



**Global Panel**  
on Agriculture  
and Food Systems  
for Nutrition

# Policy actions to support enhanced consumer behaviour for high-quality diets

This brief provides evidence-based recommendations directed at both public and private sector actors in the food system to enhance consumer behaviour for improved nutrition

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## ABOUT THE GLOBAL PANEL ON AGRICULTURE AND FOOD SYSTEMS FOR NUTRITION

**The Global Panel is an independent group of influential experts with a commitment to tackling global challenges in food and nutrition security. It works to ensure that agriculture and food systems support access to nutritious foods at every stage of life.**



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# Executive Summary

Malnutrition, in all its forms, remains a global challenge. Nearly 800 million people have insufficient food for a healthy life and more than 2 billion suffer a lack of key vitamins and minerals. At the same time, 1.4 billion people are now overweight or obese.

A lack of consumption of sufficiently diverse, nutritious foods remains a key contributor to poor nutrition. For many consumers in low- and middle-income countries, nutritious foods such as fruits, vegetables, dairy and fish are unavailable or unaffordable. Consumers around the world face the problem of food choices constrained by supply, access, price, information, diversity, safety and quality. Food-related consumer behaviour and decisions are very complex and are influenced by a multitude of other factors. These include, for example, food habits, societal norms, market conditions and the information environment. Consequently, too many consumers make food choices that are inconsistent with their own good nutrition, health and wellbeing.

Governments have a responsibility to enable and to encourage consumers to make more nutritious choices, which lead to high-quality diets, reduce healthcare costs and improve productivity. The main challenge is to implement measures

that educate, encourage and enable consumers to improve their dietary choices. Consumer behaviour can play a positive role in helping to influence the food environment, while consumer choice can either hinder or facilitate supply-side efforts to improve consumption.

This brief focuses on the demand-side policies that influence behaviour change, particularly consumer education. It shows what governments can do to enable the transition to healthier, high-quality diets in a wide range of settings. A number of evidence-based recommendations are put forward for both public and private sector actors in food systems to enhance consumer behaviour for high-quality diets.

“ Today’s food systems are not helping consumers to make good food choices consistent with optimal nutrition outcomes. ”

**Tom Arnold, Former Director General, Institute of International and European Affairs (IIEA)**



# Introduction

Poor nutrition is a global problem, with 1.9 billion adults around the world overweight or obese, 2 billion people suffering deficiencies of key vitamins or minerals, and nearly 800 million not getting the food they need to live a healthy life.<sup>1</sup>

While poor nutrition has many underlying factors, insufficient consumption of diverse, nutrient-dense foods remains a key contributor. For large numbers of consumers in low- and middle-income countries, this problem relates to both an insufficient supply of nutritious foods such as fruits, vegetables, dairy and fish; and high prices that make them unaffordable for those below the poverty line.

Today's food systems are not helping consumers to make food choices consistent with optimal nutrition outcomes.<sup>2</sup> Achieving improved nutrition for all requires attention not only to the supply-side availability of more nutritious foods at affordable prices, but also to the role of consumer choice, particularly in relation to the many influences at play which shape the food environment.

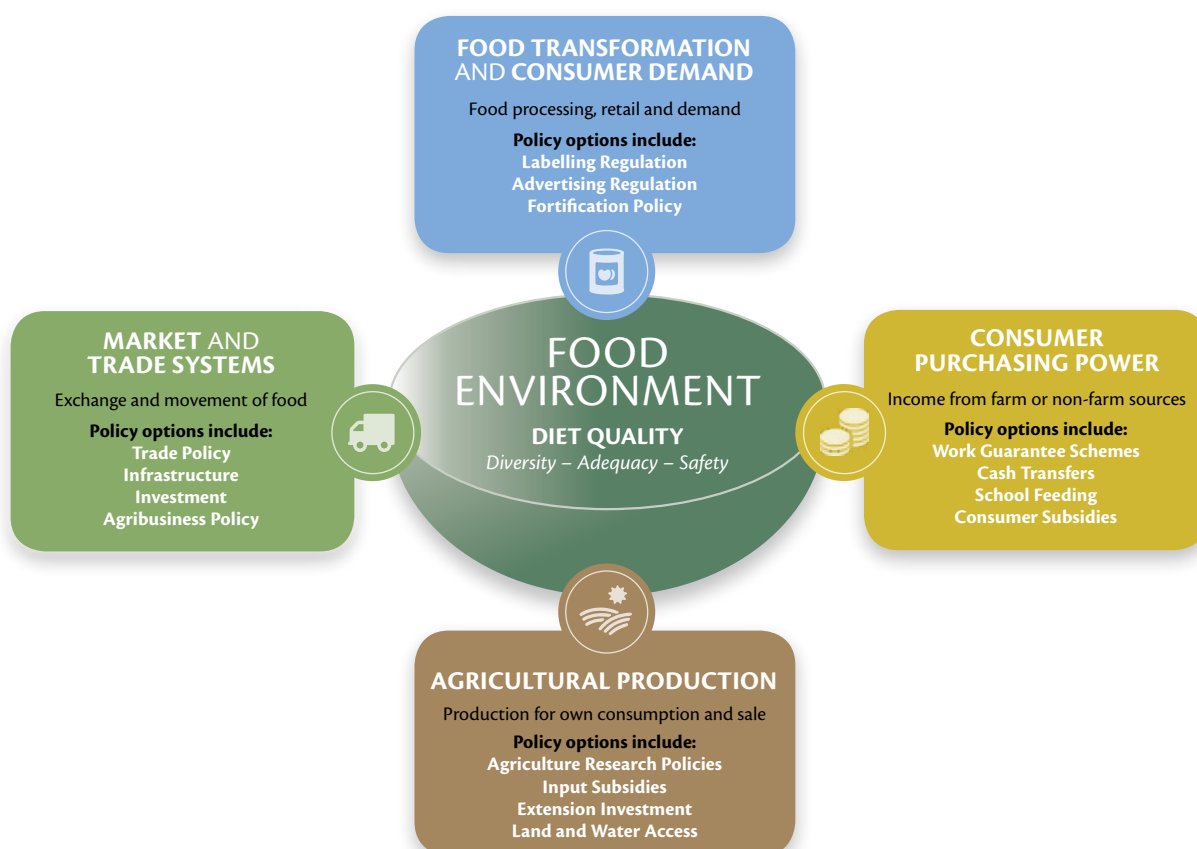
Figure 1 shows how the food environment is influenced by actions and policies across the entire food system. These

collectively determine the availability, accessibility, affordability, and desirability of foods to consumers. This conceptual framework highlights the overarching policy message of the Global Panel, which is that high-quality diets can only be achieved by implementing coordinated, nutrition-enhancing policies across the whole food system.

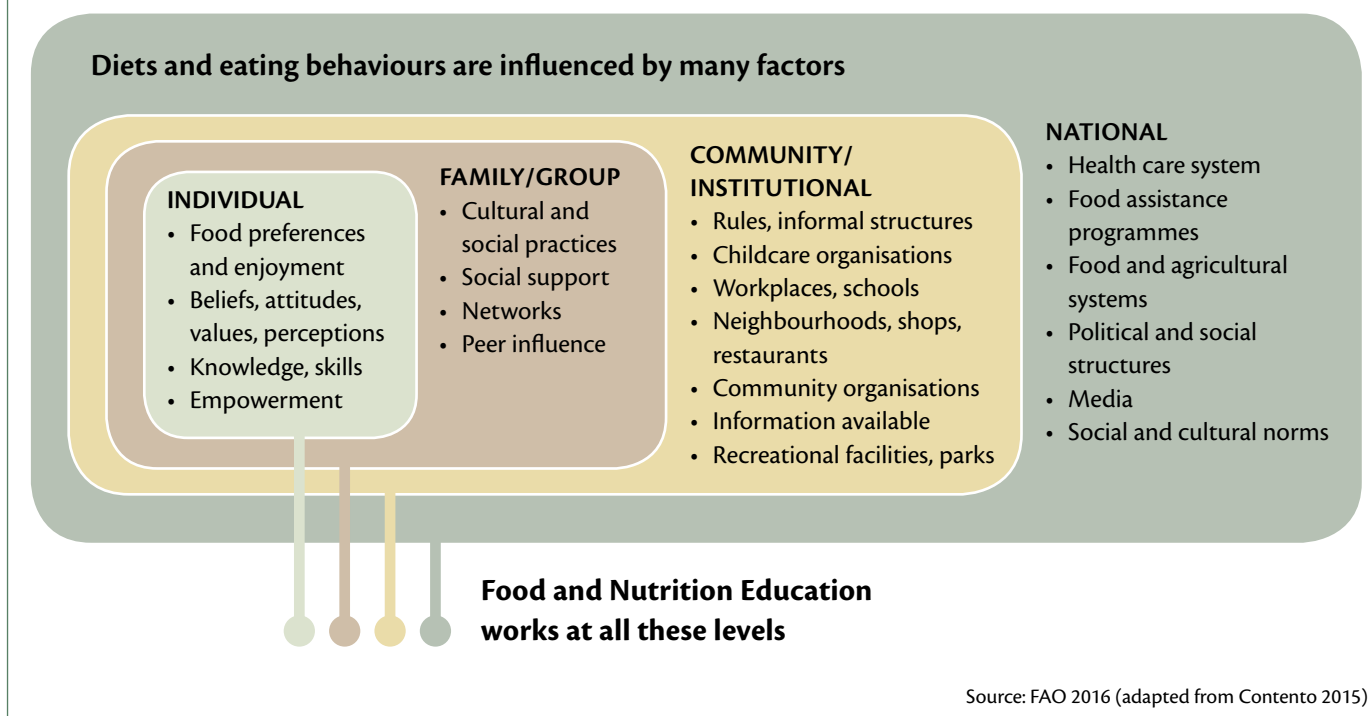
Healthy, high-quality diets are also strongly influenced by consumer decisions. What happens in the food environment influences investments, regulations and policy actions in each of the other connected domains of policy activity; those in turn strongly influence the choices that are possible within local food environments.

Consumers' food choices are constrained by supply, access (including access to quickly prepared, processed, convenience foods), price, information, diversity, safety and perceived quality. Food-related consumer behaviour and decisions are very complex, and are also influenced by a multitude of other factors. These include time availability for preparation, food habits – both cultural and familial – attitudes, beliefs, knowledge, motivations, skills, family and peer relations, societal norms and food systems

**Figure 1: Conceptual framework of links between diet quality (shaped by consumer behaviour in the food environment) and food systems**



**Figure 2: Factors affecting diets and eating behaviours**



policies. Biological determinants, conditioning and individual perceptions are also important. In addition, market conditions, the existing food environment (including food availability and affordability), and marketing and advertising messages that specify choices, as well as the information environment and the media, are all influential. These multiple factors constrain many consumers to make food choices inconsistent with their own good nutrition, health and well-being, and which are not well aligned with national goals.<sup>3</sup> A schematic representation of social and environmental factors influencing food choices and dietary behaviours is shown in Figure 2.

Policies that can achieve successful behaviour change require a clear understanding of a population’s lifestyles, dietary needs, and barriers to change. Policymakers need to implement measures that educate, encourage and enable consumers to improve their dietary choices. Many current policies and interventions underestimate the powerful influence of consumer behaviour and choice on dietary outcomes. Consumer behaviour can play a positive role in helping to influence the food environment, while consumer choice can either hinder or facilitate supply-side efforts to improve consumption.

Previous policy briefs from the Global Panel have proposed a series of policy actions targeting critical points in the food system from the supply side (agricultural production and trade), through the value chain (food transformation and processing), to marketing of products (retail) and institutional procurement (for example, school meals). Equally critical is the space in which consumers themselves make choices about the foods they

procure and the meals they choose to eat. This brief considers some of the most important drivers of these choices and the evidence that policy actions can influence them for the better. Only a combination of policy actions has the potential to lead to sustained positive change in consumer behaviour.

The rationale for this policy brief has three key points: (1) based on the evidence presented in the Global Panel’s Foresight Report, consumers do not always make nutritionally optimal food choices, (2) the Global Panel believes that governments have a responsibility to enable and to encourage consumers to make nutritionally better choices, not only to lead to high-quality diets, but also to reduce healthcare costs and to improve productivity; and (3) there are a number of tested policy interventions and public programmes that can change consumer behaviour in the direction of improved nutrition.

The main focus of this policy brief is on what governments can do to enable the transition to more healthy, high-quality diets in a wide range of settings. However, actions can also be taken by the private sector and public-private partnerships. The importance of private sector involvement in changing consumer behaviour should not be underestimated.

On the demand side, consumer education is a key component of policy action in influencing consumer behaviour. Supply-side factors such as food product composition, commercial product promotion, relative prices, provision in public institutions and trade are covered in a separate policy brief on food environments.<sup>3</sup> The Global Panel recommends that these two briefs be read together to inform combined policy approaches.



# Setting national standards for high-quality diets through food-based dietary guidelines



“ By developing and implementing Food-based Dietary Guidelines, governments can advise on food policy and programmes, and empower consumers to make informed food choices, triggering profound positive effects on people’s diets. ”

**José Graziano da Silva, Director-General, Food and Agriculture Organization of the United Nations (FAO)**

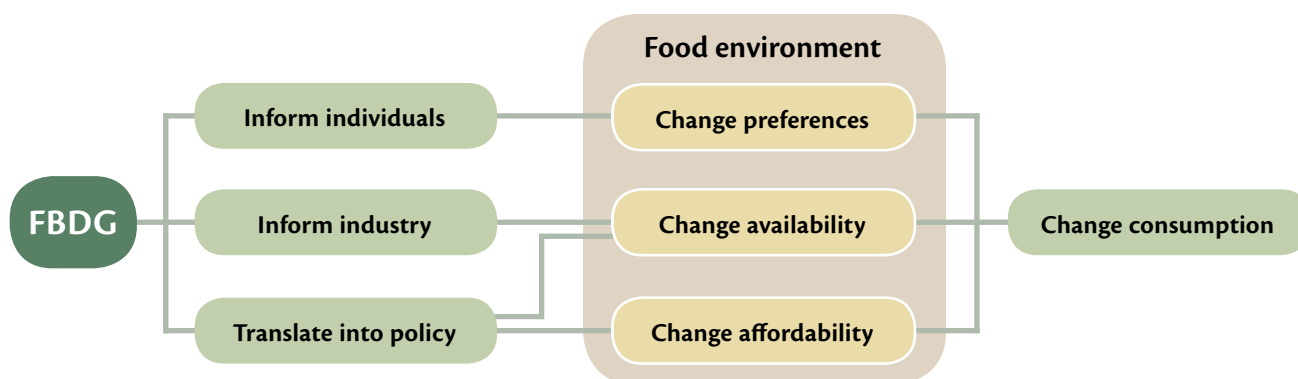
The institutionalisation of food-based dietary guidelines (FBDGs) can be an important step for governments to signal their commitment to a more sustainable and healthy future – a step which few low-income countries have yet taken.<sup>4</sup> The recommendations embedded in FBDGs should not only seek to inform and guide consumers, but also to help policymakers align relevant food and nutrition policies with national health and sustainability objectives.

Dietary guidelines can provide a framework for government policy on healthy eating and a means of influencing consumer behaviour. These are science-based information and communication tools implemented by many countries to translate recommended nutrient intakes into guidelines on the balance of foods that should compose a high-quality diet.<sup>5</sup> These guidelines are specifically tailored to the geographical, economic, nutritional and cultural conditions within which they operate and can affect consumption via three main, potentially overlapping, paths: informing individuals, informing industry and influencing policy (Figure 3).<sup>6</sup>

FBDGs can provide the basis for actions implemented by policymakers and the private sector on both the supply- and the demand-side domains to enhance food consumption patterns.<sup>7</sup> According to the Food and Agriculture Organization of the United Nations (FAO), FBDGs can affect food consumption by “providing the basis for setting nutritional standards for public procurement policies (e.g. school or hospital meals) or for social security support (e.g. food distribution programmes); guiding policies with respect to food marketing and advertising. They have also started to inform the food offer of private sector actors (e.g. retailers, restaurants and canteens) and to guide food industry on food composition, labelling and promotion.”<sup>6</sup>

In Brazil, for example, FBDGs are a pillar of the School Feeding Programme which links access to nutritious foods (e.g. fruits and vegetables) with the promotion of smallholder farmers and their products, the regulation of food items sold in schools canteens and vending machines, and health and nutrition education activities, mainly through school gardens and cooking lessons.<sup>8,9</sup> The successful adoption of FBDGs in Brazil is an outcome of a

**Figure 3. Three main paths through which food-based dietary guidelines can affect the food environment to influence consumption patterns**



Source: FAO 2016. Influencing food environments for healthy diets. Figure 10, p. 114.

strong legal framework with operational regulations to support consistent, high-quality diets in schools.<sup>9</sup>

Governments and the private sector can also use dietary guidelines as an educational and communication tool in workplaces, primary healthcare facilities, food retail (eg. food stores, supermarkets) and social protection programmes, to raise awareness, enabling consumers to make better food choices. The use of FBDGs in these settings will only be effective in triggering change in consumer behaviour if communicated in an understandable, consumer-friendly format<sup>10</sup> and promoted to the public through written or electronic information (e.g. posters, websites and booklets), and the mass media.<sup>11</sup> Many food environments also need to be 'stocked' with greater volumes of higher-quality foods.

### Box 1: East Finland Berry and Vegetable Project (Berry Project)<sup>7</sup>

The project started in 1986 and aimed to increase consumption of domestic berry and vegetable products, in line with national FBDG recommendations. It also aimed to help dairy farmers to switch to berry and vegetable farming, as the demand for dairy products was declining with a drop in consumption of butter and fatty dairy products. This initiative led to a collaboration between berry farmers, industry, various commercial sectors and the health authorities, which was financed by the Ministry of Agriculture and the Ministry of Commerce. Sales campaigns, new product development and various support and educational activities were also involved. Dozens of small companies producing juices, berry and mushroom conserves and vegetable products were established by local people. Local berry consumption rose gradually and many farmers switched from dairy to berry production.



Some initiatives have already been implemented at the national level to promote dietary guidelines for consumers. For example, a pilot intervention to promote Iran's FBDGs in a primary healthcare setting was considered effective in promoting healthy nutrition behaviour among women.<sup>12</sup> It consisted of a standardised food skills and nutrition education programme on FBDGs, and included group cooking classes. There are a number of examples of implementations in the agricultural sector, food industry, social protection schemes, workplaces and schools. The majority are from high-income countries (Box 1).

Despite the potential importance of FBDGs, many low- and middle-income countries do not currently have them in place. Where guidelines have been adopted, little work has been done on their implementation. There are therefore, as yet, little monitoring and evaluation data on the effectiveness of dietary guidelines on diets in these settings.<sup>13</sup> However, there is a commitment in some countries' development of national FBDGs, with FAO and other development partners providing assistance and capacity development.<sup>4</sup>

FBDGs can play an important role in helping to shape high-quality food systems which are not only consistent with nutritional requirements but also generate less environmental impacts. A few countries including Germany, Brazil, Sweden, the Netherlands and Qatar have started to integrate environmental sustainability into their national dietary guidelines.<sup>4</sup>

To use FBDGs as a tool to enhance consumption behaviour and to make diets more environmentally sustainable, governments from low- and middle-income countries need to develop and implement dietary guidelines. This process would require, for example, clear ownership by more than one government ministry, collaboration between ministries, strong links to local and national implementation policies, and accessible information highlighting the links between nutritious and sustainable diets.<sup>4</sup>

# Consumer education for nutritious dietary choices

'Nutrition education' has been defined as "any combination of educational strategies, accompanied by environmental supports, designed to facilitate voluntary adoption of food choices and other food- and nutrition-related behaviours conducive to health and wellbeing...and delivered through multiple venues and involves activities at the individual, community, and policy levels".<sup>14</sup> This definition implies action in three domains:

- **Awareness-raising actions** to focus attention on nutrition and increase motivation to improve diets through effective education and communication strategies;
- **Facilitating people's ability to improve their own diets;** and
- **Improving the enabling environment to favour healthy behaviours,** for example where nutrition educators and other influencers work with policymakers at national and community levels to promote healthy, high-quality diets.

Nutrition education is usually not a stand-alone activity, but rather part of an integrated approach. It should encompass interventions specific to nutrition education or broader strategies and programmes, which integrate a nutrition education component. Successful nutrition education goes beyond information provision by improving knowledge and skills for living healthy lives and creating an environment where healthy choices are the easy choices. Through nutrition education, people gain experience of cooking, tasting, gardening and learning about food, and are able to take responsibility for their own wellbeing. For this reason, initiatives on nutrition education across a number of areas have been taken by governments, the private sector and civil society to influence consumer awareness and behaviour on food choices.<sup>11</sup>

## Public awareness campaigns to influence consumer behaviour

Public awareness or mass media campaigns are organised communication activities aimed at building awareness and changing behaviour.<sup>11</sup> They provide information through a variety of other channels, including health and education-related settings, public relations events, such as talks, demonstrations and tours, and social and mass media.<sup>11</sup> According to the World Health Organization (WHO), mass media campaigns are one of their 'Best Buys' for the prevention and control of Non-Communicable Diseases (NCDs).<sup>15</sup>

Techniques used in public awareness campaigns range from simply making information materials available, to the more sophisticated use of social marketing.<sup>11</sup> These activities encompass healthy eating campaigns, fruit and vegetables campaigns, salt awareness and other "eat less" foods (e.g. sugar-sweetened beverages); FBDGs and food labelling. They need to be adapted to local contexts and languages, and use a wide variety of communications channels to ensure that all population groups or geographic areas are included.<sup>11</sup>

Public awareness campaigns also encompass setting-specific healthy eating promotions and include activities supporting the consumption of nutritious meals in schools in low- and middle-income countries. Providing nutritionally balanced school meals with complementary nutrition education and health measures can deliver improved school performance and nutrition literacy as well as employment and income in later life. School meals are the subject of a separate brief by the Global Panel.<sup>16</sup>

## Healthy eating campaigns

Healthy eating campaigns involve the development and communication of messages which aim to make the public aware of the importance of healthy eating in general.<sup>11</sup> These campaigns have been initiated and supported by governments, non-governmental organisations (NGOs), the private sector, and public-private partnerships. They have taken place primarily in Europe and the USA, with isolated examples of their use in other countries (e.g. Australia, New Zealand, South Korea and some Latin American countries). There appear to have been only a small number of these campaigns in low-income countries, suggesting that there is considerable potential to use healthy eating initiatives in settings where governments are struggling with persistent undernutrition and rising levels of overweight and obesity.

### Box 2: Mozambique: Promoting orange-fleshed sweet potatoes (OFSP)

In Mozambique, vitamin A deficiencies affect 74% of children under five, with negative impacts on growth, immunity, and development.<sup>20</sup> The *Towards Sustainable Nutrition Improvement Project* was launched in 2002 to explore whether an integrated agriculture-nutrition project could result in improved vitamin A intake among this group.<sup>21</sup> The project focused on three main interventions: 1) increasing the availability of vitamin A-rich foods by providing planting material of high-yielding OFSP varieties to local farmers; 2) developing learning sessions with childcare providers at the village level to improve infant and young children's care practices; and 3) linking farmers to traders and informing consumers about where they could purchase OFSP. This integrated approach resulted in significant growth of OFSP commercialisation and increased the intake of vitamin A in children. The results also showed that targeting women (sweet potato producers and mothers) at the very early stage of the project was crucial to the success of behaviour change.

Understanding the production, distribution, and consumption of vitamin A-rich OFSP in Mozambique has important implications for other food-based interventions focused on increasing micronutrient intake in regionally-specific cultural contexts.







The governments of several Pacific island states have run successful campaigns focused on micronutrient deficiencies. In the Federated States of Micronesia (FSM), widespread vitamin A deficiency inspired a 'Let's Go Local' social marketing campaign. This was undertaken in conjunction with skills training and investment in production to increase consumption of specific cultivars of crops with higher beta-carotene, and to promote sustainable production and consumption of nutritious local foods.<sup>17</sup> The campaign, launched in 2005, raised awareness by spreading messages via a wide range of media. The evaluation of the campaign found that the average household diet in 2007 had a significantly higher micronutrient intake, an increased consumption of promoted foods and greater dietary diversity, compared with 2005.<sup>18,19</sup> Campaigns promoting healthy eating in response to the very high rates of obesity prevalent in the Pacific island states have also been implemented. In Mozambique (Box 2), learning sessions with women were found to play a crucial role in the successful promotion of orange-fleshed sweet potato to address vitamin A deficiency in children under five.

Other successful healthy eating initiatives in low-income countries include milk promotion campaigns such as the *National Generic Milk Promotion Campaign* in Kenya, which is now in its second phase, and 'mini-campaigns' in Uganda aimed at promoting milk to school and kindergarten age children.<sup>22,23</sup> Some of the promotional campaigns to increase milk consumption target specific groups, such as children, adolescents and mothers. Others focus on the positive contribution of milk's nutrients to health. These campaigns are often implemented as public-private partnerships, with significant involvement from the dairy industry.

A recent assessment of healthy eating campaigns shows that they are able to demonstrate the link between diet and health, the nutritional properties and characteristics of high-quality diets, and the benefits of a healthy lifestyle to consumers.<sup>24</sup> There is also evidence to show that interventions with multiple components tend to be the most effective.<sup>11</sup> Who promotes these campaigns



is also important, as studies conducted in European settings showed that consumers generally express stronger confidence in the information disseminated by health professionals and government agencies.<sup>24</sup> The cost-effectiveness of any impact of healthy eating campaigns may need to be carefully assessed, to determine what works and what actions can be sustained.<sup>25</sup>

#### *Fruit and vegetable promotion*

Fruit and vegetable consumption plays a particularly vital role in human health and nutrition. The WHO guidance for a 'healthy diet' establishes the consumption of at least 400g (five portions) of fruits and vegetables per day.<sup>26</sup> As highlighted by the Global Panel's Foresight report, despite the global increase in fruit intake, many people are still not consuming sufficient amounts, while vegetable intake is actually declining.<sup>2</sup> In one study, more than 60% of women surveyed in six African countries reported not having consumed any fruits and vegetables rich in vitamin A in the previous 24 hours.<sup>27</sup>

There is a steadily increasing number of campaigns to promote fruit and vegetables around the world, with a strong focus on schools, including 'farm to school' programmes in low- and middle-income countries. By promoting awareness of the benefits of consumption, these initiatives aim to encourage the general population to increase their intake of fruits and vegetables. The WHO and FAO both encourage national fruit and vegetable campaigns.<sup>28</sup>

A number of campaigns leading to increased consumption of fruit and vegetables have been successfully implemented in high- and middle-income countries (for example 'Five a Day for Better Health Trust' in South Africa, '5 al día' in Latin America and the Caribbean, '6 a day' in Denmark, and 'half a kilo in a day' in Finland). However, in low-income countries there are concerns about affordability and accessibility of fruit and vegetables. For example, meeting '5-a-day' consumption recommendations of three vegetable and two fruit servings per day for each household member would cost low-income households in Bangladesh, India, Pakistan and Zimbabwe 52% of their household income.<sup>29</sup> As these foods offer considerable benefits in terms of diet quality, policymakers from similar settings will need to work in partnership with the private sector to make fruits and vegetables, pulses, nuts and seeds much more available, more affordable and safer for all consumers while implementing public awareness campaigns to stimulate their consumption. Public policy can also incentivise greater investment in the infrastructure required to produce, store and transport these foods.

Interventions to improve fruit and vegetable intake can be very effective when designed in a way that takes into consideration local and national capacities for fruit and vegetable production. Other influences to take into account include the agriculture and dietary practices of the targeted population and the prevailing patterns of nutrition and health status of the population.<sup>28</sup> Evidence also suggests that it is important to identify under-consuming population groups and that efforts are made to understand their consumption behaviour.<sup>28</sup>



### Food labelling to promote high-quality diets

The Second International Conference on Nutrition (ICN2) Framework for Action recommends that governments consider food labelling as an area of action which could help to enable consumers from higher- to lower-income countries to make enhanced food choices and to consume healthy diets.<sup>30</sup>

The Global Panel has recently highlighted the role of food labelling policies in promoting high-quality food environments by providing information to consumers about the content of food products. Food labels aim to draw consumer attention to the risks and benefits of specific ingredients where there is relevance to public health, and to motivate manufacturers either to reformulate their products or to produce foods which have more nutritious profiles (Box 3).<sup>3</sup>

Voluntary and mandatory labelling policies have been implemented in several countries as a public policy approach

#### Box 3: Types of food labels

The most common types of formats for food labels are back-of-package (BOP) and front-of-package (FOP) labels. Label formats include: traffic light systems, Guideline Daily Amounts (GDA), and nationally-endorsed health symbols, which provide a summary or 'seal of approval on products'.<sup>31</sup> According to the European Food Information Council, BOP is the most prevalent label worldwide, and at least 75% of the global population lives in countries which have BOP labelling regulations.<sup>32</sup> However, evidence suggests that consumers prefer simplified information presented on the front of packages, supplemented by the more detailed nutrient declaration on the back.<sup>33</sup>

#### Box 4: Chile's legislation on food labelling and advertising

Chile is an example of a country that implemented legislation on food labelling in 2012 to improve point of purchase consumer information by incorporating front-of-package labelling and messages addressing specific nutrients.<sup>35</sup> For example, a black octagonal figure has been used as a front-of-package symbol of foods and beverages that are high in sugar ( $\geq 10\text{g}/100\text{g}$ ), sodium ( $\geq 400\text{mg}/100\text{g}$ ), saturated fats ( $\geq 4\text{g}/100\text{g}$ ), and energy ( $\geq 275\text{kcal}/100\text{g}$ ).

In another example, a survey of 1,300 head-of-household women demonstrated that a warning label with the message 'Excess of' had the best performance in terms of comprehension and intention-to-buy the product. But to achieve impact, the size of warning message had to be at least 10% of the front of the surface of the package.<sup>36</sup>

Recent evaluation of the impact of legislation shows increased awareness of food labelling and specific messages;<sup>37</sup> However, there is not yet evidence that this awareness has translated into a change in consumer behaviour and improved diets.

with the objective of not only meeting food safety requirements but also reducing exposure of the population to risk factors related to the development of diet-related diseases (Box 4).<sup>34</sup> Although the majority of labelling regulations are found in high-income countries, they are increasingly being adopted in low- and middle-income countries in Asia, Africa, Latin America and the Middle East.<sup>31</sup>

A review of research on consumer responses to the use of food labels in 20 low- and middle-income countries in Asia, Africa, the Middle East and Latin America, showed that their use and comprehension was primarily associated with demographic factors such as educational status, socio-economic status and gender,<sup>31</sup> and varied across different populations within a country. For example, Malawian consumers living in urban areas were more concerned about products with high amounts of fat, salt and sugar, while rural consumers more exposed to food insecurity were seeking food products with vitamins and minerals, in particular iodine, iron and vitamin A.<sup>38</sup> In all of the 20 countries surveyed, consumers preferred simple and clear labels that avoided technical information; the use of symbols or pictorial messages; health warnings and information in large type.<sup>31</sup>

The Green Keyhole is a voluntary point-of-purchase symbol, which has been used by the Nordic region on food labels to help consumers to identify more nutritious alternatives (for example less salt/sugar/fat and more fibre) within a product group (Box 5). Evidence from a number of Nordic studies suggests that this



## Box 5: Examples of food labels which provide information on food content



The Green Keyhole –  
Sweden, Norway,  
Denmark, Iceland



Octagonal figure,  
Chile



'Traffic light',  
Ecuador

symbol is making it easier for consumers to choose food items recommended by National Dietary Guidelines and driving food product development and more nutritious options by the food industry.<sup>39</sup>

Special efforts are needed in low- and middle-income countries to reach consumers with low literacy. In Ecuador, which became the first country in Latin America to adopt a nutritional traffic light system as a public policy (Box 5), the awareness and understanding of food labels used in this system was found to be lower among indigenous women (due to the lack of formal education) than mestizas.<sup>40</sup> Similarly, a study among Zimbabwean adults also showed that fewer than half of respondents understood food labels.<sup>41</sup>

Often even literate consumers may find it difficult to interpret food labels. The alignment of food labelling and literacy campaigns is therefore essential for food labelling to be more effective in middle and lower-income contexts. For example, in Malta, the government health promotion unit provides easy reference guides and booklets, which explain food labelling and colour coding to consumers.<sup>42, 43</sup>

Another constraint faced by many low-income economies is the lack of capacity of small and medium enterprises (SMEs) to adhere to mandatory food labelling standards. Both governments and the private sector can play an important role in strengthening, supporting and enabling smaller food producers to build capacity in managing legal requirements, food products analyses and label design.<sup>6</sup>

### Multi-sector interventions

Isolated nutrition education interventions are often less successful than anticipated in changing consumer behaviour. Evidence suggests that nutrition education interventions are most effective when they involve several components that reinforce each other.<sup>11</sup> This could include, for example, combining social protection initiatives with nutrition education; combining provision of

information with skills training and parent involvement; mass media campaigns with actions to increase availability and affordability of nutritious foods; food labelling with nutrition education, as well as combining school food standards and nutrition education in the school curriculum. Some of these initiatives have already been highlighted in the Global Panel's previous policy briefs.<sup>3, 16</sup>

Recent evidence assessing the effect of policy actions to improve dietary patterns suggests that combining voluntary limits with mandatory labelling was associated with a 30% reduction in trans-fat intake.<sup>44</sup> The same study showed that 15 interventions on fruit and vegetables that combined provision and promotion activities led to an increase in fruit and vegetable intake of 2.54 servings per day. Conversely, single interventions rarely increased intake by more than 0.5 servings. In another example, the 'Salt UK' programme led to a 1.5 g per day reduction in consumption between 2001 and 2011. This outcome was achieved by progressive industry reformulation with close monitoring, political pressure to ensure compliance and reinforcement through media campaigns and traffic light food labelling.<sup>44</sup>

These examples highlight the importance of using a multi-sector, multi-faceted approach when designing interventions based on nutrition education. They also emphasise the importance of rigorous evaluation of impact, and sustained efforts and investment to better inform policymakers about the most effective interventions.

Policymakers and other decision makers need to differentiate clearly between the objectives of raising awareness amongst consumers, which is often relatively easy to achieve, and actually changing practices long-term, which is much more difficult. An intervention leading to improved knowledge or raised awareness of particular foods' nutrient content does not necessarily lead to long-term sustained changes in practice. Successful interventions should lead to changes in unhealthy eating habits that are sustained long-term. In this context, the role of formative research<sup>2</sup> before planning any nutrition education intervention or campaign is extremely important.<sup>3</sup>

# Social protection and healthier diets

In low-income countries, consumer income and purchasing power are key determinants of food choices and can either enable or prevent access to nutritionally adequate diets. Consequently, governments have responsibility, in their economic policies, for paying attention to employment, wage levels, and macroeconomic variables that determine consumer purchasing power over time. Income is crucial for improving dietary quality and, due to the limited purchasing power of low-income consumers, social protection interventions such as income subsidies, fresh food vouchers and cash transfers can all play a vital role in improving nutrition. Another important type of intervention that can help to achieve a sustained improvement in people's diets in low-income settings is the use of social and behaviour change communication (SBCC) which is described in more detail below.

## Social and behaviour change communication (SBCC)

The 2010 Global Burden of Disease Report highlighted unhealthy behaviours as a major risk factor for global mortality and illness.<sup>45</sup> For example, in sub-Saharan Africa, 15 of the top 20 health risk factors are behavioural<sup>46</sup> and the other five are highly influenced by behaviour. As noted above, evidence suggests that simply increasing knowledge and awareness of good nutrition practices rarely leads to sustained behaviour change and is unlikely to be achieved through a single activity. SBCC is a collection of approaches and tools

informed by behavioural theories and used to design public health interventions and is showing promise in overcoming some of these limitations.<sup>47, 48</sup> SBCC interventions go beyond the delivery of a simple message or slogan to encompass the full range of ways in which people communicate. These include interpersonal communication (IPC); advocacy; small, medium, and mass media; social/community mobilisation, and behavioural 'nudges.'

Recent evidence has highlighted the crucial role of SBCC as a fundamental component of successful nutrition-specific and nutrition-sensitive interventions (Boxes 6 and 7).<sup>47, 48</sup> Research shows that evidence-based communication programmes can increase knowledge and shift attitudes and



Photo: Alive & Thrive

### Box 6: Alive and Thrive: Scaling up Maternal, Infant, and Young Child Nutrition Programmes in Six Countries<sup>50</sup>

Alive & Thrive (A&T) initiative implements multi-component programmes that make strategic use of data to plan, assess, and evaluate programme impact, with documented results in Bangladesh, Ethiopia and Vietnam. The aim is to encourage adaptation or replication of at-scale implementation in other settings. Each programme encompasses advocacy, interpersonal communication and community mobilisation, and mass communication.

Evaluation of results across the three countries between 2010 and 2014 showed that A&T's multi-component model achieved behaviour change when implemented at scale. Exclusive breastfeeding improved in all three countries. The rate tripled in Vietnam and reached more than 80% in Bangladesh and Ethiopia. The percentage of children 6-13 months eating a diverse diet increased in A&T programme areas in all three countries. In Bangladesh, the percentage of children consuming a diverse diet increased by 32 points in three years. In Ethiopia, the practice doubled (although it is still very low).

### Box 7: Care Group: Reducing child malnutrition and deaths in Mozambique<sup>51</sup>

Between 2005 and 2010, Food for the Hungry (FH) applied the Care Group model in Sofala, Mozambique to reach a population of over one million people to decrease malnutrition in children aged 0–23 months. The programme focused on nine behaviours in maternal and child health, nutrition, WASH (Water, Sanitation and Hygiene) and preventive care. The Care Group model uses small groups of 10 to 15 volunteer community-based health educators who met with project staff for training, supervision and support. Volunteers provided peer support for mothers in the community, often with the objective of promoting child survival over the five-year period, intervention areas experienced a 29% decrease in under-five mortality and a 37% reduction in child underweight. From 2009 to 2010 there was a 42% reduction in underweight and a 78% increase in exclusive breastfeeding. The average annual rate of decline in undernutrition in intervention areas was 2.2% compared to 0.4 – 0.6% nationwide. The intervention reached more than one million people and demonstrated that interpersonal communication at scale can cost-effectively impact behaviours and health outcomes.



### Box 8: A nutrition-sensitive social safety net programme in the Republic of Djibouti<sup>53</sup>

To counter high levels of malnutrition and food insecurity in the country, an integrated social protection programme has been implemented by the government since 2012 to encourage nutrition behaviour change and create income-generating opportunities.

The programme focuses primarily on mothers in poor neighbourhoods and provides nutrition and cash for work (such as community service and light labour). Along with incorporating explicit nutrition goals in the programme design and evaluation, nutrition-specific interventions, such as increasing the availability of micronutrients, food supplements, vaccinations and care-related services are being implemented to address the underlying and immediate causes of malnutrition. Dietary diversification, iron supplementation, and household spending on food increased notably among participants in the first phase of the programme.

### Box 9: Cash and voucher solutions to hunger in Malawi<sup>54</sup>

Each lean season, the World Food Programme (WFP) gives vulnerable Malawian households food assistance. In 2016, WFP gave out vouchers, which allowed nursing mothers and mothers of young children to receive a locally produced porridge consisting of a fortified corn/soya blend. The beneficiaries also received a cash transfer voucher as an alternative to food distribution to aid them to choose what they eat.

To encourage beneficiaries to spend the money on a diversity of foods, nutrition information was shared during community sensitisations before general food distribution. The four themes were diet diversification; maternal health; the feeding of infants and young children; and water, sanitation and hygiene.

cultural norms to produce changes in nutrition behaviour.<sup>48</sup>

This is due to the nature of SBCC interventions which go beyond simply raising awareness to include working with communities to motivate people to change their behaviour. Unlike other nutrition education campaigns focused only on raising awareness, SBCC has an explicit emphasis on social and behaviour change as an outcome. To achieve this change, SBCC interventions take into account the needs and perspectives of local communities and their individual members. For example, the success of the orange-fleshed sweet potato promotion in Mozambique (Box 2) was largely due to the SBCC component, which focused on working with local communities with support from radio and television coverage, and demonstration events.

Effecting sustainable change in nutrition behaviour requires deep knowledge of local cultures, the values and attitudes that motivate these behaviours, and the dynamics of interactions at the household level.<sup>46,47</sup> Differences in local contexts (including social norms, culture and environmental factors), implementation methods, and scale of implementation can all affect the outcome of SBCC interventions. Thorough local assessments prior to SBCC implementation are therefore essential.

Despite some large-scale successes, the majority of SBCC interventions have been implemented on a relatively small scale (for example, in one hospital or community) and typically with between 50 and 350 people per group. This limitation constrains the generalisability of findings and raises important questions about the scalability and sustainability of approaches that have been used.<sup>49</sup>

However, some countries, such as Tanzania and Cotê D'Ivoire, have developed, or are in the process of developing, a national-level SBCC strategy which has the potential to play an important role in scaling up SBCC interventions. This could be an approach that other low-income countries wish to emulate, as a national SBCC strategy would signal government commitment to the SBCC interventions and attract donor funding, which is essential for successful implementation of SBCC programmes at scale.

### Income subsidies and social protection

Incomes are a key driver of diet quality.<sup>2</sup> In low-income countries, purchasing power is a fundamental determinant of food choices and can either enable or prevent access to nutritionally adequate diets. Economic policy must therefore pay attention to employment, wage levels, and macroeconomic variables, which determine consumer purchasing power over time.

The ICN2 Framework for Action strongly emphasises the importance of social protection to help to address the multiple causes of malnutrition in low-income settings.<sup>52</sup> Social protection in its broadest sense aims to alleviate income poverty, for example, through the promotion of income-generating activities, to reduce vulnerability, and to foster greater social justice and inclusion, for instance, through empowering marginalised groups. If well targeted,



it can be the most effective means to reach marginalised, resource-poor and nutritionally vulnerable populations. By stimulating economic activity, enhancing social inclusion and increasing access to sanitation, health and education, social protection programmes promote better nutrition outcomes and help to avert the adoption of negative coping behaviours. They can include a range of interventions such as income subsidies, food baskets, food stamps and the distribution of nutrient-dense, ready-to-use foods and/or complementary foods through healthcare systems.

Social protection will be most effective when it is embedded in a multi-sector framework as increasing income or food availability at the household level will not automatically translate into improved nutrition outcomes.<sup>52</sup> For example, caregivers may lack knowledge of which foods to choose and how to prepare them. Gender-sensitive nutrition education, including the promotion of adequate infant and young children feeding practices is often one of the key elements for effective interventions in social protection. Some examples are described in Boxes 8 and 9.

The findings of a major research initiative conducted by WFP and the International Food Policy Research Institute (IFPRI) to explore which types of social safety net transfers work best for the 'rural ultra-poor' showed that nutrition education is critical in leveraging the benefits delivered from food and cash transfers.<sup>55</sup> For example, the results of two food and cash transfer programmes in Bangladesh, which compared social safety net provisions with and without a nutrition education element, showed doubling or trebling of diet quality in response to an added nutrition education component.<sup>56</sup>

### Fresh food vouchers to achieve dietary improvement

Fresh food voucher (FFV) programmes are an example of policy approaches aimed at reducing financial barriers to high-quality diets and tackling nutritional inequalities. Low-income, in particular, is associated with low intake of fruit and vegetables.<sup>57</sup> Fresh food voucher programmes are used primarily in low-income settings, to provide households with complete food baskets, or to supplement staple foods with fresh, micronutrient-rich foods. FFV programmes have multiple objectives, for example expanding dietary diversity, reducing micronutrient and general malnutrition and ensuring an adequate diet (Boxes 10 and 11).<sup>58</sup>

A meta-evaluation of five FFV programmes in Bolivia, Kenya, Haiti, Pakistan and the occupied Palestinian territory, showed an increase in the dietary diversity of households in all five countries and led to a reduction in acute malnutrition, to varying degrees.<sup>58</sup> Dietary diversity in these countries increased by 31% – 79% by the end of the programme. Paper vouchers, which could be exchanged for fresh food in local markets, were used in all five programmes. The FFV programmes in Bolivia, Kenya, and Haiti were designed to complement supplementary feeding programmes and general food distributions, and provided fresh fruit and vegetables, eggs, meat, milk and fish.

### Box 10: The use of electronic food vouchers in Haiti

The USAID Kore Lavi programme in Haiti (2013-2017) provides vulnerable households with monthly electronic and paper food vouchers, which can be exchanged for locally produced foods, including fresh fruits and vegetables. The programme also focuses on maternal and child health, and on nutrition interventions for pregnant and lactating women.<sup>59</sup> Distribution of vouchers is subject to regular use of health services and participation in activities that promote behavioural change and adoption of good nutritional practices. The formal programme evaluation has not yet been completed but it has been reported that by the end of the first year, more than 18,000 households gained access to locally produced nutritious foods.<sup>60</sup>

### Box 11: Food vouchers boost nutrition and markets in Somalia<sup>61</sup>



*A woman in Burao, northwestern Somalia, uses her WFP food voucher to buy goat meat from a local trader.*

Families in the Somaliland region of northern Somalia are able to access a more balanced diet through food vouchers, which they can use to purchase foods such as camel and goat meat at the local market. Under the programme, families receive US \$80 of vouchers each month and can use them to buy a variety of food including rice, cooking oil and fresh camel and goat meat. By allowing people to buy directly from local traders, the project is also a boost for the region's economy.

So far, around 15,000 people in northwestern Somaliland benefit from the vouchers as an alternative to food rations, and WFP plans to expand the initiative to other areas. The initiative has proven extremely popular, and has resulted in an increase in the number of people bringing their children for nutrition screening.





# Policy recommendations

Well-designed and targeted policy actions to inform and influence consumer behaviour form one of the main levers for policymakers to help enhance diet quality in low- and middle-income countries. Successful interventions will be sustainable and flexible and aimed at self-propagating healthier food practices and attitudes, with the potential to shift social norms and influence markets. Significant investment and continuous engagement with a range of stakeholders are required for effective nutrition education and other strategies for behaviour change.

The Global Panel therefore recommends that policymakers consider the following actions:

## *Establishing national standards for healthy, high-quality diets*

Governments need to signal their commitment to a more sustainable and healthy future. The development and implementation of food-based dietary guidelines (FBDGs) are critical in guiding consumers to make more nutritious food choices and in providing the basis for actions across food systems.

- Governments should monitor food consumption choices and assess these against a science-based standard for high-quality diets, providing and regularly updating dietary guidelines to inform policy as well as consumers;
- When developing FBDGs, the links between healthy eating behaviour and environmental sustainability should also be emphasised. These need to be translated into food policies that relate to school and hospital meals, public procurement (including local purchases for school and hospital settings, and promotion of school gardens), advertising regulations (including restrictions on promoting unhealthy and ultra-processed foods), and industry standards;
- Datasets on dietary habits, particularly on the supply and consumption of more nutritious foods, need to be created and integrated into a national nutrition monitoring system. These systems can help policymakers identify diet gaps which need to be addressed at national and local levels and monitor the effectiveness and sustainability of interventions on nutrition education.

## *Educating consumers for healthier dietary choices*

Governments, the private sector and civil society need to integrate nutrition education into all available national services to influence consumer awareness and behaviour on food choices. This should include:

- **Mounting public awareness campaigns:** These should be culturally tailored, for example, to take account of attitudes to foods and religious practices. Civil society should be engaged with campaigns for maximum outreach. National fruit and vegetable campaigns are particularly recommended by the WHO and FAO but they will only succeed if these

foods are available and affordable. This is especially important in lower-income countries, where access to micro-nutrient-dense foods needs to be expanded;

- **Implementing programmes on nutrition education:** These need to provide adequate opportunities to combine education with access to nutritious foods. Datasets on consumption should be routinely collected and reviewed to monitor the effectiveness of interventions. There are opportunities to align nutrition education activities with environmental sustainability objectives through school gardens and local purchases for school feeding programmes;
- **Introducing food labelling:** Voluntary and mandatory food labelling policies are considered essential to enabling consumers to make healthier food choices. Governments and the private sector need to work together to implement better labelling mechanisms, which must be aligned with literacy campaigns and initiatives on nutrition education, to optimise a food-system response to promoting high-quality diets;
- **Integrating nutrition education into multi-component interventions:** Programmes that aim to increase income and food availability at the household level do not automatically guarantee improved nutrition outcomes. The inclusion of nutrition education in these initiatives increases the potential for successful outcomes. This will require capacity development and training for practitioners in health and nutrition education and other behaviour change strategies at all levels (individual, institutional and environmental).

## *Improving access to higher-quality diets for low-income consumers*

Dietary standards and consumer education will have limited effectiveness without improvements in the availability and affordability of micro-nutrient-dense foods such as fruit, vegetables and bio-fortified products. Specific actions should include:

- **Providing income subsidies and social protection schemes** to protect the purchasing power of low-income individuals and families and to prevent negative coping behaviours. The provision of fresh food vouchers should be considered as a targeted approach to dietary improvement;
- **Developing and implementing age- and gender-specific Social and Behaviour Change Communication (SBCC) programmes**, with a particular focus on delivering changes in maternal and child feeding habits.

Finally, to implement these recommendations successfully, it is important to encourage consumers to be active players, controlling their own diets and health. Community groups, voluntary organisations and social enterprises can play a useful role by supporting activities which promote healthy eating, encouraging public debate and promoting new social norms.



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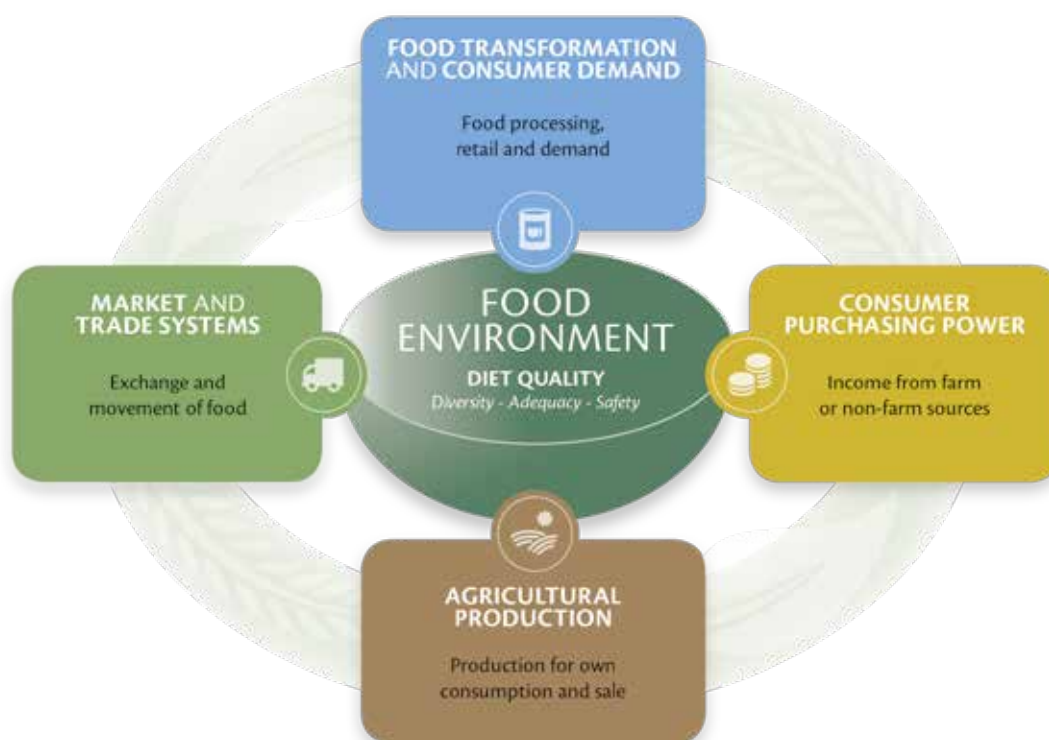
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# How can Agriculture and Food System Policies Improve Nutrition?

The multiple burdens on health in low- and middle-income countries due to food-related nutrition problems include not only persistent undernutrition and stunting but also widespread vitamin and mineral deficiencies and a growing prevalence of overweight, obesity and non-communicable diseases. These different forms of malnutrition limit people's opportunity to live healthy and productive lives, and impede the growth of economies and whole societies.

The food environment from which consumers should be able to create healthy diets is influenced by four domains of economic activity:



In each of these domains, there is a range of policies that can have enormous influence on nutritional outcomes. In the Global Panel's first Technical Brief, we explain how these policies can influence nutrition, both positively and negatively. We make an argument for an integrated approach, drawing on policies from across these domains, and the need for more empirical evidence to identify successful approaches.

**Find out more here: [Glopan.org/nutrition](https://glopan.org/nutrition)**



Policy actions to support enhanced consumer behaviour for high-quality diets provides example of policies in the **CONSUMER PURCHASING POWER** domain that can have a positive influence on nutritional outcomes.

Download *Policy Brief No. 8* here: [Glopan.org/consumer-behaviour](https://glopan.org/consumer-behaviour)

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