

# The nutrition sensitivity of agriculture and food policies: a summary of eight country case studies

Jessica Fanzo,<sup>1§</sup> Carl Lachat,<sup>2</sup> Thalia Sparling<sup>3</sup> and Ted Olds<sup>4</sup>

<sup>1</sup> Institute of Human Nutrition and the Center on Globalization and Sustainable Development, Columbia University, United States of America

<sup>2</sup> Department of Food Safety and Food Quality, Faculty of Bioscience University of Gent, Belgium

<sup>3</sup> Institute of Public Health, University of Heidelberg, Germany

<sup>4</sup> Independent Consultant, United States of America

§ Corresponding author. Email: [jfanzo@gmail.com](mailto:jfanzo@gmail.com)

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## Introduction

Agriculture and food systems throughout the world have evolved to become more complex and globalized (Nugent et al. 2011, FAO 2013a). The nutritional quality of food production, processing, and consumption – as determined by the food system – is intrinsically related to the World Summit goal for all people to have the opportunity to lead a healthy and active life (FAO 1996). Nutrition-sensitive agriculture aims to maximize the positive impact of the food system on nutritional outcomes while minimizing any unintended, negative consequences of agricultural policies and interventions for the consumer (Ruel et al. 2013). It is placing a nutrition lens on the food and agricultural sector as a whole without detracting from the agriculture sector's own goals, which historically focus on increasing production and improving income (Herforth et al. 2012).

The complex role of agriculture policies in the food system is well understood, but their impact on nutrition is less well known (WHO 2013). Debate continues between those who suggest that agricultural policy should play a large role in producing nutritious food and those who believe that it is more important for agricultural policy to focus on feeding the planet and promoting economic development by increasing production, especially that of cash crops. This paper highlights the gaps in our under-

standing of effective nutrition-sensitive policies and commitments, and provides an overview of the food-agriculture policy landscape as it relates to nutrition by summarizing eight in-depth country case studies commissioned by the United Nations System Standing Committee on Nutrition (UNSCN) ([available online](#))<sup>1</sup>.

## Methodology

### Objectives

These studies, undertaken by a number of independent consultants, examined the nutrition sensitivity of agriculture and food policies in eight developing countries, namely Brazil, Malawi, Mozambique, Nepal, Senegal, Sierra Leone, South Africa, and Thailand. The authors of this paper were tasked with consolidating and summarizing these reports, which are [published in full by the UNSCN](#). This paper presents a brief survey of initial findings.

The major objectives of these eight country studies were:

- To identify and describe food and agriculture strategies, policies and investments that incorporate nutrition-sensitive actions and recommendations.
- To describe policy processes and the political environment around nutrition-sensitive food and agriculture policy-making, and identify factors contrib-

<sup>1</sup> The studies were conducted by the following independent consultants: Anne-Marie B Mayer (Malawi); Carl Lachat and Eunice Nago (Senegal); Hettie Schönfeldt, Prof JF Kirsten and Prof M McLachlan (South Africa); Jessica Fanzo and Danielle Andrews (Nepal); Kraisid Tontisirin, Visith Chavasit, Tipvon Parinyasiri, Mayuree Ditmetharaj, Patchanee Intaraluk and Sauwalak Kittiprapas (Thailand); Margaret Akinyi Wagah, Mohammed Ajuba Sheriff and Aminata Shमित Koroma (Sierra Leone) and Sabrina Ionata de Oliveira Granheim (Brazil and Mozambique). Their work and contribution are gratefully acknowledged.

uting to or impeding collaboration and cooperation between relevant ministries.

### Country selection process

The eight countries analysed in this report were selected based on their representation of different stages along the nutrition transition, stated commitment to nutrition as expressed through the Scaling Up Nutrition (SUN) Movement or other actions, expressed interest in the work and their having potentially relevant agriculture policies in place. In each country, agriculture is an important economic driver, and each has a multisectoral nutrition plan. Of the eight countries, five have signed up to SUN.

### Data Collection

Preparation of the studies began in 2013, with a group of experts convened by the UNSCN working to agree on a common methodological approach for the case studies, a detailed framework of analysis and a list of research questions (UNSCN 2013).

The studies were carried out for each country by individual consultants, under the guidance of the UNSCN. Data collection included a review of existing policies and relevant secondary data and in-country consultations. Data collection was done in two parts. The first part consisted of a desk review prior to a country visit. In the second part, consultants travelled to the countries to gather additional information on strategies, policies and investments in food and agriculture; their influence on nutrition; institutional capacity; level of stakeholder participation; cross-sectoral collaboration and alignment; and the overall nutrition political economy.

In-country work consisted of interviews with national government policy-makers and other experts in specific sector areas relevant to nutrition, mainly agriculture but also education, health and environment. Most of the consultants collaborated with country counterparts to organize a feedback session with relevant stakeholders that were contacted during the field visit.

An overarching framework, based on agriculture–nutrition pathways outlined by Gillespie and Harris (2012) as part of the *Tackling the Agriculture–Nutrition Disconnect in India* (TANDI) project (Figure 1) and the Key Recommendations for Improving Nutrition Through Agriculture (see [Herforth and Dufour in this issue](#)), was developed to guide the data collection and analysis for each

## Key messages

Food and agriculture policies and programmes have a major role to play in improving nutritional outcomes in a country.

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Many of the policies analysed in the case studies incorporated nutrition objectives, had indicators to measure progress, targeted the vulnerable and women, and focused on diversified food production. However, some policies did not emphasize interventions to improve processing, storage, marketing and utilization of foods. Very few have assessed impact of their food and agriculture policies on nutritional outcomes.

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Developing nutrition-focused human resources capacity is a critical component of implementing multisectoral approaches to achieving food and nutrition security.

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Robust and innovative monitoring and evaluation are essential to understanding the impact and effectiveness of nutrition-focused policies and programmes.

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The rising levels of overweight and obesity, which often exist alongside undernutrition, are a challenge that must be addressed in all countries studied.

case study. Each case study consisted of three areas of data collection and analysis. They were: (1) perform a situation analysis; (2) analyse the nutrition sensitivity of the specific agriculture and food policies and frameworks that currently exist; and (3) describe policy processes and alignments including cross-sectoral communication and coordination, monitoring and evaluation frameworks. Following country visits and data collection, data was analysed and a case study drafted. The draft report was sent for feedback, and contributions and revisions from national focal points that participated in the in-country visit were also included.

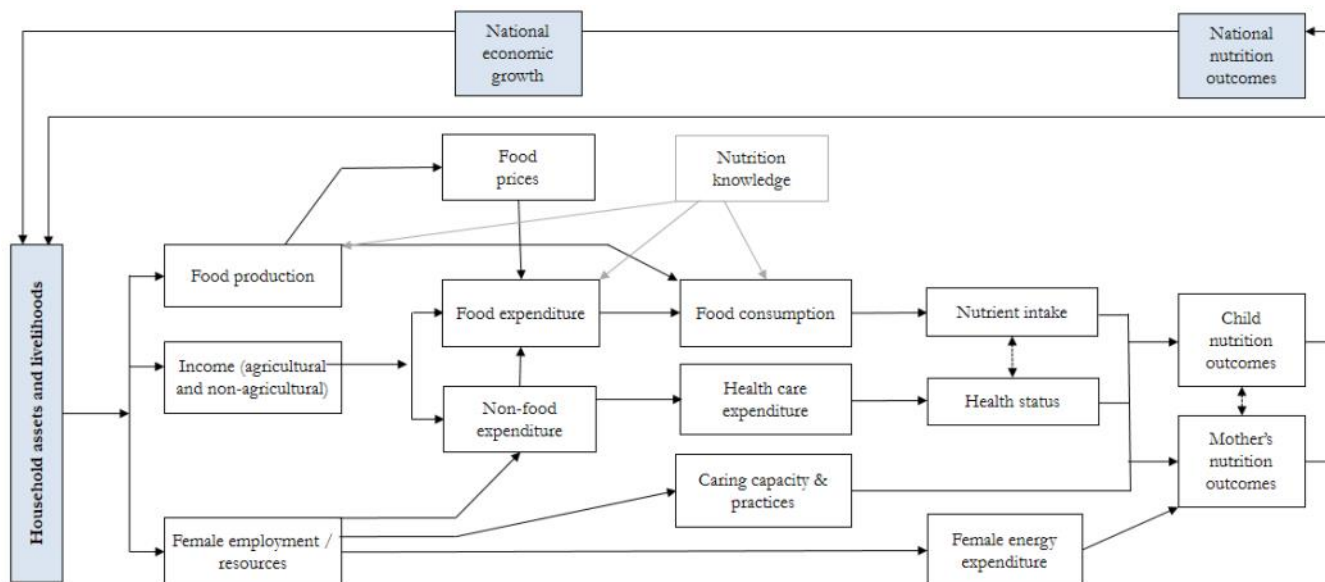
## Findings and Discussion

### Situation analysis of food systems

Each of the countries studied are in transition, both in their agriculture and food systems as well as the nutritional status of the population. They can be grouped into different stages (see Box 1, based on Paarlberg 2012). Of the countries studied, Malawi, Mozambique, Nepal, Senegal and Sierra Leone are in the first stage of the nutrition

**Figure 1. Framework adapted for the eight country study analysis.**

Source: adapted from Gillespie and Harris 2012 and Heady 2012.



transition. Brazil, South Africa and Thailand are moving through the second stage of the nutrition transition (Figure 2).

**Nutrition-sensitive analysis of food and agriculture policies**

Figure 3 summarizes the major agriculture and food policies of each country with respect to the five policy-related Key Recommendations. For each category, the authors constructed one composite score. Nutrition strategies themselves were not analysed in this synthesis report.

Country contexts are very different, yet common patterns of the underlying dynamics linking nutrition to agriculture exist. Strong government commitment to improving nutritional outcomes is a crucial first step, and all of the countries demonstrate this commitment to some degree. However, efficient food systems, institutional capacity, incentives for multisectoral collaboration and dialogue, and monitoring and evaluation systems are the mechanisms through which these commitments are realized. As shown in Figure 3, countries have done a fair job in increasing incentives to diversify production as well as improving access and consumption of nutritious foods, but more can be done. Most countries lack the ability to measure and monitor consumption patterns and dietary diversity. One reason is due to disjointed information systems across ministries, but there is also a lack of tested, validated indicators to measure diversity and quality of diets, and food composition databases are often outdated

or non-existent. Most countries have done well in empowering women through agriculture and social protection policies and investments. Analytical and implementation capacities remain a gap in almost all countries, from community to university levels. Multisectoral strategies and true integration across sectors is a mixed bag. Some countries have good intent to coordinate, but intent and action are worlds apart. A few countries are doing actual cross-sectoral work.

All countries have done quite well in ensuring that nutrition objectives, goals and indicators are embedded within their strategies; however, translating this into programmes and practices is another reality. Almost all policies focus on increasing food production, which is the mainstay of modern agriculture but not the sole or perhaps even most important means for agriculture to improve nutrition. There is also an emphasis on women-led agriculture. Bolstering the engagement of women on an economic and developmental level within agriculture is increasingly recognized as an important investment, and there is strong evidence that targeting women improves nutritional outcomes (Smith and Haddad 2002). Some countries lack emphasis on post-harvest storage and processing as part of improving nutritional quality and of creating more nutrition-sensitive value chains.

We are just beginning to understand the concrete factors that link agriculture and nutrition. It is clear that better capacity and understanding will benefit every country studied. Governments that achieve significant gains in

### Box 1. The Three Stages of the Nutrition Transition

**STAGE ONE:** The average diet is generally low in calories and micronutrients, and food is often sourced from small-holder and subsistence farms. This stage is accompanied by high rates of undernutrition and of infectious diseases.

**STAGE TWO:** The average diet is in transition to a diet that provides adequate basic energy for most of the population but with little diversity and an inadequate balance of nutrients. This stage is accompanied by undernutrition with an increasing burden of overweight and obesity and noncommunicable diseases.

**STAGE THREE:** People have access to an affluent diet that is energy dense and rich in fat, salt, and highly refined carbohydrates. The food supply systems are abundant and diverse. This stage is accompanied by a high prevalence of diet- and lifestyle-related health problems linked to obesity.

nutritional outcomes through improving agricultural policies and programmes will be at the vanguard of a new methodology and have the opportunity to significantly contribute to learning in this area. Countries like Brazil and Thailand have already demonstrated valuable lessons, both in terms of successes and opportunities. As both countries continue to work to eliminate undernutrition while also stepping up interventions to address the increasing rates of overweight and obesity, it is critical for them to continue to build capacity that can implement, assess and mitigate the growing obesity trends.

### Analysis of policy processes and alignments

**Multisectorality:** Nutrition is often considered an institutional orphan that does not fit neatly into the defined scope of work of any one ministry. Ministries tend to prioritize more explicit sector goals at the expense of nutrition objectives. Many food and nutrition security policies incorporate agricultural objectives, but this was not generally reciprocated by the agricultural sector. Most agricultural policies focus primarily on production and sale of cash crops and lack explicit nutrition-focused objectives. However, some countries, such as Brazil, Nepal, Senegal, and Sierra Leone, do explicitly recognize the multisectoral nature of nutrition.

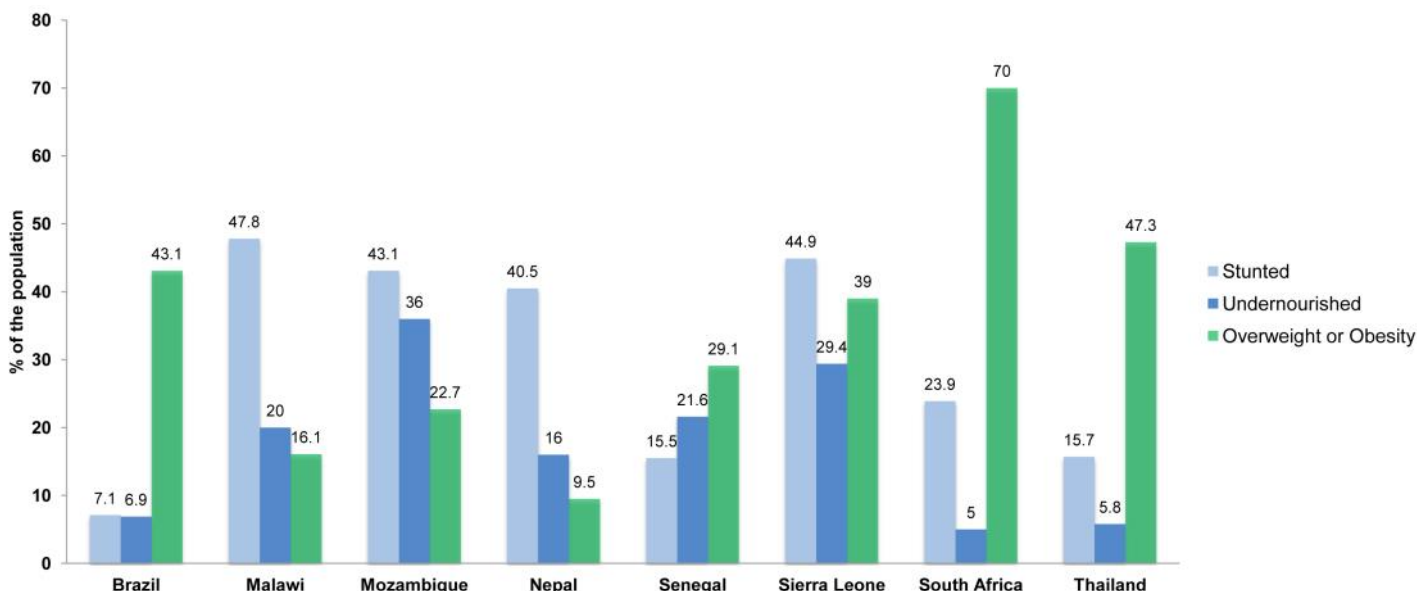
**Enabling environment:** Challenges related to fostering an enabling environment were among the most pervasive barriers to achieving positive nutritional outcomes. An enabling environment is one where the political and policy processes build and sustain momentum for the effective implementation of actions to reduce malnutrition (Gillespie et al. 2013). Most agriculture policies concentrate on increasing production of cash crops and econom-

ic growth. These priorities do not naturally coexist with those of nutrition-sensitive agriculture, such as increasing production of nutrient-dense foods, improving food processing and storage to retain nutritional value, and targeting populations that are vulnerable to malnutrition.

**Capacity and coordination:** The lack of expertise and coordination between ministries is another challenge, with perhaps the exception of Brazil and Thailand. Effective nutrition-sensitive agriculture requires expertise not only in nutrition but also in food systems, agricultural production, business enterprise, community engagement and health. Many of the countries' key stakeholders recognized that there are few to no agricultural policy-makers or programme personnel who also have expertise in health and nutrition. The objectives of nutrition, agriculture and health are intrinsically related and often mutually reinforcing. A clear understanding of those relationships among policy-makers, achieved through improved education in nutrition-sensitive approaches and a mutual language for engagement, can break down many of the barriers to collaboration.

**Information and measure:** Finally, effective monitoring and evaluation systems are essential for policy-makers to achieve substantive gains in nutrition-sensitive agriculture. Each of the major food and agriculture policies had some issue with the monitoring and evaluation frameworks. Some of the issues are due to a lack of evidence that still exists around the links and synergies between agriculture, nutrition and health. Clear and defined metrics should be developed to guide operational programmes in agriculture and health toward common goals, and governments should measure and evaluate the contributions of agriculture and food to diet quality and

**Figure 2. The burden of undernutrition, overweight and obesity in the eight countries studied.**



**Legend:**

Data is expressed as a percentage of the population stunted (light blue), undernourished (dark blue) and overweight or obese (green).

Stunted: percentage of children under the age of five who are moderately or severely stunted (Nutrition Landscape Information System – NLiS and Demographic and Health Surveys – DHS).

Undernourished: percentage of the population who are undernourished (FAO).

Overweight and obesity: percentage of women ages 15 to 49 years with a body mass index of 25 or greater (NLiS, DHS).

health. Rigorous monitoring and evaluation systems will equip policy-makers to be more focused and data-driven in their responses to nutrition challenges and facilitate a more productive dialogue among relevant stakeholders. In addition, the growing ubiquity of real-time data collection allows for rapid assessment of implementation needs.

**Lessons Learnt**

The links between nutritional outcomes and broader agriculture and food systems are undeniable in their potential to combat hunger and malnutrition, but how to strengthen these links? From the country studies we can identify a number of lessons and areas for future work.

**Lesson one:** Operationalizing policies requires a new way of working. Ministries must create systems to engage in policy dialogue around nutrition, allocate sufficient funding for sector-specific nutrition activities, and be held accountable for achieving positive nutritional outcomes. Donors should be a part of that collaborative process, facilitating cross-sectoral planning and implementation of nutrition-sensitive agriculture activities.

**Lesson two:** Many of the countries have yet to monitor operational progress at a national, centralized level. As countries begin to implement programmes, they will have the opportunity to undertake analyses beginning at baseline to elucidate the factors that hinder or advance implementation and to uncover best practices for mitigating challenges. The inclusion of concrete and robust metrics will help assess process and impact and identify relevant externalities. Thus far, no consensus has been reached on what a comprehensive set of indicators should look like. A full set of indicators must take account of specific vulnerable populations, such as women, traditional and indigenous populations and those living in fragile states; the relative effect of policies on both underweight and overweight and obesity status; the geographic distribution of impact, particularly between rural and urban populations; the macroeconomic impacts of such policies, particularly on food prices and trade; and the effect on a range of environmental factors and vulnerability to severe climate events.

**Lesson three:** Implementation of nutrition-sensitive agriculture also relies on a workforce with the relevant skills

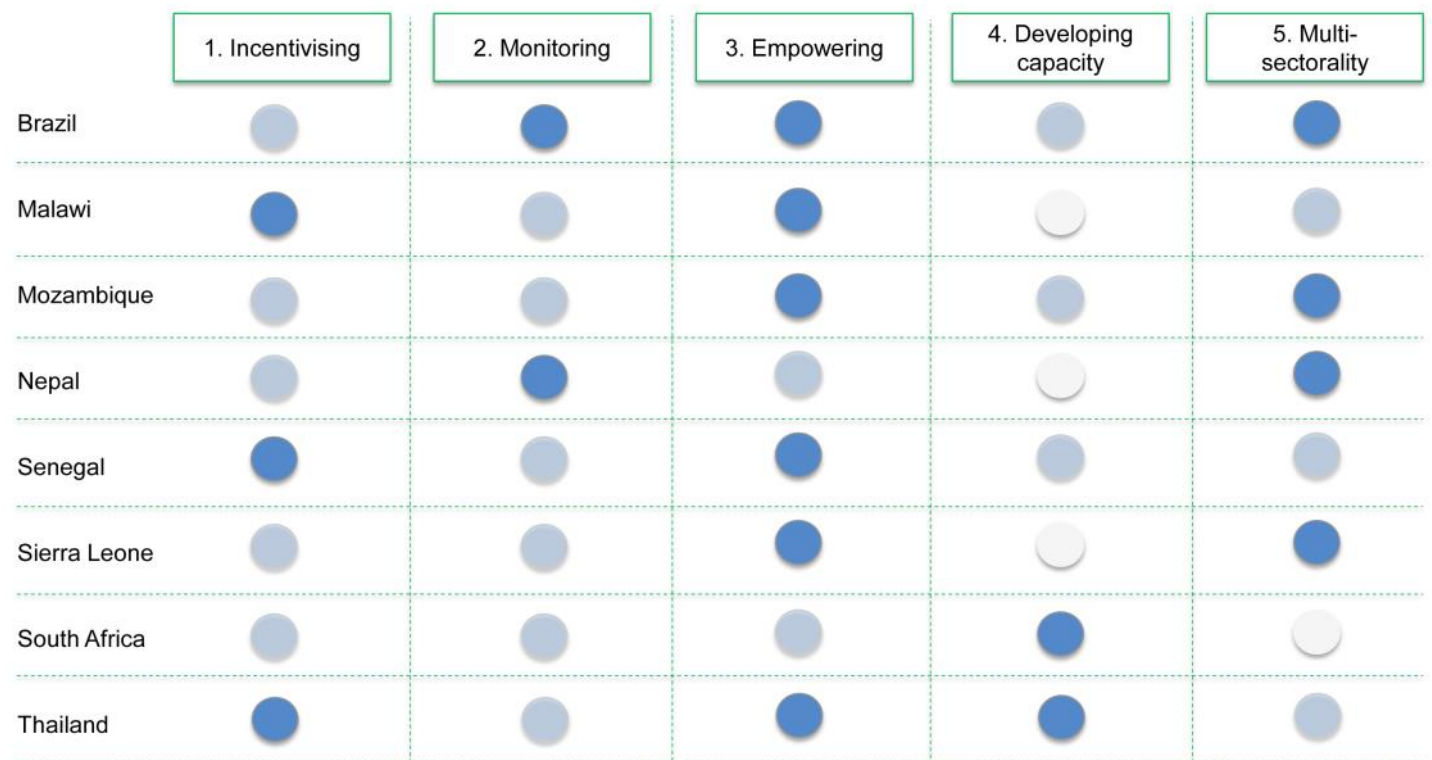


and understanding. As discussed, there is a lack of expertise in nutrition in most study countries, and even fewer people with substantive cross-sectoral knowledge (see [Gillespie and Margetts paper in this issue](#)). An effective implementation plan must include a human resources strategy to assess the existing skills gaps and to build the required expertise.

**Lesson four:** There are also a number of externalities and

components around “*what we don’t know that we don’t know*” with respect to nutrition-sensitive agriculture. External drivers such as population growth, urban migration, and environmental risk and climate volatility will have less predictable effects on food and nutrition security and complicate efforts to develop nutrition-sensitive policies and programmes. The free movement of ideas and technology across borders in an increasingly global-

**Figure 3. Rankings of countries food and agriculture policies in meeting the Key Recommendations for Integrating Nutrition into Agriculture.**



**Food and agriculture policies can have a better impact on nutrition if they:**

1. Increase incentives for availability, access, and consumption of diverse, nutritious and safe foods through environmentally sustainable production, trade and distribution.
2. Monitor dietary consumption and access to safe, diverse and nutritious foods. The data could include food prices of diverse foods, and dietary consumption indicators for vulnerable groups.
3. Include measures that protect and empower the poor and women. Safety nets that allow people to access nutritious food during shocks or seasonal times when income is low; land tenure rights; equitable access to productive resources; market access for vulnerable producers. Recognizing that a majority of the poor are women, ensure equitable access to all of the above for women.
4. Develop capacity in human resources and institutions to improve nutrition through the food and agriculture sector, supported with adequate financing.
5. Support multisectoral strategies to improve nutrition within national, regional and local government structures.

**Legend:**

The table summarizes the rankings of the major agriculture and food policies of each country analysed with respect to the five policy-related Key Recommendations into one composite score across all major food and agriculture policies analysed. The circles indicate the following: the dark blue indicates that the Principle is adequately addressed, medium blue signifies that the recommendation is partially addressed but not completely, and very light grey indicates that the recommendation is not addressed or included in the policy. Nutrition strategies themselves were not analysed in this synthesis report.

ized planet will play a role in determining future production and consumption patterns. The international community needs to understand the resulting impact on nutritional outcomes. Policies need a longer-term horizon that internalizes these shifts, as well as the monitoring systems and metrics to interpret long-term effects and changes. Researchers and policy-makers need to advance the dialogue about what works in nutrition-sensitive agriculture.

**Lesson five:** It is unclear how countries will effectively address the dietary and nutrition transition. This remains a central issue for the agriculture sector and its cooperation with other sectors such as health and education. Issues of globalization, trade, the food industry and urbanization will only become more intertwined with each other and with food systems across countries, regions and the globe. It is unclear how to mitigate the *globesity* trend of increasing overweight and obesity through the agriculture sector. Very few countries at the moment have effectively tackled this issue (see [Candeias and Lachat](#), and [Hawkes et al. in this issue](#) for an overview and possible approaches).

The upcoming [Second International Conference on Nutrition \(ICN2\)](#) is an excellent opportunity to provide policy guidance to countries to ensure agriculture is better responding to health needs, and to enable stakeholders to jointly move the nutrition agenda forward.

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## Agriculture–Nutrition Community of Practice (Ag2Nut CoP)

### Who are we?

We are a global network of professionals working on issues pertaining to the intersection of agriculture and nutrition. The group is informal, and designed to facilitate information sharing and networking.

### What are the objectives of the CoP?

The CoP is designed to be a virtual space for sharing resources to build a common evidence pool, facilitating communication across sectors, and developing key messages to communicate to the broader development community. We wish to break down the silos that separate agriculture from nutrition through creating opportunities for cross-sectoral dialogue on issues of mutual interest. The group has facilitated face-to-face meetings at various conferences and events since mid-2010, held periodic thematic discussions by conference call, and disseminated research findings/tools/guidance materials. The outcomes of the group evolve with the needs of the members.

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