://www.fao.org/publications/sofi/2021/en), the Food Systems Dashboard (https://foodsystemsdashboard.org), Integrated Food Security phase Classification (IPC: http://www.ipcinfo.org), WFP's Vulnerability Analysis and Mapping (VAM) alongside its Hunger Hub (https://dataviz.vam.wfp.org/) and the World Health Organization (WHO: https://www.who.int). GAIN is also presently exploring city level food systems dashboards with local policymakers in Pemba.

Theme	Description and activities

Know your city: people, food, and environment
(CONTINUED)

B. Map: local food environments

Different types of food and nutrition related information can be partially mapped and/or displayed in map layers which can be overlaid to show synergies, challenges, and opportunities. This supports decision-making and better informs policy and coordination during the pandemic and beyond (as part of an on-going sustainability and resilience tool). Mapping can be a high technology or low technology activity. Data collectors can use mobile phones and Google Maps, satellite maps, printed street maps or own-drawn sketch maps. Everyone can be part of data collection, including local residents and informal vendors. This type of mapping is informed by urban planning and community asset mapping (see: https://www.youtube.com/watch?v=_tkLFCJUjYI). To gather and coordinate the flow of information, consider arrangements with a mobile phone company (e.g. toll free texts to share data), community radio, market champions, SME business networks or working with the wide network of community workers (e.g. from the Department of Health) and harnessing school networks. Consider mapping some or all of the following:

   i. type and size of markets.

   ii. location of and connections between markets.

   iii. urban food relationships (including urban development plans) between traditional markets and/or for example: street vendors, low-income neighbourhoods, public-private-non-profit food procurement programmes (e.g. schools with feeding schemes), larger and increasingly more formal food markets, urban and peri-urban agriculture, transportation routes, community health clinics, and/or municipal waste disposal.

   iv. urban and peri-urban and rural food supply chains. This includes food production (location, type and seasonality of foods), processing and transportation, nutritional information and food prices over time. Attention should especially be paid to staples and local and indigenous, nutritious foods.

   v. stakeholders e.g. list and map the type and role/s of a diversity of food environment stakeholders from policymakers, government (National/Provincial/Local) departments, non-profit and private sector food programmes, schools, hospitals, research institutes, informal market vendors, market committees and SMEs.

   vi. public policies, regulations, programmes, budgets and financial tools as well as communication campaigns.

   vii. public assets that could be of value e.g. green space, urban agriculture (some could be private), buildings, car parks, schools.

   viii. social capital e.g. ask residents to voluntarily map activities like food sharing, bartering, pop-up food gardens/stalls, alternating shopping trips with neighbours.

C. Develop a monitoring, evaluation, and learnings framework

It is important to develop and/or align with existing key performance indicators (including proxy indicators where necessary), to monitor, evaluate and to learn about the performance of policy option responses—especially in highly changeable socio-economic, public health and environmental circumstances. This can also build towards a more comprehensive resilience framework. For practical guidance on how to set up your own framework, policymakers may find the Milan Urban Food Policy Pact (MUFPP) Monitoring Framework Handbook and Resource Pack useful. This brings together the principles and real urban food systems experience of the MUFPP together with the Food and Agricultural Organization of the United Nations (FAO) and the RUAF Global Partnership on Sustainable Urban Agriculture and Food Systems. (https://www.milanurbanfoodpolicypact.org/the-milan-urban-food-policy-pact-monitoring-framework-handbook-and-resource-pack/)

| Theme	Description and activities
Mobilised, food proactive city	Mobilise the diversity of food system stakeholders including traditional market vendors, urban/peri-urban agricultural producers and residents to be active parts of the local food environment's pandemic response, sustainability, and resilience. Policymakers can support and coordinate this by promoting accessible, digital e-governance tools, regularly engaging the community, and sharing information and communications. They can encourage two-way sharing of information about the urban food environment, facilitated by, for example: • peer-to-peer groups (existing and new) which can offer access to vulnerable communities, such as those with HIV/AIDs, the elderly, or mobile informal vendors; and • establishment of toll-free phone numbers. Policymakers can also critically consider how existing arrangements e.g. market vendor fees and zoning, can be restructured to support emergency food or cash relief.
Externally networked city	Food environments—in cities and urban communities—are unique. However, there are best practices, learnings, tools and innovations that cities/urban counties can share with each other, and which can be modified and adapted. Possible city networks and platforms to consider are: • Milan Urban Food Policy Pact (MUFPP): See: https://www.milanurbanfoodpolicypact.org (Maputo, Pemba and Quelimane are signatories) • Food Action Cities. See: https://foodactioncities.org • Resilient Cities Network (GRCN): See: https://resilientcitiesnetwork.org/ • ICLEI—Local Governments for Sustainability: See: https://iclei.org • C40 Cities (C40). See: https://www.c40.org • United Cities and Local Governments (UCLG). See: https://www.uclg.org
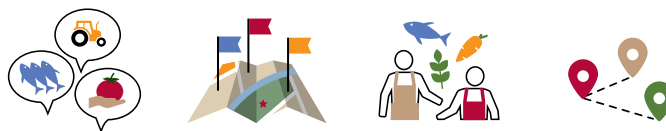
Table 2: Prioritised urban traditional food market challenges and co-designed policy options

Market pandemic challenges and resilience focus area	Policy options
Damaged, vulnerable and poorly planned market infrastructure— Including roads and water supply. (Importance of safe, secure and well-built, designed and managed/governed markets with water and sanitation; roads suitable to transport people and food and planned to support distribution of food in the city).	• Public sector asset management and capital budget investment. • Public and private partnerships (short to long term) / Public and non-profit partnerships (short/medium term). • Inclusive multi-stakeholder engagement: consider establishing a market infrastructure committee (formal or informal) to look into market design and management once built. Include youth and gender focal points in relevant municipal departments. • Public sector technical committee (across departments and including urban planning and development). • Review: zoning and building regulations; urban planning—extending to peri-urban belt; pandemic and other public health and environmental resilience measures; and financial vendor fees e.g. how can vendor market fees be leveraged to support building and management of markets? • Consideration of women and youth vendors needs in the market (e.g. childcare space, produce specific—fruit and vegetables, equitable representation in market committees and forums on decision-making with regards to management once built). • Structure co-designing with vendors who have highly perishable products versus products with longer life spans.
Capacity of markets (overcrowded hubs facing high demand and further pressure owing to the poorly connected network of formal and informal markets. Also: pandemic spacing measures with restrictions on number of vendors, service providers and customers.)	• Collect relevant data and map markets (see Table 1) to support better urban planning and coordination (including efficient emergency responses). • Inclusive multi-stakeholder engagement with equitable representation of women and youth vendors. Seek solutions to address spacing requirements of pandemic measures inside markets, support and options for those vendors having to move outside the market, and fair selection process by market committees of which vendors can remain inside market, paying attention to diversity of nutritious foods present. Special attention to vendors and needs of those who are from internally displaced communities. • Explore supporting and linking those vendors who must move outside the market to social safety nets, facilitate usual market fee waiver and/or advocate for additional support from municipality in 'finding new vendor locations' e.g. involve urban planning and mapping to see available space that could be used, and types of resources needed e.g. mobile WASH, using car parks on weekends or school spaces after school hours. • Communication campaign: create awareness of options for vendors and importance of social spacing in markets. Use market posters, community radio, mobile and social media platforms as well as existing champions in the market, and associated health care workers etc. Build on peer-to-peer communication. • Use communication campaigns to foster better connectivity between markets, making food more available to residents and to share information of value to vendors e.g. food price trends, production updates in peri-urban and rural areas, and cross-border routes.

Market pandemic challenges and resilience focus area	Policy options
WASH facilities and services. Stakeholder notes: municipality should urgently address this infrastructure and service gap by equipping markets with product washing facilities and cold storage, to prevent loss of products, promote access to safe and nutritious, fresh food and support pandemic hygiene as well as other public health regulations. **Cold storage infrastructure with associated management and services** e.g. energy, security, space allocation, food safety practices and oversight.	• Public sector asset management and capital budget investment. • Public and private (and non-profit) partnerships. • Inclusive multi-stakeholder engagement: establish a management team comprising market committees and relevant municipal service departments to support investment and management e.g. regarding market prioritisation, design and how they might be managed operationally once built—including municipal service fees. Include youth and gender focal points in relevant municipal departments. • Public sector technical committee (across departments and including urban planning and development). Focus on priority markets for WASH infrastructure and cold storage and strive to prioritise accessibility of safe, nutritious and diverse foods and public health (including COVID-19 measures). • Review (and map) legislation around food safety and waste to maximise opportunity but also ensure compliance. • Promotion of market WASH and food safety champions (in market and municipality)—consider synergies with public health and agricultural community workers. Training of champions. • Food safety and hygiene communication and information campaigns e.g. social media, WhatsApp / texting, community radio, peer-to-peer, champions, pamphlets and durable posters, and technical training support. Consider linking to GAIN's EatSafe materials and support. • Review of pandemic and other public health, food safety and environmental resilience regulations and measures. Consider synergies where possible and strive for consistency. • Consideration of women and youth vendors/consumer needs in the market (e.g. maternal, and childcare needs, produce specific: fruit and vegetables, and equitable representation in market committees).
Insufficiently planned and coordinated network of formal and informal urban traditional food markets **Emergence of new informal 'street' markets and street vendors** because of pandemic measures inside markets and internally displaced people and/ or failing structures and/or cyclone damage.	• Formalise and register informal urban vendors and markets—where possible and consider different categories of formalisation, associated with different levels of market requirements and regulatory demands. Use this formalisation process as an opportunity to map and develop an integrated network of wholesale markets, retailers, and urban traditional formal-informal markets (and including street vendors). (Also See Table 1) • Urban planning and development department: collaborating with mobilised residents to gather data and map urban markets to support decision-making (See Table 1). • Inclusive multi-stakeholder engagement with equitable gender representation of women and youth vendors, internally displaced people and urban residents: consider how best to plan market system within existing resources and potential for development (supported by public and public and private/ non-profit partnerships) in Pemba. Refer 'Capacity of market' (in Table 2) for options to support displaced vendors and markets in the interim.

Market pandemic challenges and resilience focus area	Policy options
Disrupted food system, disconnected urban traditional markets Food supply disruptions: border closures with South Africa and Zimbabwe; and reduced production from peri-urban and rural food producers. Urban traditional markets disconnected from food production (pandemic, conflict, and climate change drivers)	• Strengthen locally sourced and indigenous, year-round food production. • Preference and support residents, schools and other public spaces for urban agriculture as well as coherent connections with peri-urban and nearby rural production areas. Multistakeholder engagements and urban planning required to support this option. • Optimise availability and access to quality, safe seafood (that is also considerate of health and environmental well-being) by providing supporting cool room and other infrastructure and/or ice boxes, improving linkages between ocean-to-market networks, and empathetically (within COVID-19 safety) reviewing sales/locations/curfew time possibilities to enable those catching and selling fish to continue to do so during curfew and other emergency periods. Possible: special zoning for seafood sales and/or permissions to work an hour or so outside of normal curfews. • Use mobile technology to communicate and promote access to information about local food sources, food prices and local alternatives that are nutritious and desirable.
Food waste, food safety and loss of food quality. Problems for well-being of people and planet; also waste of available and accessible food that could be eaten.	• Advocate to national government and/or municipality for special case curfews and/or support for vendors who sell bread and fish and/or who are adversely impacted by conflict. • Public procurement opportunities: secure contracts with vendors and SMEs e.g. transporters to purchase percentage of perishable foods like fish, that cannot be sold due to curfew limits. Food can be used for: partner with school feeding schemes, hospital meal programmes, municipal canteens etc. • Inspire and encourage private and non-profit sectors to procure with awareness e.g. conflict and/or curfew and fish sale challenges. • Public and private procurement: to reduce volume of food waste—arrangements to purchase a diversity of staple and nutritious foods at a certain point before quality and safety deteriorate. • Regenerative waste management: engage wider food systems stakeholders including peri-urban farmers as possible demand drivers of organic market food waste (for compost) and/or engage municipal waste management to harness vendors skills on wasted produce. Both options support alternate income and job streams for vendors and enhance resilience. • Shorten and streamline food chains, around urban traditional markets with resultant reduction in food loss and waste (shorter time to market, with less handling, and optimised, consistent accessibility). This aims to maximise use of produced food, reduce demand on household income and increase access to healthy and safe diets for all. • Inclusive multi-stakeholder engagement: vendors, Market Committees, and other stakeholders (including internally displaced people). • Promotion of food quality, safety, and waste market champions—consider synergies with public health and agricultural community workers. • Review (and map) legislation around food safety and waste to maximise opportunity but also ensure compliance.

Market pandemic challenges and resilience focus area	Policy options
CONTINUED **Food waste, food safety and loss of food quality.** Problems for well-being of people and planet; also waste of available and accessible food that could be eaten.	• Advocate to national government and/or municipality for special food waste communication and information campaigns e.g. social media, WhatsApp / texting, community radio, peer to peer, champions, pamphlets and 'durable' posters, and technical training support. • Explore food sharing schemes to support well-being of internally displaced people and other vulnerable communities and access to healthy, safe diets for all. • Consider supporting innovative processes and technologies that reduce food loss and waste e.g. cool rooms, dried fruits, meats and fish.
Lack of urban agriculture and ineffective use of urban/peri-urban green space.	• Urban planning and integrated development linked to mobilised residents and mapping of possible public and private spaces that can be used short or long term for urban agriculture. In Pemba this may require extending beyond the administrative boundaries to better connect the city with the peri-urban and nearby rural agricultural production areas. • Review zoning and supporting ordinances with a view to promoting local seafood industry, urban agriculture, and innovative food processing. • Promote school, work, hospital, municipal and other nutritious, climate smart food gardens.
Loss of income, jobs and purchasing power (vendors, consumers, and those in market related SMEs). **Financial and mental health stress. Insufficient fiscal and emergency social safety net response for 'informal' vendors—especially women, youth and internally displaced people.**	• Options mentioned previously will assist in providing some relief. • Consider designing a public works programme with National government as short-term income/job relief for those impacted; accompanied by skills transfer where possible and aligned with needs of municipality e.g. support rebuilding post cyclone damage. • Start multi-stakeholder and financial institutions dialogue to provide financial management support, debt relief and other options. This should also connect with participatory market governance and administrative management support from the municipality. • Review of municipal market and other vendor fees as well as fees for basic service provision like water and sanitation. Consider public health, food security and nutritional wellbeing as well as social support value of reduced or otherwise restructured fees. • Assist those who do not have all the necessary documentation and/or may appear above the income threshold line to apply for social safety net support and connect them with networks of private, public and non-profit support schemes where possible. • Raise awareness of relief and support options including mental health services, through information and communication campaigns and include peer to peer resources, all municipal departments and other government programmes e.g. community health workers. • Prioritise equitable representation in market committees, government departments and multi-stakeholder compositions of women and youth. (See Table 1) • Policymakers should be generally proactive in this regard and sensitive to internally displaced people who are likely to fall outside of the usual market governance, health and financial processes.

5. CLOSING COMMENTS

The policy approach to keeping food markets working should include the cornerstone of food systems 'good governance', while also being dynamic and able to evolve. **It's important to start somewhere, to keep a record of the journey** and to remember that in the real world, and especially during crises, themes and options are never perfect or complete**.** Start collecting information, mapping a city's food system and stakeholders, set-up informal/formal multi-stakeholder platforms and technical advisory and management committees (some will be long lasting, and some will be an emergency, temporary response as needed). Interpretation of priorities (what can be done, by whom and when), toolkit options and the ways in which stakeholders engage are for the local policymakers of Pemba and residents to determine.

While this toolkit emphasises an emergency response, that is attentive to gender and especially for vulnerable people living in Pemba, this experience can also present a valuable learning journey for other cities and urban communities—with successes, opportunities, and challenges—to build from and share. The uniqueness of Pemba and its food system context are to be recognised, though where similarities with other cities exist, similar policy options may apply.

APPENDICES

Appendix A: Details of policy options activities in Pemba

Activity	Timeline	Notes
Mapping: Stakeholders, urban food systems and food related governance	October 2020–July 2021	Initial mapping updated ahead of each activity e.g. Rapid Needs Assessments and policy options workshops
Rapid needs assessment: Desktop studies and satellite imagery analysis	November 2020–February 2021	Desktop (internal) to support design of assessment and policy co-design process, and better understanding of context during pandemic. Satellite imagery analysis shared in policy option workshops.
Rapid needs assessment: Vendor surveys, key informant interviews and focus groups	February 2021–April 2021	**Factsheets available:** Download from: https://www.gainhealth.org/impact/our-response-covid-19/effective-policymaking-and-coordination-during-pandemic/urban Or ask GAIN Mozambique
Sharing assessment feedback and co-designing policy options: Policy options workshop 1 Policy options workshop 2	 08 June 2021 06 August 2021	 Hotel Kauri (in-person event)Participants: vendors, market authority repre-sentatives, policymakers, civil society. Hotel Kauri (in-person event) Participants: Policymakers

Appendix B: Examples of problem statements and problem trees

Below are examples of problem statements and problem-objective trees as developed by stakeholders in Pemba, Policy Option Workshop 2. This multi-stakeholder process was adapted from the Overseas Development Institute (ODI) toolkit which policymakers may like to explore further. See: ODI Toolkit, Successful Communication, A Toolkit for Researchers and Civil Society Organisations. www.odi.org/publications/5258-problem-tree-analysis.

PROBLEM STATEMENT

Overall, Pemba markets lack basic sanitation facilities, such as toilets, electricity, dumpsters and clean water. This poses a serious health risk. The municipality should ensure all formal markets meet basic sanitation conditions.
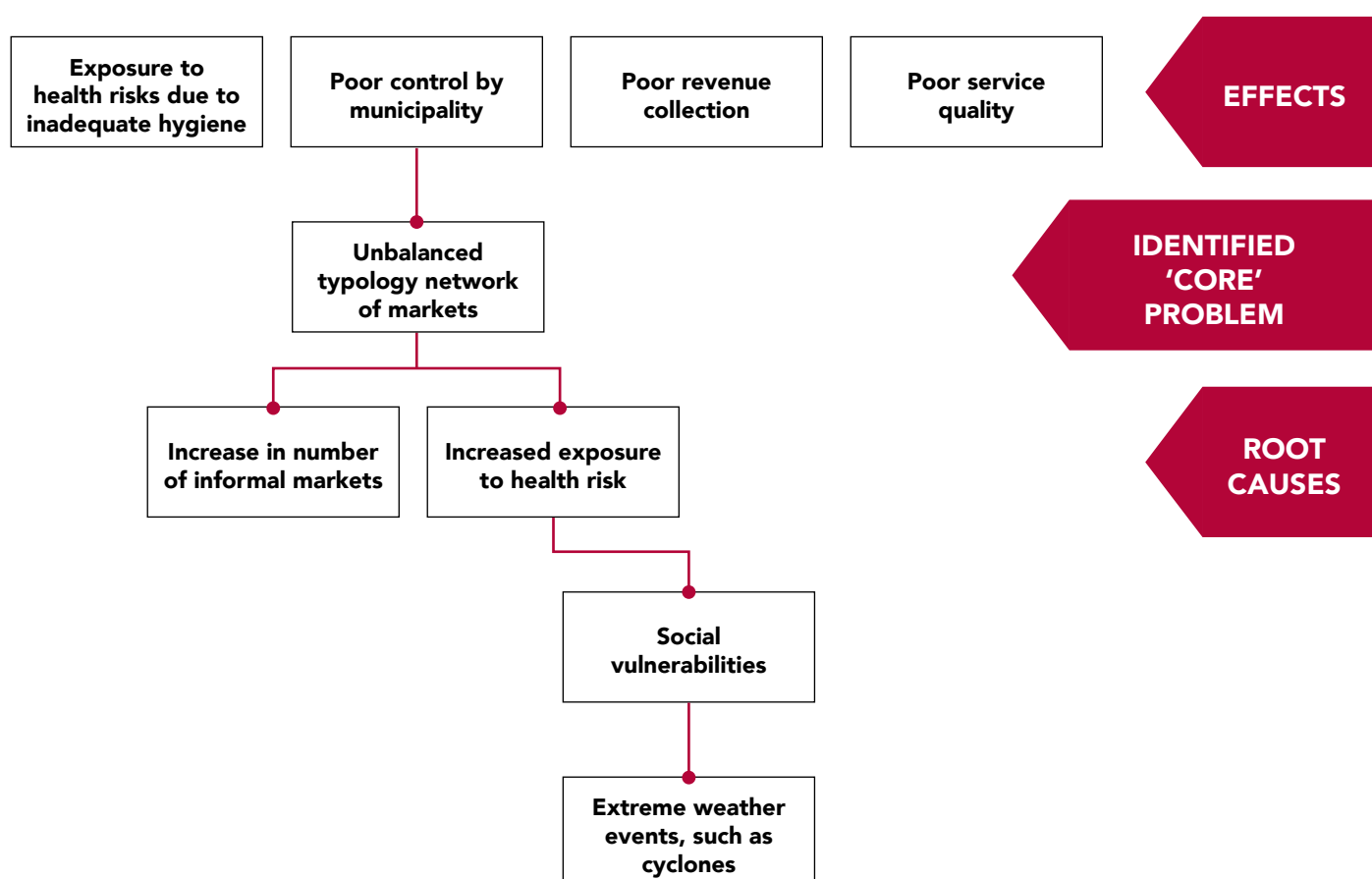

Figure 3: Formalising informal markets and street vendors—market problem tree (Pemba)

These problem trees were then positively reframed, by stakeholders during workshop 2, flipping problems into objective trees solutions. See Figure 4 for an expanded, problem and objective tree rationale, developed by participants, with a focus on urban traditional markets and finances.

Table 3: Problem and objective tree rationale

PROBLEM STATEMENT

Due to the combination of cyclones and the COVID-19 pandemic, vendors experienced financial difficulties, in repositioning infrastructures, production areas or even business strength, and stated that credit schemes and other fiscal incentives would help them in their business.

Core problem	Root causes	Effects
Weak business due to limited capacity for reinvestments	Poor capacity to access financing support, especially when a vendor in an informal market and/or when having lost so many assets from disasters and/or limited possession of 'official documents'.	• Lack of official recognition. • Vulnerable socially and economically without access to essential resources. • Risk of going out of business. • Risk to health and well-being of self and family.
	Limited knowledge of available financing opportunities.	• Risk of vulnerability. • Loss of opportunity.

Objective	Needs	Results
Prosperous, small business.	Capacitated and officially recognised business owners working with resilient, financially sound model.	• Officially recognized, fresh food vendors running stable business. • Vendors and families enjoying social and economic wellbeing and prosperity.
	Empowered to access and unlock benefits in financial schemes, including government incentives.	• Financially sound vendors with access to government credit schemes when needed.

Appendix C: List of GAIN's keeping food markets working: policy and coordination, expert advisory panel members

Name	Home base	EAP country team
Cornelia Maputsoe-Liku	Kenya	Kenya

Cornelia is a Lecturer in the Department of Development Studies at the Catholic University of Eastern Africa, Kenya. She has broad experience in project planning and management, gender analysis, research and training.

Name	Home base	EAP country team
Jane Musindi	Kenya	Kenya

Jane has over 20 years of experience in the agribusiness industry in Kenya, Uganda, Tanzania and Ghana, where she has strived to empower agricultural micro, small and medium enterprises (MSMEs) in the areas of agronomy support, market linkage and business system support, including crop forecasting and planning. Jane is also involved in policy advocacy in the Kenyan agriculture industry to improve the business environment for smallholder farmers and MSMEs.

Name	Home base	EAP country team
Delia Grace Randolph	Kenya	Kenya

Delia is an epidemiologist and veterinarian with 20 years' experience in low- and middle-income countries. Currently a Professor of Food Safety Systems at the Natural Resources Institute UK, Delia previously led research on foodborne disease at the International Livestock Research Institute (ILRI) in Kenya. Her research focuses on food safety in the domestic markets of developing countries.

Name	Home base	EAP country team
Jane Wambugu	Kenya	Kenya

Jane has worked with Kenya's Ministry of Agriculture for 27 years. In that time, she has mainstreamed nutrition in departments (crops, livestock and fisheries) and enabled the Ministries of Agriculture and Health to work together on nutrition interventions through the creation of the Agri-Nutrition Linkages Technical Working Group. In response to the COVID-19 pandemic, Jane coordinated the development of national guidelines and 1 million kitchen garden initiatives across Kenya.

Name	Home base	EAP country team
Jane Battersby	South Africa	Mozambique

Based at the University of Cape Town, Jane is a geographer who has worked on urban food security, food systems and their governance in the African context since 2007. Her research interests lie in the relationships between food environments, urban systems and social systems, and in the dual burden of malnutrition. Her current focus is the development of food sensitive policies and planning at the urban and neighbourhood scale.

Name	Home base	EAP country team
Samuel Mabunda	Mozambique	Mozambique

The former Chief of the National Malaria Control Program, Samuel has 20 years' experience in malaria planning, coordination and policy. Samuel is a medical doctor by training and is currently Senior Lecturer in the department of Community Health, where he teaches malaria epidemiology, research methods and public health at the Eduardo Mondlane University in Maputo

Name	Home base	EAP country team
Danielle Resnick	USA	Mozambique

Dr. Danielle Resnick is a Rubenstein Fellow in the Global Economy and Development Program at the Brookings Institution and a Non-Resident Senior Research Fellow at the International Food Policy Research Institute (IFPRI). She is a political scientist who focuses on the political economy of development, particularly in sub-Saharan Africa. Her research includes the impacts of public sector reforms on accountability and efficiency, and urban governance and informality.

Name	Home base	EAP country team
Eduardo Sengo	Mozambique	Mozambique

Eduardo is an economist with a thorough knowledge of the Mozambican and international economy. His interests centre on macroeconomics, particularly in the public finance, agrarian, financial and small business management sectors. Eduardo is Executive Director of the Confederation of Economic Associations of Mozambique.

Name	Home base	EAP country team
Genevie Fernandes	India/ UK	Pakistan

Genevie is a Senior Research Fellow at the University of Edinburgh, UK, and is a global public health professional with expertise in research, programme implementation, documentation and training in South Asia. Over the last 10 years, Genevie has worked with government and international development agencies on projects in maternal and child health, HIV/AIDS, tobacco control, pandemic preparedness and response, and food security.

Name	Home base	EAP country team
Rafia Haider	Pakistan	Pakistan

Rafia is a career civil servant and has worked extensively in local governments, food regulation, communicable disease control and waste management. She headed the Communicable Disease Control Directorate in Punjab during COVID-19 pandemic and helped establish COVID testing lab network and Central Command and Control Centre. She is currently heading the largest Waste Management Company in Pakistan.

Name	Home base	EAP country team
Caroline Omondi	Switzerland	Pakistan

Caroline is a sustainable supply chain expert and a Go-To-Market strategist in the food sector. She has more than 15 years of experience in the food industry and has been at the forefront of developing and implementing operational business processes to achieve growth and deliver profitability. Caroline is currently working with different SMEs and organisations as a Consultant and an Advisor to develop sustainable food supply chains and access global markets.

Name	Home base	EAP country team
Aslam Shaheen	Pakistan	Pakistan

Aslam has more than 33 years of experience in planning, coordination and policy development in areas including nutrition, food systems, public health nutrition, public policy, and strategy development. Through roles including acting as the Nation Focal Point for 'Scaling Up Nutrition Movement in Pakistan', Managing Scaling Up Nutrition Networks and leading the development of Pakistan Dietary Guidelines for Better Nutrition, Pakistan Multi-sectoral Nutrition Strategy, Pakistan Country Report for International Conference on Nutrition 2014. Aslam has built strong relationships with high-level policy makers in nutrition, health, and food systems.

Name	Home base	EAP country team
*Panayota Nicolarea	Italy	Mozambique

Yota is an urban planner with a passion for urban food planning. Her work includes advocacy action to take forward the urban food agenda, municipal capacity building and project design and management in urban food systems. *Yota stepped down from being a member of the EAP to give her full focus to the United Food Systems Summit (UN-FSS) as Events Lead. Previous to this role she worked with the Milan Food Policy Pact, a global agreement among city government aimed to enhance implementation of urban food policies.

Appendix D: Food systems and the food environment

Food systems are inclusive of people, animals, institutions, ecosystems and infrastructure (part of the 'built environment') that relate to food production, retail, consumption, diets, nutrition and health. External drivers, such as, globalisation and trade, politics and leadership, income and its distribution, population dynamics, society, culture, and environment (including climate change), influence and shape the elements in the food system (See Figure 4) [32].

The food environment is an integral part of the food system, forming the link between food supply chains and household's or individual's acquisition and consumption of—food and in turn relate to health and nutrition. This toolkit focuses on Pemba's **food environment** around urban traditional markets, and its resilience during (and beyond) the pandemic.

Understanding this context is key to responding to the needs and opportunities of urban communities, with attention to those with low incomes, other most vulnerable (e.g. children, elderly and disabled) and gender. The urban food environment is where urban residents and the wider food system meet. It is about:

- food availability—type and diversity.

- affordability—prices, purchasing power and income distribution.

- food quality and practices—food safety, convenience, and desirability.

- food markets and vendors.

- messaging, advertising, and marketing[33].

Local **policymakers** in Pemba have an important role in transforming the urban food environment to be more equitable, inclusive, sustainable, and resilient. Although limited in the extent to which they can influence many of the external food system drivers, local policymakers can proactively and indirectly intersect with some drivers e.g. through food and nutrition sensitive urban planning and more coherent connections and advocacy for neighbouring public administrations and national government.

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32 http://www.fao.org/3/a-i7846e.pdf
33 https://www.sciencedirect.com/science/article/pii/S2211912418300154

Environment	Politics & economy	Urbanisation & population	Socio-cultural context	Innovation, technology & infrastructure
Climate change	Leadership, globalisation and trade, income and distribution, land tenure and conflict	Growth and flow of population, age distribution, migration, internally displaced people	Culture, traditions, social practices, gender dynamics	Innovation, technology and infrastructure

EXTERNAL DRIVERS

Food supply

From production and fishing to market

Food environment
- Food availability
- Affordability
- Quality & convience
- Market & vendor
- Information

Individual factors

About the person, family, community:
- Income
- Where they live/work
- Knowledge
- Prosperity goals

Consumer behaviour

How, what and why people live, eat and waste

Diets

Quantity, quality, diversity and safety of the food people eat

Other socio-economic & environmental impacts

Nutritonal & Health Outcomes

POLITICAL, PROGRAMME & INSTUTIONAL ACTIONS

Sustainable Development Goals
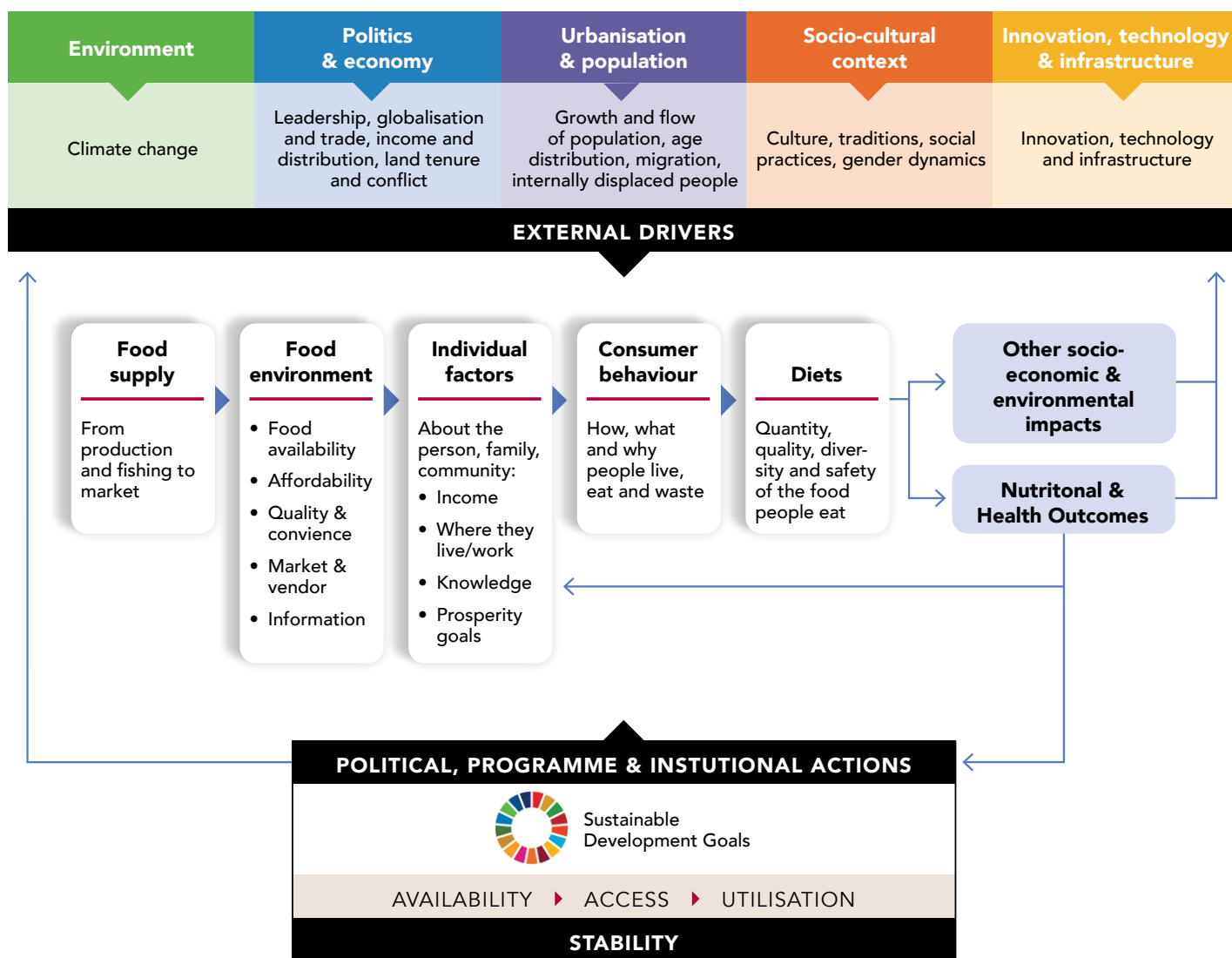
AVAILABILITY ▶ ACCESS ▶ UTILISATION

STABILITY

Figure 4: Food systems conceptual framework

(Adapted from the High-Level Panel of Experts on Food Security and Nutrition (HLPE) (2017). Nutrition and food systems: a report by the High-Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security, Rome)34