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MJM BIOLABS

Benchmarking Policy Goals and Actions for Healthy Food Environments in Benin to Prevent Malnutrition

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ABSTRACT

Lifestyle and dietary shifts contributed to widespread or specific micronutrient deficiencies, leading to health issues such as obesity, hypertension, diabetes, cardiovascular diseases, and certain cancers. These problems are linked to unhealthy food environments, yet little was known about Benin's policy responses. This study aimed to assess how different aspects of the food environment are addressed in Benin's policy documents and their alignment with international best practices. The study analyzed intentions and actions to ensure a healthy food environment in Benin using various policy documents, including laws, decrees, sectoral policies, strategic and operational plans, regulations, directives, action plans, and program/project documents. It followed the Food-EPI tool (Healthy Food Environment Policy Index) of the INFORMAS network (International Network for Food and Obesity/NCDs, Research, Monitoring, and Action Support), focusing on the "Policy" and "Infrastructure Support" components, with steps like contextual analysis, document collection, and evidence extraction. Of the 98 documents collected, 61 were analyzed and classified into frameworks: 54.09% in the policy framework, 29.50% in the strategic framework, and 16.39% in the operational framework. While nine food environment domains were addressed to some extent, disparities with international best practices were noted, especially in food composition, labeling, pricing, governance, and funding/resources. Evidence gaps were identified in retail food sales, food trade and investments, and health integration in policies. The study revealed diverse approaches and gaps in Benin's policies for healthy food environments. Despite progress in some domains, like leadership and monitoring, others, including food composition and governance, needed more attention.

Keywords: Public policy, Food environment, Malnutrition, Benin.

INTRODUCTION

Developing nations are grappling with a growing prevalence of overall or specific micronutrient deficiencies, coupled with the emergence of metabolic overload-related diseases such as obesity, hypertension, diabetes, cardiovascular diseases, and certain cancers (Black et al., 2013). This reality stems from shifts in lifestyles and dietary patterns, notably observed in Southern countries in recent years. These rapid transformations are attributed to agricultural industrialization, globalization, population growth, urbanization, and technological advances (FAO/WHO, 2017), significantly impacting food consumption, the environment, and the health and well-being of populations.

Sub-Saharan Africa is also undergoing this dietary transition. Countries in this region face changes in their food environment, fueled, among other factors, by trade agreements promoting the consumption of ultra-processed, energy-dense, and nutritionally poor foods, thus increasing the risk of obesity and chronic diseases (Black et al., 2013).

In Benin, the nutritional situation is characterized by the triple burden of malnutrition: micronutrient deficiencies, chronic malnutrition, and diet-related non-communicable diseases, primarily affecting women and children. From 2017 to 2022, the prevalence of stunted growth in children under 5 increased from 32% to 37% (INSTAD, 2022; INSAE, 2018). Anemia affects 72% of children aged 6 to 59 months (INSAE, 2018). Among women aged 15 to 49, 11% were underweight (Body Mass Index, BMI < 18.5 kg/m^2), 26% were overweight or obese (BMI ≥ 25 kg/m^2), and the prevalence of anemia was 58% according to the Demographic and Health Survey (INSAE, 2018). Emerging risk factors such as hypertension, overweight, and obesity negatively impact the population's health, as reported by STEPwise approach to surveillance survey: 23.2% of adults were obese or overweight, 12.4% had high blood sugar, and 25.9% had high blood pressure (PNLMNT, 2015).

The Beninese government is making efforts to address this situation. Since the creation of the Conseil de l'Alimentation et de la Nutrition in 2009, there has been a political commitment to prioritize nutrition. (Decree No. 2009-245 of June 9, 2009, establishing the National Food and Nutrition Council). In addition to this institutionalization, international and local NGOs as well as local authorities are involved in nutrition projects, such as the Community Nutrition Project (PNC, 2011-2015), the Multisectoral Food, Health, and Nutrition Project (PMASN, 2014-2019), and the Nutrition and Early Childhood Development Project (PNDPE, 2020-2025), carried out in partnership with municipalities.

However, despite these national initiatives, Benin continues to face various food and nutritional problems. Monitoring food environments is crucial to reducing prevalence and preventing nutritional issues, including the triple burden of malnutrition. Food environments, defined as the physical, economic, political, and sociocultural conditions influencing food choices and commercial policies, are key factors promoting unhealthy diets, which are now major risk for all forms of malnutrition (Cecchini & Sassi, 2012; Moodie et al., 2013; Thow, 2009).

Therefore, it becomes essential to analyze public policies aimed at improving the food environment in Benin in comparison with international best practices (listed by the INFORMAS network) in order to identify gaps and take corrective measures to prevent malnutrition in all its forms.

METHODOLOGY

This study aimed to analyze the content of Beninese policy documents regarding goals and actions for creating healthy food environments and preventing malnutrition in all its forms. The documents included legal texts, decrees, sectoral policies, strategic and operational plans, regulations or directives, action plans, program or project documents. It employed a documentary analysis focused on the "Policy" and "Infrastructure Support" components of the Food-EPI (Healthy Food Environment Policy Index), developed by the international research network INFORMAS (International Network for Food and Obesity/ NCDs, Research, Monitoring and Action Support). The study followed the first step of its process: the development and validation of a document reviewing all policies aimed at improving the food environment. The analysis proceeded through several sub-steps, including contextual analysis, collection of relevant documents, and extraction of evidence regarding government policies, actions, and intentions.

1. Data collection strategy

The data collection was carried out based on the first step of implementing the Healthy Food Environment Policy Index (Food-EPI), developed by the INFORMAS network.

1.1. Description of the Food-EPI Module

Food-EPI is a tool and a process focused on monitoring and evaluating public sector policies and actions aimed at creating healthy food environments (Swinburn et al., 2013). The Food-EPI tool and process were designed to address the following question: What progress has the government made in adopting best practices to improve food environments and implement policies and actions for the prevention of obesity and non-communicable diseases (NCDs) (Swinburn et al., 2013)?

The Food-EPI tool consists of two components, 13 domains, and 47 indicators of best practices (Figure 1). The "policy" component includes seven (7) domains that represent specific and fundamental characteristics of food environments. The "infrastructure support" component includes six (6) domains based on the World Health Organization's (WHO) approach to strengthening health systems and preventing obesity and chronic diseases. Due to its validity and reliability, this tool is widely used today in many industrialized countries and some low- and middle-income countries (Laar et al., 2020).

1.2. Adaptation of the Food-EPI Module

The Food-EPI tool highlights food environment actions related to the prevention of obesity and diet-related NCDs (Swinburn et al., 2013). Following the implementation of this tool in a few sub-Saharan countries, notably Ghana, Kenya and Senegal, it has been recommended to make Food-EPI indicators (n=45) sensitive to the creation of healthy food environments to combat undernutrition (e.g. micronutrient deficiencies, stunting, acute malnutrition), as they constitute a major public health problem in the sub-Saharan African region (Asiki et al., 2020; Laar et al., 2020; Manga et al., 2022.). It is in this context that a team from INFORMAS and researchers involved in research on food environments initiated in 2020 a three-step process (gathering evidence, selecting the most relevant indicators and identifying specific domains of the Food-EPI tool to integrate them) aimed at developing relevant indicators of undernourishment, to be included in the Food-EPI tool. Thus, twelve (n=12) new priority indicators were selected, relating to WHO-recommended actions on breastfeeding and complementary

feeding, marketing regulations, national policies to combat overweight, NCDs and undernutrition, health systems (growth monitoring) (World Health Organization, 2017). In addition, indicators on hygiene, water and sanitation (WASH), food retailers and traders (hygiene and sanitation) and health safety (microbial and chemical contamination) have been added.

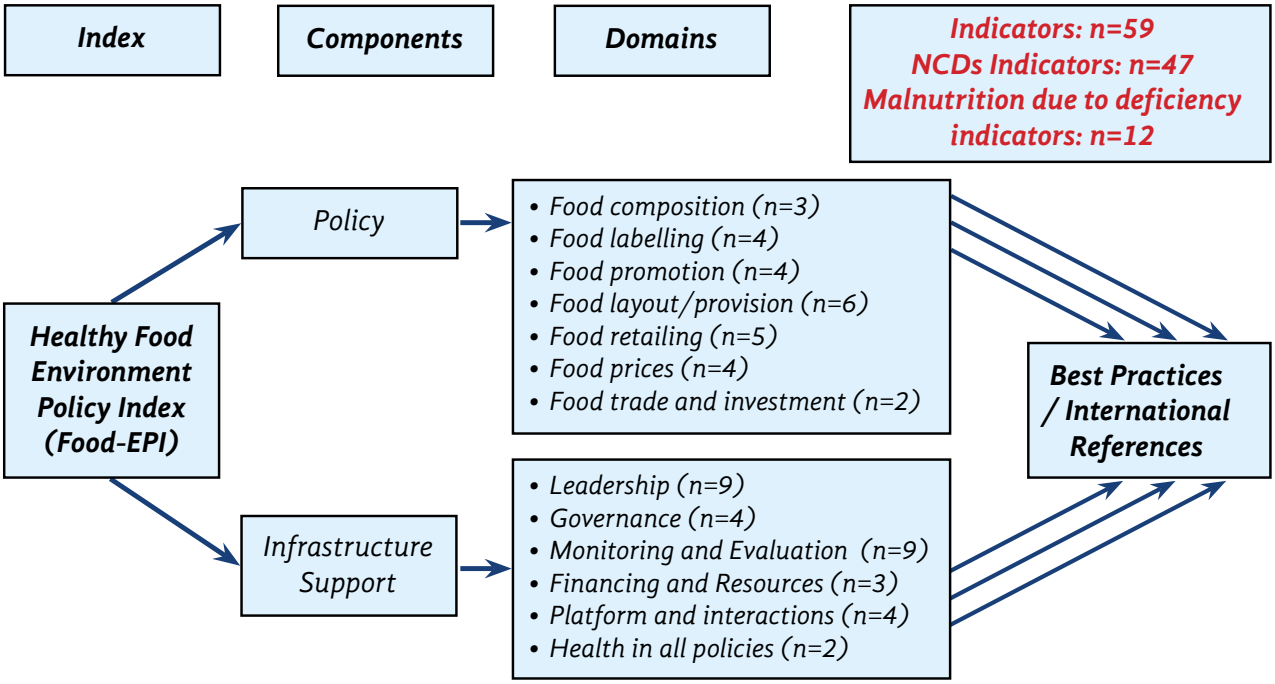

Figure 1: SEQ Figure* ARABIC 1 *Components, domains and indicators (n=59) of the Healthy Food Environment Policy Index (Food-EPI) used in Benin.*

1.3. Description of the Food-Epi implementation process

The implementation of Food-Epi follows four (04) main steps namely (Swinburn et al., 2013):

Step 1: Policy review and validation of evidence data;

Step 2: Assessment of the level of implementation of public policies;

Step 3: Process of identifying and prioritizing actions;

Step 4: Dissemination of Food-EPI results with stakeholders (Figure 2).

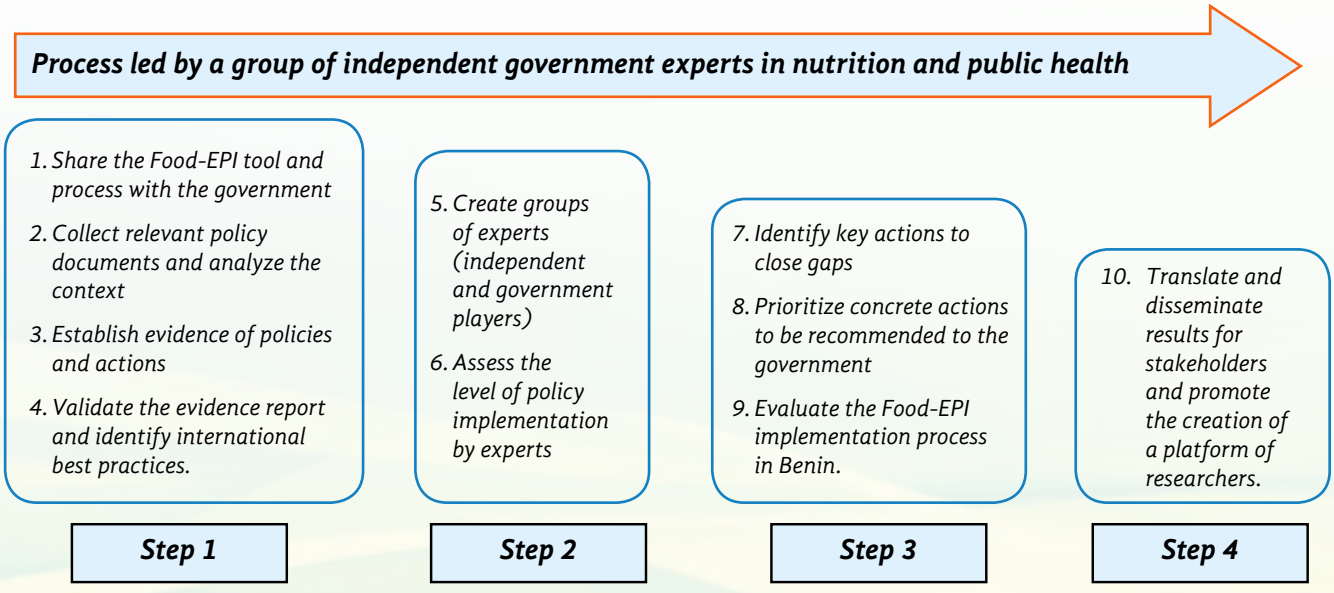

Figure 2: SEQ *Process of assessing the implementation of food environment policies and infrastructure support based on international best practice, using the Healthy Food Environment Policy Index (Food-EPI)*

This study focused on step 1 of the Food-Epi implementation. This allowed for the development of an evidence data report on the content of public policies for creating healthy food environments in Benin.

To achieve this, data collection was carried out based on various domains of the food environment identified by the INFORMAS network through the Food-EPI module. This process unfolded in three sub-steps :

- ***Sharing the Food-EPI Module with Various Stakeholders at the National Level***

The dissemination of the module at the national level, along with the mobilization and involvement of stakeholders, were essential elements for the success of data collection. To achieve this, the vision of the Food-EPI project was shared with stakeholders from the Council of Food and Nutrition (CAN), the body responsible for the development and implementation of the national policy on food and nutrition. This approach aimed to facilitate the mobilization of all stakeholders in food and nutrition for the collection of documents in various government structures. A letter of recommendation was obtained from CAN for data collection. Information letters about the project were sent to key stakeholders. Meetings were organized with various actors to present the project and gain the support of all involved parties.

- ***Collection of Relevant Data***

Initially, we gathered relevant documents (policies, plans, strategies, programs, projects, decrees, ordinances, laws, reports, etc.) from government websites, publications, and non-governmental organizations' websites. Subsequently, we engaged with representatives from government ministries or institutions to gather information on public policies, budgetary details, and government initiatives aimed at improving the country's food environment. This data collection process took place from February 2021 to January 2022. For each document, relevant information was extracted and synthesized. Additionally, documents were obtained from the databases of the World Health Organization, the Food and Agriculture Organization of the United Nations (FAO), and the United Nations International Children's Emergency Fund (UNICEF).These collected documents initially allowed for the description of pertinent contextual information, including demographic and socioeconomic data, infrastructure, available resources and capacities, political system, structure and stability, absence of corruption and press freedom, potential monitoring constraints, and the availability and accessibility of government documents and budget-related information.

- ***Criteria for Inclusion of Policy Documents***

This collection resulted in obtaining 95 documents, which were then selected based on eligibility criteria. The documents were chosen according to their objectives, which should be related to nutrition or one of the food environment domains as defined by the Food-EPI tool (Figure 1). The documents were required to be written in French (the official language of the country) and available in electronic (digital) or paper format.

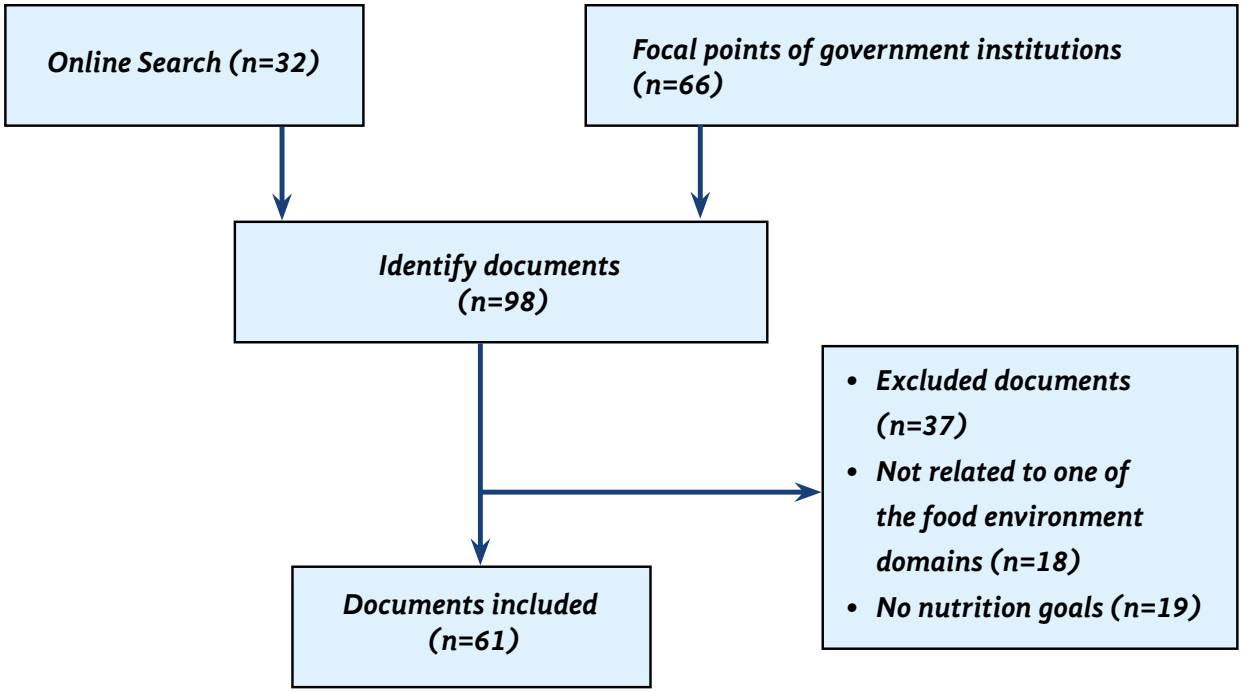

Figure 3: *Process for selecting and including policy documents and actions in the implementation of Food-EPI in Benin.*

- ***Establishment of Evidence and Validation of Evidence Report***

The documents collected based on the domains of Food-EPI were used to establish evidence regarding the "current" implementation of government actions. This evidence was meticulously documented with references and appropriate sources in relation to the various domains of the food environment. The outcome of this stage is a report of evidence data pertaining to each of the Food-EPI domains. This evidence report was validated by informed government officials during a workshop.

2. Methodology of the Workshop to Validate the Evidence Report

The workshop for validating the evidence report collected on public policies and government actions concerning food environments in the context of implementing Food-EPI in BENIN took place in person in February 2022. The workshop will be attended by representatives of the various sectoral ministries in charge of food, nutrition and health issues, who have been identified with the support of the National Food and Nutrition Council.

Two weeks prior to the workshop, participants received, along with their invitation letters, the provisional evidence report for review and amendments. At the beginning of the workshop, participants were provided with a series of introductory presentations to clarify the context, objectives, the Food-Epi implementation process, and the key points of the evidence report. Following discussions aimed at enlightening and resolving uncertainties regarding essential elements of the presentations, participants were divided into working groups to deepen their understanding of the evidence report and contribute their input.

a. Amendments to the Analysis of the Context in the Provisional Evidence Report

Participants were divided into three groups to read and amend the analysis of the context in the provisional report on public policies regarding food environments in the implementation of Food-EPI in BENIN. The substantive and stylistic amendments proposed by the three groups were presented, discussed, and validated during a plenary session. The number of groups to be formed to carry out the amendments was decided by all participants.

b. **Amendments to the Collected Evidence Data on Policies Regarding Food Environments**

The workshop participants decided to divide into four groups with the same number of members to make amendments to the evidence collected. Two groups focused on amending the "Policy" component, while the other two groups addressed the "Infrastructure Support" component. This was followed by a plenary session where the substantive and stylistic amendments proposed by the four groups were presented, discussed, and validated. At the end of the workshop, the evidence report was validated with reservations pending the incorporation of various amendments. These amendments were taken into account by the research team and returned to the participants a few weeks later.

3. Data Analysis

The collected policy documents were read and analyzed to assess government actions related to the domains of Food-EPI. Government actions were documented for each domain of Food-EPI, allowing for the compilation of the evidence report. The collected documents were categorized according to political, strategic, and operational frameworks.

RESULTS

Data collection took place in the following ministries and their affiliated agencies: Ministry of Environment and Sustainable Development; Ministry of Industry and Commerce; Ministry of Health; Ministry of Labor and Public Service; Ministry of Decentralization and Local Governance; Ministry of Justice; Ministry of Small and Medium-sized Enterprises and Employment Promotion; Ministry of Higher Education and Scientific Research; Ministry of Maternal and Primary Education; Ministry of Development and Government Action Coordination; Ministry of Agriculture, Livestock, and Fisheries; Ministry of Social Affairs and Microfinance.In total, ninety-eight documents were collected. Sixty-one (61) documents were selected and analyzed (Figure 3). These analyzed documents were categorized into political, strategic, and operational frameworks. Among these documents, 54.09% (33 out of 61) belong to the political framework, 29.50% (18 out of 61) to the strategic framework, and 16.39% (10 out of 61) to the operational framework (Figures 4, 5, 6). Tables 1, 2 and 3 list the 61 documents collected and analyzed in the various categories. Figures 5 and 6 present a list of some of the documents collected and analyzed according to Food-EPI components and fields.

The workshop for validating the evidence report on public policies and government actions for the creation of healthy food environments in Benin involved the participation of twenty (20) officials from various ministries, the National Council for Primary Healthcare, the Benin Nutrition Society, the Council of Food and Nutrition, and consumer rights advocacy organizations.

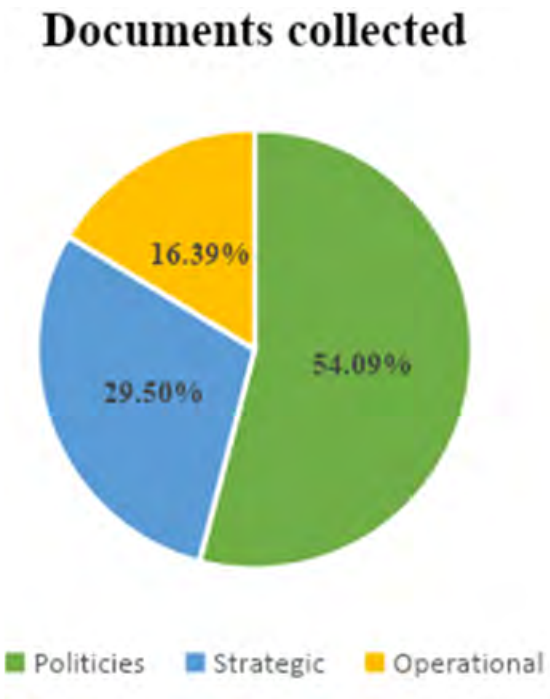

Figure 4 : *Policy documents collected and analyzed*

Table 1: Main Policy Documents Collected and Analyzed

Frameworks and Guidelines	N	Document Title	Year
Political executives	1.	Law N°2022-04 of February 16, 2022 on public hygiene in the Republic of Benin	2022
	2.	Law N° 2021-14 of December 20, 2021 on the Code of Territorial Administration in the Republic of Benin	2021
	3.	Decree No. 2019 - 432 of October 02, 2019 approving the statutes of the Agence nationale des soins de santé primaires (National agency for primary healthcare)	2019
	4.	National Development Program 2018-2025	2018
	5.	Decree No. 2017-433 of August 10, 2017 relating to the responsibilities, organization and operation of the Beninese Food Safety Agency	2017
	6.	Presidency of the Republic of Benin. Government action program 2016-2021	2016
	7.	Decree No. 2016-681 of November 07, 2016 on the institutional framework for agricultural development	2016
	8.	Law 2016-25 of November 04, 2016 on the organization of competition in the Republic of Benin.	2016
	9	Health sector nutrition policy 2016 -2025	2015
	10.	Law No. 2015-07 of March 20, 2015 on the information and communication code in the Republic of Benin	2015
	11.	Benin's holistic social protection policy	2013

	12.	Interministerial Order No. 422/MAEP/MS/MICPME/MEF/ MCAAT/MDGLAAT/DC/SGM/DANA on conditions for the production, import, marketing and use of iodized salt in the Republic of Benin.	2012
	13.	Arrêté interministériel N°0237MS/MEF/MAEP/MICPME/ DC/SGM/CTJ/DSME/SA portant modalités de fortification en fer, en zinc, en vitamines B et en acide folique de toute farine de blé destinée à la consommation humaine et animale et République du Bénin	2010
	14.	Interministerial Order No. 238 MS/MEF/MAEP/MICPME/ DC/SGM/CTJ/DSME/SA of 2012 on the modalities of Vitamin A fortification of edible oils intended for human and animal consumption in the Republic of Benin.	2009
	15.	Decree No. 2010-638 of December 31, 2010 relating to the attributions, composition and operation of the national commission of the Codex Alimentarius	2007
	16.	Decree No. 2009-245 of June 9, 2009 relating to the creation, attributions, organization and operation of the National Food and Nutrition Council	2007
	17.	Law No. 2007-21 of October 16, 2007 on consumer protection in the Republic of Benin	2006
	18.	Interministerial order year 2007 No. 0362/ MAEP/ D-CAB/ SGM/ DRH/ DP/ SA setting the maximum levels for certain contaminants in foodstuffs in the Republic of BENIN	2005
	19.	Law No. 2006-12 of August 07, 2006 regulating the production, marketing and consumption of cigarettes and other tobacco products in the Republic of Benin.	2005
	20.	Law N°2005-34 of October 20, 2005 authorizing the World Health Organization Framework Convention on Tobacco Control, adopted in Geneva, Switzerland on March 21, 2003 by the World Health Assembly and signed in New York by the Republic of Benin.	2003
	21.	Interministerial order year 2005 No. 3069/ MAEP/ D-CAB/ SGM/ DRH/ DP/ SA establishing maximum limits for organo-halogenated substances and other pesticide molecules in fishery products	2001
	22.	Interministerial decree year 2003 N° 425/ MAEP/ D-CAB/ SGM/ DA/ DP/ CSRH/ SA setting limit values for lead, mercury and cadmium in fishery products	2000
	23.	Decree N°2001-094 of February 20, 2001 setting drinking water quality standards in the Republic of Benin.	1999
	24.	Interministerial Order N° 2000/MSP/DC/SGM/DSF/SA creating the coordinating committee for Baby-Friendly Hospital activities	1998
	25.	Law no. 97-029 of January 15, 1999 on the organization of communes in the Republic of Benin	1997
	26.	Law No. 98-004 of January 27, 1998 on the Labor Code in the Republic of Benin	1990
	27.	Decree No. 97-643 of December 31, 1997 regulating the marketing of breast-milk substitutes and infant foods	1997
	28.	Constitution of the Republic of Benin	1990

	29.	Décret N°85-240 du 14 Juin 1985 portant attributions, composition et fonctionnement de la commission nationale du Codex Alimentarius	1985
	30.	Decree No. 85-242 of June 14, 1985 on the labeling and presentation of foodstuffs	1985
	31.	Decree No. 85-233 of June 10, 1985 on prior declarations and authorizations for the production and marketing of foodstuffs	1985
	32.	Decree No. 85-244 of June 14, 1985 concerning the definition of production and marketing conditions for specific foodstuffs.	1985
	33.	Decree No. 85-241 of June 14, 1985 on additives used in foodstuffs, levels of contaminants and undesirable substances in these foodstuffs, materials in contact with these foodstuffs and cleaning products for these materials.	1985

Table 2: Main Strategic Framework Documents Collected and Analyzed

Frameworks and Guidelines	N	Document Title	Year
Executives Strategic	1.	General Tax Code 2022	2022
	2.	Finance Bill, Management 2022: economic and financial report	2021
	3.	Integrated Regional Survey on Employment and the Informal Sector (ERI-ESI)	2018
	4.	National Health Development Plan	2018
	5.	Benin's "zero hunger" national strategic review to 2030	2018
	6.	Integrated strategic plan for the fight against non-communicable diseases 2019-2023	2018
	7.	Strategic Plan for the Development of the Agricultural Sector (PSDSA) 2025 and National Plan for Agricultural Investments and Food and Nutritional Security 2017 - 2021	2017
	8.	National communication strategy for social and behavioral change to promote nutrition in Benin and its operational plan 2017-2021.	2017
	9	National guidelines for monitoring child growth and development in Benin	2016
	10.	Plan to strengthen breastfeeding in Benin 2016-2020	2016
	11.	Annual progress report SUN movement	2016, 2019
	12.	National strategy for infant and young child nutrition 2015-2019	2015
	13.	National protocol for the management of acute malnutrition	2015
	14.	Food and nutrition for adolescent girls, pregnant women, breastfeeding mothers and newborns	2014
	15.	Fourth General Census of Population and Housing (RGPH-4)	2013
	16.	National Strategy for Infant and Young Child Feeding 2010 - 2014	2010
	17.	Strategic Development Plan for Food and Nutrition	2009
	18.	Benin Environmental Profile	2006

Table 3: Main Executive Documents Collected and Analyzed

Frameworks and guidelines	N	Document title	Year
Operational managers	1.	Macroeconomic indicators 2020 on the agricultural sector in Benin.	2021
	2.	Joint mid-term evaluation of the National Integrated School Feeding Program (2017-2019)	2020
	3.	Benin School Feeding Program: Cost-Benefit Analysis	2019
	4.	Evaluation of the implementation of the National Evaluation Policy (NEP) 2012-2021 and development of its action plan 2020-2021	2019
	5.	Demographic and health surveys in Benin	2001, 2006, 2011, 2017-2018
	6.	Global analysis of vulnerability, food security and nutrition	2008, 2013, 2017
	7.	Global survey on student health in Benin	2009, 2016
	8.	Final report of the WHO STEPSwise survey on risk factors for non-communicable diseases	2008, 2015
	9	Multiple Indicator Cluster Survey (MICS)	2014
	10.	Benin Food Guide	2014

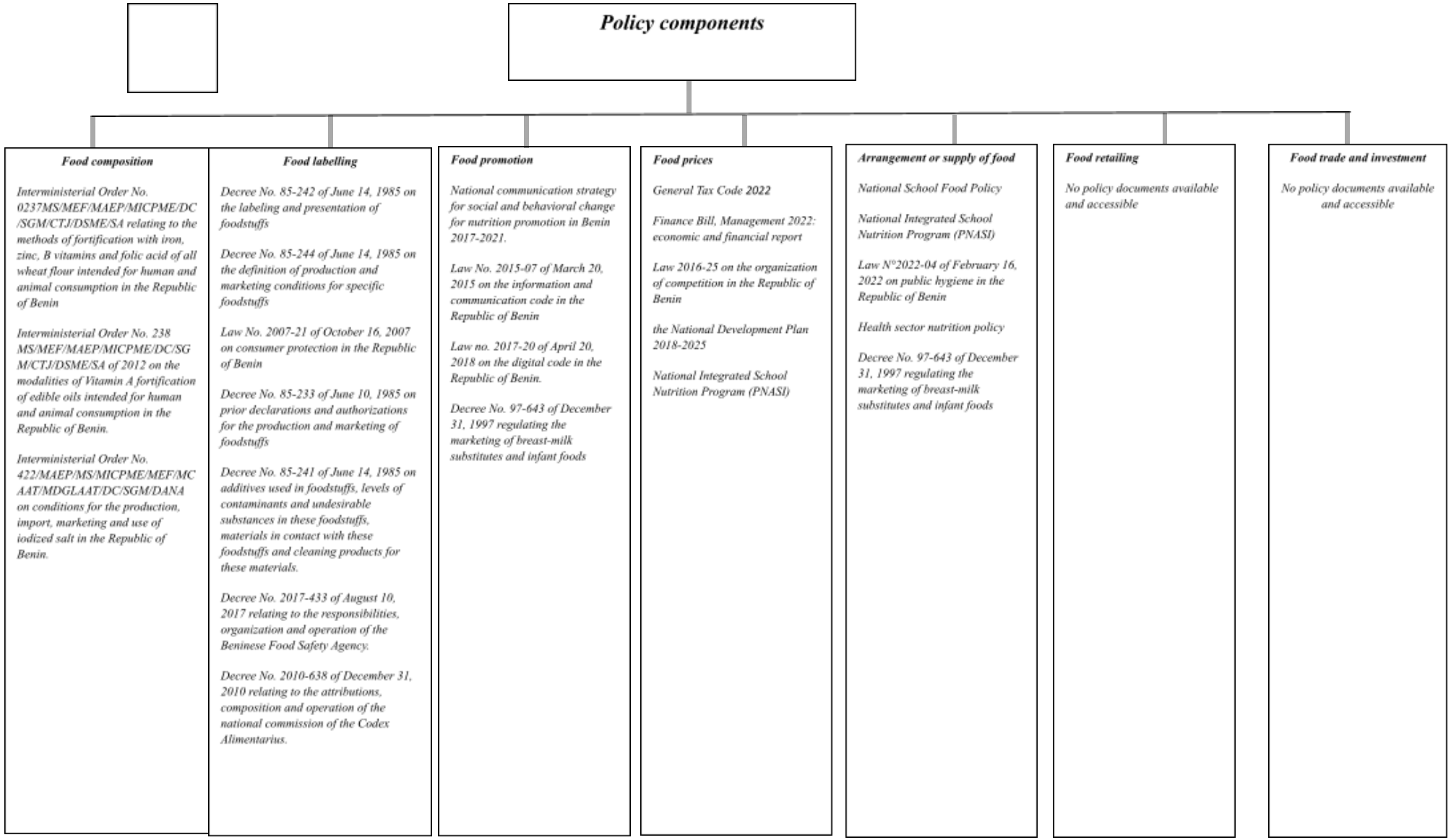

Figure 5: *Identified evidence mapped to the policy-related indicators of the Food-EPI Domains*

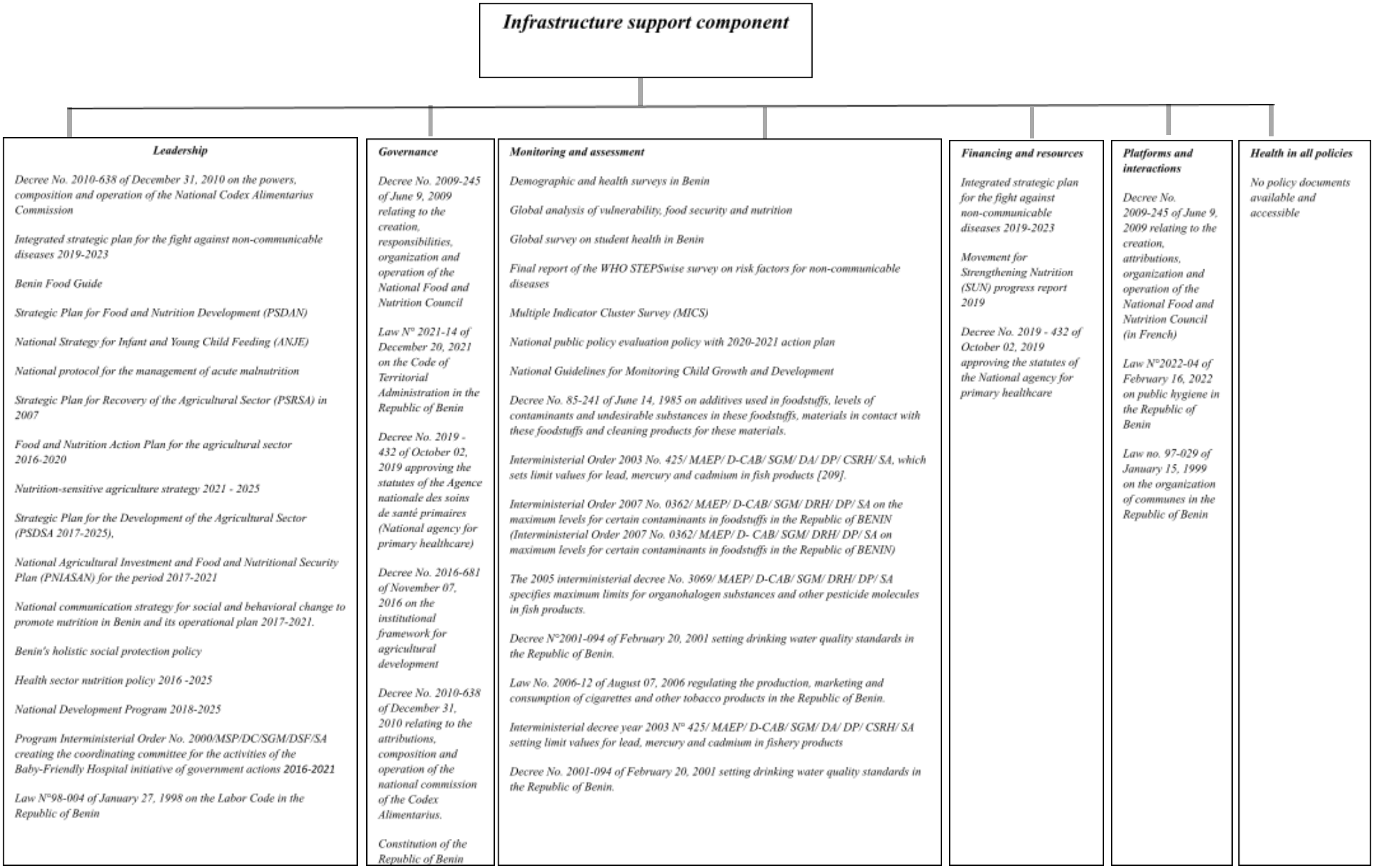

***Figure 6**: Identified evidence mapped to the infrastructure support-related indicators of the Food-EPI Domains*

Identification and Synthesis of Evidence on Public Policies for the Creation of Healthy Food Environments in Benin

The evidence data on the implementation of public policies for the creation of healthy food environments in Benin vary across domains. The results have indicated that certain environmental domains are well addressed in policy documents in Benin, although gaps exist when compared to international best practices. These well-addressed domains include leadership, platforms and interactions, monitoring and evaluation, and food provisions or supplies. Domains with fewer pieces of evidence include food composition, food labeling, food prices, governance, and financing and resources. Domains with no evidence available are retailing of food, food trade and investments, and health in all policies.

1. Domains of the "Policy" Component

1.1 Food Composition

Benin lacks objectives and standards for composition concerning nutrients of concern such as total fat, trans fat, saturated fat, added sugar, and sodium in processed foods. The country has not developed and validated a food composition table. Partial data exist on the composition of certain foods. Normative acts to regulate the nutritional content of foods and meals offered in food services outside the home (fast-food establishments, restaurants, and food vendors) regarding trans fat, saturated fat, added sugar, and sodium have not yet been drafted (Interministerial Order No. 238 MS/MEF/MAEP/MICPME/DC/SGM/CTJ/DSME/SA Benin, 2012). To prevent deficiencies in iron, zinc, vitamins B, vitamin A, and folic acid, the State of Benin has established provisions for the fortification of all wheat flour and edible oils intended for human and animal consumption (Interministerial Order N°0237MS/MEF/MAEP/MICPME/DC/SGM/CTJ/DSME/SA Benin, 2012). Furthermore, current regulations in Benin require that all salt intended for human consumption in the national territory be iodized (Interministerial Order N°422 /MAEP/MS/MICPME/MEF/ MCAAT/MDGLAAT/DC/SGM/DANA Benin, 2013).

1.2 Food Labeling

Benin has decrees and laws that regulate the principles of labeling for packaged foods (Benin Decree no. 85-233 of June 10, 1985). Labeling is a prerequisite for the issuance of marketing authorization for a food product (Benin Decree no. 85-233 of June 10, 1985). However, it is observed that not all packaged foods comply with these conditions. Additionally, there are food products without labels in the market. The country lacks effective regulatory systems (strategies and actions) to review food claims, ensuring consumers are protected against unfounded and deceptive nutritional and health claims.

The regulations on food quality control available in Benin do not address the nutritional quality of these products. Specifically, the regulations do not require packaged foods to display marks on their labels to identify healthy or more nutritious foods (Benin 2017; Benin 1985).

1.3 Food Promotion

Concerning the promotion of foods, the country also has a law on the code of information and communication (Benin, 2015). However, the regulation of advertising unhealthy foods targeted at children through broadcast media, namely TV and radio, is not well-specified in policy documents. Moreover, there is a lack of normative acts that clearly define which foods are allowed for advertising and which are not. Additionally, Law No. 2017-20 of April 20, 2018, on the digital code in the Republic of Benin does not provide guidance regarding advertising unhealthy foods targeted at children (Benin, 2018). It's worth noting that children and adolescents are increasingly engaged with digital platforms nowadays.

There is a decree regulating the marketing of breast milk substitutes and infant foods, namely Decree No. 97-643 of December 31, 1997, currently under update (Benin, 1997). This decree prohibits any advertising or other forms of promotion to the general public of breast milk substitutes and infant foods. However, the implementing regulations have not been signed, and this decree is only partially enforced. Violations are frequent and go unpunished due to a lack of enforcement follow-up.

1.4 Food Prices

The General Tax Code of 2022 provides for the exemption of Value-added tax (VAT) on unprocessed and essential food products (Ministry of Economy and Finance, 2022). Additionally, the law 2016-25 on the organization of competition in the Republic of Benin contributes to improving the competitiveness of national products to facilitate their access to the entire population (Law 2016-25 of November 4, 2016, on the organization of competition in the Republic of Benin, 2016). Specific taxes, known as excise duties, exist on edible oils and fats, taxes on tobacco and cigarettes, taxes on coffee and tea, taxes on non-alcoholic beverages (excluding non-carbonated water, imported fruit juices, energy drinks, alcoholic beverages such as beers and ciders, liqueurs and champagnes, wines (Ministry of Economy and Finance, 2022). However, no document indicates whether the funds collected through taxes are reinvested to address nutritional issues in the population.

There is no evidence suggesting that income support programs related to food are targeted towards healthy foods. Social policies, such as microcredits for disadvantaged families, lack specific guidelines related to healthy eating. Furthermore, the country has a National Integrated School Feeding Program (PNASI) funded by the government of Benin and implemented by the World Food Programme Country Office over a period of 4 years (2017-2021) (World Food Programme, 2020). However, the nutritional quality of meals served to children needs improvement.

1.5 Food Provision and Supply

The government of Benin launched the National Integrated School Feeding Program (PNASI) in 2018, implemented by the World Food Programme (WFP) using public funds. The goal is to reduce hunger among schoolchildren "by developing a multisectoral approach and favoring local purchases to improve academic performance, food diversity, and nutrition of students in schools with canteens" (World Food Programme, 2020). Apart from school canteen catering services, there are no current clear and consistent policies promoting healthy food choices through catering activities in other public sectors (military services, university catering services, etc.). It's worth noting that the government is working to improve catering services in universities, military services, hospitals, and prisons.

Regarding provisions favoring breastfeeding, women working in the formal sector are entitled to one hour of breastfeeding break per day for 15 months. These hours are not deductible from the salary in accordance with the provisions of the labor code of Benin governed by Law No. 98-004 of January 27, 1998 (Law No. 98-004 of January 27, 1998, the Labor Code in the Republic of Benin, 1998). Spaces for breastfeeding are not yet provided in public administration.

In Benin, the issue of access to clean water, hygiene, and sanitation (WASH) is more relevant than ever, both in rural and urban areas. While remarkable progress has been made in access to clean water, with coverage now reaching 77% in urban areas and 66% in rural areas, marginal improvements have been made in sanitation (Ministry of Health / DSME, 2015). Additionally, Benin adopted Law No. 2022-04 of February 16, 2022, on public hygiene in the Republic of Benin. This law applies, among other things, to water, food, housing, the natural environment, etc., with the aim of

preserving and promoting public health (Law No. 2022-04 of February 16, 2022, on public hygiene in the Republic of Benin, 2022). Moreover, the WASH strategy is increasingly present in various projects and programs combating malnutrition. For example, the health sector's nutrition policy proposes the promotion of water, sanitation, and hygiene (WASH) as one of the strategies to combat malnutrition (Ministry of Health / DSME, 2015).

1.6 Retail Sale of Foods

The proliferation of fast-food restaurants or other retail points mainly selling unhealthy foods in communities demonstrates the lack of clear zoning policies regulating their establishment.

1.7 Food Trade and Investments

Benin's dependence on global markets could reduce the country's regulatory capacity and expose the population to significant vulnerability. Available and accessible policy documents do not include any assessment of the impact of trade agreements on food environments, nutrition, and public health.

There is no evidence that investment contracts take into account measures related to nutrition and public health. Additionally, by gradually liberalizing the entry of European Union products into the Beninese market through the Economic Partnership Agreement, the government may struggle to enact regulations related to nutrition and public health. These regulations could pose a challenge to the principle of free trade, potentially compromising public health by making unhealthy products more affordable.

2. Domains of the "Support to Infrastructure" Component

2.1 Leadership

Several actions demonstrate the efforts of government stakeholders to improve the food environment, population nutrition, non-communicable diseases (NCDs) related to diet, and their inequalities.

Since 2007, various reforms in the field of food and nutrition have been initiated. This led to the establishment of the Council of Food and Nutrition (with a Permanent Secretariat), placed under the high patronage of the Head of State, bringing together representatives from all Ministries directly or indirectly concerned with nutrition issues, as well as representatives from civil society, the private sector, research, and academia (Decree No. 2009-245 of June 9, 2009, establishing the National Council of Food and Nutrition, 2009). In 2009, Benin adopted the Strategic Plan for the Development of Food and Nutrition (PSDAN) (Council of Food and Nutrition, 2009). Based on the orientations of the PSDAN, various ministerial sectors have developed policies or programs to support the achievement of PSDAN objectives. The process of developing the first national nutrition policy in Benin began in 2019.

The Benin Food Safety Agency (ABSSA) has been established with the objective of ensuring the safety of plant, animal, and fishery products at all links in the food chain, in accordance with international requirements for food safety, protection of animal health, and preservation of plants. The National Food Safety Policy is under development. However, available and accessible food policy documents do not show consideration for the main characteristics of the food environment.

Government guidelines for addressing non-communicable diseases (NCDs) are outlined in the Integrated Strategic Plan for Combating Non-Communicable Diseases 2019-2023 (National Program for Combating Non-Communicable Diseases, 2018). It should be noted that Benin has taken measures to regulate tobacco consumption (Law No. 2005-34 of October 20, 2005, authorizing the World Health Organization Framework Convention on Tobacco Control, adopted in Geneva, Switzerland, on March 21, 2003, by the

World Health Assembly and signed in New York by the Republic of Benin, 2005; Law No. 2006-12 of August 7, 2006, regulating the production, marketing, and consumption of cigarettes and other tobacco products in the Republic of Benin, 2006).

The country has a dietary guide that specifies food groups, presents portions of each food group to be consumed per day based on age groups, provides general advice for preventing chronic nutrition-related diseases, and offers examples of daily menus for adults (Council of Food and Nutrition, 2014). However, this dietary guide is not widely disseminated and is more than five years old.

Government priorities are in place to reduce inequalities or protect vulnerable populations regarding diet, nutrition, obesity, and NCDs (Programme National de Lutte contre les Maladies Non Transmissibles, 2008).

Benin relies on the World Health Organization's recommendations regarding the period for exclusive breastfeeding and complementary feeding. The objective of the breastfeeding reinforcement plan 2016-2020 is to increase the rate of exclusive breastfeeding from 41.4% to 60% up to six months and to increase continuous breastfeeding from 45.5% to 70% up to 24 months in addition to introducing complementary feeding (Ministry of Health of Benin, 2016).

There is a government commitment to combat all forms of malnutrition throughout the life cycle. In terms of combating undernutrition (wasting, stunting, low weight, micronutrient deficiencies), various nutrition and food security policies, programs, and interventions have been developed (Benin Decree No. 2009-245 of June 09, 2009).

2.2 Governance

The Ministry of Health of Benin has a data collection system called DHIS2, which allows users to inquire about morbidity and mortality in the country. This system includes nutrition data (management of acute malnutrition, early breastfeeding, exclusive breastfeeding, nutritional advice, etc.). Benin conducts surveys on nutritional and health status, and the results are disseminated. However, access to budgetary documents is not easy. There are no robust mechanisms in place by the State of Benin to restrict commercial influences on the development of policies related to food environments. Indeed, regulatory provisions (integrity and conduct standards) that should enable state actors to sign a declaration of conflicts of interest, indicating whether they have real or potential financial, professional, or personal conflicts of interest, are not specified in policy documents.

There are no clear government policies on transparency in the context of any food policy development process. Additionally, there are no mechanisms put in place by the state (such as a government website) to gather the opinions of the broader informed community during the development of certain national food policies. However, civil society is represented in the Council of Food and Nutrition and provides input during the development of national food policies (Decree No. 2009-245 of June 9, 2009, establishing the National Council of Food and Nutrition, 2009).

2.3 Monitoring and Evaluation

There is an absence of a database on food composition. Sodium levels, trans fats in foods, sugar levels, and fat levels in consumed foods are not assessed due to the lack of organized surveys for this purpose. There is also a lack of regulations governing food promotion, especially food advertising targeting children.

For regular monitoring of the nutritional status of children and adults, demographic and health surveys are conducted every five years to track the nutritional status of children aged 0-59 months, women aged 15-49 years, and men aged 18-69 years (National Institute of Statistics and Economic Analysis (INSAE), 2001, 2006, 2012, 2018). SMART and MICS surveys are conducted to monitor the nutritional status of children aged

0-59 months (National Institute of Statistics and Economic Analysis (INSAE), 2014).

Regarding the regular monitoring of the population's food intake/specified intakes or recommended daily intake levels, the Comprehensive Vulnerability, Food Security, and Nutrition Analysis (AGVSAN) help determine the household food security level and monitor the nutritional status of children aged 0-59 months and women aged 15-49 years (World Food Programme, Vulnerability Analysis and Mapping Service (VAM), 2008, 2013, 2017). There is an absence of national food surveys on the dietary intake of the population.

The demographic and health surveys conducted every five years track the evolution of the nutritional status of children aged 0-59 months, women aged 15-49 years, and men aged 18-69 years (National Institute of Statistics and Economic Analysis (INSAE), 2001, 2006, 2012, 2018). These surveys assess the prevalence of overweight and obesity. The WHO STEPSwise approach for the surveillance of non-communicable disease risk factors monitors the evolution of overweight and obesity in adults using anthropometric measurements (National Program for the Fight against Non-Communicable Diseases, 2008, 2015). Benin has conducted two comprehensive national STEPS surveys in 2008 and 2015, and a new STEPS survey is currently underway. The Global School-based Student Health Survey (GSHS), conducted periodically, helps monitor the nutritional status of students (11 to 19 years) (Ministry of Health / National Directorate of Public Health / National Program for the Fight against Non-Communicable Diseases, 2009, 2016).

Data on breastfeeding and complementary feeding are reported nationally through Demographic and Health Surveys, MICS surveys, and the DHIS2 platform (National Institute of Statistics and Economic Analysis (INSAE), 2012, 2018; National Program for the Fight against Non-Communicable Diseases, 2015).

2.4 Financing and Resources

The financing of food and nutrition programs in Benin is ensured by two sources: public funds and private funds. Public funds consist of resources from the national budget and external resources set up with the support of technical and financial partners. Private funds involve investments made directly by, or through non-state actors such as non-governmental organizations and the private sector. However, the available and accessible documents do not provide exact amounts of funding for food and nutrition programs to reduce obesity and NCDs. Nevertheless, according to the 2019 Progress Report from the Scaling Up Nutrition (SUN) Movement, total budgetary allocations for nutrition in Benin showed an upward trend between 2013 and 2018, amounting to XOF 584.74 billion (approximately USD 321.61 million) for the period 2013-2018, with an average annual allocation of around XOF 97.46 billion (approximately USD 53.60 million). Over the period 2016-2018, per capita nutrition allocations varied from XOF 88 in 2016 (approximately USD 0.16) to XOF 192.5 in 2018 (approximately USD 0.35), with XOF 170.5 in 2017 (approximately USD 0.31). This confirms the low nutrition expenditure in Benin (Scaling up nutrition, 2019a, 2019b). As for the share of the state budget allocated to nutrition, it experienced a downward trend from 1.55% to 1.20% in 2016 over the period 2013 to 2016 (Scaling up nutrition, 2019a, 2019b). The concept of healthy food environments is a new concept that current policies have not yet taken into account. To date, estimating funding for the promotion of healthy eating and healthy food environments is challenging.

2.5 Platforms for Interaction

At the national level, the National Council for Food and Nutrition is the inter-ministerial coordinating body in the food and nutrition sector in Benin (Decree No. 2009-245 of June 9, 2009, establishing, attributing, organizing, and functioning of the National Council for Food and Nutrition, 2009). At the local level and in each commune, the institutional framework for the implementation of nutrition programs is provided by the Communal Consultation Framework (CCC), created by municipal decree and chaired by the mayor of the commune.

Overall, there are formal, dynamic, and functional platforms between the government and civil society that integrate a participatory and inclusive approach in all processes of developing food policies and other strategies to improve the nutrition of populations. Several civil society organizations play a crucial role in the evolution of the country's nutritional situation through program implementation, advocacy, monitoring, alerting, and evidence production to support food policies. They exert pressure to influence food policies regarding imports, exports, and food price regulation.

2.6 Health in All Policies

Evaluations to ensure that all government policies related to food are sensitive to nutrition, public health, and the reduction of health inequalities in vulnerable populations are not conducted. The same applies to non-food government policies.

DISCUSSION

Food Composition: In the field of food composition, there is a limited number of evidence for the implementation of government actions. The country needs to make efforts to establish composition standards for concerning nutrients, namely total fat, trans fat, saturated fat, added sugar, and sodium in processed foods. To achieve this, it is important to compile existing partial data on food composition. Knowledge of the composition of local Beninese foods is a prerequisite that will enable the government to take normative actions to regulate the nutritional content of foods and meals offered in food services regarding trans fat, saturated fat, added sugar, and sodium. In Argentina and South Africa, recent laws on maximum sodium content in different food categories have been approved, implemented, and made available on the health ministry's website santé (Allemandi et al., 2015; Hofman & Tollman, 2013) . However, the state could already take measures for certain foods, especially imported foods whose nutritional composition is known. For example, in Denmark since 2003, a law prohibits the sale of products containing trans fats (Astrup, 2006; World Cancer Research Fund International , 2022). In Europe and the UK, sugar is no longer allowed to be added to fruit juices (Ministry of Health New Zealand. 2022; Gov UK, 2022). Food fortification programs are essential to improve the nutritional quality of foods for the population and reduce/ prevent nutrient deficiencies.

Food Labeling: In the field of food labeling, the available texts do not yet take into account the nutritional quality of products. It is also observed that not all packaged food products meet the conditions set by the available texts, and there are food products without labels on the market. In many countries, including New Zealand, producers and retailers are required by law to provide a complete list of nutritional elements for prepackaged food products, even in the absence of nutritional or health claims (World Cancer Research Fund International, 2022). Claims on food are not controlled due to the absence of regulatory systems allowing the examination of these claims. In Indonesia, there is a regulation on the control of claims regarding the labeling and advertising of processed foods. Generally, any nutritional or health claim can only be used

on processed foods or beverages if they do not exceed a certain level of total fat, saturated fat, and sodium. The establishment of a complementary system of unique, consistent, interpretative, and evidence-based nutritional information, allowing consumers to quickly assess the healthiness of a product, is an asset for choosing healthy foods and will contribute to improving the food environment for populations. In 2014, in Australia and New Zealand, the government approved a voluntary system called "Health Stars"; a simple and quick way to choose healthier packaged foods (Health Star Ratings System, 2022).

Food Promotion: Very few pieces of evidence were available to inform indicators in the field of food promotion. In Benin, the regulation of advertising unhealthy foods aimed at children through broadcast media, namely TV and radio, and non-broadcast media is not well-specified in policy documents. Moreover, normative acts that clearly define which foods are allowed for advertising and which are not are lacking. In Uruguay, the government enacted a law in 2013, published in 2014 by the Ministry of Health, prohibiting advertising in all its forms and the marketing of foods and beverages that do not comply with national dietary recommendations in schools. The Spanish Parliament approved a law in 2011 on nutrition and food safety, stating that kindergartens and schools must be free from any advertising (World Cancer Research Fund International, 2022). Benin, like most countries, implements policies to restrict the advertising and marketing of breast milk substitutes (BMS). In an assessment of the national implementation of the provisions of the International Code of Marketing of Breast Milk Substitutes conducted by the World Health Organization (WHO), the United Nations Children's Fund (UNICEF), and the International Baby Food Action Network (IBFAN) in 2020, Armenia, Malta, Palau, and Lebanon scored over 90% (Uganda and Tanzania scored 83 and 78%, respectively) (WHO, 2022).

Food Prices: The Government's intention, by exempting unprocessed and essential food products from VAT, is to encourage local consumption by improving the competitiveness of national products to facilitate their access to the entire population. The primary intention is not to encourage healthy food choices, but this is a commendable initiative that would allow consumers to prefer local foods, which are generally of better nutritional quality. In Australia, there is an exemption from the Goods and Services Tax (GST) for staple foods (including fresh fruits and vegetables). To promote the consumption of fruits and vegetables, Fiji has abolished excise duty on imported fruits, vegetables, and legumes. It has also reduced the import tax from 32% to 5% for most varieties (exception: 32% remains on tomatoes, cucumbers, potatoes, squash, pumpkins, and 15% on coconuts, pineapples, guavas, mangosteens) for garlic and onions (World Cancer Research Fund International,2022). In Benin, no document specifies whether funds collected through specific taxes called excise duties on certain unhealthy foods are reinvested to prevent nutritional problems in the population. In Hungary, for example, a "public health tax" at variable rates adopted in 2012 is applied to foods with high salt, sugar, and caffeine content in various categories of ready-to-eat foods, including non-alcoholic (sweetened and unsweetened) beverages, energy drinks, and pre-packaged pre-alcoholic beverages, and sweet products (Bíró, 2022; World Cancer Research Fund International,2022).

Food Provision: In terms of food service policies, the government of Benin adopted the National School Feeding Policy in 2014. From this policy stems the Integrated National School Feeding Program (PNASI) led by the World Food Programme (WFP). The meals served in PNASI school canteens are not linked to dietary recommendations. The nutritional quality of the meals served there needs improvement. In Brazil,

the national school feeding program emphasizes the availability of fresh, traditional, and minimally processed foods. It mandates a minimum weekly requirement for fruits and vegetables, regulates sodium content, and limits the availability of sweets in school meals. A law on food purchases in schools, approved in 2001, limits the amount of processed foods purchased by schools to 30% and prohibits the purchase of low-nutrient beverages, such as sugary drinks. The law requires schools to buy locally grown or manufactured products, supporting small farmers and stimulating the local economy. Article 17 of this law prohibits low-nutrient drinks, canned meats, sweets, and processed foods with specified levels of sodium and saturated fat. Despite support and training initiatives implemented in school canteens, there are no clear and current policy documents promoting healthy food services in other public sectors (military services, university catering services, etc.). However, universities, military services, and hospitals have catering services, but the nutritional quality of the meals served needs improvement. Hospital catering services are not managed by competent nutrition resources, and proper nutritional monitoring of hospitalized patients is not conducted by qualified nutrition professionals, although efforts are underway to recruit nutritionists-dietitians in hospitals. It should be noted that the government is working to improve catering services in universities, military services, and hospitals. In Latvia, the government has set the salt content of all foods served in hospitals and long-term social care institutions. Levels cannot exceed 1.25 g of salt / 100 g; fish products can contain up to 1.5 g of salt / 100 g (World Cancer Research Fund International,2022). Despite advances in providing time for breastfeeding in the workplace and in public places and spaces, there is a lack of framework and sanctions for non-compliance by employers with the texts and laws governing maternity leave and breastfeeding schedules. There is also a low level of employer awareness of the regulatory frameworks governing breastfeeding practices in the workplace. In 2017, the Parliament of Kenya enacted a health law requiring all employers to establish breastfeeding stations with the necessary equipment and facilities; to take strict measures to prevent any promotion, marketing, or direct or indirect sale of infant formula and/or breast milk substitutes in breastfeeding stations; and to grant all breastfeeding employees paid breaks, in addition to normal meal, breastfeeding, or breast milk expression time, up to one hour for each eight-hour work period (UNICEF, 2022).

Retail Food Sales: In Benin, there are no genuine policies and programs to support the availability of healthy foods and limit the availability of unhealthy foods in communities (density and locations of sales points) and in stores (product placement). Several efforts can be made in this regard. For example, in South Korea, the Special Act on the Management of Child Food Safety created “green zones” around schools, prohibiting the sale within 200 meters of schools of foods deemed unhealthy. In 2016, green feeding zones existed in over 10,000 schools. Since January 2017, France has prohibited unlimited free or fixed-price offers of sugary drinks in public restaurants and other establishments hosting or receiving children under 18 (World Cancer Research Fund International, 2022.).

Food Trade and Investments: Existing texts do not ensure that trade and investment agreements protect the government’s ability to make decisions favoring healthy food environments. Policy documents available do not include any assessment of the impact of trade agreements on food environments, nutrition, and population health. Many countries have sanitary and phytosanitary (SPS) clauses included in World Trade Organization (WTO) agreements. However, these generally do not apply to public health nutrition. Ghana has set standards to limit

the fat content in beef, pork, lamb, and poultry in response to increased imports of poor-quality meat following trade liberalization (Thow et al., 2014).

Leadership: This domain is one where evidence was abundant. There is political leadership that ensures the vision, planning, communication, implementation, and evaluation of policies and actions contribute to improving the nutrition of the population. Efforts remain to be made, particularly regarding the issue of the increase in non-communicable diseases related to dietary patterns in Benin. Clear objectives for food intake for the population need to be established by the government for concerning nutrients to meet the recommended dietary intake levels by the WHO and national levels. This requires a national food consumption survey. Such a survey in South Africa allowed them to include in their plan for the prevention and control of non-communicable diseases an objective to reduce the average salt consumption in the population to less than 5 grams per person per day by 2020 (Ministry of Health South Africa, 2013). In the United Kingdom, in July 2015, the government adopted a recommendation that sugar should not represent more than 5% of the daily caloric intake (30 g or 7 sugar cubes per day) (Public Health England, 2015). The availability of a food guide in Benin is a positive development. However, it still needs to be revised and better disseminated to the entire population. It would be increasingly important for policy documents to take into account the main characteristics of the food environment. For example, the European Food and Nutrition Action Plan 2015-2020 defines clear strategic objectives, guiding principles, goals, priorities, and tools. The plan aligns with the WHO global action plan and, under "Objective 1 - Create environments for healthy food and beverage consumption," clear policy and program actions have been defined (WHO/Europe, 2014). The implementation of Benin's National Infant and Young Child Feeding (IYCF) Strategy is a positive step that needs support and improvement. Effective interventions will need to be implemented to achieve the goal of the 2016-2020 breastfeeding strengthening plan to increase the rate of exclusive breastfeeding from 41.4% to 60% up to six months and to increase continuous breastfeeding from 45.5% to 70% up to 24 months, in addition to introducing complementary feeding (Ministry of Health of Benin, 2016). Despite everything, there is government commitment to combating all forms of malnutrition throughout the life cycle.

Governance: The Beninese state has not yet established a system to reduce commercial influences on the development of policies related to food environments where they have conflicts of interest with improving the nutrition of populations. For example, in Australia, the values and code of conduct of the Australian Public Service Commission include several relevant sections, such as conflict of interest, collaboration with the private sector and other stakeholders, and a code of ethics on lobbying (The Treasury, 2022). Valuing studies conducted in the field of food and nutrition by the country's research institutions is a major challenge. This data must be taken into account in the definition/development of food policies. Civil society and consumers should also be involved in the process of defining/developing food policies. In Australia and New Zealand, the process of developing (public and online consultation) Australian food standards is open to all community members, including consumers, public health professionals, and representatives from industry and government. All documents related to the processes, including stakeholder submissions and outcomes, are published (Food Standards Australia New Zealand, 2013). The government must ensure access to comprehensive nutritional information and key documents (e.g., budget documents, annual performance reviews, and health indicators) for the public. Access to budget documents is challenging in Benin. In

New Zealand, the 1982 Official Information Act made it easy to obtain information on budgets dedicated to promoting the nutrition of the population by the Ministry of Health, the Ministry of Primary Industries, the Health Promotion Agency, Health Boards, and Health Offices (Open Data Barometer, 2022.).

Monitoring and evaluation: At this level, the crucial observation is that the country makes significant efforts to monitor, through national surveys, the nutritional status of adults and children, as well as the prevalence of risk factors for major non-communicable diseases related to dietary patterns. However, there is an absence of a surveillance system for food environments in Benin. Comprehensive national studies should be conducted to assess the food environment in schools, universities, public hospitals, and military services. The New Zealand Ministry of Health conducted a national survey on the food and nutritional environment in all schools (early childhood, elementary, and secondary) in 2007 and 2009 to measure food environments in schools (Open Data Barometer, 2022). A database on food composition and regulations that govern the promotion of foods, especially food advertising targeting children, are essential. Many countries have databases on food composition. The culture of systematically evaluating any health or nutrition program must be developed. For example, between 2001 and 2017-2018, the percentage of last-born children under 6 months exclusively breastfed increased from 38% to 42%, almost the same level as in 2006. However, contrary to recommendations, it is observed that 28% of children under 6 months receive only water in addition to breast milk, and 12% receive complementary foods. Furthermore, 15% of children aged 0-23 months are bottle-fed (INSAE, 2001, 2018). Given the results, questions arise about the effectiveness of public policies regarding exclusive breastfeeding in Benin. Progress towards reducing health inequalities in Benin through the Health Insurance Project is encouraging.

Financing and Resources: The share of the state budget allocated to nutrition from 2013 to 2016 experienced a downward trend, decreasing from 1.55% to 1.20% in 2016. This share averaged less than 1.39% over the period. Its maximum level of 1.59% reached in 2014 remains below the 3% target of the state budget that should be allocated to nutrition to meet the commitments of the 2015 Federation of African Nutrition Societies (FANUS) declaration (Scaling up nutrition, 2019a, 2019b). To date, it is challenging to estimate the financing of promoting healthy eating and healthy food environments in Benin. This justifies the lack of many evidence documents to inform indicators in this domain. But the observation is that the fight against diet-related non-communicable diseases is poorly funded. The same applies to funding for research in the fields of health, food, and nutrition. Funding for food and nutrition programs in Benin focuses on food security and the management of malnutrition.

Platforms for Interaction: At the national and local levels, there are coordination platforms between departments or ministries, government levels, and other sectors (NGOs, private sector, and academia) so that food and nutrition policies and actions are consistent, effective, and efficient in improving the nutrition of the population. Efforts remain to be made in terms of food environments and diet-related NCDs and their related inequalities. Some countries are taking initiatives in this direction. In accordance with the 2016 law on the promotion of a healthy lifestyle and the management of NCDs, Malta set up an inter-ministerial advisory council on healthy lifestyles in August 2016 to advise the Minister of Health on any issues related to healthy lifestyles. In particular, the Advisory Council provides advice on a lifelong approach to physical activity and nutrition, as well as policies, action plans, and regulations to reduce NCD

cases. The Prime Minister appoints the chairman and secretary of the advisory council, while the ministers of education, health, finance, social policy, sports, local government, and interior each appoint a member (World Cancer Research Fund International, 2022.). Joint private-public initiatives funded by the health ministry and related to nutrition have led to agreements between the New Zealand government and beverage industry leaders: this voluntary agreement on beverages in schools led to the withdrawal of direct supply of sugary drinks and energy drinks in all New Zealand schools, representing about 52.8 kg of sugar from the diet between 2009 and 2014 (Cure Kids, 2022.). Benin adopted Law No. 2022-04 of February 16, 2022, on public hygiene in the Republic of Benin. It aims to preserve and promote the health of the population. Local communities play an important role in implementing this law. They initiate actions, enact and enforce the provisions of this law.

Health in All Policies: Mechanisms are not in place in Benin to ensure that all government policies, related to food or not, are sensitive to nutrition, public health, and the reduction of health inequalities in vulnerable populations. Slovenia conducted a health impact assessment related to agricultural policy at the national level. It was the first time the effects of an agricultural policy on health were evaluated at the country level (UNICEF, 2015).

CONCLUSION

The results of this study highlight the diversity of approaches and gaps in the implementation of public policies aimed at creating healthy food environments in Benin. While some domains such as leadership, interaction platforms, monitoring and evaluation, as well as food provision or supply, show efforts and progress, other domains such as food composition, labeling, price, governance and investment remain insufficiently addressed. These results also underline the urgent need to strengthen existing policies and develop new ones to fill the gaps identified, particularly in terms of regulating food composition, ensuring adequate labelling, promoting healthy foods, ensuring transparent governance, and integrating nutrition into all relevant policies.Collaboration between political decision-makers, civil society and international partners is crucial to progress towards this goal and improve the health and food security of all Beninese..

Ethical Considerations

The research protocol was submitted to and approved by the Local Committee on Biomedical Research Ethics of the University of Parakou in Benin (Reference: 0432/CLERB-UP/P/SP/R/SA). Informed consent was obtained from all participants.

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Limits of the Study

This study only examined official national policies, not policies developed at the local (departmental and communal) levels. Benin has a decentralized governance system through local authorities. Some local authorities may have developed and implemented policies at the municipal level that were not considered in this study. However, in the Beninese context, the role of policy development is reserved for the central government, with local authorities responsible for implementation. This study did not aim to identify how and why policies were or were not successfully implemented as planned. It is only the first step in the implementation of the Food-EPI module in Benin.

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