



# **BRUSSELS RURAL DEVELOPMENT BRIEFINGS**

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### **Improving nutrition through accountability, ownership and partnerships**

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# **Improving nutrition through accountability, ownership and partnerships**

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## 1. Context

Food security is not only about the quantity of food which we consume, it is also about its quality and diversity. While food insecurity has been high on the political agenda since the food-price crisis of 2008, the issue of nutrition insecurity, which affects one billion people's health, has received less attention.

Good nutrition is the bedrock of human well-being, before birth and throughout infancy, good nutrition allows brain functioning to evolve without impairment and immune systems to develop more robustly. For young children, good nutrition status averts death and equips the body to grow and develop to its full potential. Over the course of the human lifespan, it leads to more effective learning at school, better-nourished mothers who give birth to better-nourished children, and adults who are likelier to be productive and earn higher wages. In middle age, it gives people metabolisms that are better prepared to ward off the diseases associated with changes in diet and physical activity. Without good nutrition, people's lives and livelihoods are built on quicksand.<sup>1</sup>

It is an established fact that two of the root causes of malnutrition are the limited access to foods required for an adequate diet and the limited knowledge about food and nutrition in poor households. To be adequately nourished, individuals need to have access to sufficient and good quality food and they need an understanding of what constitutes a good diet for health, as well as the skills and motivation to make good food choices. Capacity building in nutrition education is essential to strengthen national, provincial and local institutions' abilities to provide simple training on basic topics related to food and nutrition in vulnerable communities. Although efforts to improve dietary diversity in several ACP regions are underway, it is difficult to implement them due to lack of trained personnel at the local level which is one of the biggest challenge to operationalization of nutritional strategies in ACP countries.

Despite some improvement tracking financial resources to nutrition remains a challenge in terms of technology, data collection, coordination and planning. Increasing domestic

resources to nutrition represents the only sustainable way of improving nutrition status.

*Malnutrition* is an abnormal physiological condition caused by deficiencies, excesses or imbalances in energy, protein and/or other nutrients. *Undernutrition* often called "hidden hunger" is when the body contains lower than normal amounts of one or more nutrients, i.e. deficiencies in macronutrients and/or micronutrients). *Macronutrients* are nutrients that the body uses in relatively large amounts - proteins, carbohydrates, and fats. This is as opposed to *micronutrients*, which the body requires in smaller amounts, such as vitamins and minerals. Macronutrients provide calories to the body as well as performing other functions. Malnutrition is either directly or indirectly responsible for approximately half of all deaths worldwide.<sup>2</sup> Poor nutrition and calorie deficiencies cause nearly one in three people to die prematurely or have disabilities, according to the World Health Organisation (WHO).

## 2. Malnutrition and undernutrition: what do we know?

### 2.1. Effects of malnutrition and undernutrition

Malnutrition affects one in two people on the planet. Of these, 162 million children under the age of five are estimated to be stunted (i.e. low height for age). Two billion people are estimated to be deficient in one or more micronutrients. Nearly 1.5 billion people are estimated to be overweight and over 500 million to be obese.

Undernutrition in early life can have devastating and life-long consequences for physical growth as well as cognitive and social development. Undernutrition remains one of the major challenges in low-income countries. The consequences of undernutrition in early childhood are especially devastating and can lead to lifelong physical and mental impairments. In May 2012, health leaders worldwide adopted the Maternal, Infant and Young Child Nutrition Plan at the 65th World Health Assembly (WHA). This includes committing to reduce the number of stunted children in the world by 40 per cent by 2025. Under existing assumptions, projections from the World Health Organization (WHO) and UNICEF show that the world is not on track to meet any of the six WHA nutrition targets. Globally, little progress is being made in decreasing rates for anemia, low birth weight, wasting in children under age five, and overweight in children under age five. Progress in increasing exclusive breastfeeding rates has been similarly lackluster. More progress has been

made in reducing stunting rates in children under five, but not enough to meet the global target under current projections.<sup>3</sup>

Poor nutrition and calorie deficiencies cause nearly one in three people to die prematurely or have disabilities (WHO). Each year about 10.9 million children younger than age five in developing countries die, and 60 percent of these deaths result from malnutrition and hunger-related diseases (WFP 2010). Moreover, millions of people suffer from serious vitamin and mineral deficiencies. Hunger and malnutrition have effects that last throughout the life cycle, with poorly nourished children growing up to be less healthy and productive than they could be. Girls who do not get the nutrition they need become undernourished women who then give birth to the next generation of undernourished children.

While hunger is a major problem in sub-Saharan Africa, the excess intake of calories seriously undermines health in the Caribbean and Pacific regions. Chronic non-communicable diseases, many related to poor nutrition, now account for 57% of deaths in the Caribbean. A similar story can be told for the Pacific region, where half of the adult population is overweight. Malnutrition, in its various guises, deprives people of strength and energy, reducing their ability to work effectively. It is thus a significant cause of poverty and acts as a brake on socio-economic development.

Diets centered on cheap, calorie-dense, nutrient-poor foods (including both

“fast foods” and nutrient-poor staples) are deepening the emerging epidemic of obesity and chronic diseases in countries undergoing economic and nutrition transitions. Overweight affects more than 1

billion people globally, and obesity affects at least 300 million. The world is experiencing an overweight and obesity pandemic. At the same time the burden of disease in low- and middle-income countries is shifting rapidly from communicable to noncommunicable diseases. Micronutrient deficiencies remain a concern; anemia rates, for example, have not changed appreciably for more than 20 years and neither have wasting rates (WHO 2014a).

Estimates of undernourishment based on food supply are decreasing, but—with 805 million people below a minimum calorie threshold in 2012–2014—they are still high. Access to improved water and sanitation services is steadily improving, although large coverage gaps remain in Eastern, Western, and Middle Africa for water and in Southern and South-Eastern Asia and most regions of Africa for sanitation. Trends in female secondary education enrollment are positive for all regions, although the rate is still just 50 percent for Africa. Health services, though, are still lacking in Africa and Asia. Social protection spending is increasing rapidly in many African and Asian countries, providing a major opportunity to scale up nutrition-sensitive actions. The reader offers some ideas for agriculture; social protection; education; health; and water, sanitation, and hygiene.



## 2.2. Nutrition is central to attaining Sustainable Development Goals

The global MDG target 1c of reducing *by half the proportion* of undernourished people is within reach, if appropriate and immediate efforts are stepped up. Not only is MDG 1c within reach at the global level, but it has already been achieved by many countries. Sixty-three developing countries have already reached the target, 11 of which have maintained the prevalence of undernourishment below 5 percent since 1990–92, while another six are on track to do so by 2015. Twenty-five of the 63 countries have also accomplished the more ambitious 1996 World Food Summit (WFS) goal of halving the *number* of chronically underfed people.

However the Global Nutrition Report 2014<sup>4</sup> assessment of the Global Nutrition Targets for 2025 set by the World Health Assembly (WHA) shows that the world is not on track to meet any of these goals. Of particular concern is nutrition's low profile in the current SDG framing. There are a total 169 draft targets: 109 on what to achieve and 60 on how to achieve them. Only 1 of 109 draft “what” targets is directly related to malnutrition:

Target 2.2 by 2030 end all forms of malnutrition, including achieving by 2025 the internationally agreed targets on stunting and wasting in children under five years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women,

and older persons (Open Working Group on Sustainable Development Goals 2014)

None of the 60 “how” targets relate directly to nutrition. The broad nature of target 2.2 suggests that the nutrition community must become more engaged in the post-2015 process to position nutrition thoughtfully and strategically in the post-2015 development accountability framework. At the least, government and civil society nutrition champions should work together to embed not only targets related to stunting and wasting, but all six internationally agreed WHA targets within the 169 targets.

Encouragingly, more than two-thirds of all countries that have data on all four indicators will meet at least one goal. African countries represent about 50 percent of the countries in the groups on course to meet zero, one, and two targets. Asian countries represent 42 percent of countries on course to meet 0 targets and about 25 percent of countries on course to meet one or two targets.

It is important that nutrition is reflected in the SDGs which are the main accountability mechanism for the world and governments. They will guide investments in the next 15 years. Nutrition is in real danger of missing the boat. There are two indicators included at the moment, but the 6 WHA (World Health Assembly) indicators should be included as well as an indicator measuring dietary diversity for adult women. Having 2 out of 169 SDG indicators for a condition that leads

to 45% of all under 5 deaths and diminishes GDP by 8-11% -- there is something drastically wrong with that picture.<sup>5</sup>

The *Global Nutrition Report 2014: Actions and Accountability to Accelerate the World's Progress on Nutrition* published by the International Food Policy Research Institute. 2014 offers a number of findings regarding the progress that has been made in improving nutrition status, scaling up nutrition action, meeting the commitments made by signatories to the Nutrition for Growth Compact, and reducing data gaps.<sup>6</sup>

Addressing nutrition challenges requires effective action and alliances across a number of sectors and areas (food, health, social welfare, education, water, sanitation, and women) and across a number of actors (government, civil society, business, research, and international development partners).

## 2.3. Progress in improving nutrition status

The Global Nutrition Report 2014 summarises the progress on nutrition outcomes.

- **Improving people's nutrition status is central to attaining sustainable development.** Improvements in nutrition status will make large contributions to SDGs on poverty, food, health, education, gender, and employment. We also show that investments in nutrition have high returns.



- **Malnutrition affects nearly every country.** All countries in the world, bar two, that collect nutrition data experience one of the following forms of malnutrition: stunting, anemia, or adult overweight. If the anemia rates in the two outlier countries were just 0.6 percentage points higher, then all countries in the world with nutrition data would be classified as experiencing one of these three forms of malnutrition.
- **On a global scale, the world is not on course to meet the global nutrition targets agreed by the World Health Assembly (WHA).** Under existing assumptions, projections from the World Health Organization (WHO) and UNICEF show that the world is not on track to meet any of the six WHA nutrition targets. Globally, little progress is being made in decreasing rates for anemia, low birth weight, wasting in children under age five, and over-weight in children under age five. Progress in increasing exclusive breastfeeding rates has been similarly lackluster. More progress has been made in reducing stunting rates in children under five, but not enough to meet the global target under current projections.
- **On a country-by-country basis, though, many countries are making good progress in improving nutrition outcomes.** Of the four WHA indicators for which we can make country-level assessments, 99 countries have

sufficient data to allow for such assessments. Of the 99 countries, 68 are on course for at least one of four WHA global targets and 31 are not on course for any. Out of 109 countries that have data on stunting of children under age five, 22 are on course for meeting the WHA target. Out of 123 countries with data on wasting of children under age five, 59 are on course. Out of 107 countries with data on overweight of children under age five, 31 are on course. Finally—and of great concern—only 5 out of 185 countries with data on anemia are on course for anemia reduction. There is great potential to learn from country experiences, but it is not being exploited because of a lack of country case studies that examine the wide range of factors affecting progress.

- **There is a basis for setting more challenges targets for nutrition improvement.** In spite of the fact that the world is off course for the WHA global targets, country-level variation offer many examples of progress from which to draw ideas.
- **The face of malnutrition is changing: countries are facing complex, overlapping and connected malnutrition burdens.** Most countries experience some combination of under-five stunting, anemia in women of reproductive age, and adult overweight, therefore a complex approach needs to be urgently developed at both a resource and political level.

## 2.4. Progress on scaling up nutrition action

- **Coverage of nutrition-specific interventions is low.** The lack of national coverage data for nutrition-specific interventions indicates the low coverage of programs themselves.
- **Underlying drivers of nutrition status are improving.** Underlying drivers, such as food supply, clean water and sanitation, education, and health care, are decidedly important in terms of contribution to improving nutrition status. Access to improved water and sanitation services is steadily improving, however large coverage gaps remain in Eastern, Western, and Middle Africa for water and in Southern and South-Eastern Asia and most regions of Africa for sanitation. Health services are still lacking in Africa and Asia.
- **The potential for expanding resources to nutrition-sensitive programs** Investments in nutrition-sensitive programs and approaches that address the underlying determinants of malnutrition can be important components of a portfolio of actions to improve nutrition status. Social protection spending is increasing rapidly in many African and Asian countries, providing a major opportunity to scale up nutrition-sensitive actions. Nonetheless, more evidence on how

## Improving nutrition through accountability, ownership and partnerships

to make interventions that address underlying determinants more nutrition sensitive is necessary.

- **Countries cannot currently track their financial commitments to nutrition.** There is a need for investments in order to build the organizational capacity for countries to be able to track financial commitments to nutrition.

- **Policies, laws, and institutions are important for scaling up nutrition.** The Scaling Up Nutrition (SUN) process score approach is unique for being a participatory measurement process that stimulates reflection

among stakeholders on how they can strengthen coordinated action on nutrition. Assessments of the strength of policies, laws, and institutions can point out disconnects, such as the coexistence of weak policy environments on diabetes and populations with rates of raised blood glucose levels.

- **Nutrition accountability can and must be built.**

Civil society actors are particularly important in building accountability, although they need support to be most effective. National evaluation platforms and community feedback

mechanisms are promising ways of strengthening nutrition accountability, but they need to be piloted and evaluated.

- **Reducing Data Gaps**

There are many gaps in data on nutrition outcomes, programs, and resources. Governments and UN agencies should make a priority from ensuring that all countries can report on the WHA indicators. Data gaps represent a real issue for three nutrition-status indicators: anemia, overweight/obesity, and low birth weight; in these areas, progress is slow and one of the causes might be data.<sup>7</sup>



## 3. Undernourishment across regions

The latest FAO estimates (*The State of Food Insecurity in the World 2014*<sup>9</sup>) indicate that global hunger reduction continues: about 805 million people are estimated to be chronically undernourished in 2012–14, down more than 100 million over the last decade, and 209 million lower than in 1990–92. In the same period, the prevalence of undernourishment has fallen from 18.7 to 11.3 percent globally and from 23.4 to 13.5 percent for the developing countries.

However, about one in every nine people in the world still has insufficient food for an active and healthy life. The vast majority of these undernourished people live in developing countries, where an estimated 791 million were chronically hungry in 2012–14. About one in eight people in these regions, or 13.5 percent of the overall population, remain chronically underfed.

Despite overall progress, marked differences across regions persist.

### 3.1. Sub-Saharan Africa

Sub-Saharan Africa has the highest prevalence of undernourishment, with only modest progress in recent years. Around one in four people in the region remains undernourished. Asia, the most populous region in the world, still has the highest number of undernourished.

Southern Asia has made slow progress in hunger reduction, while more rapid

progress has been achieved in Eastern and South-Eastern Asia with the latter having already met the WFS hunger target. Latin America and the Caribbean, as a whole, met the MDG1 hunger target while Latin America has achieved the more stringent WFS target.

In general, in Africa, there has been insufficient progress towards international hunger targets, especially in the sub-Saharan region, where more than one in four people remain undernourished – the highest prevalence of any region in the world. Nevertheless, the prevalence of undernourishment in sub-Saharan Africa has declined from 33.3 percent in 1990–92 to 23.8 percent in 2012–14. Growing political commitment to promote food security

in Africa is being transformed into concrete results. Strong economic growth (7 of the 10 fast-growing economies in the world are in Africa) is improving the living conditions of its growing

population. There is greater recognition of the importance of ensuring peace and stability, the lack of which has been both cause and consequence of conflict that risks thwarting efforts to fight hunger in many countries in Africa. The situation is different in Northern Africa, which has a far lower hunger burden, with the prevalence of undernourishment consistently less than 5 percent since 1990. The apparent abrupt increase in 2012–14 and 4) is due to the addition of the Sudan to the Northern Africa region.

Undernourishment around the world, 1992–92 to 2012–14

|  | Number of undernourished (millions) and prevalence (%) of undernourishment |      |         |      |         |      |         |      |          |      |
|--|--|------|---------|------|---------|------|---------|------|----------|------|
|  | 1990–92  |      | 2000–02 |      | 2005–07 |      | 2008–10 |      | 2012–14* |      |
|  | No.  | %    | No.     | %    | No.     | %    | No.     | %    | No.      | %    |
| <b>WORLD</b>                           | 1 014.5  | 18.7 | 929.9   | 14.9 | 946.2   | 14.3 | 840.5   | 12.1 | 805.3    | 11.3 |
| <b>DEVELOPED REGIONS</b>               | 20.4   | <5   | 21.1    | <5   | 15.4    | <5   | 15.7    | <5   | 14.6     | <5   |
| <b>DEVELOPING REGIONS</b>              | 994.1  | 23.4 | 908.7   | 18.2 | 930.8   | 17.3 | 824.9   | 14.5 | 790.7    | 13.5 |
| <b>Africa</b>                          | 182.1  | 27.7 | 209.0   | 25.2 | 211.8   | 22.6 | 216.8   | 20.9 | 226.7    | 20.5 |
| Northern Africa                        | 6.0  | <5   | 6.5     | <5   | 6.4     | <5   | 5.6     | <5   | 12.6     | 6.0  |
| Sub-Saharan Africa                     | 176.0  | 33.3 | 202.5   | 29.8 | 205.3   | 26.5 | 211.2   | 24.4 | 214.1    | 23.8 |
| <b>Asia</b>                            | 742.6  | 23.7 | 637.5   | 17.6 | 668.6   | 17.4 | 565.3   | 14.1 | 525.6    | 12.7 |
| Caucasus and Central Asia              | 9.6  | 14.1 | 10.9    | 15.3 | 8.5     | 11.3 | 7.4     | 9.5  | 6.0      | 7.4  |
| Eastern Asia                           | 295.2  | 23.2 | 222.2   | 16.0 | 218.4   | 15.3 | 185.8   | 12.7 | 161.2    | 10.8 |
| South-Eastern Asia                     | 138.0  | 30.7 | 117.7   | 22.3 | 103.3   | 18.3 | 79.3    | 13.4 | 63.5     | 10.3 |
| Southern Asia                          | 291.7  | 24.0 | 272.9   | 18.5 | 321.4   | 20.2 | 274.5   | 16.3 | 276.4    | 15.8 |
| Western Asia                           | 8.0  | 6.3  | 13.8    | 8.6  | 17.0    | 9.3  | 18.3    | 9.1  | 18.5     | 8.7  |
| <b>Latin America and the Caribbean</b> | 68.5   | 15.3 | 61.0    | 11.5 | 49.2    | 8.7  | 41.5    | 7.0  | 37.0     | 6.1  |
| Caribbean                              | 8.1  | 27.0 | 8.2     | 24.4 | 8.4     | 23.7 | 7.6     | 20.7 | 7.5      | 20.1 |
| Latin America                          | 60.3   | 14.4 | 52.7    | 10.7 | 40.8    | 7.7  | 33.9    | 6.1  | 29.5     | 5.1  |
| <b>Oceania</b>                         | 1.0  | 15.7 | 1.3     | 16.5 | 1.3     | 15.4 | 1.3     | 13.5 | 1.4      | 14.0 |

Note: \* Projections.  
Source: FAO.



## 3.2. Asia

The sheer size of Asia makes it a region of extremes: 217 million Asians have overcome hunger since 1990–92; yet, it is still the region where two-thirds of the world's hungry live. Significant reductions in global hunger numbers require even greater progress in the region. While the MDG hunger target has already been achieved in Eastern and South-Eastern Asia, hunger prevalence in Southern Asia has declined, but insufficiently, since 1990–92.

As the most populous region in the world, Asia is home to two out of three of the world's undernourished people. Overall, it is close to reaching the MDG 1c hunger target, but there are large differences across its subregions.

Eastern and South-Eastern Asia have already met the target, having cut their undernutrition rates by more than half and more than two-thirds respectively. The Caucasus and Central

Asia are also on track to reach the goal by 2015, while lack of progress in

Southern and Western Asia makes it unlikely that these regions can achieve MDG 1c.

## 3.3. Latin America and the Caribbean

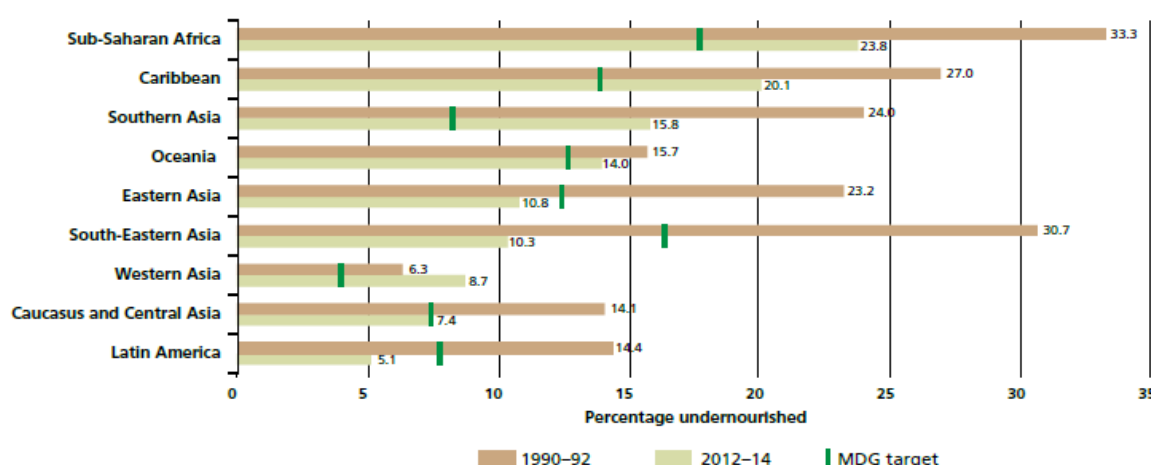
Latin America and the Caribbean is the region that has shown the greatest progress in hunger reduction, with the prevalence of hunger reduced by almost two-thirds since the early 1990s. As a whole, it has already reached the MDG hunger target and is very close to meeting the WFS target. Government-led efforts combining support for production with social protection have been supported by much wider commitment: societies have decided to end hunger; parliaments are taking responsibility, and national efforts have been pushed forward by the strong commitment of the region as a whole that became the first region to commit to the goal of zero hunger by adopting the Hunger-Free Latin America and the Caribbean Initiative 2025 nearly ten years ago – a commitment reaffirmed

by the region's leaders at recent Summits of the Community of Latin America and the Caribbean States (CELAC).

## 3.4. Oceania

Of all the developing regions, Oceania currently has the lowest number of undernourished people. However, despite the low overall burden of hunger in the region, this number has increased over the last two decades, while the prevalence of undernourishment has only registered a very modest reduction: estimates place undernourishment at 14.0 percent in 2012–14, only 1.7 percentage points below the level for 1990–92. An additional cause for concern is that rising undernourishment in Oceania has been accompanied by a growing burden of overweight and obesity, exposing the region to a significant double burden of malnutrition.

Undernourishment trends: progress made in almost all regions, but at very different rates



Note: Data for 2012–14 refer to provisional estimates.  
Source: FAO.



## 4. Understanding the linkages between agriculture and nutrition

The effects of the food crises, reduced remittance transfers, development aid and contractions in trade have negative effects on household purchasing power and welfare. To cope with these challenges, many households have been forced to reduce the quality of the food they eat and replace animal-source foods, fruits, vegetables and other micronutrient-rich foods with cheaper high carbohydrate staples. When families are forced to reduce meal frequency and total quantity of food consumed, risk increases further<sup>9</sup>. Agriculture plays a central role in increasing food availability and incomes, supporting livelihoods and contributing to the overall economy<sup>10</sup> and is thus a key factor in efforts to improve food and nutrition security<sup>11</sup>. Development of the agricultural sector is especially crucial to alleviating poverty in developing countries, where a large proportion of gross domestic product is generated within the primary sector by smallholders. For example, agricultural development has been shown to be up to four times more effective in reducing poverty relative to growth in other sectors, and growth in smallholder agricultural productivity has been shown to have a positive impact on both urban and rural populations in three key ways: lower food prices for consumers; higher incomes for producers; and growth multiplier effects through the rest of the economy as demand for other goods and services increases<sup>12</sup>. Each of these effects increases purchasing power and reduces the need to adopt harmful coping practices. Agricultural policies focused on sustainable development

practices can reduce resource-intense mono-cropping in favour of more ecologically and environmentally practices focused on maintaining biodiversity and intercropping. Ways in which agriculture can sustainably contribute to improving dietary diversity and nutrition outcomes include support for agricultural extension services that offer communities information and improved inputs; integrated agro-forestry systems that reduce deforestation and promote harvesting of nutrient-rich forest products; aquaculture and small livestock ventures that include indigenous as well as farmed species; education and social marketing strategies that strengthen local food systems and promote cultivation and consumption of local micronutrient rich foods; biofortification via research and development programmes that breed plants and livestock selectively to enhance nutritional quality; and reduction of post-harvest losses via improved handling, preservation, storage, preparation and processing techniques<sup>13</sup>. However, agricultural growth can also have a negative impact, for example by the intensified use of modern inputs (including fertilizers, pesticides, and herbicides) and irrigation practices which may also have negative consequences on human health and nutrition.<sup>14</sup>

Agriculture plays a central role in improving food availability and quality, increasing incomes, supporting livelihoods and contributing to the overall economy and is thus a key factor in efforts to improve food and

nutrition security. Development of the agricultural sector is especially crucial to alleviating poverty in developing countries, where a large proportion of gross domestic product is generated within the primary sector by smallholders. Promoting and improving food-based systems not only ensures sustainable food and nutrition security, but improves diets combating micronutrient deficiencies. However, given the complex nature and the different causes of this phenomenon, interventions targeting the agricultural sector cannot alone tackle efficiently this problem.

Ways in which agriculture can sustainably contribute to improving dietary diversity and nutrition outcomes include support for agricultural extension services that offer communities information and improved inputs; integrated agro-forestry systems that reduce deforestation and promote harvesting of nutrient-rich forest products; aquaculture and small livestock ventures that include indigenous as well as farmed species; education and social marketing strategies that strengthen local food systems and promote cultivation and consumption of local micronutrient rich foods; biofortification via research and development programmes that breed plants and livestock selectively to enhance nutritional quality; and reduction of post-harvest losses via improved handling, preservation, storage, preparation and processing techniques.<sup>15</sup>

Growth strategies should be designed with a nutritional lens and take into account what type of sector and subsectoral practices and policies can enhance nutrition. Agriculture growth strategies, for example, could contribute to increasing demand for and access to nutritious foods along the entire value chain. Value-chain approaches are already used in international development with the objective of enhancing the livelihoods of food producers but they rarely consider diet quality and nutrition.<sup>16</sup>

### 4.1. Linking nutrition with agriculture

#### 4.1.1. Benefiting from agricultural research

##### Technology and innovation

The growth of agricultural technology has been impressive during the past 25 years. Developments that carry particularly important implications for food availability and patterns of food demand and consumption are plant breeding—focused mainly on increasing yield and productivity, but more recently on increasing crop nutrient content—and technologies related to food processing and marketing<sup>17</sup>.

Agricultural technology has long focused on plant breeding and varietal improvements designed to raise productivity and yields. In the past 50 years, technological change has led to spectacular outcomes, such as the Green Revolution in wheat and rice and the broad acceptance of single-cross hybrids in maize<sup>18</sup>.

##### *Improve Nutrition through Biofortification*

Food fortification refers to the addition of micronutrients to processed foods. In many situations, this can lead to relatively rapid improvements in the micronutrient status of a population, and at a very reasonable cost. However, an obvious requirement is that the fortified food(s) needs to be consumed in adequate amounts by a large proportion of the target individuals in a population.

Biofortification is a scientific method for improving the nutritional value of foods already consumed by those suffering from hidden hunger. Scientists first breed crops whose edible portions (seed, tuber, or roots, for example) have improved nutritional value. Malnourished communities receive these biofortified crops to grow and eat. When consumed regularly, biofortified foods can contribute to body stores of micronutrients throughout the life cycle. This strategy should contribute to the overall reduction of micronutrient deficiencies in a population, but it is not expected to *treat* micronutrient deficiencies or eliminate them in all population groups.

Dietary diversity is the ultimate long-term solution to minimizing hidden hunger. This will require substantial increases in income for the poor so they are able to afford more nutritious non staple foods such as vegetables, fruits, and animal products. Biofortification can be effective in reducing hidden hunger as part of a strategy that includes dietary diversification and other interventions such as supplementation and commercial fortification. Biofortification has advantages when applied in the context of the poor in developing countries. It targets the poor who eat large amounts of food

staples daily and it targets rural areas where it is estimated that 75 percent of the poor live mostly as subsistence or smallholder farmers, or landless laborers. These populations rely largely on cheaper and more widely available staple foods such as rice or maize for sustenance. Despite urbanization and income growth associated with globalization, diets of the rural poor will continue to be heavily based on staple foods like cereals and tuber crops in many regions<sup>19</sup>. Expected increases in food prices, exacerbated by climate change, are likely to increase this reliance on staple foods.

*Ex ante* research that examined the cost effectiveness of a variety of staple crops biofortified with provitamin A, iron, and zinc in 12 countries in Africa, Asia, and Latin America found that biofortification could be highly cost-effective, especially in Asia and Africa<sup>20</sup>. This strategy relies on foods people already eat habitually, it is sustainable. Seeds, roots, and tubers can usually be saved by farmers and shared with others in their communities. Once the high-nutrition trait is bred into the crops, it is fixed, and the biofortified crops can be grown to deliver better nutrition year after year—without recurring costs.

Promising as it is, biofortification faces limitations and challenges. Agricultural scientists need to add nutrition objectives to their breeding programs, in addition to standard goals such as productivity and disease resistance. Most biofortified crops are still in the development. However, one biofortified staple food crop that has been successfully released is the orange (or orange-fleshed) sweet potato. The amounts of nutrients that can be bred into these crops are generally much lower than can be provided through

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fortification and supplementation. However, by providing 30–50 percent of the daily nutrient requirement, biofortified crops can significantly improve public health in countries where hidden hunger is widespread.

### Supplementation

Supplementation is the term used to describe the provision of relatively large doses of micronutrients, usually in the form of pills, capsules or syrups. It has the advantage of being capable of supplying an optimal amount of a specific nutrient or nutrients, in a highly absorbable form, and is often the fastest way to control deficiency in individuals or population groups that have been identified as being deficient. In developing countries, supplementation programmes have been widely used to provide iron and folic acid to pregnant women, and vitamin A to infants, children under 5 years of age and postpartum women. Because a single high-dose vitamin A supplement improves vitamin A stores for about 4–6 months, supplementation two or three times a year is usually adequate. However, in the case of the more water-soluble vitamins and minerals, supplements need to be consumed more frequently. Supplementation usually requires the procurement and purchase of micronutrients in a relatively expensive pre-packaged form, an effective distribution system and a high degree of consumer compliance (especially if supplements need to be consumed on a long-term basis). A lack of supplies and poor compliance are consistently reported by many supplementation programme managers as being the main barriers to success.<sup>21</sup>

Five key products used by WFP to

improve beneficiaries' nutritional intake:<sup>22</sup>

Fortified Blended Foods (FBFs) are blends of partially precooked and milled cereals, soya, beans, pulses fortified with micronutrients (vitamins and minerals). Special formulations may contain vegetable oil or milk powder. Corn Soya Blend (CSB) is the main blended food distributed by WFP but Wheat Soya Blend (WSB) is also sometimes used. FBFs are designed to provide protein supplements.

Ready-to-Use Foods (RUFs): RUFs are better suited to meet the nutritional needs of young and moderate malnourished children than FBFs. RUFs distributed by WFP may contain vegetable fat, dry skimmed milk, malt dextrin, sugar and whey. They are used mostly in emergency operations or at the beginning of a WFP intervention for prevention or treatment of moderate malnutrition. RUFs are to be used in addition to breast milk and other food for children (6 to 59 months) which are at high risk of developing malnutrition due to severe food insecurity. High Energy Biscuits (HEBs): They are wheat-based biscuits which provide 450kcal with a minimum of 10 grams and max of 15 grams of protein per 100 grams, fortified in vitamin and minerals. They are used in the first days of emergency when cooking facilities are scarce. Easy to distribute and provide a quick solution to improve the level of nutrition.

Micronutrient Powder or "Sprinkles": It is a tasteless powder containing the recommended daily intake of 16 vitamins and mineral for one person. Can be sprinkled onto home-prepared food after cooking just before eating.

It is useful when fortification of cereal flour cannot be implemented or when it is inadequate for specific groups.

Compressed food bars: Bars of compressed food, composed of baked wheat flour, vegetable fat, sugars, soya protein concentrate and malt extract. They are used in disaster relief operation when local food can't be distributed or prepared.

### Increasing the diversity of foods consumed

Increasing dietary diversity means increasing both the quantity and the range of micronutrient-rich foods consumed. In practice, this requires the implementation of programmes that improve the availability and consumption of, and access to, different types of micronutrient-rich foods (such as animal products, fruits and vegetables) in adequate quantities, especially among those who at risk for, or vulnerable to, micronutrient malnutrition. In poorer communities, attention also needs to be paid to ensuring that dietary intakes of oils and fats are adequate for enhancing the absorption of the limited supplies of micronutrients.

Increasing dietary diversity is the preferred way of improving the nutrition of a population because it has the potential to improve the intake of many food constituents – not just micronutrients – simultaneously. Ongoing research suggests that micronutrient-rich foods also provide a range of antioxidants and probiotic substances that are important for protection against selected noncommunicable diseases and for enhancing immune function. However, as a strategy for combating micronutrient malnutrition, increasing



dietary diversity is not without its limitations, the main one being the need for behaviour change and for education about how certain foods provide essential micronutrients and other nutritive substances. A lack of resources for producing and purchasing higher quality foods can sometimes present a barrier to achieving greater dietary diversity, especially in the case of poorer populations. The importance of animal source foods for dietary quality is increasingly being recognized, and innovative approaches to increase their production and consumption in poorer regions of the world are currently being explored. Efforts are also underway to help poorer communities identify, domesticate and cultivate traditional and wild micronutrient-rich foods as a simple and affordable means of satisfying micronutrient needs.

### 4.1.2. Promoting nutrition-sensitive value chains

**Nutrition-sensitive value chains** can be built through various interventions, including consumer knowledge and awareness campaigns that increase demand for nutrient-rich foods and new tools that improve the nutritional value of foods along the value chain.<sup>23</sup> Poor farmers will benefit if placed in a position where they can appropriate a greater amount of the returns accruing from the chain, particularly in light of the differentiation strategies pursued by global agribusiness (KIT 2010). Recent work has begun to identify how such value-chain approaches could be improved with regard to their consideration of gender, the environment, and some of the nonincome dimensions of poverty (e.g. lack of access to public services). For example, with the aim of supporting value-chain approaches that work

better for women, Gammage (2009) developed a gender-sensitive form of value chain analysis that identifies how many men and women are involved in the different activities in the chain and how the different marketing activities are targeted to different genders.<sup>24</sup>

### Marketing systems and enhancing nutrition along the value chain

The past 20 years have seen substantial change in the ways that food is marketed from farm-to-plate. An important development has been the rise of domestic and international marketing systems controlled by private actors rather than state marketing mechanisms.

Limited availability, economic constraints, lack of knowledge and information, and related lack of demand for nutritious foods are critical factors that limit poor population's access to nutritious (nutrient-rich) foods<sup>25</sup> and to diets of adequate quality. The agricultural sector could help address inadequate access to micronutrient rich foods by contributing to income generation of at risk groups, and making nutritious foods more accessible (available and affordable), of higher nutritional quality, and more acceptable.

There is a need to focus more on what happens between production and consumption. One way of addressing these issues is through the adoption of "value chain" approaches which are already used as development strategies to enhance the livelihoods of food producers, but they have rarely been used explicitly as a tool to achieve nutritional goals, and they have not been sensitive to nutritional concerns.

Value-chain analysis can be used to assess why foods are or are not available

in specific communities, why foods cost what they do, and how the nutrient quality of foods changes through the chain. Once problems are identified, value chain approaches can be used to design and implement solutions to increase the availability, affordability, and quality of nutritious foods<sup>26</sup>. Since value-chain concepts explicitly recognize that it is the coordination among the actors that enhances the ability of businesses or sectors to create value, they also encourage the type of coordinated, cross-sectoral approaches that are critically needed to address malnutrition.

It is also important to recognize, however, that there are some significant potential limitations to applying value-chain concepts to achieve nutrition goals. The focus of value chain development so far has been on "adding value" in the chain, often in ways that make products more expensive for consumers. There may be less scope to add value to products that are targeted to poor consumers. Another potential limitation is that value-chain approaches involve consumers only as end users, not as actors in the value chain, and consider "value" from an economic, rather than a nutritional, perspective. Value chains also focus on single food commodities, whereas a healthy and high-quality diet consists of a combination of different foods.

Globalization and urbanization are altering how agriculture interacts with nutrition. Earlier efforts to improve the links between agriculture and nutrition focused on production. Today agricultural markets play a more important role in determining food availability and access—a shift reinforced by the role of urbanization in increasing the ratio of market





consumers to market producers. One example of this shift concerns horticultural products. Production of fruits and vegetables has increased over recent years, yet inadequate consumption remains a problem worldwide. This gap exists partly because of failures of the market supply chain, such as postharvest losses and lack of market access by small producers, which constrain access and availability. To help address micronutrient deficiencies and chronic diseases, the horticultural and health sectors therefore need to focus not only on production, but also on leveraging and adapting aspects of the market supply chain to make fruits and vegetables more available and affordable for poor households, while also ensuring small producers' access to markets. This challenge applies to the global supply chains linking fruit and vegetable producers in Africa and Latin America to consumers in Europe and North America, as well as to smaller local markets throughout the developing world<sup>27</sup>.

The greater market orientation of food production and consumption has increased the bidirectional links between agriculture and nutrition: agriculture still affects nutrition, but food and nutritional demands increasingly affect agriculture. It is a twofold process. First, the increasing importance of the cash economy arising from globalization and urbanization is increasing the power of consumers in the marketplace. Second, the rise of the food-consuming industries (processors, retailers, restaurants) is subordinating the power of agricultural

producers, especially smallholders. In China, for example, rising incomes, urbanization, and population growth have rapidly increased consumer demand for meat. Demand from supermarkets and restaurants is now growing even faster and includes new demands for volume and specific quality attributes. This situation affects traditional backyard producers of pork (the dominant meat), who have trouble responding to such demands, and large-scale industrial producers, whose share of pork production is rising despite associated negative environmental and health impacts. The challenge for the agricultural sector is to respond to the increasing power of consumers and the food-consuming industries without leaving behind smaller, poorer farmers. At the same time, as diets change, the challenge for the health sector is to encourage consumers—and the food-consuming industries—to demand nutritious foods from agriculture. As past experience has shown, more income and greater market orientation is not always associated with good nutrition—a lesson reinforced by the rise of obesity and chronic diseases.

### 4.1.3. Recognizing women's contribution to nutrition

Women are key players in food systems. The link between health and productivity is particularly important for women due to their role in food production, food preparation, and child care. A number of studies have found that children's nutrition is higher when women have more control over

household resources. For example, evidence<sup>28</sup> clearly shows that women's higher status—as measured by women's relative decision-making power and the degree of equality between women and men—is a significant and positive determinant of children's nutritional status. Furthermore, households in which women have more resources often spend more on household and child nutrition—improving diet quantity and quality—than male-dominated households<sup>29</sup>.

Another example shows that, holding income constant, members of female-headed households in Rwanda and The Gambia consumed 377 and 322 more calories daily (per adult equivalent), respectively, than those of male-headed households<sup>30</sup>. Evidence from Brazil shows that the effect of women's income on nutrition is four to eight times that of men's income<sup>31</sup>. Studies in Côte d'Ivoire and Ethiopia found that women's income and assets brought into marriage, respectively, have a positive effect on food expenditures, whereas men's income increased expenditures on clothing, alcohol, and cigarettes<sup>32</sup>. In fact, low-income, female-headed households often exhibit better nutrition than higher-income male-headed households<sup>33</sup>. However, while agricultural growth that benefits women can lead to improved household and child nutritional status through higher incomes among women, it can also have a negative impact on nutrition by changing time and labor allocation patterns, reducing women's time for childcare and the quality of food provided by the mother.<sup>34</sup>

## 5. Developing and Sustaining Initiatives and Innovative Partnerships for nutrition through increased accountability

Between 2010 and 2012, commitments from 13 donors to nutrition-specific interventions rose by 39 percent, and disbursements rose by 30 percent. Nutrition-sensitive donor commitments declined by 14 percent, but nutrition-sensitive disbursements for the 10 donors that reported data increased by 19 percent. The percentage of official development assistance disbursed to nutrition in 2012 was just above 1 percent. Donor reporting on nutrition is becoming more harmonized but has further to go owing to differences in definitions and timing.<sup>35</sup>

Since 2010 the EU has placed itself at the forefront of global efforts to fight under-nutrition. In 2012 at the Olympics Games in London, the EU committed to an ambitious objective: reducing stunting in children under 5 by at least 7 million by 2025, corresponding to 10% of the WHA targets in terms of stunting. This commitment was translated into its policy framework in the form of the “Enhancing maternal and child nutrition” Communication, adopted by the EU Council in May 2013. One month later, at the London Nutrition for Growth event, the European Commission pledged €3.5 Billion during the 2014-2020 programming period to attain this target. In July 2014, the EC released its Nutrition Action Plan describing the measures to be implemented to achieve its stunting reduction target. The EU will address nutrition through three interlinked strategic priorities: 1)

enhancing political mobilisation and awareness, 2) Scaling-up nutrition interventions and 3) increasing research and knowledge for nutrition.

### **A multisectoral approach and an enabling environment to address malnutrition**

Hunger, food insecurity and malnutrition are complex problems that cannot be solved by a single stakeholder or sector. The responsibility of addressing malnutrition does not rest solely with governments, but requires a multidimensional approach where civil society holds governments to account in their commitments and the private sector supports scaling up through innovative interventions. National evaluation platforms and community feedback mechanisms are promising ways of strengthening nutrition accountability, but they need to be piloted and evaluated. National and international nutrition research programs that are driven by the problems of countries themselves are likely to improve accountability at the national level.

To improve accountability, funders should invest in increasing staffing capacity in national CSOs and finance the process of collecting and collating information on Non-communicable diseases (NCD) policy implementation and indicators of good nutrition governance.

An enabling environment for food security and nutrition should reflect commitment and capacities across four dimensions: policies, programmes and legal frameworks; mobilization of human and financial resources; coordination mechanisms and partnerships; and evidence-based decision making. Through targeted efforts across those dimensions, the actors and sectors concerned contribute to enhancing food security outcomes.<sup>36</sup>

The 2013 Nutrition for Growth (N4G) Summit in London gathered more than 90 signatories who made commitments to nutrition with the collective ambition of, by 2020:

- ensuring that at least 500 million pregnant women and children under age two are reached with effective nutrition interventions,
- preventing at least 20 million children under age five from being stunted, and
- saving at least 1.7 million lives by reducing stunting, increasing breastfeeding, and treating severe acute malnutrition.
- The signatories pledged more than US\$4 billion in extra financing for undernutrition reduction until 2020.

The Second International Conference on Nutrition, which took place in Rome in 2014, endorsed a political outcome document, the Rome Declaration on Nutrition, as well as the Framework for Action, renewing the commitment





of countries to eradicate hunger and prevent all forms of malnutrition worldwide and providing a set of voluntary policy options and strategies for use by governments. The challenges of malnutrition as identified in The Rome Declaration on Nutrition are (i) poverty, underdevelopment and low socio-economic status; (ii) the lack of access at all time to sufficient food; (iii) poor infant and young child feeding and care practices, poor sanitation and hygiene, lack of access to education etc.; (iv) epidemics, such as of the Ebola virus disease.<sup>37</sup>

### 5.1. Initiatives in support of Nutrition

#### a. The United Nations

The right of everyone to have access to safe and nutritious food, consistent with the right to adequate food and the fundamental right of everyone to be free from hunger was reaffirmed within the Rome Declaration on World Food Security in 1996 at the World Food Summit. The World Food Summit Plan of Action defined food security as existing “when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life.”<sup>38</sup> According to FAO latest estimates, about 805 million people were estimated to be chronically undernourished in 2012–14.<sup>39</sup>

**The United Nations Standing Committee on Nutrition (UNSCN)**, created in 1977, represents the food and nutrition policy harmonization

forum of the United Nations. The mandate of the UNSCN concerns promoting cooperation among UN agencies and partner organizations in support of community, national, regional, and international efforts to end malnutrition in all of its forms in this generation. The UNSCN refines the direction, strengthens the coherence and impact of actions against malnutrition worldwide, raises awareness of nutrition problems and mobilizes commitment to solve them at global, regional and national levels.<sup>40</sup>

The **Committee on World Food Security (CFS)** is an intergovernmental body that serves as a forum in the United Nations System to review and follow-up of policies concerning world food security including production and physical and economic access to food. The role of the project is to ensure that the right to food is prominent in the CFS advise. The CFS focuses its work on four key issues related to food security and nutrition: land tenure and international investment in agriculture, climate change, food price volatility and addressing food insecurity in protracted crisis.

The project prepares and provides CFS members and its global platform with studies that synthesize insights from the integration of right to food principles and good governance practices in food security policies at regional and national levels. Moreover, it facilitates the incorporation of the right to food in the Global Strategic Framework for Food Security and Nutrition (GSF) through analytical inputs and through the consultations hosted by the Global Forum on Food Security and Nutrition (FSN Forum).<sup>41</sup>

Achieving food security for all is at the heart of the **Food and Agriculture Organization of the United Nations (FAO)**’s efforts. The main three goals on which FAO concentrates its efforts are the eradication of hunger, food insecurity and malnutrition; the elimination of poverty and the driving forward of economic and social progress for all; and, the sustainable management and utilization of natural resources.<sup>42</sup> The Strategy and Vision for FAO’s work in Nutrition prepared in 2014 acknowledges that improving nutrition is essential to achieving FAO’s vision of a world without hunger and recognizes that combating malnutrition in a sustainable way requires a comprehensive approach. In this respect, FAO’s role is to provide support to Member Nations in their efforts to increase the effectiveness of food and agricultural systems in improving nutrition across the life cycle for their populations, working with partners at global, regional and national levels. FAO has a unique role to play as a knowledge leader, provider of global public goods and trusted presence at country level. It also serves to create and share knowledge, bring stakeholders in nutrition together and help align their actions for the greatest impact. More in particular, FAO works to strengthen the capacity of countries to evaluate and monitor the nutrition situation, analyse options and act effectively in improving nutrition.<sup>43</sup>

The **World Health Organization**, and particularly its Department of Nutrition for Health and Development focuses its work on developing guidance on population dietary goals and evidence informed policies and programmes; disseminating and advocating for the adoption of evidence-informed policies

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and programmes and support country adaptation; monitoring global trends in nutrition and supporting surveillance in countries.

In order to implement the strengthening of evidence-informed nutrition guidance, the WHO Nutrition Guidance Expert Advisory Group (NUGAG) was established in 2010. The NUGAG provides advice to WHO on the following issues: the scope of the guidelines and priority questions for which systematic reviews of evidence will be undertaken; the choice of important outcomes for decision-making and developing recommendations; the interpretation of the evidence with explicit consideration of the overall balance of risks and benefits; the final formulation of recommendations, taking into account the quality of evidence generated and compiled as well as diverse values and preferences, costs, and feasibility.<sup>44</sup>

The **World Food Programme (WFP)** represents the food aid arm of the United Nations system; food aid is one of the numerous instruments that can help to promote food security. The policies which governs the use of World Food Programme food aid needs to be oriented towards the purpose of eradicating hunger and poverty: the final objective of food aid is the elimination of the need for food aid. The poorest people— who, either constantly or during certain crisis periods, are incapable to produce enough food or do not have the resources to obtain the food that they and their households require for a healthy live—need targeted interventions. The main policies and strategies that govern WFP work are to provide food aid to save lives in refugee and other emergency situations; to improve the nutrition and quality of life of the most vulnerable people at critical

times in their lives; and to help build assets and promote the self-reliance of poor people and communities. Examples of WFP Programmes are Cash and Vouchers, Food Assistance For Assets, HIV, TB, Food Insecurity & Malnutrition etc. Furthermore, in the event of an emergency, WFP establishes how much food assistance is necessary and the best way to deliver it, in collaboration with UN Emergency Assessment Teams. WFP's emergency operations cover three main kinds of crises: sudden disasters; slow-onset disasters; complex emergencies.<sup>45</sup>

### The **Zero Hunger Challenge (ZHC)**

is a global call-to-action, based on a shared conviction that hunger can be eliminated in our lifetimes, launched by the UN Secretary General Ban Ki-moon in 2012 and calls on everyone – governments, the private sector, NGOs, the public – to contribute in order to turn the vision of achieving Zero Hunger into facts. Five key elements govern the ZHC vision: zero stunted children less than 2 years; 100% access to adequate food all year round; all food systems are sustainable; 100% increase in smallholder productivity and income; zero loss or waste of food. The eradication of hunger refers also to investments in agriculture, rural development, decent work, social protection and equality of opportunity. It will contribute to better nutrition for all – particularly women from the beginning of pregnancy and children under the age of two. Moreover, it can play a significant role for peace and stability and in reducing poverty. The UN Secretary-General considers the elimination of hunger as a top priority. The Zero Hunger Challenge encourages participation by a range

of organizations, social movements and people around a common vision. They promote effective strategies, more investments and increased development cooperation, in line with existing national and international agreements. They strive for results and are accountable for their efforts – particularly to those who are hungry.<sup>46</sup>

### **b. Scaling Up Nutrition (SUN)**

In 2009, Scaling Up Nutrition (SUN) was founded on the principle that all people have a right to food and good nutrition. It is a unique Movement that unites people—from governments, civil society, the United Nations, donors, businesses and researchers—in a collective effort to improve nutrition. **SUN is a country-led movement which gathers organizations from various sectors to support national plans in order to scale up nutrition. These actors contribute** to ensure that financial and technical resources are accessible, coordinated, predictable and ready to go to scale. The Movement focuses on promoting the implementation of evidenced-based nutrition interventions, and integrating nutrition goals into broader efforts in critical sectors (health, social protection, development and agriculture). The SUN Approach encompasses nations, organisations and individuals working to strengthen nutrition and acknowledging that malnutrition has multiple causes. The challenges of malnutrition include both factors that most people would generally associate with nutrition, as well as factors that impact the broader context of life and health. Along these lines, the SUN Movement looks to implement both specific nutrition interventions and nutrition-sensitive approaches.<sup>47</sup>

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The **International Food Policy Research Institute (IFPRI)** seeks sustainable solutions for ending hunger and poverty. The 2020 Vision for Food, Agriculture, and the Environment is guided by IFPRI's vision of a world in which every person can access sufficient food to sustain a healthy and productive life, in which malnutrition is absent, and in which food derives from efficient and low-cost food systems compatible with sustainable use of natural resources.

The 2020 Vision Initiative has two fundamental objectives: (i) to develop and promote a shared vision and consensus for action in favor of meeting food needs while reducing poverty and protecting the environment; and (ii) to generate information and encourage debate to influence action by national governments, NGOs, the private sector, international development institutions, and civil society. The Initiative fully supports the Millennium Goals and seeks to contribute to their achievement by 2015.<sup>48</sup>

**The World Bank** acknowledges that undernutrition represents one of the world's most serious but least addressed public health challenges. Its human and economic consequences are enormous, falling hardest on the very poor and on women and children. In this regard, the World Bank endorses *Scaling Up Nutrition: A Framework for Action*, which sets forth principles and priorities for action to address undernutrition and help countries reach the Millennium Development Goals by 2015.

There are four main elements guiding the framework: a. start from the principle that what ultimately matters is what happens at the country level, which emphasizes the importance of individual country nutrition strategies and programs; b. sharply scale up evidence-based cost-effective interventions to prevent and treat undernutrition, with highest priority to the minus 9 to 24-month "window

of opportunity" where we get the highest returns from investments; c. take a multisectoral approach that includes integrating nutrition in related sectors and using indicators of impact on undernutrition as one of the key measures of overall progress in these sectors; d. provide substantially scaled up domestic and external assistance for country-owned nutrition programs and capacity.<sup>49</sup>

**Action Against Hunger** is a global humanitarian organization committed to ending world hunger, working to save the lives of malnourished. Its work focuses on: (i) the evaluation of nutritional needs: Action Against Hunger collects baseline data on key nutritional indicators like local capacities and resources, cultural practices, infrastructure, and geography in order to assess the root causes of a malnutrition outbreak; (ii) treat acute malnutrition: treat cases of severe acute malnutrition with inpatient care and with community-based, outpatient programs; (iii) prevent acute malnutrition: prevention activities provide Ready-to-Use Therapeutic Foods to patients discharged from therapeutic care, children with moderate acute malnutrition, and children in communities faced with seasonal hunger; (iv) build local capacity: strengthening public health systems to combat malnutrition. When crises subside, Action Against Hunger ensures local capacity is in place to support continued improvements in communities' nutritional health.<sup>50</sup>

The Bill and Melinda Gates Foundation's Nutrition Strategy concentrates its efforts on delivering proven interventions and developing better tools and strategies for providing pregnant women and young children with the foods and nutrients they need. Special attention is paid to women before and during pregnancy and for children from birth to age 2—when nutrition is most critical to growth and development and

lifelong health. The four main areas of focus are promoting healthy growth; improving breastfeeding practices; addressing micronutrient deficiencies; advocating for better nutrition funding and policies.<sup>51</sup>

**The Global Alliance for Improved Nutrition (GAIN)** is focused on finding solutions to end malnutrition within our lifetimes. Its areas of work address mainly the following challenges:

- stunting: GAIN focuses on improving maternal and child nutrition, particularly in the first 1,000 days from conception through to a child's second birthday, to break intergenerational cycles of malnutrition and stunting;
- micronutrient deficiencies: focus on providing critical technical assistance to improve standards and food safety in existing programs, and strengthening national partnerships and long-term industry and government commitment in our current projects and new countries;
- dietary diversity: developing programs to trial innovative new technologies such as biofortification to breed higher levels of micronutrients into staple foods like sweet potatoes or maize, and new techniques to fortify staple foods such as soaking rice with zinc;
- mothers and children: exploring new ways of reaching mothers — through public forums, women's self-help groups, workplace groups and mobile technology; and developing innovative behavior-change programs to address pressures on new mothers from their own communities and irresponsible promotion of breast milk substitutes, both of which can result in a lack of confidence in ability to breastfeed or care for their children;
- adolescent girls: focus programs on adolescent girls and women of reproductive age to improve their nutrition, health and productivity, as well as prevent low birth weight and stunting in their future children.<sup>52</sup>

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### c. The European Union support to nutrition

The European Union is a major actor in terms of food and nutrition security. In the framework of the 2012 London Global Hunger Event, the Commission has taken a political commitment to support partner countries in reducing the number of children under five who are stunted by at least 7 million by 2025. The 2013 “Enhancing Maternal and Child Nutrition in External Assistance: an EU Policy Framework” is the Commission’s response to achieving this target and more broadly, to reducing overall maternal and child undernutrition. It aims to improve the nutrition of mothers and children in order to reduce mortality and diseases, as well as the impediments to growth and development caused by undernutrition. The EU Framework on Nutrition seeks to tackle undernutrition from both the development and humanitarian perspective. Three strategic priorities are outlined: the EU aims at a stronger mobilisation and political commitment for nutrition at country and international level (inter alia through the SUN movement); in order to enable a sustainable change for people suffering from undernutrition, nutrition interventions will be stepped up at country level; the EU will invest in applied research and support information systems. It will also provide technical expertise for the implementation of support. The EU Policy Framework on Nutrition outlines the guiding principles:

- EU support is to the largest extent possible aligned with partners’ policies and priorities, in line with aid effectiveness principles;
- The EU aims to ensure maximum complementarity and sequencing between humanitarian and development interventions;
- The EU should respond through multiple sectors to address the various determinants of

undernutrition;

- Nutrition development interventions will give priority to creating the right conditions for optimal growth during the ‘crucial window of opportunity’ of the first ‘1 000 days’ between conception and two years of age;
- The EU will strengthen its collaboration with institutional actors: partner countries, EU Member States and other bilateral donors, international organisations and global networks (e.g. SUN; humanitarian cluster system). In addition, the EU should expand and strengthen its partnerships with non-institutional actors;
- The EU should seek further collaboration with the private sector.<sup>53</sup>

In 2014, the EU has adopted an Action Plan on Nutrition that describes the actions leading to the attainment of these objectives, identifying the elements necessary for a more effective and accountable response to the fight against under nutrition. More specific actions are defined country by country in the National Indicative Programmes for the 2014-2020 programming period. The Commission efforts in tackling undernutrition will contribute to broader international efforts on nutrition, most notably those of: the World Health Assembly (WHA), and the resolutions passed in 2012 which endorsed 6 global targets focusing on maternal and child nutrition; and the Scaling-Up Nutrition movement (SUN movement), that seeks to harness the capability and willingness of international stakeholders in support of national government-led initiatives and priorities to tackle under nutrition.<sup>54</sup>

On the research side, the **CGIAR Research Program on Agriculture for Nutrition and Health (A4NH)** led by the International Food Policy Research Institute (IFPRI), helps realize the

potential of agricultural development to deliver gender-equitable health and nutritional benefits to the poor. It was created to help ensure that agricultural practices, interventions, and policies will maximize health and nutrition benefits, while reducing health risks.

### d. Regional initiatives

#### - **Africa**

Malnutrition represents both a cause and consequence of African burden of poverty, mortality and illness. According to FAO statistics, about 226 million persons on the African continent are estimated to be undernourished in 2012-2014.<sup>55</sup> Despite significant progress in developing regions as a whole, important differences remain across regions. Northern Africa has low prevalence of hunger at less than 5 percent, whereas Sub-Saharan Africa has the highest prevalence of undernourishment of any region in the world: one in four people remain chronically hungry. Nonetheless, the prevalence of undernourishment in Sub-Saharan Africa has diminished from 33.3 percent in 1990-1992 to 23.8 percent in 2012-2014. Sub-Saharan Africa faces the greatest food security challenges: slow progress has been seen in improving access to food, with insignificant income growth, high poverty rates and poor infrastructure, hampering physical and distributional access. Food availability remains low and food utilization represents a major concern, as the high prevalence of stunted and underweight children under five years of age indicates. Insufficient progress has been made in order to improve access to potable water and satisfactory sanitation facilities. The instability of food is significant, mainly due to political situation, hostilities and civil strife.<sup>56</sup>

Two-thirds of people in Africa lack critical vitamins and minerals, and the widespread vitamin A deficiency determines the unnecessary death



of about 600.000 African children because of common childhood diseases. More than 16.000 women die each year during childbirth because of anemia and more than 2 million African babies die just before or after birth as a result of their mother's anemia.<sup>57</sup>

Furthermore, malnutrition is devastating as it blunts intellect, reduces productivity, and it perpetuates poverty for family and society. In Eastern and Southern Africa, stunting is of a particular concern: more than 25 million representing 40 per cent of children under five years of age are suffering from it. Moreover, 18 per cent are underweight and 7 per cent are suffering from acute malnutrition. Among factors contributing to malnutrition in children are the low rate of exclusive breastfeeding from birth to six months of a child's life; inadequate complementary feeding for children older than six months; low consumption of iodized salt by households, low vitamin A coverage for children under-five, anemia during pregnancy etc.<sup>58</sup>

Responding to this both health and humanitarian crisis represents not only a moral, but also an economic, welfare, social protection and a human rights issue, as characterized by the World Bank. Lifting Africa's burden of malnutrition is crucial in order to improve the prospects for economic and social renewal on the continent.<sup>59</sup>

Against this background, African governments have addressed the challenge of malnutrition-at the International Conference on Nutrition (ICN) in 1992, where a World Declaration and Plan for Nutrition was unanimously adopted by 159 countries, stressing the determination to work together to eliminate hunger and all forms of malnutrition. Governments and other concerned parties signed for efforts to eliminate before the end of the 1990s famine and famine-related deaths, starvation and

nutritional deficiency diseases, iodine and vitamin A deficiencies, as well as reducing substantially starvation and chronic hunger, undernutrition, other micronutrient deficiencies etc. The World Declaration on Nutrition recognized that poverty, social inequality and the lack of education were the root causes of malnutrition and it focused mainly on the strategies and actions necessary to reach the above mentioned objectives.<sup>60</sup>

The **African Regional Nutrition Strategy (ARNS)** document was prepared and presented at the first ICN as an African common position response to the food and nutrition crisis. Most Member States used it in order to draft their own National Plans of Action on Nutrition depending on individual country's socio-economic circumstances. Nonetheless, in the context of a general stagnation or declination of African economies, food production worsen and therefore ARNS 1993-2003 had to be reviewed. The African Regional Nutrition Strategy 2005-2015 represents a renewed commitment towards the improvement of the nutrition situation and Africa's contribution to the attainment of the Millennium Development Goals. Its main objectives are to increase awareness among governments of the Region and the regional and international development partners; to advocate for renewed focus of efforts by member states; to stimulate action at the national and regional level etc.<sup>61</sup>

Furthermore, through the elaboration of the **Comprehensive Africa Agriculture Development Programme (CAADP)** in 2003 by African leaders, malnutrition, hunger and food insecurity were identified as major challenges requiring immediate action. Accordingly, it was decided that a robust tool and guiding document was needed to address the multi-sectoral nature of nutrition, which led to the Pan African Nutrition

Initiative, drafted in 2005 and refined to finality in 2008. Both the problems and the solutions are seen through "Nutrition Lens", a tool which creates opportunities to: review the potential impact of agricultural and other sectors on nutrition; define optimal nutritional inputs from each sector; identify opportunities to integrate nutritional initiatives across multiple sectors; and provide a multi-sectoral implementation framework to manage programs and monitor results.<sup>62</sup>

A significant regional initiative is also the **Africa Solidarity Trust Fund for Food Security** launched in 2013. The Fund represents an African-led innovative mechanism of mobilizing resources from Africa for Africa, intended to improve food security across the continent. Its role is to assist countries and regional organizations in their efforts to eradicate hunger and malnutrition, to eliminate rural poverty and to manage natural resources in a sustainable way.

In 2014, The FAO Regional Initiative, "Renewed Partnership to End Hunger in Africa by 2025" seeks to support countries in their efforts to deliver programmes which contribute to eradicate hunger. The Renewed Partnership to End Hunger in Africa by 2025 was established in 2012 by the African Union Commission, its NEPAD Planning and Coordination Agency (NPCA), the Lula Institute and FAO. In 2013, a high-level meeting was organized by the four partners whose outcome was a "Declaration to End Hunger" and a "Road Map for Implementation", which was subsequently endorsed at the 2014 African Union summit in Malabo and incorporated as the "Commitment to Ending Hunger in Africa by 2025". The Regional Initiative provides support to the Governments of Angola, Ethiopia, Malawi and Niger in order to enhance national capacities to coordinate and finance nutrition and food security



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interventions. It also represents a key pillar of FAO's work in the Africa region. The expected results to be achieved under this Regional Initiative concern a common vision and political commitment among country and subregional stakeholders; a shared analysis, comprehension and a coherent set of strategies, but also enhancement of the institutional, organizational and human capacities required; common results and accountability framework for all stakeholders for aligning actions to country priorities; further support to government, other actors and development partners in implementing a framework for the eradication of malnutrition and hunger; and workable models, cost-effective mechanisms and improved capacities for delivering services adopted by vulnerable households, smallholder producers and other civil society and private-sector actors.<sup>63</sup>

In addition, The **Cost of Hunger in Africa (COHA) Project**, a regional initiative led by the African Union Commission and presented to the African Union Conference of African Ministers of Economy and Finance in 2013, aims at estimating the economic and social costs of child undernutrition in Africa. The COHA study is an initiative that stresses a new understanding by African governments of child undernutrition as a health, social and economic issue. It also highlights the African Union's leadership in addressing development issues, as well as the joint efforts among governments and other concerned actors on the continent.<sup>64</sup>

### - **The Caribbean region**

According to the FAO latest estimates, Latin America and the Caribbean is the region where the greatest progress in hunger reduction was reached, with the prevalence of hunger reduced by almost two-thirds since the early 1990s. The region has already

accomplished the MDG hunger target by a comfortable margin and it almost met the WFS target. Efforts led by governments combining support for production and social protection have been reinforced by a wider commitment: societies and parliaments have decided to end hunger and take responsibility. To date, this region possesses the most successful developing region record in enhancing food security. However, the Caribbean region has been slower in fighting undernourishment. As a whole, the region has managed to decline the prevalence of undernourishment to 6.1 percent, which is little more than one-third of its hunger burden in the early 1990s.<sup>65</sup>

The **Hunger Free Latin America and the Caribbean Initiative 2025** was born in a context where 37 million people -6.1% of the population- still suffer from hunger and malnutrition-and it represents a commitment from the countries and regional organizations to contribute to create the conditions that will allow eradicating hunger permanently by 2025.<sup>66</sup> The main cause of undernourishment in the region is not the lack of food, but the improper distribution and unequal access by the poorest sectors to these goods. The initiative was launched in 2005 during the Latin American Summit on Chronic Hunger in Guatemala and has an ambitious, clear goal, which is to reduce the impact of chronic child malnutrition to under 2.5% in all the countries of the region by 2025. This aim is in line with the third goal of the first MDGs, specifically to reduce to half, between 1990 and 2015, the percentage of people that suffer from hunger. From the very beginning, the Initiative has had the strong support of the FAO and the Spanish Agency for International Development Cooperation (AECID).<sup>67</sup>

In the same line, a further regional

initiative in the Caribbean region with the support of the FAO is "Improving Food Systems in the Caribbean", which addresses two elementary problems in the Caribbean region: first, limited value chain development of food and feed crops; second, low utilization of domestic agricultural products. Through improved policy and governance for increased investment, production, employment, trade and consumption, priority countries are expected to achieve sustainable food systems which will result in improved access to quality food and thus improved nutrition. Priority countries are the most vulnerable member countries of CARICOM, particularly Belize, Grenada, Guyana, Haiti, Jamaica, St. Vincent and the Grenadines and Suriname.

In October 2010, the Member States of the Caribbean Community have endorsed the **Regional Food and Nutrition Security Policy (RFNSP)**, which gives effect to the commitment made by Heads of Government in the Liliendaal Declaration (July 2009). Food security and nutrition represent a multi-dimensional issue and its achievement requires a holistic approach; nonetheless, the different dimensions of food security and nutrition have been addressed separately by the Caribbean Community and thus, policies have not had the desired results. The RFNSP was born from the need to achieve an integrated, multi-sector and regional approach for the achievement of food security and nutrition. Its aim is "to ensure that the regional food production, processing, distribution, marketing, trade, and food safety and agricultural public health system is capable of providing safe, adequate, nutritious and affordable food for the region's inhabitants at all times, thereby achieving food and nutrition security".<sup>68</sup> The RFNSP seeks to provide a policy framework for the period 2011-2025 that encompasses

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the major orientations and elements of the regional development agreements and initiatives in order to translate them into concrete policy priorities which shall serve as a guide for the design, implementation and monitoring of strategic action programmes to address the challenges of food security and nutrition in CARICOM. Within this coherent and comprehensive framework, national governments, civil society and private sector actors can join forces with regional organizations in order to achieve the four objectives: food availability; food access; proper food utilization for good health, nutrition and wellbeing; and stable and sustainable food supplies at all times.<sup>69</sup>

The same year, the **Regional Food Security and Nutrition Programme for Central America (PRESANCA II)** of the Integration System of Central America (SICA) was launched, which seeks to contribute to the reduction of food and nutrition insecurity in the most vulnerable populations in Central America. PRESANCA II stresses the strengthening of the Regional Strategy for Food and Nutrition Security, with particular emphasis on the political and regulatory processes, knowledge management, and territorial development. PRESANCA II develops two programmes: (i) the Regional Masters Programme on Food Security and Nutrition (MARSAN) which focuses on local management, public management of national programmes, regional integration, and systems of information and (ii) Nutrition Security and Local Development in Central America (TECNISAN). The project has developed regional training workshops on the right to food and tools and materials for applying a human rights-based approach to policies, legislations, programmes, as well as district plans relevant for food security and nutrition.<sup>70</sup>

In 2011, as part of the XLV meeting of Central American Council of Human

Rights Ombudsmen (CCPDH) in El Salvador, a declaration on the Right to Food was passed, emphasizing the need to enforce this right through concrete actions at national and regional levels and urging the States to adopt Food and Nutrition Security as a state policy. The Declaration also requests the States to take action on legislation and institutions building; public policy; allocation and implementation of budgetary resources; monitoring and evaluation; participation of citizens and social movements; implementation and monitoring.<sup>71</sup>

Commitments to eradicate hunger were reaffirmed at the recent summit in Santiago de Chile in March 2015, where the Community of Latin American and Caribbean States (CELAC) and FAO have aligned their efforts under a common goal, which is the eradication of hunger in all countries of the region by 2025. To this target, the main tool is the recently approved Plan for Food Security, Nutrition and Hunger Eradication of CELAC, created by the countries of the region with technical support from FAO, the Latin American Integration Association (LAIA), and the Economic Commission for Latin America and the Caribbean (ECLAC). CELAC's Food Security Plan is based on four pillars that seek to provide a holistic approach to food security challenges: (i) *Coordinated strategies for food security through national and regional public policies*; (ii) *Timely and sustainable access to safe, adequate, sufficient and nutritious food for all people*; (iii) *Nutritional wellness for all vulnerable groups*; (iv) *Ensuring stability of production and timely response to natural and man-made disasters*.<sup>72</sup>

### - The Pacific Region

In the Pacific, food security is being threatened by declines in vulnerability to climate change, illegal fishing and overfishing, volatility in international

commodity prices, and unsuccessful attempts to enact and enforce food safety and quality standards. All these threats and many others hinder productivity, development and trade and lead to greater risk of chronic diseases, child malnutrition, vitamin and mineral deficiencies and food-related diseases. Consumption of high-fat, energy-dense contributes to obesity: people living in Pacific have one of the highest prevalence rates of obesity in the world, with rates of 40 per cent or more in many countries. Besides, level of hypertension is also high throughout the Pacific; obesity and hypertension are significant risk factors for diabetes, heart diseases and cancer. Iron-deficiency anaemia is reported to be 20 percent or higher in pregnant women and children. Iodine and vitamin A deficiency represent serious health challenges in the region.<sup>73</sup>

In this context, a Pacific Food Summit was called for by Ministers at the 7<sup>th</sup> Pacific Health Ministers meeting in 2007 in Vanuatu. Furthermore, in 2008, the Pacific Island Forum Leaders made food security a priority in the Pacific, and in 2009 Ministers of Trade, Agriculture and Health endorsed the concept of a Pacific Food Summit. The Pacific Food Summit took place in Port Vila, Vanuatu, in 2010 whose objectives were as it follows: to review challenges of food security in the Pacific region and identify best practices for improving food security; to finalize and endorse a Framework for Action and Food Security; to agree on a process for advocating the endorsement of the Framework by Pacific Forum Leaders and governments.<sup>74</sup> The Framework for Action on Food Security in the Pacific outlines seven themes related to improving food security: leadership and cooperation; regulatory frameworks, enforcement and compliance, and public-private sector collaboration; enhanced and sustainable production, processing

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and trading of safe nutritious local food; protecting infants and vulnerable groups; consumer empowerment and mobilizing partners; food security information system; land transport, energy, education and ICT as enabling mechanism.<sup>75</sup>

Furthermore, following the launch of the global Zero Hunger Challenge (ZHC) in 2012, a ZHC for the Asia-Pacific region was launched in 2013 by the UN and associated agencies. As a result, a “Regional Guiding Framework for Achieving Zero Hunger in Asia and the Pacific” was prepared by the UN

Regional Thematic Working Group on Poverty and Hunger, calling for all stakeholders to take action at country level. The Regional Initiative focuses on three specific and complementary areas of work: formulating or operationalizing national food security and nutrition policies and investment plans, improving capacity for measurement and calculation of undernourishment, improving child nutrition and reducing stunting.<sup>76</sup>

More recently, in 2014, the Value Chains for Food Security and Nutrition in the Pacific Islands Regional Initiative was

launched and its main objective is developing local value chains for food and nutrition security, particularly to improve capacities of local food producers and business to supply more food to domestic and tourist markets for the purpose of meeting the demands for a balanced and nutritious diet and reducing food and feed imports. The initiative is being implemented through three main areas: building the evidence base; establishing the regional enabling environment; and national level action in three focus countries-Cook Islands, Samoa and Fiji.<sup>77</sup>





## 6. Successes in countries

Drivers of success involve various dimensions such as strong policies, programmes and legal frameworks addressing the immediate and underlying causes of food insecurity and malnutrition; human and financial capacity and partnerships to support those. We illustrate below some examples in selected countries.

### 6.1. Brazil: a successful multisectoral and multistakeholder approach<sup>78</sup>

Brazil achieved both the MDG target of halving the proportion of its people who suffer from hunger and the more stringent WFS target of reducing by half the absolute number of hungry people. This achievement is consistent with the overall improvement in human development and reduction in inequality that the country experienced in recent years. Progress towards these internationally established targets was accelerated when ending hunger was put at the

centre of Brazil's political agenda. Ensuring that all people could eat three meals a day became a presidential and government priority in 2003, with the launch of the Zero Hunger programme. Between 2000–02 and 2004–06, the undernourishment rate in Brazil fell by half from 10.7 percent to below 5 percent.

The Zero Hunger programme comprised an integrated set of actions across 19

ministries, and applied a twin-track approach linking social protection to policies for promoting income equality, employment, family farm production, and nutrition. A well-coordinated array of policies led by the government with strong engagement from civil society, resulted in a successful reduction of hunger and extreme poverty in both rural and urban areas.

Brazil's overall poverty fell from 24.3 percent to 8.4 percent of the population between 2001 and 2012,<sup>21</sup> while extreme poverty dropped from 14.0 percent to 3.5 percent.<sup>22</sup> From 2001 to 2012, the income of the poorest 20 percent of the population grew by three times as much as that of the wealthiest 20 percent. Government of Brazil. 2014.<sup>79</sup>

The proportion of undernourished people fell from 10.7 percent of the population in 2000–02 to less than 5 percent in 2004–06. The prevalence of stunting in children under five years of age was nearly halved from 13.4 percent in 1996 to 6.7 percent in 2006, while child wasting fell from 4.2 percent to 1.8 percent. A national survey that included the Brazilian Household Food Insecurity Scale showed a 25 percent decrease in severe food insecurity from 2004 to 2009. The decrease in food insecurity was greater among people living in extreme poverty.<sup>80</sup>

Another pillar of food security and nutrition policy in Brazil is the National School Meals Programme, which provides free meals to all public school pupils – a total of

more than 43 million children in 2012. Public schools in Brazil serve children mainly from lower-income families, and the improved access to food provided by the programme represents a substantial benefit for poorer households. Federal investment in the school meals programme was US\$1.5 billion in 2012, complemented by funding from state and municipal governments.<sup>30</sup> The programme's impact has been significant enough to reduce the estimated prevalence of undernourishment in Brazil by about one-third compared with what it would likely have been without the programme.

Other policies, such as the provision of crop insurance against food price risks and extreme climatic events, minimum price guarantees, specific support to women, rural development and technical assistance, all aim to increase productivity and incomes while also responding to specific needs in different regions of Brazil. Over the last ten years, access to land has been enhanced by allocating 50 million hectares to more than 600 000 poor landless families. Brazil without Extreme Poverty programmes strengthen this support by providing family farmers with extension services for implementing three-year resilience projects and improving their livelihoods. Programmes in semi-arid regions ensure that poor rural families have access

to water, to increase their productivity through irrigation and to improve sanitation.

### 6.2. Burkina Faso: homestead food production targeting vulnerable households

Meaningful and sustained improvements in nutrition derive from the mix of nutrition-specific and nutrition-sensitive actions, as well as from actions that function at the level of underlying determinants, including food supply; water, sanitation, and hygiene; female secondary school enrollment; and availability of health care.<sup>81</sup> Integrating nutrition programs with agricultural programs has a considerable capacity to improve nutrition outcomes; however, weaknesses in program targeting, design, and implementation, and poor evaluation designs, have limited the evidence available on the actual impact of these programs.

Homestead food production is one of the integrated nutrition-agriculture programs; the initial model comprises gardening and small animal production and a behavior-change communication strategy designed around essential nutrition actions. It is basically targeted to vulnerable households with children under five years of age. In 2010, Helen Keller International (HKI) introduced in Burkina Faso an Enhanced Homestead Food Production (E-HFP) Program. Compared to standard one, the E-HFP Program did not target households with children under five, but women with children 3–12 months of age to ensure that the program would directly benefit children within the “first 1,000 days” window of opportunity. The E-HFP also modified the design and implementation of the initial model: rather than focusing on teaching mothers about nutrition, it adjusted the behavior-change communication strategy in order to promote adoption of main nutrition practices. In addition, the E-HFP empowered women, by

providing training on best agriculture and nutrition practices, transferring small agricultural assets and chickens to beneficiary women, and having village model farms led by beneficiary women, instead of male farmers living in the village.

The challenge of poor evaluation designs was addressed in the following manner: a comprehensive evaluation approach was designed which included a longitudinal cluster-randomized controlled trial (the first of its kind for an agriculture and nutrition program other than biofortification), as well as two rounds of qualitative process evaluation. In comparison with people living in the control villages, children who were program beneficiaries presented increased dietary diversity and reduced prevalence of wasting, anemia, and diarrhea; women who were program beneficiaries had enhanced intake of nutrient-rich foods and diminish prevalence of thinness. These positive effects were related to the positive impacts of the E-HFP program on intermediate outcomes noted along the primary program impact pathways, which included:

- increases in women’s ownership of productive assets, including agricultural assets and small animals;
- increased production of nutrient-rich foods by women;
- improvements in women’s knowledge of key feeding and care practices for infants and young children;
- increased dietary diversity and consumption of nutrient-rich foods in households;
- improvements in women’s status indicators, such as their ability to make decisions about purchases.

This is one of the first studies which employs rigorous evaluation to provide convincing evidence that using an

agricultural platform can improve maternal and child nutrition. It testifies that a well-designed, well-targeted, and well-implemented integrated agriculture and nutrition program, including a strong nutrition and health behavior-change communication strategy and women’s empowerment activities, can have a significant and possibly long-lasting impact on the nutrition and health of mothers and children during the first 1,000 days.<sup>82</sup>

### 6.3. Ethiopia: a successful decentralized community-based health service

Health and community delivery platforms are of crucial importance of scale-up of effective nutrition. Over the past few years, many countries have worked to develop systems and infrastructure at the most decentralized level of services; these investments have allowed populations to access essential services in sectors such as health, agriculture, education, and social welfare. Ethiopia is exemplary in this regard in view of the country’s progress towards some of the key MDGs, which is mainly attributable to a decentralized service delivery platform—The Health Extension Program.<sup>83</sup> Based on the assumption that access to and quality of primary health care in rural communities can be enhanced through transfer of health knowledge and skills to households. The Health Extension Program is one of the most innovative community-based health programs in Ethiopia. From the time it became operational (2004–2005), the Program has had a substantial impact on the mentality and practices of rural people concerning disease prevention, family health,

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hygiene and environmental sanitation. It has empowered Ethiopia to increase primary health care coverage from 76.9% in 2005 to 90% in 2010.<sup>84</sup>

The Program represents a community-based health service delivery program whose educational approach is based on the diffusion model, holding that community behavior is changed gradually: in the first place, training early adopters, later moving to the next group that is ready to change. Those who are resistant to change would little by little be conditioned to adapt due to changes in their environment. The Program assumes that health behavior can be improved in communities by creating model families that others will esteem and imitate.<sup>85</sup>

The Health Extension Program allowed the introduction of new vaccines and the expansion of health services, improving health and nutrition care practices; investments were made in education and social economic development, contributing to a reduction in the number of child deaths by nearly half. Estimates for the mortality rate in children younger than 5 years in Ethiopia is 77 per 1000 livebirths (compared with 166 in 2000 and 123 in 2005). Based on these trends, Ethiopia is predicted to meet MDG 4, which is reducing child mortality: it is expected that by 2015 the mortality rate in children younger than 5 years will achieve 68 per 1000 livebirths.

Moreover, stunting has decreased from 58% to 44%; underweight from 41% to 29%; and prevalence of wasting from 12% to 10%.

The Health Extension Program has a key role in the success of the national nutrition program and strategy introduced in Ethiopia in 2008. The community-based management of acute malnutrition approach of the Health Extension Program manages more than 300,000 children in more than 10,000 health posts per year, has provided vitamin A supplementation and deworming tablets to 11 million children and 700,000 pregnant and lactating women every 6 months since 2005–06, and distributes iron-folate supplementation targeted to reach 80% of pregnant women every year.<sup>86</sup>

In spite of the fact that attribution of results to specific programs is always difficult because of the multiplicity of factors and actors involved, tangible improvements in key health indicators have been remarked since the implementation. At the time, it is present in all rural agrarian areas and is being expanded to include pastoralist and urban areas. Credit for these improvements must be shared with global health initiatives that are major players in the implementation of the health sector development program, such as The Global Fund to Fight HIV/AIDS, Tuberculosis and Malaria; the President's Emergency Plan for AIDS Relief; and the World

Bank.<sup>87</sup> Nevertheless, the Program has faced several challenges. One of these is the fact that graduation of model families did not happen as planned: due to travel time between households and competing demands for family members' time for farming activities, model family training took longer than anticipated. Besides, use of voluntary community health workers appears hard to sustain without some material compensation for extra services rendered to communities.

Ethiopia's Health Extension Program has shown tangible positive impacts on community health, in disease prevention, family health, and environmental hygiene and sanitation. It represents the foundation of the country's emerging new health system. Local government and community participation is gaining momentum, and the roles and interests of development partners are crystallizing. It also proves that context-sensitive and affordable functional models and approaches could be developed to expand primary health care services. The Program is now at the center of global health initiatives directed to villages and districts in Ethiopia. Furthermore, it has shown that population behavior patterns can be changed to be more favorable to good health. With strong political will and a sense of purpose, low income countries can use innovative approaches to achieve universal coverage of primary health care.<sup>88</sup>

### Progress in key health indicators in Ethiopia, 2005–2010

|  | Year     |          |
|--|----------|----------|
|  | 2005 (%) | 2010 (%) |
| Primary health care coverage           | 76.9     | 90.0     |
| Expanded Program of Immunization (EPI) | 76.8     | 81.6     |
| Contraceptive acceptance rate          | 37.9     | 56.2     |
| Antenatal coverage                     | 50.4     | 67.7     |
| HIV prevalence                         | 3.2      | 2.1      |

Source: Federal Ministry of Health, Ethiopia

### 6.4. Haiti: putting in place key cross-sectoral policies for improved nutrition<sup>89</sup>

Haiti has one of the highest levels of food insecurity in the world; more than half of its total population is chronically undernourished. Although this represents a decrease in the prevalence of undernourishment, from 61.1 percent at the beginning of the 1990s, the number of hungry people has increased from 4.4 million in 1990–92 to 5.3 million in 2012–14 because population growth has not been matched by sufficient levels of development. In 2001, 62 percent of the population lived on less than \$1.25/day (international dollars). With low rates of economic growth, averaging about 0.8 percent per year between 2000 and 2012, poverty persists, and the latest estimates suggest that 40 percent of the population lived below the even more severe poverty line of US\$1/day in 2011.

In 2012, 11.4 percent of children under five years of age were underweight, and 21.9 percent were stunted. However, although these levels are still alarmingly high, they show some progress towards achievement of the MDG hunger target; in 1990, the rate of underweight was 23.7 percent and that of stunting 40.1 percent.

Recurring natural disasters exacerbate the fragility of the economy. The government reports that in 2012, the number of people suffering from acute food insecurity increased from 800 000 to more than 1.5 million – about 15 percent of the total population – as a

result of drought, tropical storms and hurricane Sandy.

Food imports represented 44 percent of total food availability in 2010, compared with 19 percent three decades ago. About 80 percent of rice and 100 percent of wheat – staples that account for one-third of the calorie intake of the population – are sourced from international markets. In 2008–10, Haiti spent 50 percent more on food imports than it received from total merchandise exports. Such exposure to international markets makes the country vulnerable to international price shocks.

The devastation caused by the earthquake in 2010 prompted the government and its international partners to develop plans that focus on both reconstruction and long term economic development. Haiti's Strategic Development Plan concentrates on rebuilding the country's economic, social and institutional structures, and aims to transform Haiti into an emerging economy by 2030. It includes support to small family farmers with interventions to improve their access to input and services that increase productivity and incomes. Its broader objective is to increase the country's food selfsufficiency from 50 to 60 percent. Support to agribusiness through better value chain coordination, logistics, marketing and processing, and to increase the value of agricultural exports by 40 percent from their 2009–2011 levels.

While interventions in agriculture are geared to improving productivity and food availability, the National Programme for the Fight against

Hunger and Malnutrition, *Aba Grangou*, launched in 2012 focuses on increasing food access and utilization. It aims to half the prevalence of hunger and malnutrition between 2012 and 2016, and to eradicate them by 2025. It provides an umbrella for 21 programmes, ranging from cash transfers and school meals to investments in agricultural infrastructure and basic public services. For example, it aims to improve access to food for 2.2 million children by scaling up the National School Meals Programme, which currently provides hot meals to 1.5 million children every day. *Aba Grangou* also promotes food purchases from local small farmers to supply the schools, thus providing the farmers with a market for their produce.

Access to food has also been improved by Haiti's social protection policies. The National Social Assistance Programme provides extremely poor households with cash transfers and other subsidies. For example, *Ti Manman Cheri* is a conditional cash transfer programme aimed at enhancing children's school attendance. Other social protection measures, such as the Solidarity Cart, mobile and fixed canteens and emergency vouchers, are designed to facilitate food access during emergency situations through in-kind and cash transfers.

The government's commitment to fighting hunger is reflected not only in this broad range of policies and programmes, but also by an increase in budget allocations. Public spending on food security and poverty reduction increased from just over 40 percent of total public expenditure in 2007–09 to 59 percent in 2012–13.

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Rapid progress towards food security in Haiti depends heavily on having coherent policies, while the presence of multiple coordination mechanisms poses challenges.

### 6.5. Madagascar: positive actions in addressing malnutrition<sup>90</sup>

Madagascar is one of the poorest countries in the world and more than 70 percent of the population lives on less than US\$1/day, and poverty rates in rural areas are even higher. Approximately 73 percent of the rural population is engaged in agricultural activities, livestock and fisheries, and most rural households practise subsistence farming. Six out of ten farming households cultivate less than 1.5 hectares of land each. Because of large family size and low agricultural productivity, most rural households are net food buyers.

About 31 percent of the population was undernourished in 2012–14, up from 27 percent in 1990–92. About 84 percent of the population obtain most of their calories (more than 75 percent) from staples, indicating that diets are of poor quality. Malnutrition is widespread, and about 47 percent of children under five years of age are chronically malnourished or stunted.<sup>67</sup> Political instability has thwarted economic growth and strained relations with international donors. Average annual GDP growth fell from an average of 5.6 percent in the five years before the political crisis of 2009, to just 1.8 percent in the three years following.

Within the broader development context, Madagascar's National Action Plan for Food Security was

a ten-year strategy (2005–2015) for improving productivity, especially of rice, agricultural services, technology and nutrition education. However, the deepening political crisis prevented it and MAP from being implemented.

After a political and economic crisis, today, the signs are more promising. The government's has established a crossdepartmental National Compact, which envisions a competitive, sustainable and integrated agriculture sector that ensures food security in Madagascar by 2025. An array of measures, under the newly formulated Agriculture, Livestock and Fisheries Sector Programme (PSAEP), aim to increase rural incomes by 40 percent and reduce poverty by 50 percent, by promoting agricultural productivity and sustainable use of natural resources.

Other policies aim to strengthen preparedness and planning for food and nutrition emergencies; for example, an integrated food security and nutrition programme implemented in 12 vulnerable regions provides a nutritional supplement for mothers and children, while also facilitating the distribution of improved seeds (especially vegetables) and improved availability of fishery products in local markets. The government has also started consolidating the new land policy, a process expected to be completed by March 2015, taking into account the indigenous rural and urban populations, and the need to focus on priorities such as food and nutrition security.

The National Nutrition Action Plan 2012–2015 (PNAN2) aims to reduce the prevalence of chronic malnutrition among children and to lower the proportion of the population consuming fewer than 2 300 kilocalories per day from 65 percent

to 43 percent. Measures under PNAN2 include promoting the cultivation of vegetables and micronutrient-rich foods, developing school feeding programmes, and providing fortified food and supplements to vulnerable groups. Its forerunner, PNAN1, was hampered by weak coordination and lack of ownership by stakeholders. PNAN2 has adopted a more inclusive approach, and benefits from joining the Scaling Up Nutrition initiative in 2012.

However, strengthened coordination is needed to make PNAN2's nutrition policies more effective. The Ministry of Public Health is responsible for nutrition policies, in collaboration with the Ministries of Agriculture and Rural Development, Livestock and Fisheries, Water and Sanitation, Economy and Finance, Education, Population, and Decentralization and Regional Planning. The United Nations, other international organizations and many NGOs are partners in implementing PNAN2, together with these ministries, with the National Nutrition Office providing overall technical coordination. Although the country lacks resources for mechanisms to monitor food and nutrition, several international organizations generate food security information; for example, the Famine Early Warning Systems Network (FEWSNET), WFP, the World Bank and FAO conduct food security assessments and monitor trends.

Other programmes from various donors and NGOs address problems ranging from weak investment to food insecurity and malnutrition, with interventions such as school feeding, cost exemptions and funding for the most vulnerable people attending health centres and hospitals, cash for work, control of locust outbreaks, and natural disaster response measures. They are coordinated through the



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Donors' Group for Rural Development, Food Security and the Environment.

Progress in addressing the underlying causes of hunger and food insecurity in Madagascar depends on establishing a mechanism that ensures effective coordination of different policies in agriculture, food security and nutrition. Enhanced coordination of food security policies can build an enabling environment in which more people can feed themselves with dignity while appropriate safety nets serve those unable to do so.

### 6.6. Malawi: a spectrum of policy measures and support to agriculture<sup>91</sup>

Malawi has met the MDG hunger target, although 21.8 percent of the population remains undernourished. Malawi is one of the world's least-developed countries, with a per capita GDP of about US\$220 in 2012 (in constant 2005 United States dollars). Poverty is widespread. The latest estimates show that in 2010–11, 50.7 percent of the population lived below the national poverty line, compared with 52.4 percent in 2004–05. However, over the same period, 'extreme poverty' increased from 22.4 percent of the population to 24.5 percent, suggesting increasing rural inequality – a crucial issue for the country.

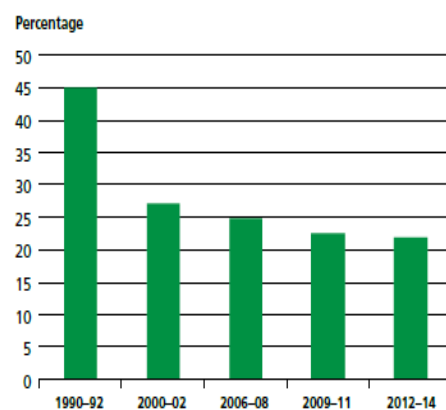
Malawi's agriculture is dominated by small subsistence farms, but is a major economic sector, contributing 30 percent of GDP in 2011. Agriculture employs about 80 percent of the workforce, and generates 83 percent of foreign exchange earnings. Maize, the main food staple, is grown on 70

percent of total arable area and is a major factor in the country's food security. Hunger and food inadequacy have been declining since 2005, coinciding with a period of strong and persistent growth in maize production. However, in spite of the decreased prevalence of undernourishment, malnutrition remains a challenge – about 50 percent of children under five years of age are stunted and 12.8 percent are underweight, reflecting significant nutritional imbalances in their diets, which lack proteins, vitamins and other nutrients. Most people rely on maize and other starchy staples for their nutrition; average per capita maize consumption is 163 kg/year, with households devoting an average of 40 percent of their food expenditure to buy this staple.

Food security and nutrition is a core priority of the Malawi Growth and Development Strategy 2011–2016, the country's overarching development plan. A spectrum of policy measures have been implemented to meet the country's food security objectives under the Agriculture Sector-Wide Approach Programme – the government's investment framework for agriculture, which is aligned to the National Agriculture and Food Security Investment Plan of the Comprehensive Africa Agriculture Development Programme (CAADP). The Farm Input Subsidy Programme is an important component of the country's approach to increasing productivity, ensuring food security and reducing poverty. Launched in 2005, the programme benefits approximately half of all rural households, providing about 1.5 million with subsidized fertilizer and other inputs, such as maize and, to a lesser extent legume seeds, through a coupon system. Maize production has increased significantly since the start of programme implementation.

The Agricultural Development and Marketing Corporation and the National Food Reserve agency are central institutions in Malawi's food security governance. The corporation manages the maize market through buffer stock operations, ensuring availability of the food staple; the Food Reserve Agency provides maize to poor households at subsidized prices.

Prevalence of undernourishment, Malawi, 1990–92 to 2012–14



Source: FAO.

Since 2012, poor macroeconomic performance has impeded progress towards development and food security. Economic shocks have necessitated large-scale relief operations, reaching almost two million people for two consecutive years. Together with devaluation of the currency, rising fertilizer prices put at risk the Farm Input Subsidy Programme – one of the country's main agricultural development efforts. This programme accounts for 70 percent of the total budget of the Ministry of Agriculture, Irrigation and Water Development and about 10 percent of the total national budget; with additional resources allocated to other agricultural programmes,

Malawi dedicated 19 percent of its total annual budget to agriculture in 2012–13, surpassing the Maputo Declaration minimum threshold of 10 percent.

The government is facing serious challenges in coordinating the various policies and moving the food security and nutrition agenda forward. Strengthening the coherence of policy formulation, implementation and evaluation, and including all stakeholders – especially the international donor community, the private sector and civil society – are of paramount importance in achieving food security.

### 6.7. Uganda: the benefits of provitamin-A-rich orange sweet potato to rural households

Biofortification defines the process of breeding food crops that are rich in micronutrients, for example vitamin A, zinc, and iron. These crops “biofortify” themselves by loading higher levels of minerals and vitamins in their seeds and roots while they are growing. When consumed, they are able to provide essential micronutrients to improve nutrition and public health. Biofortified staple foods contribute to body stores of iron, zinc, and vitamin A throughout the lifecycle, including those of children, adolescents, adult women, men, and the elderly. Groups who are vulnerable to deficiencies in micronutrients such as vitamin A, zinc or iron (children, pregnant and breastfeeding women) should benefit the most. Rather than treating acute

or established deficiencies, biofortified food contributes to the prevention of micronutrient deficiencies.<sup>92</sup>

Vitamin A deficiency represents a public health concern in developing countries; estimates show that it causes the death of more than 600,000 children under five each year globally. Vitamin A deficiency is connected with increased risk of mortality and with diseases such as diarrhea among children, anemia, blindness and night blindness among pregnant women. Biofortification of staple foods with vitamin A is intended to reduce vitamin A deficiency in at-risk populations. Uganda is one of the African countries at high risk: approximately 28% of children and 23% of women suffer from vitamin A deficiency.

Sweet potato represents a major staple food in Uganda and other countries, however current varieties (white or pale yellow) do not possess enough provitamin A carotenoids. Reversely, orange-fleshed varieties of sweet potato contain significant amounts of  $\beta$ -carotene, which contributes to improving vitamin A status.<sup>93</sup>

From 2007–2009, HarvestPlus, together with several partners, conducted a biofortification program to distribute provitamin-A-rich orange sweet potato to rural households in Central and Eastern Uganda. This intervention aimed to determine if distributing orange sweet potato (OSP) could reduce the prevalence of vitamin A deficiency, particularly for young children and women. The project reached more than 10,000 households and it consisted in providing OSP vines to farmers and information about the nutritional benefits of vitamin A, methods of growing, preparing and marketing

it. Two-thirds of the farmer group members were women.

The evaluation found that, after two years, a significant increase in the dietary intake of OSP among children and women was remarked. Results of this large-scale intervention showed a substantial increase in total vitamin A intake from  $\beta$ -carotene and a remarkable decrease in the prevalence of inadequate vitamin A intakes among non-breastfed children and women. Furthermore, mild vitamin A deficiency diminished. The effectiveness study indicates that, in a population where sweet potato is an important staple food, rural farming households were receptive to the substitution of one-third of the usual sweet potato with the orange one. Changing the color from white to orange could have been met with resistance, but OSP was extensively produced and consumed after 2 years.

Among the challenges faced in implementing and evaluating this project, it is worthwhile mentioning the very high prevalence of infection among children, which might have influenced both the vitamin A status; another challenge in measuring intervention impact was the context of a secular trend for improving vitamin A status, especially among women.

In conclusion, this large-scale intervention to introduce OSP to rural farming households in Uganda had positive impact: the OSP was incorporated into the diets of women and children and a major increase in vitamin A intake was recorded.  $\beta$ -Carotene rich OSP can play a key role in order to minimize vitamin A deficiency, particularly in a population where sweet potato is an important staple food.<sup>94</sup>

## 7. Progress in improving nutrition outcomes and accountability

### **The costs of undernutrition and malnutrition are high**

The costs of undernutrition and obesity are increasingly well known. The human costs are high in terms of preventable mortality and morbidity. Accordingly, the economic costs are also large. Gross domestic product (GDP) totals in Africa and Asia are less than 90 percent of what they would be in the absence of undernutrition, and in China, approximately 95 percent of what they would be in the absence of obesity.<sup>95</sup>

Evidence suggests that addressing undernutrition also mitigates some of the risk factors associated with noncommunicable diseases later in life. In the absence of data, issues remain of how to sequence and prioritize actions and how to assess whether the actions are making a difference at the meso and macro levels.

The Global nutrition report was originally called for by the signatories of the Nutrition for Growth (N4G) Summit Compact in 2013 in recognition of the need to better monitor commitments to improving nutrition. The Stakeholder Group has empowered an Independent Expert Group to bring together existing and new nutrition data to provide a more complete picture of country and global nutrition indicators, strengthen accountability, generate fresh insights, start new conversations, and catalyze new actions.

Although the political commitment to improve nutrition is currently high, it

is not permanent. Development trends come and go. This report aims to be a legacy of current high levels of commitment and to help stimulate future waves of commitment to nutrition long after the current wave has dissipated.<sup>96</sup>

Most investments in actions to address the underlying and basic determinants of nutrition status are not nutrition sensitive—in other words they do not incorporate explicit nutritional goals or actions—but they can be important drivers of nutrition improvement.

Efforts to improve nutritional status can come from all three areas. The aim should be to find the most potent blend of them, at scale, given the need, capacities, and political opportunities in each context.<sup>97</sup>

Countries cannot currently track their financial commitments to nutrition and organizational capacity needs to be strengthened.

### 7.1. Need to strengthen nutrition accountability

Effective nutrition monitoring systems are crucial for governments and other agencies to capture undernutrition in its early stages, track trends and inform rapid decision-making. Credible and timely data is also important to hold stakeholders accountable for their commitment to deliver nutrition services and combat undernutrition.

Disaggregated analyses of nutrition outcomes are key.

The benefit-cost ratios from investing in nutrition are highly competitive with investments in roads, irrigation, and health e.g. Gross domestic product (GDP) totals in Africa and Asia are less than 90 percent of what they would be in the absence of under-nutrition and in China, approximately 95 percent of what they would be in the absence of obesity.

These gaps included data on countries' capacity to implement and scale up nutrition actions, program costs, and financial resource tracking. Many decisions about how to prioritize the filling of data gaps need to be undertaken at the national level, based on nutrition policies, plans, and strategies.

The systematic and periodic collection of information on nutrition is vital to the capacity of governments and other agencies to track their progress towards reducing undernutrition, to promoting the accountability of their actions and to improving their ability to respond promptly to rapid changes in nutrition status brought about by food price volatility and other shocks.

However, nutrition surveillance is expensive (a national nutrition survey typically costs about US\$1 million) and logistically laborious and therefore often non-existent in resource-low countries. Surveillance systems are also constrained by time-consuming



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and error-prone paper-based data collection followed by manual data entry. Data transfer may take months to reach a level at which they can be analysed and lack of human resources to accomplish analysis often leads to further delays and often underuse of surveillance data. Consequently, monitoring of nutrition outcomes in real time and timely response to nutritional crises is often impossible.<sup>98</sup> Only 99 out of 193 countries have sufficient data to assess whether they are on or off course for four WHA indicators. Many of the indicators are based on surveys that are more than five years old. Nearly 50 per cent of all countries cannot track all four health status indicators and only 40 per cent of countries measure the height and weight of young children over five years old.

There is need for improved data collection and accountability on how targets should be set and how to assess impacts and results.

In recent years, there has been increasing enthusiasm for the potential of Information and Communications Technology (ICTs) to enable quicker and better data collection, transfer and analysis, which can inform decision-making in a timely manner. Mobile phone technologies can also allow communities and civil societies to monitor commitments to undernutrition reduction. IDS review<sup>99</sup> identified some evidence that ICTs may make tracking and monitoring of nutrition quicker and more efficient, for example, by speeding up data transfer and reducing data entry errors. Nevertheless, there is still little sense of how nutrition monitoring data can be used most effectively and what role ICTs may play in this.

Data gaps hold back action but this does not necessarily require collecting new data: existing data can be used

more effectively, quality of existing data collection can be strengthened, cross-country data comparability can be improved, increased frequency in national surveys. Collecting new data is necessary where more accountability is needed.

Many of these data gaps can be filled by investing in the capacity of nutrition analysts, program managers, and policy units to make better use of existing data.

Filling key data gaps in order to improve accountability is of great importance; nonetheless, it represents only one important component of accountability systems. Accountability systems develop through several steps: (i) public commitments; (ii) the tracking of these commitments; (iii) comparing progress to targets, making use of the assessment of progress, and (iv) strategizing about how to respond to that accountability. Besides data, accountability strengthening involves both actors and appropriate mechanism.

### - Actors supporting accountability

The pressure that civil society, communities, public opinion put on stakeholders determines social changes to happen more quickly given that this kind of pressure reinforces accountability. Civil society has a key role in building and maintaining commitment for nutrition for several reasons and civil society alliances with SUN are an excellent example in this regard. In the first place, the scale is an important aspect: more than 1,500 CSOs are engaged in the SUN Movement; secondly, civil society organisations (CSOs) are good at engaging in social mobilization and awareness-raising efforts in collaboration with the media and through Global Days of Action; furthermore, they can aggregate efforts. Nonetheless, CSOs face many challenges: first and foremost is that they need to be supported in

their efforts to build their capacity to deliver programs in partnership with other stakeholders, to influence policy, to demonstrate results and to hold governments, others and themselves accountable.<sup>100</sup>

### - Processes supporting accountability: The National Evaluation Platforms (NEP) and research

Actors need mechanisms through which to exercise their agency on behalf of nutrition. The National Evaluation Platforms (NEP) help developing the capacity within countries to use existing data to promote accountability more effectively. It represents a systematic approach being used in Malawi, Mali, Mozambique, and Tanzania to identify, compile, and analyze existing high-quality data from diverse sources across sectors, in order to evaluate the effectiveness and impact of health and nutrition programs.

The NEP approach proposes a core set of evaluation methods and builds sustainable national capacity to develop evidence-based answers to pressing program and policy questions and track progress toward national and global scale-up targets. It gathers pertinent, high-quality district-level data from a range of sources, including national surveys and routine reporting systems and databases. It is updated as additional data become available.

The lessons produced by the NEP after one year of use in the four countries are as it follows:

- Governments welcome the focus on program evaluation. In all four countries in which they are being piloted, health and nutrition program leaders welcomed the NEP as a means of bringing together existing data to go beyond routine monitoring; addressing questions on the relative effectiveness of implementation strategies; and strengthening in-country agenda setting relative to donor agenda setting;

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- Data on nutrition programs are limited. A mechanism is needed to bring together available data across sectors, assess their quality, and promote their use in answering questions about program needs or the effectiveness of implementation;
- Countries' capacity to assess and analyze data is limited. In most cases, analyses of anthropometric data and child mortality are conducted by external institutions. The national institutions responsible for health, nutrition, and statistics reported that increasing capacity in these areas is a top priority.<sup>101</sup>

Another mechanism for data managers, analysts, and scientists to promote accountability for nutrition is **research**. African research priorities are not solution oriented enough; investments in research systems are necessary in order to guide action and empower accountability for improved nutrition. Areas where African research requires improvement are: the nutrition research agenda; there are too few evaluations of interventions; research on how to create enabling environments that prevent malnutrition is lacking; the availability of data produced by researchers and others such as nongovernmental organizations, UN agencies, and governments is highly variable and not very effective; those that produce information must produce the best information using the highest standards. Knowledge and data should be shared and made as accessible as possible; research funders need to maximize the uptake of evidence in programs and policies in Africa. This will require increased African ownership of research; users of nutrition research need to articulate clear research needs. A transparent process should be developed to systematically define research priorities.

The African nutrition community can play a leading role in the data

revolution that is taking place in development. Nevertheless, it is worthwhile mentioning that making data accessible is just a first step. More work is needed to turn this information into knowledge for better nutrition policies and actions.<sup>102</sup>

### 7.2. Actionable knowledge and data in support of nutrition

Filling the data can be achieved in several ways: using existing data in a improved manner; strengthening existing data collection quality, improving data comparability across countries, collecting new data where there are not enough for good accountability, and increasing the frequency of national nutrition survey data collection.

Specific improvements in the collection of existing data should include addressing problems with collecting low birth weight data and trends in micronutrient status. Data should better be used for comparability purposes across countries, data collection should be harmonised (too many different methods exist) and more accessible. Qualitative and quantitative data on changes in nutrition status and on food consumption should be collected more frequently.

There is a need to know more about nutrition intervention coverage on moderate acute malnutrition and severe acute malnutrition programs in view of scaling up programmes.

For Lawrence Haddad<sup>103</sup>, we more than ever need a nutrition data revolution, because the malnutrition problem affects every country and it is not going to get resolved without concerted action. We need data to guide and stimulate intensified action. We need to take advantage of mobile technologies—cheap android tablets,

internet, mobile phones should be used. Social media, which can help civil society to express itself. The data revolution is a call for better data, but also a different way of thinking about data in terms of costs and benefits and also in terms of supporting effective actions and suspending bad actions due to better data. Civil society has a vital role to play. For example, in Zambia the Civil Society Scaling Up Nutrition Alliance, a group of CSOs (Civil Society Organisation), has just tried to see what part of the national budget was dedicated to nutrition. They managed to get the figures, even if they had to deal with the national budget document (a massive document with thousands of pages). Even though it was difficult, they could calculate that only 0.2% of the budget was spent on nutrition. They disseminated the figures on the web, and many people could see them. And many people actually reacted. So data can be used to put pressure on and guide governments.

**“Democratisation of nutrition data”** means first to get access to data. Much information is simply not in the public domain. When it is available, information is often difficult to find: specific nutrition data are often buried in big documents, they are unprocessed and fragmented. A lot of work needs to be done to make it useful and understandable. The research community has an obligation to process this information and make it available. Institutions that are funded by public funds (research institutes, UN agencies, governments, NGOs) should all make available the data behind their research and make it easy to use. It is harder for the private sector to do this, obviously for legal and commercial reasons. The second part is to get data in the hands of communities. Activists need data, or governments may simply dismiss their influencing efforts. We need more innovation in communities.<sup>104</sup>

## 8. The way forward

We have a momentum and global consensus in support of nutrition from the various actors and we have successes which prove the need to invest in nutrition and agriculture linkages.

But many actions are needed to deliver on nutrition outcomes. A strong commitment to improving nutrition faster and build this goal into the post-2015 process is needed.

Bringing agriculture to bear on improving nutrition and health will require government leadership at all levels — from national to local. Policy-makers need to understand the complexity of factors contributing to fight malnutrition and commit to ensure food for all and safe food for all. Professionals from agriculture, nutrition, and health sectors need to engage together and to explain to a wider public the interactions and interdependency amongst those areas. Civil society, farmers and consumers groups need to strengthen their advocacy efforts while the donor community can support capacity building at all levels.<sup>105</sup>

Better data on nutrition outcomes and nutrition financing, as well as increased investments in nutrition-sensitive programs and the development of

effective accountability mechanisms, will be crucial elements in scaling up nutrition action. There is an urgency in compelling evidence that improved nutritional status should be an explicit objective of agricultural interventions. Nutrition goals should be overtly incorporated into agricultural projects and policies to achieve a positive impact on nutrition.

Nutrition education should also be integrated into agricultural programmes. In this context, women's role as food producers and primary caregivers for their children should be recognised and strengthened while their access to productive resources should be promoted.

Nutrition resources and expertise needs to be better aligned toward the evolving nature of malnutrition fostering inter-sectoral collaboration. Effective monitoring and accountability systems are crucial and more investment would be needed in the use of ICTs for nutrition monitoring as well as tracking of financial commitments to nutrition. Furthermore, more research on implementation is needed to show how to improve the effectiveness of existing proven interventions.

Sustained political commitment at the highest level is a prerequisite

for hunger eradication. It entails placing food security and nutrition at the top of the political agenda and creating an enabling environment for improving food security and nutrition through adequate investments, better policies, legal frameworks, stakeholder participation and a strong evidence base. Institutional reforms are also needed to promote and sustain progress.<sup>106</sup>

In order to promote effective capacity building, nutrition information is key. Programmes should be put in place or strengthen in order to train national staff in innovative nutrition education methods as well as activities aiming at building capacities for the assessment of factors that determine dietary patterns and food choices.

A special emphasis should be placed on the development of locally appropriate dietary guidance for different age and population groups. In particular, nutrition education should promote the enrichment/enhancement of menus and enhancement of nutrient content through improved patterns of preparation and consumption of local foods that are culturally acceptable and nutritious.<sup>107</sup> Production diversification and preventing loss along the value chain have also to be addressed.

## GLOSSARY

### Acute malnutrition

Also known as '**wasting**', acute malnutrition is characterized by a rapid deterioration in nutritional status over a short period of time. In children, it can be measured using the weight-for-height nutritional index or mid-upper arm circumference. There are different levels of severity of acute malnutrition: moderate acute malnutrition (MAM) and severe acute malnutrition (SAM).

### Anaemia

Characterized by reduction in haemoglobin levels or red blood cells which impairs the ability to supply oxygen to the body's tissues, anaemia is caused by inadequate intake and/or poor absorption of iron, folate, vitamin B12 and other nutrients. It is also caused by infectious diseases such as malaria, hookworm infestation and schistosomiasis; and genetic diseases. Women and children are high-risk populations. Clinical signs include fatigue, pallor (paleness), breathlessness and headaches.

### Anthropometry

Use of human body measurements to obtain information about nutritional status.

### Body mass index (BMI)

The ratio of weight-for-height measured as the weight in kilograms divided by the square of height in metres.

### Chronic malnutrition

Chronic malnutrition, also known as '**stunting**', is a form of growth failure which develops over a long period

of time. Inadequate nutrition over long periods of time (including poor maternal nutrition and poor infant and young child feeding practices) and/or repeated infections can lead to stunting. In children, it can be measured using the height-for-age nutritional index.

### Complementary feeding

The use of age-appropriate, adequate and safe solid or semi-solid food in addition to breast milk or a breast milk substitute. The process starts when breast milk or infant formula alone is no longer sufficient to meet the nutritional requirements of an infant. It is not recommended to provide any solid, semi-solid or soft foods to children less than 6 months of age. The target range for complementary feeding is generally considered to be 6–23 months.

### Dietary energy intake

The energy content of food consumed.

### Dietary energy requirement (DER)

The amount of dietary energy required by an individual to maintain body functions, health and normal activity.

### Dietary energy supply (DES)

Food available for human consumption, expressed in kilocalories per person per day (kcal/person/day). At country level, it is calculated as the food remaining for human use after deduction of all non-food utilizations (i.e. food = production + imports + stock withdrawals – exports – industrial use – animal feed – seed – wastage – additions to stock). Wastage includes losses of usable products occurring along distribution

chains from farm gate (or port of import) up to the retail level.

### Dietary energy supply adequacy

Dietary energy supply as a percentage of the average dietary energy requirement.

### Food fortification

The addition of micronutrients to a food during or after processing to amounts greater than were present in the original food product. This is also known as '**enrichment**'.

### Food insecurity

A situation that exists when people lack secure access to sufficient amounts of safe and nutritious food for normal growth and development and an active and healthy life. It may be caused by the unavailability of food, insufficient purchasing power, inappropriate distribution or inadequate use of food at the household level. Food insecurity, poor conditions of health and sanitation and inappropriate care and feeding practices are the major causes of poor nutritional status. Food insecurity may be chronic, seasonal or transitory.

### Food security

A situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life. Based on this definition, four food security dimensions can be identified: food availability, economic and physical access to food, food utilization and stability over time.

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### Fortificant

Vitamins and minerals added to fortify foods

### Global acute malnutrition (GAM)

The total number of children aged between 6 and 59 months in a given population who have **moderate acute malnutrition**, plus those who have **severe acute malnutrition**. (The word 'global' has no geographic meaning.) When GAM is equal to or greater than 15 per cent of the population, then the nutrition situation is defined as 'critical' by the World Health Organization (WHO). In emergency situations, the nutritional status of children between 6 and 59 months old is also used as a proxy to assess the health of the whole population.

### Hidden Hunger

Occurs when a population that may be consuming enough calories is not receiving enough micronutrients (vitamins and minerals), negatively impacting the health, cognitive development and economic development of over 2 billion people worldwide.

### Hunger

Chronic undernourishment.

### Kilocalorie (kcal)

A unit of measurement of energy. One kilocalorie equals 1 000 calories. In the International System of Units (SI), the universal unit of energy is the joule (J). One kilocalorie = 4.184 kilojoules (kJ).

### Macronutrient

Nutritionists often group nutrients into two subclasses, called macronutrients and micronutrients. Macronutrients

refer to those nutrients that form the major portion of your consumption and contribute energy to your diet. Macronutrients include carbohydrates, fats, protein, and alcohol. Sometimes water is also considered to be a macronutrient. All other nutrients are consumed in smaller amounts, and are labeled as micronutrients.

### Malnutrition

An abnormal physiological condition caused by inadequate, unbalanced or excessive consumption of macronutrients and/or micronutrients. Malnutrition includes undernutrition and overnutrition as well as micronutrient deficiencies.

### Micronutrients

Vitamins, minerals and certain other substances that are required by the body in small amounts. They are measured in milligrams or micrograms.

### Minimum dietary energy requirement (MDER)

In a specified age/sex category, the minimum amount of dietary energy per person that is considered adequate to meet the energy needs at a minimum acceptable BMI of an individual engaged in low physical activity. If referring to an entire population, the minimum energy requirement is the weighted average of the minimum energy requirements of the different age/sex groups. It is expressed as kilocalories per person per day.

### Nutritional index

Different nutritional indices measure different aspects of growth failure (**wasting**, **stunting** and **underweight**) and thus have different uses. The main nutritional indices for children are weight-for-height, MUAC-for-age, sex

and height, height-for-age, weight-for-age, all compared to values from a reference population. In emergency situations, weight-for-height (wasting) is commonly used for nutritional assessments.

### Nutrition security

A situation that exists when secure access to an appropriately nutritious diet is coupled with a sanitary environment, adequate health services and care, in order to ensure a healthy and active life for all household members. Nutrition security differs from food security in that it also considers the aspects of adequate caring practices, health and hygiene in addition to dietary adequacy.

### Nutrition-sensitive intervention

Interventions designed to address the underlying determinants of nutrition (which include household food security, care for mothers and children and primary health care services and sanitation) but not necessarily having nutrition as the predominant goal.

### Nutrition-Specific Interventions

Programs and plans that are designed to address the direct causes of malnutrition and to have a specific impact on nutrition outcomes. These include: support for exclusive breastfeeding; appropriate complementary feeding; micronutrient fortification and supplementation; and treatment of acute malnutrition.

### Nutritional status

The physiological state of an individual that results from the relationship between nutrient intake and requirements and from the body's ability to digest, absorb and use these nutrients.

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### Nutrition survey

Survey to assess the severity, extent, distribution and determinants of malnutrition in a population. Nutrition surveys in emergencies assess the extent of undernutrition or estimate the numbers of children who might require supplementary and/or therapeutic feeding or other nutritional support.

### Obesity

A chronic disease characterised by excessively high body fat in relation to lean body tissue, leading to adverse effects on health. Obesity is classified as having a BMI >29.5.

### Overweight

Being overweight is classified as having a BMI >24.9, with more body fat than is optimally healthy.

### Overnourishment

Food intake that is continuously in excess of dietary energy requirements.

### Overnutrition

A result of excessive food intake relative to dietary nutrient requirements.

### Overweight and obesity

Body weight that is above normal for height as a result of an excessive accumulation of fat. It is usually a manifestation of overnourishment. Overweight is defined as a BMI of more than 25 but less than 30 and obesity as a BMI of 30 or more.

### Ready-to-eat meals

A type of emergency ration that is a nutritionally balanced, ready-to-eat and complete food. They generally come in two forms: as compressed, vacuum-packed bars or as tablets.

### Ready-to-use supplementary foods

Specialized ready-to-eat, portable, shelf-stable products, available as pastes, spreads or biscuits, that meet the supplementary nutrient needs of those who are not severely malnourished. They are increasingly used for the management of **moderate acute malnutrition**.

### Ready-to-use therapeutic foods

Specialized ready-to-eat, portable, shelf-stable products, available as pastes, spreads or biscuits that are used in a prescribed manner to treat children with severe acute malnutrition.

### Recommended daily allowance

The average daily dietary intake of nutrients that is sufficient to meet the nutrient requirements of nearly all (approximately 98 per cent of) healthy individuals in a given population. For calories, the recommended daily allowance is based on the mean for a given population.

### School feeding

Provision of meals or snacks to schoolchildren to improve nutrition and promote school attendance.

### Stunting

Low height for age, reflecting a past episode or episodes of sustained undernutrition. stunting (low height for age) and less on wasting (low weight for height).

### Supplementary feeding programme

There are two types of supplementary feeding programmes. Blanket supplementary feeding programmes target a food supplement to all members of a specified at-risk group, regardless of whether they have **moderate acute malnutrition** or not. Targeted supplementary feeding programmes provide nutritional support to individuals with moderate acute malnutrition. To be effective, targeted supplementary feeding programmes should always be implemented when there is sufficient food supply or an adequate general ration for the general population, while blanket supplementary feeding programmes are often implemented when general food distribution for the household has yet to be established or is inadequate for the level of food security in the population. The supplementary ration is meant to be additional to, and not a substitute for, the general ration.

### Undernourishment.

A state, lasting for at least one year, of inability to acquire enough food, defined as a level of food intake insufficient to meet dietary energy requirements. For the purposes of this report, hunger was defined as being synonymous with chronic undernourishment.

### Undernutrition

The outcome of undernourishment, and/or poor absorption and/or poor biological use of nutrients consumed as a result of repeated infectious disease. It includes being underweight for one's age, too short for one's age (stunted), dangerously thin for one's height (wasted) and deficient in vitamins and minerals (micronutrient malnutrition).



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### Underweight

Low weight for age in children, and BMI of less than 18.5 in adults, reflecting a current condition resulting from inadequate food intake, past episodes of undernutrition or poor health conditions.

### Wasting

Low weight for height, generally the result of weight loss associated with a recent period of starvation or disease.

*Sources: IFPRI, FAO, Nutrition Data, UNICEF, Scaling Up Nutrition.*

## ACRONYMS

|         |   |
|---------|---|
| AARI    | Average annual rate of increase                           |
| AARR    | Average annual rate of reduction                          |
| AFSI    | L'Aquila Food Security Initiative                         |
| ARNS    | African Regional Nutrition Strategy                       |
| ASDS    | Agricultural Sector Development Strategy                  |
| AU      | African Union   |
| AVRDC   | Asian Vegetable Research and Development Center           |
| BMGF    | Bill and Melinda Gates Foundation                         |
| BMI     | Body mass index   |
| CAADP   | Comprehensive Africa Agriculture Development Programme    |
| CARICOM | Caribbean Community                                       |
| CELAC   | Community of Latin American and Caribbean States          |
| CFS     | Committee on World Food Security                          |
| CGIAR   | Consultative Group on International Agricultural Research |
| CMAM    | Community-based Management of Acute Malnutrition          |
| CNCN    | National Nutrition Coordination Council                   |
| COHA    | The Cost of Hunger in Africa                              |
| CPF     | Country Programme Framework                               |
| CRC     | Convention on the Rights of the Child                     |
| CRS     | Creditor Reporting System                                 |
| CSO     | Civil society organization                                |
| DAC     | Development Assistance Committee                          |
| DPAS    | WHO Global Strategy on Diet, Physical Activity and Health |
| EC      | European Commission                                       |
| ECLAC   | Economic Commission for Latin America and the Caribbean   |



## Improving nutrition through accountability, ownership and partnerships

|         |  |
|---------|--|
| ECHO    | European Commission Humanitarian Aid Office                |
| EDF     | European Development Fund                                  |
| E-HFP   | Enhanced Homestead Food Production                         |
| EPI     | Expanded Programme on Immunization                         |
| EU      | European Union   |
| FAO     | Food and Agriculture Organization of the United Nations    |
| FAFS    | Framework for African Food Security                        |
| FANUS   | Federation of African Nutrition Societies                  |
| FAO     | Food and Agricultural Organization                         |
| FARA    | Forum for Agricultural Research in Africa                  |
| FEWSNET | Famine Early Warning Systems Network                       |
| FNSP    | Food and Nutrition Security Policy                         |
| FSN     | Global Forum on Food Security and Nutrition                |
| GAFSF   | Global Agriculture and Food Security Programme             |
| GAM     | Global Acute Malnutrition                                  |
| GAIN    | Global Alliance for Improved Nutrition                     |
| GAM     | Global Acute Malnutrition                                  |
| GDP     | Gross Domestic Product                                     |
| GFCPI   | Global Food Consumption Price Index                        |
| GHI     | Global Hunger Index  |
| GMO     | Genetically Modified Organisms                             |
| GPFSAN  | Global Partnership on Food Security and Nutrition          |
| GPS     | Global Positioning System                                  |
| GSMA    | Global System for Mobile Communications Association        |
| GSF     | Global Strategic Framework for Food Security and Nutrition |
| HANCI   | Hunger and Nutrition Commitment Index                      |

## Improving nutrition through accountability, ownership and partnerships

|        |   |
|--------|---|
| HE     | Home Economics  |
| HEA    | Household Economy Approach  |
| HFLAC  | The Hunger Free Latin America and the Caribbean Initiative          |
| HFP    | Homestead Food Production   |
| HINI   | High impact Nutrition interventions                                 |
| HLTF   | UN High Level Task Force  |
| ICN    | International Conference on Nutrition                               |
| ICCIDD | International Council for the Control of Iodine Deficiency Disorder |
| ICGS   | International Child Growth Standard                                 |
| ICN    | International Conference on Nutrition                               |
| IDD    | Iodine deficiency disorders   |
| IDI    | Initiative against Child Malnutrition                               |
| IDS    | Institute of Development Studies                                    |
| IFAD   | International Fund for Agricultural Development                     |
| IFPRI  | International Food Policy Research Institute                        |
| IYCF   | Infant and Young Child Feeding                                      |
| LAIA   | Latin American Integration Association                              |
| LBW    | Low birth weight  |
| LYCN   | Infant and young child nutrition                                    |
| MAD    | Minimum Acceptable Diet   |
| MAFAP  | Monitoring African Food and Agricultural Policies                   |
| MAM    | Moderate Acute Malnutrition   |
| MCH    | Maternal and Child Health   |
| MDD    | Minimum dietary diversity   |
| MDGs   | Millennium Development Goals  |
| MSF    | Médecins Sans Frontières  |
| NCD    | Noncommunicable disease   |

## Improving nutrition through accountability, ownership and partnerships

|        |   |
|--------|---|
| NEPAD  | New Partnership for Africa's Development        |
| NPCA   | NEPAD Planning and Coordination Agency          |
| NUGAG  | Nutrition Guidance Expert Advisory Group        |
| NGO    | nongovernmental organization                    |
| NNAP   | National Nutrition Action Plan                  |
| NTF    | Nutrition Technical Forum                       |
| OAU    | Organization of African Union                   |
| ODA    | Official Development Assistance                 |
| OSP    | orange sweet potato                             |
| PANI   | Pan African Nutrition Initiative                |
| PEM    | Protein Energy Malnutrition                     |
| PHC    | Primary Health Care                             |
| PNSR   | National Rural Sector Programme                 |
| PRSPs  | Poverty Reduction Strategy Papers               |
| RBB    | Results-Based Budgeting                         |
| RCT    | Randomized Control Trials                       |
| REACH  | Renewed Efforts Against Child Hunger            |
| RFNSP  | The Regional Food and Nutrition Security Policy |
| RUTF   | Ready-to-Use Therapeutic Food                   |
| SAM    | Severe Acute Malnutrition                       |
| SCN UN | Standing Committee on Nutrition                 |
| SDG    | Sustainable Development Goal                    |
| SFP    | Supplementary Feeding Programme                 |
| SOFA   | State of Food and Agriculture                   |
| SUN    | Scaling Up Nutrition                            |
| SWAps  | Sector Wide Approaches                          |

## Improving nutrition through accountability, ownership and partnerships

|        |  |
|--------|--|
| UNDP   | United Nations Development Programme               |
| UNECA  | United Nations Economic Commission for Africa      |
| UNICEF | United Nations Children Fund                       |
| USAID  | United States Agency for International Development |
| VAD    | Vitamin A deficiency                               |
| VITAA  | Vitamin A for Africa                               |
| VITAL  | Vitamin A Field Support Project                    |
| WB     | World Bank   |
| WFP    | United Nations World Food Programme                |
| WFS    | World Food Summit                                  |
| WHA    | World Health Assembly                              |
| WHO    | World Health Organization                          |
| WTO    | World Trade Organization                           |
| ZHC    | Zero Global Challenge                              |

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## **WEBSITES**

### **EUROPEAN COMMISSION**

European Commission-EuropeAid Development and Cooperation  
[http://ec.europa.eu/europeaid/index\\_en.htm](http://ec.europa.eu/europeaid/index_en.htm)

European Commission-Humanitarian Aid and Civil Protection  
[http://ec.europa.eu/echo/index\\_en.htm](http://ec.europa.eu/echo/index_en.htm)

European Commission- Directorate-General for Agriculture and Rural Development  
[http://ec.europa.eu/dgs/agriculture/index\\_en.htm](http://ec.europa.eu/dgs/agriculture/index_en.htm)

African Union  
<http://www.africa-eu-partnership.org/about-us/partners/african-union>

Caribbean Food and Nutrition Institute (CFNI)  
<http://www.caricom.org/jsp/community/cfni.jsp?menu=community>

CTA  
<http://www.cta.int/>  
Brussels Briefing on Nutrition  
<http://brusselsbriefings.net/past-briefings/n23-nutrition-security/>

Knowledge for Development/nutrition  
<http://knowledge.cta.int/en/Dossiers/S-T-Issues/Improving-nutrition-outcomes>

ICT Update- Data revolution for Agriculture and Nutrition  
<http://ictupdate.cta.int/en/%28issue%29/79>

Spore  
<http://spore.cta.int/>

### **UNITED NATIONS ORGANIZATIONS**

FAO, Global Forum on Food Security and Nutrition (FSN)  
<http://www.fao.org/fsnforum/>

FAO, Hunger Portal  
<http://www.fao.org/hunger/en/>

FAO, The Right to Food  
<http://www.fao.org/righttofood/>

High-Level Task Force on Global Food Security Crisis  
<http://www.un.org/en/issues/food/taskforce/>

The World Bank - Food security  
<http://www.worldbank.org/en/topic/foodsecurity>



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UN Special Rapporteur on the right to food  
<http://www.srfood.org/en/special-rapporteur>

UNECA- The United Nations Economic Commission for Africa  
<http://www.uneca.org/>

UNDP-United Nations Development Programme  
<http://www.undp.org/>

UNESCAP-United Nations Economic and Social Commissions for Asia & the Pacific  
<http://www.unescap.org/>

UNSCN- United Nations System Standing Committee on Nutrition  
<http://www.unscn.org/>

UNICEF - Nutrition  
<http://www.unicef.org/nutrition/>

World Food Programme  
<http://www.wfp.org/>

World Health Organization  
<http://www.who.int/en/>

World Health Organization- Nutrition for Health and Development  
<http://www.who.int/nutrition/en/>

Zero Hunger Challenge  
<http://www.un.org/en/zerohunger/#&panel1-1>

### NGOS, THINK TANK AND NETWORKS

ActionAid  
<http://www.actionaid.org/>

Action against Hunger  
<http://www.actionagainsthunger.org./>

Alliance Against Hunger and Malnutrition (AAHM)  
<http://www.theaahm.org/home/en/>

Bread for the World Institute  
<http://www.bread.org/institute/>

Concern  
<https://www.concern.net/get-involved/campaign-with-us/1000-days/concern-and-hunger>

Countdown to 2015  
<http://www.countdown2015mnch.org/>

Eldis - Nutrition  
[http://www.eldis.org/go/topics/resource-guides/nutrition#.VUNhF\\_mqpHx](http://www.eldis.org/go/topics/resource-guides/nutrition#.VUNhF_mqpHx)

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Emergency Nutrition Network

<http://www.enonline.net/>

Food and Nutrition Technical Assistance (FANTA)

<http://www.fantaproject.org/about>

Foodtank

<http://foodtank.com/>

Global Nutrition Cluster

<http://nutritioncluster.net/>

Global Nutrition Report

<http://globalnutritionreport.org/>

Nutrition 4 Growth

<http://nutrition4growth.org/>

OXFAM International

<http://www.oxfam.org/en>

Scaling Up Nutrition

<http://scalingupnutrition.org/>

The Lancet Series on Maternal and Child Nutrition

<http://www.thelancet.com/series/maternal-and-child-nutrition>

### RESEARCH ORGANISATIONS

CGIAR Program on Agriculture for Nutrition and Health (A4NH)

<http://www.a4nh.cgiar.org/partners/>

FARA-Forum for Agriculture Research in Africa

<http://www.fara-africa.org/>

HarvestPlus Program

<http://www.harvestplus.org/content/about-harvestplus>

IAASTD-International Assessment of Agricultural Knowledge, Science and Technology for Development

<http://www.unep.org/dewa/assessments/ecosystems/iaastd/tabid/105853/default.aspx>

IFAD - International Fund for Agricultural Development

<http://www.ifad.org/>

IFPRI-International Food Policy Research Institute

<http://www.ifpri.org/>

INRA - French National Institute for Agricultural Research

<http://www.international.inra.fr/>

Institute of Development Studies - Nutrition

<http://www.ids.ac.uk/idsresearch/nutrition>

ODI - Food portal

<http://www.odi.org.uk/themes/food/index.asp>

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# BRUSSELS RURAL DEVELOPMENT BRIEFINGS

## A SERIES OF MEETINGS ON ACP-EU DEVELOPMENT ISSUES

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