EUROPEAN SPACE AGENCY

ESA Reference: ESA AO/1-11038/21/I-DT

ESA Contract Number: 4000139605/22/I-DT

Project Afri4Cast - Food Security and Safety In Africa

WP100 – D04 Policy Traceability Matrix

Submitted by:

In collaboration with:

3~~02~~ May 2023

D4 Policy Traceability Matrix ~~D04~~

Document Information

ESA Contract Number	4000139605/22/I-DT	Acronym		AFRI4CAST
Full Title	EO AFRICA EXPLORERS – EXPRO+ Food Security and Safety In Africa			
Start Date	26th October 2022	Duration		24 months
Project URL	www.afri4cast.org			
Deliverable	D4 Policy Traceability Matrix			
Work Package	WP100			
Date of Delivery	Contractual	26/02/2023	Actual	02/03/2023
Nature	Report	Dissemination Level		Confidential
Lead Beneficiary	GMV			
Responsible Author	GMV			
Contributions from	SIA, AGROAPPS			

Document History

Version	Issue Date	Stage	Description	Contributor
0.1	29-01-2023	Draft	First version of the document	Jesús Ortuño (GMV)
0.2	14-02-2023	First version	Shared for feedback	Jesús Ortuño (GMV)
1	28-02-2023	Final version	Ready for submission	Jesús Ortuño (GMV)
2	25-03-2023	Updated version	Revised comments	Jesús Ortuño (GMV)
3	03-05-2023	Updated version	Revised comments	Jesús Ortuño (GMV)
4	08-05-2023	Updated version	References added	Jesús Ortuño (GMV)
4.1	09-05-2023	Updated version	Reference section changes added	Jesús Ortuño (GMV)

Disclaimer

This document and its content reflect only the author's view, therefore ESA is not responsible for any use that may be made of the information it contains!

D4 Policy Traceability Matrix ~~D04~~

Formatted: Centered

Contents

1. INTRODUCTION _____ 5~~4~~

1.1. PURPOSE _____ 5~~4~~

1.2. SCOPE _____ 6~~5~~

2. DEFINITIONS AND ACRONYMS _____ 7~~6~~

2.1. ACRONYMS _____ 7~~6~~

3. GLOBAL APPROACH TO FOOD SAFETY AND FOOD SECURITY POLICY _____ 8~~7~~

4. FOOD SAFETY AND FOOD SECURITY MANAGEMENT POLICY IN AFRICA ___ 13~~12~~

4.1. FOOD SAFETY AND FOOD SECURITY MANAGEMENT POLICY IN EASTERN AFRICA ____ 15~~14~~

4.1.1. FOOD SAFETY AND FOOD SECURITY MANAGEMENT POLICY IN KENYA ___ 15~~14~~

4.1.2. FOOD SAFETY AND FOOD SECURITY MANAGEMENT POLICY IN UGANDA ___ 16~~15~~

5. CONCLUSIONS _____ 18~~16~~

6. REFERENCES _____ 18~~16~~

~~1. INTRODUCTION _____ 4~~

~~1.1. PURPOSE _____ 4~~

~~1.2. SCOPE _____ 5~~

~~2. DEFINITIONS AND ACRONYMS _____ 6~~

~~2.1. APLICABLE DOCUMENTS _____ 6~~

~~3. GLOBAL APPROACH TO FOOD SAFETY AND FOOD SECURITY POLICY _____ 7~~

~~4. FOOD SAFETY AND FOOD SECURITY MANAGEMENT POLICY IN AFRICA ___ 13~~

~~4.1. FOOD SAFETY AND FOOD SECURITY MANAGEMENT POLICY IN EASTERN AFRICA 15~~

~~4.1.1. FOOD SAFETY AND FOOD SECURITY MANAGEMENT POLICY IN KENYA ___ 15~~

~~4.1.2. FOOD SAFETY AND FOOD SECURITY MANAGEMENT POLICY IN UGANDA ___ 16~~

~~5. CONCLUSIONS _____ 17~~

Commented [ACG1]: It would be good to have a chapter at the end with the references of the docs mentioned in the text, and for those docs to be referenced throughout the document.

Commented [JOC2R1]: All documents are referenced in 2.2 section.

Commented [ACG3R1]: What I meant is a section for references / bibliography, e.g. where you can list all the sources you mention in the text. Because not all those sources will be actual documents that need to go into this section.

And then you could keep the references to the definitions you used (e.g. volatility), which in fact are much better kept with their reference.

Formatted: Default Paragraph Font, Font: Times New Roman

Formatted: Default Paragraph Font, Font: Times New Roman

Formatted: Default Paragraph Font, Font: Times New Roman

Formatted: Default Paragraph Font, Font: Times New Roman

Formatted: Default Paragraph Font, Font: Times New Roman

Formatted: Default Paragraph Font, Font: Times New Roman

Formatted: Default Paragraph Font, Font: Times New Roman

Formatted: Default Paragraph Font, Font: Times New Roman

Formatted: Default Paragraph Font, Font: Times New Roman

Formatted: Default Paragraph Font, Font: Times New Roman

Formatted: Default Paragraph Font, Font: Times New Roman

Formatted: Default Paragraph Font, Font: Times New Roman

Formatted: Default Paragraph Font, Font: Times New Roman

Formatted: Default Paragraph Font, Font: Times New Roman

Formatted: Default Paragraph Font, Font: Times New Roman

Formatted: Default Paragraph Font, Font: Times New Roman

Formatted: Default Paragraph Font, Font: Times New Roman

Formatted: Default Paragraph Font, Font: Times New Roman

Formatted: Default Paragraph Font, Font: Times New Roman

Formatted: Default Paragraph Font, Font: Times New Roman

D4 Policy Traceability Matrix ~~D04~~

1. INTRODUCTION

Access to safe, nutritious, and healthy food is a basic human right. Governments must guarantee this right by ensuring that available food meets safety standards. Food systems are changing faster than ever as the world is more interconnected than ever before.

- **Food Safety** is the assurance that food will not cause adverse health effects to the consumer when is prepared and/or eaten according to its intended use[1].

- **Food Security** *exists when all people, always, have physical and economic access to sufficient safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life[2].*

The competent authority is the government organization or agency with jurisdiction.

Defining and implementing food safety and food security policies can change regional strategies for managing the risk. Food and Agriculture Organization of the United Nations (FAO), addressed governments to *support food and agriculture through various policies, including trade and market interventions (e.g., border measures and market price controls) that generate price incentives or disincentives, fiscal subsidies to producers and consumers, and general services support (GSS). These policies may impact every stakeholder within the food environment and, hence, can affect the availability and affordability of healthy diets.* And the World Health Organization (WHO), established key actions and recommendations for governments to encourage a *robust regulatory and policy framework, including fiscal instruments, to support the production and consumption of, and access to, healthier and safer diets. Governments should consider policy actions recommended by WHO to improve the nutritional quality of food along the food supply chain and create healthier food environments.*

Definition of robust regulations and policy frameworks on food safety and food security policies can change regional strategies for managing the negative impact of the challenged food systems and can have a direct impact on minimizing the effects of hunger and diseases outbreaks that affects directly to the rest of the regional and national economy.

1.1. PURPOSE

This policy review of existing global, regional, country, and local policies on food safety and security management and resilience seeks to identify guidelines and standards prescribed internationally and those adopted in Africa and the East African Community (EAC) region.

---

[1] Food and Agriculture Organization of the United Nations/World Health Organization (FAO/WHO) Codex Alimentarius. (1969). General principles of food hygiene. CXC 1-1969. Adopted in 1969. https://www.fao.org/fao-who-codexalimentarius/shproxy/en/?lnk=1&url=https%253A%252F%252Fworkspace.fao.org%252Fsites%252Fcodex%252FStandards%252FCXC%2B1-1969%252FCXC_001e.pdf

[2] World Food Summit, 1996

D4 Policy Traceability Matrix ~~D04~~

In the scope of the AFRI4CAST project, this policy review will outline accepted and currently implemented strategies that should be considered in the project's Design Phase (WP200). Understanding existing regional and local policies will inform the design of an EO-based solution that integrates into the end-users existing practices while understanding international policies will innovate the design of a solution that bridges gaps between regional and international strategies where applicable.

1.2. SCOPE

This document is structured according to the following sections:
- Section 3, Global Approach to Food Safety and Food Security Management – this section covers how drought management policies have been implements on a global level.
- Section 4, Food Safety and Food Security Management Policy in Africa – this section focuses on how the management policies are established globally and have been adopted by countries in Africa, in Eastern Africa and specially in Kenya and Uganda.
- Section 5, Conclusion – this provides a summary of the finds and recommendations on how the AFRI4CAST project should tie into existing policies.

2. DEFINITIONS AND ACRONYMS

2.1. ACRONYMS

Acronyms used in this document and needing a definition are included in the following table:

Acronym	Definition
CAP	Common Agricultural Policy
EAC	East African Community
EC	European Commission
ESA	European Space Agency
FAO	Food And Agriculture Organization
GSS	General Services Support
KCEO	Knowledge Centre on Earth Observation
SDG	Sustainable Development Goals
SOFI	State of Food Security and Nutrition in the World
UN	United Nations
WHO	Word Health Organization

Commented [ACG4]: Some acronyms are missing (UN, EU, and perhaps others too, please check)

Formatted: Centered

3. GLOBAL APPROACH TO FOOD SAFETY AND FOOD SECURITY POLICY

One of the declarations made by FAO to governments aiming food security is to support food and agricultures through policies that will affect- food affordability and healthier diets. WHO encourages governments to intervene by adapting policies already implemented in many other countries that can be easily replicable, cost-effective, and evidence-based, and that once implemented will contribute to reduce malnutrition and inequalities caused by foodborne illness. Such as:

- Implementing fiscal policies for healthy diets (WHO, Fiscal policies to promote healthy diets: policy brief. World Health Organization, 2022)
- Protecting children from harmful marketing of food and beverages (WHO, Protecting children from harmful marketing of food and beverages. Policy Brief, 2022).
- Ensuring clear and accurate nutrition labels, and reducing the levels of salt, sugars and harmful fats in processed food and drink products (WHO, Nutrition labelling: policy brief, 2022).
- Fortifying staple foods by adding extra vitamins and minerals (WHO, Nutrition labelling: policy brief, 2022).
- Ensuring that nutritious foods for healthier diets are served or sold in schools, hospitals, and other public places (WHO, Food Fortification. Health Topic. World Health Organization, 2022).
- Strengthening national food control systems and surveillance to prevent and improve responses to foodborne diseases (WHO, Action framework for developing and implementing public food procurement and service policies for a healthy diet, 2021).

In this sense, Afri4Cast can contribute to the last one: Strengthening national food control systems and surveillance to prevent and improve responses to foodborne diseases.

The WHO determines objectives on the surveillance and response system from monitor trends, detect events, collect information, and establish operational links between laboratories and safety staff (Figure 1).

Figure 1. WHO objectives for surveillance

D4 Policy Traceability Matrix ~~D04~~

In terms of food security, the global policy context aims at the following key priorities:
1) End hunger and provide humanitarian food assistance
2) Ensure food security and enhance resilience to food crises
3) Promote Sustainable Agriculture and innovation

Summarizing the main policies, it is necessary to consider the UN commitments that started in 1996 with the Rome Declaration on World Food Security aiming to align international efforts to supplement the national action by:

- *ensuring an enabling a political, social, and economic environment designed to create the best conditions for the eradication of poverty and for durable peace, based on full and equal participation of women and men, which is most conducive to achieving sustainable food security for all;*
- *implementing policies aimed at eradicating poverty and inequality and improving physical and economic access by all, at all times, to sufficient, nutritionally adequate and safe food and its effective utilization;*
- *pursuing participatory and sustainable food, agriculture, fisheries, forestry and rural development policies and practices in high and low potential areas, which are essential to adequate and reliable food supplies at the household, national, regional and global levels, and combat pests, drought and desertification, considering the multifunctional character of agriculture;*
- *ensuring that food, agricultural trade and overall trade policies are conducive to fostering food security for all through a fair and market-oriented world trade system;*
- *preventing and preparing for natural disasters and man-made emergencies and to meet transitory and emergency food requirements in ways that encourage recovery, rehabilitation, development and a capacity to satisfy future needs;*
- *promoting optimal allocation and use of public and private investments to foster human resources, sustainable food, agriculture, fisheries and forestry systems, and rural development, in high and low potential areas; ("Rome Declaration on World Food Security - healthy documents")*
- *implementing, monitoring, and following-up the Plan of Action at all levels in cooperation with the international community.*

In 2015 the Paris Agreement and the Sustainable Development Goals remarked the principles, and specially SDG 2 on Zero Hunger, targeted by 2030:

- *Ending hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious, and sufficient food all year round.*
- *Ending all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women, and older persons.*
- *Doubling the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists, and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment.*

- ***Ensuring*** *sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding, and other disasters and that progressively improve land and soil quality.*
- ***Maintaining*** *the genetic diversity of seeds, cultivated plants, and farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at the national, regional, and international levels, and promote access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge, as internationally agreed.*
- ***Increasing*** *investment, including through enhanced international cooperation, in rural infrastructure, agricultural research and extension services, technology development and plant and livestock gene banks to enhance agricultural productive capacity in developing countries, least developed countries.*
- ***Correcting*** *and preventing trade restrictions and distortions in world agricultural markets, including through the parallel elimination of all forms of agricultural export subsidies and all export measures with equivalent effect, in accordance with the mandate of the Doha Development Round.*
- ***Adopting*** *measures to ensure the proper functioning of food commodity markets and their derivatives and facilitate timely access to market information, including on food reserves, to help limit extreme food price volatility.*

The State of Food Security and Nutrition in the World (SOFI) Report (FAO I. U., 2022) shows that, at only 8 years left to reach 2030, many of the SDG 2 targeted objectives are distancing every year. The progress is insufficient and achieving the goals is more challenging as the world is walking towards an uncertain context.

The World's economy is experiencing a recessionary context that makes priorities swift, and governments are finding it challenging to increase the budget to invest not only in research but also in agrifood systems transformation. The report recommends governments to define a cost-effective and efficient budget to reduce the cost of nutritious foods and to increase the availability of healthy diets, while paying special attention to sustainable systems and as well as avoiding leaving parts of the population behind. The key messages:

Regarding the policy context in the European Union regarding Food Security, the EU has implemented a comprehensive set of food security and food safety policies that are designed to ensure the safety and quality of food products for consumers. These policies are based on the principles of traceability, risk assessment and prevention, and are continually updated to ensure the highest standards of food safety.

The approach is focused on member nations. In a global market the links between countries around the world keep increasing and new challenges emerged. The European Union has also established a system of food inspection and control that is designed to protect consumers from

unsafe food products and to ensure that food products meet the highest standards of quality. Overall, these policies are highly effective and have been instrumental in providing safe and nutritious food for the citizens of the European Union, setting commitments and examples that other countries can follow and replicate.

In that sense, the EU states its support to humanitarian action. The EU is committed to aiding those in need and is dedicated to upholding the principles of humanity, neutrality, impartiality, and independence. The EU's policies also emphasize the importance of ensuring the safety and protection of those affected by humanitarian crises, as well as the need to respect and promote human rights. Furthermore, the EU reaffirms its commitment to collaborating with humanitarian partners to ensure the delivery of assistance in a timely and effective manner. Overall, the EU's humanitarian actions uphold the principles of humanity, neutrality, impartiality, and independence. To achieve these objectives there is a responsibility and a need to transform the food system suppliers also in Europe.

The European Commission's Farm to Fork Strategy (EC, COM/2020/381) is designed to make food production more sustainable, reduce the environmental impact of the food system, and improve the health and well-being of people across Europe and third parties. The strategy sets out several actions to achieve these goals, including reducing the use of pesticides and fertilizers, promoting organic farming, and reducing food waste. It also aims to ensure fair and safe working conditions for farmers and food workers, and to ensure that the food produced is of the highest quality. Overall, the Farm to Fork Strategy is an important and necessary step towards creating a more sustainable and equitable food system in Europe that affects directly to the global market.

The document Towards a Comprehensive Strategy with Africa (JOIN/2020/4) (EC, JOIN/2020/4) outlines a comprehensive strategy for the European Union and African nations to work together to promote peace, security, and sustainable development. This strategy includes several initiatives such as the African Peace Facility, the African Union-European Union Partnership, the African Peace and Security Architecture, and the European Union Emergency Trust Fund for Africa. The strategy also emphasizes the importance of strengthening economic, social, and political ties between the two regions. Overall, this strategy is a positive step towards fostering a strong relationship between the European Union and African nations. Food security and hunger are main indicators of tension and political instability, hence its importance.

The European Union has recently adopted several initiatives to ensure sustainable development and economic growth. The New European Consensus on Development aims to achieve the Sustainable Development Goals (SDGs) by 2030. The Common Agricultural Policy (CAP) is designed to ensure a level playing field for farmers, while the EU Green Deal seeks to make Europe the first climate-neutral continent. Additionally, the EU Biodiversity Strategy for 2030 has been established to protect and restore biodiversity. Furthermore, the links between Europe and Africa in terms of food security and food safety are being strengthened. These

Formatted: Centered

Commented [ACG12]: This also needs to be referenced

Commented [JOC13R12]: Already there.

Commented [ACG14]: This source would need to be cited in the bibliography

initiatives are commendable and demonstrate the EU's commitment to sustainable development and economic growth.
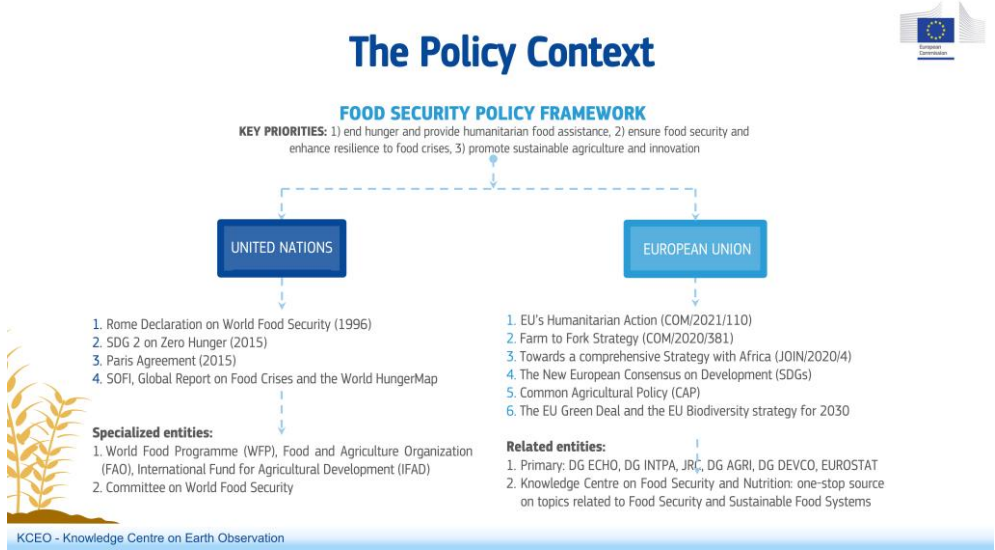

Figure 2. Food security Policy Framework of the Policy Context UN and EU. Source: KCEO, 2022.

The urgency of addressing Food safety and food security in Africa is undeniable given its importance. It is essential that African nations work together to ensure that their citizens have access to safe and nutritious food. This can be achieved through the implementation of effective food safety regulations, improved agricultural practices, and increased investment in food production and distribution. It is encouraging to see that many African countries are taking steps to address these issues, and it is essential that these efforts be supported and expanded. With the right measures in place, food safety and food security in Africa can be improved, and the lives of millions of people can be positively impacted.

4. FOOD SAFETY AND FOOD SECURITY MANAGEMENT POLICY IN AFRICA

INTRODUCTION

Food safety and food security management is an essential component of a healthy and prosperous Africa. It is a critical issue that must be addressed in order to ensure the well-being of the African population. As such, it is encouraging to see that many African countries are taking steps to develop and implement effective food safety and food security management policies. These policies aim to ensure that food is safe to consume, that food production and distribution systems are efficient, and that food is accessible and affordable to all. Furthermore, these policies also seek to ensure that food is produced in a sustainable manner, with minimal environmental impact. These policies are essential for the health and prosperity of the African population, and it is encouraging to see that many countries are taking the necessary steps to ensure that these policies are implemented and enforced.

BACKGROUND

The current policy context of the world's hunger is assessed in the State of the Food Security and Nutrition in the World 2022 report, elaborated by FAO, which is summarized in Figure 3 below.
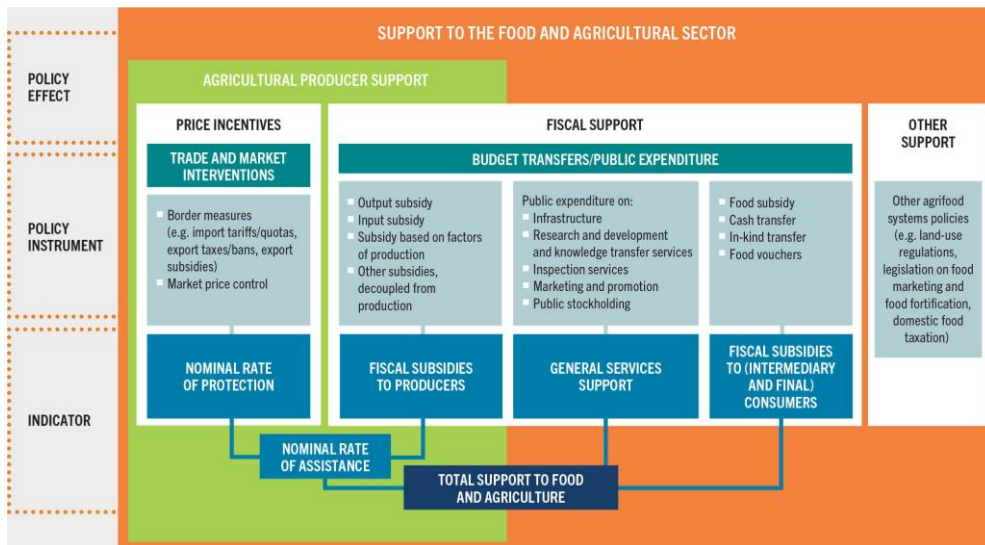
Figure 3. Food and agricultural policy support instruments and indicators. Source: FAO. State of Food Security and Nutrition in the world 2022.

Hunger in the world is a tremendous and difficult challenge that is especially severe across the African continent. As can be seen in the map shown in figure below (Figure 4), only a few countries across the African continent have a prevalence of undernourishment between 2019 and 2021 below 2.5% of the total of population.
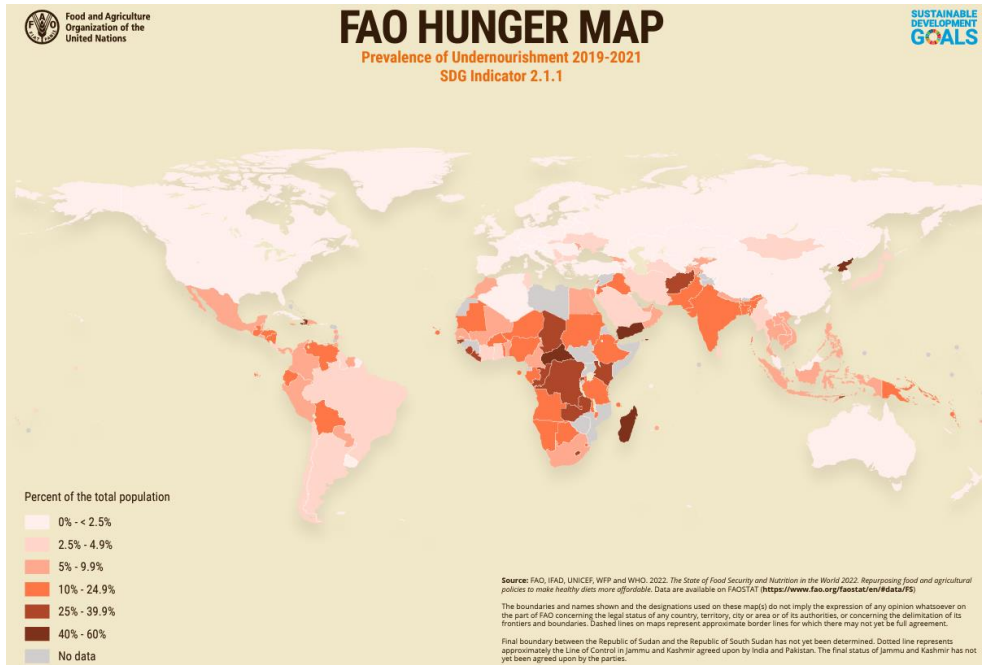
Commented [ACG15]: Which map?

Figure 4. FAO Hunger Map. 2022. Source: FAO

CHALLENGES

The various challenges that Africa faces in ensuring food security and safety are closely linked with other factors that only increase the difficulty of solving the topic. For example, extended poverty, global warming and climate change that affect directly- farming crop cycles and their environment, market variations that increase the difficulty of accessing food, or a lack of access to resources (such as~~as~~ technology and derived knowledge) that could help in decision making.

IMPACT

The impact of food insecurity and safety issues is directly linked to the impact on human health, as well as on the socio-economic development and, ultimately, to the impact on the social well-being across the continent.

SOLUTIONS AND RECOMMENDATIONS

There are many potential solutions that can play an important role in addressing food security and food safety and the derived issues across Africa. Considering public policy recommendations ~~must be an enhancement of the current situation, due to an increase of safety or a more tangible solution. A~~as well as investing in agricultural research and development within these policies can lead to ~~must deliver a~~ tangible solutions in terms of productivity and ~~, a~~ better performance, for example. ~~or more options available.~~ Therefore, any solutions and recommendations need to enhanc~~ing~~ the digitalization of the primary sector, and need to rely on the farming sector using technologies that are already available. ~~that the farming sector can benefit,~~ encouraging ~~an improvement and~~ cost-effective improvements in the sector.

FINDINGS

It is important to reiterate that addressing food security and safety issues in countries in Africa is ~~not only~~ a matter of social justice, as global politics ~~and~~and the global market have affected (and continue to~~are~~ affect~~)ing~~ the development of these countries. Furthermore, addressing such issues is also a necessity for other ~~And also, is a need for the rest of the~~ countries of the world, that ~~indirectly~~ are ~~being~~ affected by them~~it~~ in an indirect or direct way~~.,~~ In an interconnected world, issues related to health and food access have a global impact, which can ~~as health affect us globally in a global world, and the access of food could derived~~derive in social conflicts. ~~that could and will eventually affect.~~

4.1. FOOD SAFETY AND FOOD SECURITY MANAGEMENT POLICY IN EASTERN AFRICA

Eastern Africa is making great strides in food safety and food security management. Governments of the countries in Eastern Africa are taking proactive steps to ensure that their citizens have access to safe and secure sources of food. From investing in agricultural infrastructure to implementing food safety regulations, Eastern African countries are doing their part to ensure that their citizens have access to safe and nutritious food, by ensuring a digitalization of the means and encouraging the use of new available technologies.

In the following subsections the document will explore the Kenyan and Ugandan context, which are the two countries in which the stakeholders for Afri4Cast are based.

4.1.1. FOOD SAFETY AND FOOD SECURITY MANAGEMENT POLICY IN KENYA

The commitment of the Kenyan authorities regarding food safety and food security is remarkable. The government is moving forward on the implementation of a set of policies to ensure that all citizens have access to safe, nutritious, and affordable food. These policies include measures to ensure that food is produced, processed, and stored in a safe and hygienic manner, as well as to ensure that food is properly labeled and that food safety standards are met.

Additionally, the policies must promote the use of sustainable agricultural practices and encourages the adoption of new technologies to improve food safety and security. The policies also include measures to monitor and inspect food production and storage facilities, as well as

Formatted: Centered

Commented [ACG16]: Is part of these two sentences missing?

Commented [JOC17R16]: I'll try to clarify them

Commented [ACG18R16]: Thanks! I was still doubting about what you meant, so please check if my edits make sense now.

Commented [JOC19R16]: Perfect.

Commented [ACG20]: I suggest to rephrase it in a more clear way, such as " Addressing food security and food safety issues in Africa is a matter of social justice, and will have a direct and indirect effect in manyother countries of the world"

Commented [ACG21R20]: Thanks for the edits! I was still doubting about what you meant to say, please check if this new rephrasing matches what you had in mind

Commented [JOC22R20]: Yes. I hope is clear now, thanks.

to provide training and education to food producers and consumers. All these measures are essential to ensure the health and well-being of the Kenyan people.

The main ~~aimsare~~aims are:
- All food handlers must be trained in food safety and hygiene practices and must be certified by the relevant authorities.
- All food must be properly stored and handled in accordance with the relevant food safety regulations.
- All food must be inspected regularly to ensure it is safe for consumption.
- All food must be free from contamination and must be properly labelled with the appropriate information.
- All food must be traceable and must be kept in a secure environment.
- All food must be prepared in a clean and hygienic environment.
- All food must be cooked to the appropriate temperature and must be served promptly.
- All food must be disposed of properly and in a timely manner.
- All food must be regularly monitored for safety and quality.

4.1.2. FOOD SAFETY AND FOOD SECURITY MANAGEMENT POLICY IN UGANDA

Uganda is taking steps to ensure food safety and food security management, by implementing and following policies designed to protect the public from food-related hazards and to ensure that all citizens have access to a safe and nutritious food supply. The relevant policies include measures such as food safety inspections, food labeling requirements, and food safety education programs. They also include measures to ensure that food is produced and distributed in a safe and sustainable manner, and they introduce new technologies and encourage the digitalization of the agricultural sector. Policies are an important step towards ensuring not only the health of Ugandans but also the well-being of all the country.

The main aims are:

- All food handlers should be trained in food safety and food security management.
- All food handlers should be certified in food safety and food security management.
- All food handlers should be regularly monitored to ensure they are following food safety and food security management protocols.
- All food items should be inspected for quality and safety before being served.
- All food items should be stored in appropriate temperature and humidity conditions.
- All food items should be labeled with expiration dates and other relevant information.
- All food items should be disposed of in a safe and hygienic manner.
- All food items should be regularly tested for contaminants.
- All food items should be handled in a safe manner to prevent cross-contamination.
- All food items should be cooked to the proper temperature to ensure safety.
- All food items should be served in a timely manner to ensure freshness.

D4 Policy Traceability Matrix ~~D04~~

5. CONCLUSIONS

All policies established across the EU and the African continent (in particular those from countries in~~, and paying special attention to the~~ Eastern Africa)~~ countries,~~ aim to ~~are willing or in need of the~~ increase ofagriculture monitoring tools or require such tools to reach their objectives. In that sense, new technologies in remote sensing can be of major importance. ~~To that extend the use of new technologies can serve this purpose.~~

~~As is the case of r~~Remote sensing tools ~~that~~ can tackle the problem of repetitive monitoring of wide regions in a cost-effective manner. Therefore, enhancing the use of remote sensing for the agriculture sector is a must regarding food security and food safety.

Remote sensing has the potential to be a powerful tool in helping to ensure food security and food safety. It can be used to monitor crop production, identify areas of soil degradation, and detect water contamination. Additionally, it can be used to identify areas of food insecurity and to monitor food supply chains. By providing real-time data, remote sensing can help to inform decisions about food production, distribution, and consumption. Therefore, remote sensing can be an asset in ensuring food security and safety.

Remote sensing can provide valuable information on crop health, soil moisture, and water availability, which can help inform decisions about where and when to plant, when to irrigate, and when to harvest. Remote sensing techniques can also help detect and monitor pests and diseases, allowing farmers to take preventive measures to protect their crops. Remote sensing can be used to monitor food safety, such as identifying areas with potential for contamination or spoilage, as well as to monitor food security, for example tracking food production and distribution, and identifying areas of food insecurity.

6. REFERENCES

Brown, M. E. (2015). Satellite Remote Sensing in Agriculture and Food Security Assessment. Procedia environmental sciences, 29, 307. Available at https://sciencedirect.com/science/article/pii/s1878029615005551, last accessed 10 May 2023

EC. (2020). *European Commission's Farm to Fork Strategy (COM/2020/381)*. Brussels: European Commission. Available at https://food.ec.europa.eu/horizontal-topics/farm-fork-strategy_en , last accessed 10 May 2023

EC. (2020). *Towards a Comprehensive Strategy with Africa (JOIN/2020/4)* . Brussels: European Commission. Available at https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52020JC0004, last accessed 10 May 2023

Comments (margin):

Formatted: Centered

Commented [ACG23]: Unclearly phrased, can it be rephrased please?

Commented [ACG24R23]: Please check if this new proposed phrasing matches what you wanted to say

Commented [JOC25R23]: Yes, thanks.

Commented [ACG26]: Each of those links is better put inside the references section above, each in their corresponding place (next to the document they belong to).

Also, each reference appears here only if mentioned in the text. And vice-versa: when a doc /source is used in the text, it needs to have the reference with it (please check if all of them have it, I saw a mention of Farm to Fork without a reference, but there could be more)

Commented [JOC27R26]: Farm to fork is referenced (Second reference above).
Yes, as I used the references tool in Word, doesn't allow me to add links without having the risk of losing them when updating the document. I added a plain text reference section below, please delete "Reference (by word)" and "Links of the references" if the following one is better.

Formatted: Heading 1, Line spacing: 1,5 lines, Outline numbered + Level: 1 + Numbering Style: 1, 2, 3, … + Start at: 1 + Alignment: Left + Aligned at: 0 cm + Indent at: 0,63

Formatted: Default Paragraph Font, Font: Times New Roman, 14 pt, Font color: Custom Color(RGB(0;145;147))

D4 Policy Traceability Matrix ~~D04~~

FAO. (1996). World Food Summit. Rome: FAO. Available at https://healthydocuments.org/nutrition/healthydocuments-doc32.pdf, last accessed 10 May 2023

FAO, I. U. (2022). The State of Food Security and Nutrition in the World 2022. Repurposing food and agricultural policies to make healthy diets more affordable. Rome: FAO. Available at https://www.fao.org/documents/card/en/c/cc0639en, last accessed 10 May 2023

United Nations, (2015). *Paris Agreement.* United Nations Treaty Collection. Available at https://unfccc.int/process-and-meetings/the-paris-agreement, last accessed 10 May 2023

UN General Assembly, *Transforming our world: the 2030 Agenda for Sustainable Development*, 21 October 2015, A/RES/70/1. Available at https://www.refworld.org/docid/57b6e3e44.html, last accessed 10 May 2023

WHO. (2017). Using indicator-and event- based surveillance to detect foodborne events. Geneva: WHO. Available at https://www.who.int/docs/default-source/documents/publications/using-indicator-and-event-base-surveillance-to-detect-foodborne-events-9789241513241-eng.pdf?sfvrsn=8e8fe021_2, last accessed 10 May 2023

WHO. (2021). Action framework for developing and implementing public food procurement and service policies for a healthy diet. Geneva: WHO. Available at https://www.who.int/publications-detail-redirect/9789240018341, last accessed 10 May 2023

WHO. (2022). Fiscal policies to promote healthy diets: policy brief. World Health Organization. Geneva: WHO. Available at https://www.who.int/publications/i/item/9789240049543, last accessed 10 May 2023

WHO. (2022). Food Fortification. Health Topic. World Health Organization. Geneva: WHO. Available at https://www.who.int/health-topics/food-fortification#tab=tab_1, last accessed 10 May 2023

WHO. (2022). Nutrition labelling: policy brief. Geneva: WHO. Available at https://www.who.int/publications/i/item/9789240051324, last accessed 10 May 2023

WHO. (2022). Protecting children from harmful marketing of food and beverages. Policy Brief. Geneva: WHO. Available at https://www.who.int/publications/i/item/9789240051348, last accessed 10 May 2023

WHO. (2022). WHO global strategy for food safety 2022–2030: towards stronger food safety systems and global cooperation. Geneva: WHO. Available at https://www.who.int/publications/i/item/9789240057685, last accessed 10 May 2023

WHO. (2023). Transforming food systems to reduce global inequality and improve food safety and health. Geneva: WHO. Available at

D4 Policy Traceability Matrix ~~D04~~

D4 Policy Traceability Matrix ~~D04~~

REFERENCES

Brown, M. E. (2015). Satellite Remote Sensing in Agriculture and Food Security Assessment. *Procedia environmental sciences, 29, 307. Retrieved 2 8, 2023, from* **https://sciencedirect.com/science/article/pii/s18780 29615005551**

EC. (2020). *European Commission's Farm to Fork Strategy (COM/2020/381).* **Brussels: European Commission.**

EC. (2020). *Towards a Comprehensive Strategy with Africa (JOIN/2020/4)* **. Brussels: European Commission.**

FAO. (1996). *World Food Summit.* **Rome: FAO.**

FAO, I. U. (2022). *The State of Food Security and Nutrition in the World 2022. Repurposing food and agricultural policies to make healthy diets more affordable.* **Rome: FAO.**

United Nations, (2015). *Paris Agreement.* **United Nations Treaty Collection.**
UN General Assembly, *Transforming our world : the 2030 Agenda for Sustainable Development, 21 October 2015, A/RES/70/1, available at:* **https://www.refworld.org/docid/57b6e3e44.html**

WHO. (2021). ~~Using data on health and nutrition of consumers~~ WHO.

WHO. (2021). *Action framework for developing and implementing public food procurement and service policies for a healthy diet.* Geneva: WHO.

WHO. (2022). *Fiscal policies to promote healthy diets: policy brief. World Health Organization.* Geneva: WHO.

WHO. (2022). *Food Fortification. Health Topic. World Health Organization.* Geneva: WHO.

WHO. (2022). *Nutrition labelling: policy brief.* Geneva: WHO.

WHO. (2022). *Protecting children from harmful marketing of food and beverages. Policy Brief.* Geneva: WHO.

WHO. (2022). *WHO global strategy for food safety 2022 – 2030: towards stronger food safety systems and global cooperation.* Geneva: WHO.

WHO. (2023). *Transforming food systems to reduce global inequality and improve food safety and health.* Geneva: WHO.

D4 Policy Traceability Matrix D04

Links of the references

Brown, M. E. (2015). Satellite Remote Sensing in Agriculture and Food Security Assessment. Procedia environmental sciences, 29, 307. Retrieved 2 8, 2023

FAO. (1996). World Food Summit. Rome: FAO.

FAO, I. U. (2022). The State of Food Security and Nutrition in the World 2022. Repurposing food and agricultural policies to make healthy diets more affordable. Rome: FAO.

WHO. (2017). Using indicator-and event- based surveillance to detect foodborne events. Geneva: WHO. https://www.who.int/docs/default-source/documents/publications/using-indicator-and-event-base-surveillance-to-detect-foodborne-events-9789241513241-eng.pdf?sfvrsn=8e8fe021_2

WHO. (2021). Action framework for developing and implementing public food procurement and service policies for a healthy diet. Geneva: WHO.

WHO. (2022). Fiscal policies to promote healthy diets: policy brief. World Health Organization. Geneva: WHO. https://www.who.int/publications/i/item/9789240049543

WHO. (2022). Food Fortification. Health Topic. World Health Organization. Geneva: WHO.

WHO. (2022). Nutrition labelling: policy brief. Geneva: WHO.

WHO. (2022). Protecting children from harmful marketing of food and beverages. Policy Brief. Geneva: WHO.

WHO. (2022). WHO global strategy for food safety 2022-2030: towards stronger food safety systems and global cooperation. Geneva: WHO.

WHO. (2023). Transforming food systems to reduce global inequality and improve food safety and health. Geneva: WHO. https://www.who.int/publications/m/item/transforming-food-systems-to-reduce-global-inequality-and-improve-food-safety-and-health

D4 Policy Traceability Matrix ~~D04~~

REFERENCES

Brown, M. E. (2015). Satellite Remote Sensing in Agriculture and Food Security Assessment. Procedia environmental sciences, 29, 307. Retrieved 2 8, 2023, from https://sciencedirect.com/science/article/pii/s1878029615005551

EC. (2020). European Commission's Farm to Fork Strategy (COM/2020/381). Brussels: European Commission.

EC. (2020). Towards a Comprehensive Strategy with Africa (JOIN/2020/4) . Brussels: European Commission.

FAO. (1996). World Food Summit. Rome: FAO. https://healthydocuments.org/nutrition/healthydocuments-doc32.pdf

FAO, I. U. (2022). The State of Food Security and Nutrition in the World 2022. Repurposing food and agricultural policies to make healthy diets more affordable. Rome: FAO. https://doi.org/10.4060/cc0639en

United Nations, (2015). Paris Agreement. United Nations Treaty Collection.

UN General Assembly, Transforming our world : the 2030 Agenda for Sustainable Development, 21 October 2015, A/RES/70/1, available at: https://www.refworld.org/docid/57b6c3e44.html

WHO. (2017). Using indicator- and event- based surveillance to detect foodborne events. Geneva: WHO. https://www.who.int/docs/default-source/documents/publications/using-indicator-and-event-base-surveillance-to-detect-foodborne-events-9789241513241-eng.pdf?sfvrsn=8e8fe021_2

WHO. (2021). Action framework for developing and implementing public food procurement and service policies for a healthy diet. Geneva: WHO.

WHO. (2022). Fiscal policies to promote healthy diets: policy brief. World Health Organization. Geneva: WHO. https://www.who.int/publications/i/item/9789240049543

WHO. (2022). Food Fortification. Health Topic. World Health Organization. Geneva: WHO. https://www.who.int/health-topics/food-fortification#tab=tab_1

WHO. (2022). Nutrition labelling: policy brief. Geneva: WHO. https://www.who.int/publications/i/item/9789240051324

WHO. (2022). Protecting children from harmful marketing of food and beverages. Policy Brief. Geneva: WHO. https://www.who.int/publications/i/item/9789240057685

D4 Policy Traceability Matrix ~~D04~~

~~WHO. (2023). WHO Global strategy for food safety 2022–2030: towards safer food systems and stronger health. Geneva: WHO. http://www.who.int/publications/i/item/9789240057685~~

WHO. (2023). Transforming food systems to reduce global inequality and improve food safety and health. Geneva: WHO. https://www.who.int/publications/m/item/transforming-food-systems-to-reduce-global-inequality-and-improve-food-safety-and-health

D4 Policy Traceability Matrix ~~D04~~

END OF THE DOCUMENT