

**Agricultural policy for improved nutrition in Africa and Asia:
Evidence to guide the US Government's investments in food security****

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Introduction

In November and December 2014, the Office of Agricultural Research and Policy in USAID's Bureau for Food Security convened a scientific roundtable to assess the available evidence on how agricultural policies can best improve maternal and child nutrition, towards fulfillment of the United States Government's (USG) Feed the Future (FTF) Initiative and other programs targeting food security in Africa and Asia. Preparations and implementation of this roundtable brought together a distinguished group of policy practitioners and researchers from US and African universities, development organizations, civil society, and government agencies, to identify specific opportunities for agricultural policies to help Feed the Future and other partner countries meet their nutritional goals, especially reduced stunting of children under five years of age. The roundtable process led up to an one-day conference in Washington DC on December 11th, 2014, whose results are described in this report .

Objectives and background

The roundtable's evidence review sought convergence towards a short list of policy levers that are likely to be effective in a wide range of settings, while also identifying areas of divergence where evidence suggests success in some settings but not others. The policy instruments of interest were defined as legislation, regulations and institutional arrangements affecting agriculture and food systems across national or subnational regions. Evidence was considered regarding all impacts on nutrition, both intended and unintended, and all types of malnutrition related to child stunting and other global health objectives. Four main areas of policy were explored during the roundtable discussion: 1) agricultural production and nutritional quality, 2) post-harvest handling, processing and food safety, 3) markets, nutrition security, and food access, and 4) cross-cutting issues such as gender, climate and resilience. The policies in question typically affect entire geographic regions, defined in terms of agroecological zones or administrative regions, but have differential impacts on individual residents depending on each person's specific circumstances.

Discussion at the roundtable meeting was conducted under the Chatham House rule, so outcomes reported here cannot be attributed to any specific individual or institution. Ultimately this evidence is intended to be used as an input in further discussions of USG agricultural-nutrition policy support under Feed the Future and other programs. The timing and design of the roundtable capitalizes on the multisectoral nutrition strategy of USAID (2014), contributing to the worldwide movement for Scaling Up Nutrition (2014) in pursuit of World Health Assembly targets (WHO 2013) and the post-2015 Sustainable Development Goals (United Nations 2014), in the context of the Framework for Action adopted at the second International Conference on Nutrition in November 2014 (FAO 2014).

The roundtable process was designed to complement numerous past and ongoing efforts to assemble and disseminate rigorous evidence on how agricultural change can best help to improve international nutrition, beginning with the first Lancet Maternal and Child Nutrition series in 2008 and its follow-up in 2013 and other systematic reviews (Webb and Kennedy 2014), as well as assessments from private groups such as the Copenhagen Consensus (2014) and the Global Panel on Agriculture and Food Systems for Nutrition (2014), international organizations such as the World Bank (2007), the Food and Agriculture Organization (2013), and the International Food Policy Research Institute (2014), and nutrition agendas including a focus on the thousand day window from pregnancy to a child's second birthday, the Scaling Up Nutrition (SUN) global movement, and the Malabo Declaration on Agricultural Transformation from the African Union (2014).

To inform Feed the Future's support for partner countries' efforts to implement more nutrition-sensitive agricultural policies, this roundtable considered a wide range of scientific perspectives to bridge the different kinds of evidence typically used to evaluate agricultural as opposed to nutritional interventions (Masters et al. 2014). As illustrated in Table 1, the evidence base about agricultural policy differs from that used in nutrition programming, calling for the diverse scientific perspectives represented by the roundtable's 31 participants. This distinctive group followed the agenda listed in the annex to this paper to assemble and weigh the available evidence on each policy lever. The resulting dialogue led to five points of convergence around agricultural policies that were judged to have a preponderance of evidence showing high likelihood of success in a wide variety of settings, and three areas of divergence on policies with evidence of success in some settings but not others.

Points of convergence

The roundtable identified five objectives for agricultural policy that, if sought by FTF partner countries, can cost-effectively reduce child stunting through systemic changes at scale. Each objective lists a number of high impact areas that, if targeted, would propel the country toward achieving the objective.

1. Productivity and income. A first objective by which agricultural policy can best improve nutrition is through higher real income, with improvements in farm productivity and marketing to lower the real cost of all kinds of food. Areas of high impact that facilitate this objective, given climate change and other stresses, include improvements in soils and water for plants and animals; crop and livestock improvement for the uptake and delivery of soil nutrients to people; market development for agricultural inputs, farm products and land, labor and capital; and safety nets to protect the most vulnerable, especially women and children.

2. Dietary diversity. A more specific objective for agricultural policy to improve nutrition is through dietary diversity, with improvements in production and marketing that increase households' access and individuals' intake of various legumes, vegetables, fruits, and animal-sourced products. Increasing the number of food groups in dietary patterns can be protective against both undernutrition and excess consumption, and involves both increased production diversity and greater proximity to more frequent markets offering affordable diverse foods.

3. Reduced contamination. A third objective in pursuit of improved nutrition is sanitation and food safety. The agricultural policies that can best contribute to this objective lead to practices that improve water quality and food safety pre- and post-harvest, including market institutions and regulatory systems and enforcement that help ensure the safety of fresh and packaged foods purchased off the farm. Relevant efforts include adoption and enforcement of food safety regulations, sanitation campaigns and quality assurance programs, as well as infrastructure investments in national laboratories, electrification and transportation.

4. Nutritional quality. A fourth objective is policies to enhance the nutritional value of foods that the previous three objectives have made available. High impact agricultural policies that alter food composition include biofortification and fortification with specific nutrients, as well as labeling, quality assurance and other mechanisms to help households obtain increasingly nutritious foods from a variety of sources.

5. Gender dynamics. A fifth objective is improved gender dynamics, both within households and in society at large. Agricultural policies can improve nutrition by altering men and women's time allocation

to help meet nutrient needs during pregnancy, breastfeeding, child care and education; and empowerment through communication and decision making on resource management including more effective use of land, capital and other resources.

Points of divergence

Beyond the points of convergence listed above, the roundtable found three areas of policy in which the evidence is divergent, suggesting effectiveness in some situations but not others.

(a) Information. There were divergent opinions on the role of nutrition information and guidance through policies that advocate for healthy consumption patterns. Though nutrition education is clearly needed in settings where knowledge is a limiting factor, food environments can lead even well-informed consumers to make unhealthy choices.

(b) Mechanization. The nutritional and livelihood implications of large farms and agricultural mechanization was another topic that elicited divergent opinions from roundtable participants. Larger size farms may be able to sell large volumes of uniform-quality foods for formal markets, but labor supervision costs lead family farms to be more economically efficient for most crops. Agricultural enterprises that are larger than family farms are concentrated in livestock production, and in crops that require immediate processing such as sugar, tea, oil palm or cut flowers.

(c) Farm-level production diversity. Policies and programs aiming to improve nutrition by increasing the number of different crop and animal species raised on each farm was a third area of divergence. Production diversity on a given farm can harness ecological synergies among crops and livestock to raise productivity and improve resilience. Production diversity may also improve consumption diversity, especially in settings with limited market access. But given heterogeneity in resource endowments, policies that facilitate exchange can lead to even higher system-wide productivity and resilience, and improve nutrition by giving households greater access to more diverse and nutritious foods.

Implications for Feed the Future

The evidence reviewed in this roundtable addresses agricultural policies that can improve a wide range of influences on maternal and child nutrition. Many of these policies reinforce each other, and also complement a variety of other interventions such as rural infrastructure, education and health services. Through these complementarities, development successes can achieve rapid improvements that exceed the sum of what each individual policy would achieve on its own. Much more data than is now available would be needed to quantify these effects, including data on factors such as changes in the affordability of a diverse and nutritious diet.

New research and additional data collection can help Feed the Future, USG and other donors and partner countries use agricultural policy to improve nutrition outcomes, but existing evidence already provides some guidance regarding how agricultural policies can contribute to rapid nutrition improvement and reduced child stunting. The points of convergence and divergence found in this roundtable can inform US response to partner governments' requests for technical assistance and other resources in pursuit of improved nutrition through agricultural policies, and thereby accelerate the achievement of global goals for sustainable development and child health in the years ahead.

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Table 1. Agricultural and nutritional interventions typically rely on different kinds of evidence

| | Agriculture | Nutrition |
|--|--|--|
| Typical program and policy objectives, intermediate results and primary aims | Productivity, income and ending poverty | Diets, disease and ending malnutrition |
| Typical evaluation methods and evidence used to guide interventions | Randomized controlled trials (RCTs) on experiment stations and on farms; economic measures of market impacts | Randomized controlled trials (RCTs) in community and clinical settings; epidemiological measures of health impacts |
| Typical scope of interventions and targeting | Agroclimatic zones and market areas | Beneficiary households and at-risk individuals |

Source: Adapted from Masters et al., "Agriculture, nutrition, and health in global development: typology and metrics for integrated interventions and research." *Annals of the New York Academy of Sciences*, <http://dx.doi.org/10.1111/nyas.12352>.