



# LEVERAGING AGRICULTURE FOR IMPROVING NUTRITION AND HEALTH

## THE WAY FORWARD

**The International Food Policy Research Institute (IFPRI)** is facilitating a policy consultation process, the centerpiece of which was an international conference on “Leveraging Agriculture for Improving Nutrition and Health” held February 10–12, 2011, in New Delhi, India. This “Way Forward” statement is a synthesis of IFPRI’s preliminary conclusions based on the policy consultation process and is designed to stimulate international debate on the way forward. It does not imply any endorsement by the conference participants or the cosponsors. We welcome comments and feedback on this statement on the conference website: <http://2020conference.ifpri.info>.

### THE CHALLENGE

The linkages between agriculture, nutrition, and health seem obvious: adequate levels and qualities of food produced and consumed promote good nutrition and robust health. The reality, however, is that patterns of food production and consumption vary widely around the world and the positive linkages between agriculture, nutrition, and health are not realized. Despite the large role that agriculture has played in the past, a number of pressing problems in the areas of agriculture, nutrition, and health are evident. These problems include the following:

- Nearly a billion people now go hungry every day, unable to access the food they need for energy and growth. Several billion suffer from deficiencies in micronutrients like iron, vitamin A, and zinc. Hunger and poor nutrition have severe and sometimes fatal consequences for people’s health, especially for women and children. These consequences can include significantly greater susceptibility to a range of infectious diseases. At the same time, problems related to “overnutrition” are burgeoning in many parts of the world. Obesity and chronic diseases like heart disease and diabetes are on the rise, even in settings where hunger is also common.
- Agriculture is dominated by smallholders—many of whom suffer from poverty, malnutrition, and poor health—and faces environmental challenges. In some regions, smallholder agriculture is not growing fast enough to keep up with rising demand for food and to provide farmers with adequate incomes. Intensification of agriculture is a must to feed an increased world population, yet agricultural intensification brings its own risks for people’s health, including zoonotic diseases, food- and water-borne diseases, occupational hazards, and environmental damage that puts people and the planet at risk. Women, who make up the majority of workers on smallholder farms, are particularly vulnerable, because they are also responsible for food and nutrition security and care for the family.
- Stress on natural resources, especially water resources—exacerbated by climate change—and rising costs of inputs such as fertilizers and pesticides may cause farmers to adopt farming practices that are harmful to their own health and to the health of consumers and that are ultimately not sustainable.

Addressing these problems will require solutions to be developed at the intersection of the agriculture, health, and nutrition sectors. Much has been learned in recent years about how the three sectors are connected—with important implications for people’s well-being and overall economic development. Nonetheless, significant information and knowledge gaps remain. Many policymakers and practitioners in the agriculture, nutrition, and health sectors continue to work in isolation despite the potentially strong synergies among initiatives to improve nutrition and health through agriculture.

Faster progress must be made in the drive for adequate food, good nutrition, good health, and sustainable agricultural growth, but the three sectors must work together to minimize the negative links among them and maximize the positive synergies. The policy consultation process “Leveraging Agriculture for Improving Nutrition and Health” points the way to some first steps along this path, beginning with an effort to learn more about the links and the implications for policy and delivery on the ground.

## FILL THE KNOWLEDGE GAPS

- **Learn more about how different patterns of agricultural growth affect nutrition and health.** To design the most effective policies, we still need to know more about how much and what type of agricultural growth is best for nutrition and health. For example, must agricultural growth pass a certain threshold to contribute to nutrition and health? Should investments focus on staple crops, high-value crops, or livestock? How can agricultural growth facilitate greater dietary diversity? What conditional factors—such as land distribution, education, women’s status, producer and consumer market structures, and rural infrastructure—do the most to leverage agricultural growth for nutrition and health? Do the links among agriculture, nutrition, and health operate differently in countries at different stages of development? What incentives need to be put in place to ensure that increased farmer income translates into better health and nutrition? We need to capture the lessons learned from small-scale projects and encourage better monitoring and evaluation so that the evidence base is stronger and can be used by others.
- **Invest in research, evaluation, and education systems capable of integrating information from all three sectors.** Better-integrated research and evaluation tools and incentives will promote policymaking processes and learning that cross the agriculture, nutrition, and health sectors. For instance, it would be useful to mainstream the nutrition dimension in farming system research. Universities should encourage a more multidisciplinary approach to help break down the barriers and help students—the practitioners and leaders of the future—and faculty build knowledge and relationships across the sectors. Do-

nors and governments need to invest in reducing critical gaps in human and institutional capacity while stepping up investments in projects and evaluations. Financial incentives to promote multidisciplinary research should take into account policy relevance in more than one sector. To have the greatest impact on policy, research results should be communicated across sectoral boundaries.

- **Fill the gap in governance knowledge at the global, national, and community levels.** More remains to be learned about how to maximize the synergies among the three sectors using policies, investments, regulations, and other tools of governance. In addition, it is important to generate effective leadership to galvanize different sectors to work together effectively and to learn more about how to prioritize and sequence actions and investments to link the three sectors.

## DO NO HARM

- **Mitigate the health risks posed by agriculture along the value chain.** Agricultural strategies should seek to control the agriculture-associated diseases and occupational hazards that are exacerbated by agricultural intensification. New agricultural developments should be subject to health impact assessment (HIA), which can identify health hazards and risks at the design and construction phases when cost-effective safeguards can be incorporated. Also needed are improved production and processing practices, such as better food safety practices and water management, as well as cost-effective risk-based technologies that are accessible to smallholder farmers. Advances in health-risk assessment and management promote incremental improvements through a multiple barrier approach. This provides a strong basis for public health officials to participate in disseminating information on health risks and solutions along the value chain.
- **Design health and nutrition interventions that contribute to the productivity of agricultural labor.** Nutrition interventions such as home-based gardens can both improve nutrition and raise agricultural production. HIV/AIDS interventions can be designed to take account of losses of household labor and minimize disruptions to household production.
- **Look carefully at the downstream effects of subsidies for production or consumption on consumers’ nutrition and health.** Although policymakers often use nutrition to justify agricultural subsidies, in some cases subsidies may result in patterns of agricultural production and distribution that ultimately hurt people’s nutrition and health. Across-the-board, untargeted consumer subsidies, for example, may help hungry people to acquire more food but, over time, may distort their consumption choices and crowd out public investments that would do more to boost nutrition and health.

## SEEK OUT AND SCALE UP INNOVATIVE SOLUTIONS

- **Scale up successful interventions.** Some interventions that address the goals of all three sectors have already been tried both at the project level and at the country level—for example, in China, Ghana, Malawi, and Thailand. It is important to better understand the most cost-effective ways for agriculture and health to deliver improved food security and nutritional outcomes. What works in a particular context and why? These efforts offer opportunities for adapting and scaling up successes and learning from failures.
- **Design agriculture, nutrition, and health programs with cross-sectoral benefits.** Integrated programs can be designed to take advantage of synergies among the three sectors. For example, increased intercropping with nitrogen-fixing crops such as lentils could reduce agricultural inputs, restore soil fertility, and generate nutritional benefits for people. Gender-sensitive programs that consider the synergies and trade-offs between women’s roles in agricultural production and childcare can promote positive nutrition and health outcomes. Food-based approaches and horticultural remedies used to treat poor nutrition can also do a great deal to improve health. Price policies can be used to promote consumption of more nutritious foods. Biofortification of staple crops can significantly improve the nutrition and health status of vulnerable groups, particularly women and children. Civil society actors such as nongovernmental organizations can bring indigenous knowledge about agriculture, nutrition, or health to bear on projects in other sectors.
- **Incorporate nutrition into value chains for food products.** Improved nutrition results not only from greater volumes of food production on farms, but also from the way food commodities are handled in the postfarm segments of value chains. Processing can enhance year-round availability of products with high nutrient value. Fortification during post-harvest processing can improve nutrient content or availability. Transport and storage improvements can reduce postharvest losses and deterioration of the nutritional quality of foods. Efficiency in post-farm handling can reduce costs and retail prices, thus increasing access for poor consumers. For underutilized crops rich in nutrients, value chains can be created to promote their conservation, cultivation, marketing, and consumption.
- **Use all available levers for change.** Science and technology levers, as well as economic, social, and governance levers, are important for maximizing agriculture’s contribution to nutrition and health. Science and technology levers could include innovations along the whole value chain. Plant and live-

stock breeding can increase both availability of and access to food. Food-processing technologies can reduce storage losses and increase nutrient value. Reducing transport costs can make food more affordable as well as accessible, especially for poor urban populations. Economic levers could include policies related to markets, trade, prices, and investment. Social levers could include education and activities to promote behavioral change. Governance levers could include incentives and institutional arrangements, as well as inclusion of marginalized and excluded groups—especially women, who are at the nexus of the agriculture, nutrition, and health sectors.

- **Increase consumers’ nutrition literacy and highlight the consequences of dietary choices.** Consumer awareness campaigns, such as nutrition literacy programs in villages, can increase poor people’s knowledge of and demand for nutritious food. More consumption of nutritious foods can not only improve health, but also open new markets for agricultural producers. Projections show rising trends in consumption of livestock, dairy, and other foods that make intensive use of energy and cereals, with worrisome implications for global food security and the environment. Thus it will also be important to work with consumer, public health, and environmental groups to find ways of encouraging people to adopt sustainable patterns of food consumption.

## CREATE AN ENVIRONMENT IN WHICH COOPERATION CAN THRIVE

- **Focus on partnerships among agriculture, nutrition, and health.** Professionals in agriculture, nutrition, and health speak different “languages,” and efforts will be needed to overcome this barrier. These efforts will have to start at the time of professional training, through, for example, interdisciplinary problem-based learning approaches. National governments, farmers, healthcare workers, nutritionists, environmental groups, civil society organizations, educators, researchers, and the private sector all have important roles to play in leveraging agriculture for improved nutrition and health and should work together to achieve common goals. Special efforts should be made to ensure that the nutrition sector, which is often given short shrift, is an equal partner. Global and regional institutions that play important roles in the governance of the agriculture, nutrition, and health sectors may need to be reformed for greater effectiveness and integration of efforts.
- **Develop mutual accountability mechanisms among the three sectors.** It is important to promote openness and transparency and to develop clear guidelines for stakeholder responsibilities and resource allocation in agriculture, nutrition, and health. Leaders in

the three sectors can create incentives that will make it easier for people in those sectors to work together.

- **Correct market failures.** Markets alone cannot achieve socially optimal agriculture, nutrition, and health outcomes. It is increasingly clear that agricultural and other policies have a range of benefits and costs for health, nutrition, and the environment that market prices do not reflect, especially given people's lack of information and knowledge. We need to do a better job of taking into account the true value—positive and negative—of nutritious foods, health services, and environmentally beneficial agricultural practices. Policymakers should use public policies—such as investments, subsidies, education, trade, and tax policies—to help correct these market failures and promote policy coherence at all levels.
- **Use communication and advocacy to bring about change.** Although there is wide interest in reducing undernutrition, converting good will into action can be difficult. Communication and advocacy can play an important role in increasing the visibility of nutrition issues, generating interest among agriculture and health professionals, stimulating action at all levels—global, regional, national, and local—and highlighting the important and interlinked roles played by all three sectors.

Recent food crises and protracted food inflation in many parts of the world have attracted renewed attention to agriculture. This is a useful moment to ask whether new ways of thinking and taking action can make agriculture

more effective in promoting a more prosperous, healthy, and well-nourished world, while being mindful of its impact on the environment. This moment thus represents a window of opportunity for finding new solutions to longstanding problems of poor nutrition and health—solutions that could go a long way toward helping achieve all of the Millennium Development Goals and even surpassing them.

It is important to remember that agricultural growth alone will not eradicate undernutrition and ill health—specific interventions such as nutrition programs targeted at children under age two and improved healthcare services for underserved populations are still needed. Moreover, these kinds of safety net programs, as well as education and health services, infrastructure, trade policies, and other factors, make up the larger context within which advances in agriculture, nutrition, and health will take place. Changes in these factors will also make a difference to how well the linkages among agriculture, nutrition, and health operate.

In the coming decades, we are likely to face a more volatile world. Climate change, shifting diets, rising population, threats of water scarcity, and other factors will make leveraging agriculture for nutrition and health ever more challenging. We should anticipate these events and view them as opportunities to promote the structural changes needed to achieve a new balance, with more attention given to sustainable agriculture, improved health status, and better nutrition for all age groups.



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