



CHAPTER 16

Agriculture, WASH, and Safety Nets

Ethiopia's Multisector Story

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OVER THE PAST 25 years, Ethiopia has made remarkable headway in addressing the country's nutrition situation. Despite ongoing challenges, significant progress has been made toward meeting the United Nations Millennium Development Goals, including halving child mortality, doubling the number of people with access to clean water, and quadrupling primary school enrollment. Ethiopia is also on track to eradicate extreme hunger and poverty.¹ The country was one of the top five performing countries in the 2000s in terms of reducing stunting by reducing its prevalence from 57.4 percent in 2000 to 44.2 percent in 2011, although levels remained high at 40.0 percent in 2014.² The same 2014 Demographic and Health Survey found that a further 9 percent of children younger than 5 years old experience wasting, and only 4 percent of children meet the standards for a minimal acceptable diet (a World Health Organization [WHO]/UNICEF indicator for complementary feeding).³ Significant regional differences persist, with the highest rates of stunting (52 percent) found in Amhara and the lowest

found in Gambela (27 percent) and Addis Ababa (22 percent). Overall, stunting is more prevalent in rural (46 percent) than in urban areas (36 percent).⁴

The Government of Ethiopia has been proactive in addressing the myriad determinants of undernutrition. Programs, strategies, and partnerships developed since at least 2005 reflect a consideration of both immediate determinants, addressed through “nutrition-specific” interventions, and underlying determinants, addressed through “nutrition-sensitive” interventions.⁵ More-immediate determinants, including health status and nutrient intake, are addressed through the government's National Health Extension Program, which has expanded rapidly since 2003 and works to address knowledge gaps pertaining to nutrition at the household level.⁶ The government's Community-Based Nutrition Program is another initiative addressing the more immediate determinants of poor nutrition using community-based child growth monitoring and directly engaging communities through nutrition education.⁷ In addition, the government is working to fortify wheat



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Nutrition-sensitive agriculture programs have played a large role in Ethiopia's nutrition improvements.

flour through a Feed the Future–supported public-private partnership known as the African Alliance for Improved Food Processing.⁸ The government also works with UNICEF and the Global Alliance for Improved Nutrition (GAIN) on the Universal Salt Iodization Partnership.⁹ The government developed the National Nutrition Program (NNP) (2013–2015), which outlined a comprehensive range of both nutrition-specific and nutrition-sensitive approaches to addressing undernutrition. A key feature of the program, now extended to 2020, has been its emphasis on developing explicit multisectoral linkages and initiatives to address inadequate nutrition.¹⁰

Significant progress has also been made toward addressing the underlying determinants of undernutrition, including education, sanitation, and food security. Government expenditures on education

increased from 8.8 percent to 16.7 percent, and social protection program expenditures grew from 7.0 percent to 19.8 percent between 2000 and 2010.¹¹ Widespread efforts to end open defecation have been implemented through government systems for more than a decade.¹² The government recently introduced explicitly nutrition-sensitive provisions into its Productive Safety Net Program (PSNP).¹³ As will be discussed further in the following sections, the PSNP is a large national social protection program administered by the Ministry of Agriculture and dedicated to improving food security among the most vulnerable people in the country. Discussion has recently centered on ways of incorporating nutrition into other flagship agricultural programs. For example, the Agricultural Growth Program, which focuses on increasing crop production in high-production areas, recently

undertook a pilot study to assess potential nutrition-sensitive pathways for its 2016–2020 phase.¹⁴

Working with international partners, the Government of Ethiopia developed a Comprehensive Africa Agriculture Development Programme (CAADP) compact, which is a plan to reduce hunger through agricultural development to which other countries in Africa have committed. The government participates in global forums attendant to the CAADP, including the New Alliance for Food Security and Nutrition.¹⁵ Additionally, Ethiopia was one of the first (“early riser”) members of the Scaling Up Nutrition (SUN) Movement when it joined in 2010. Since 2008 several working groups and technical committees concerned with addressing food security and malnutrition have been set up, including the UNICEF/UK Department for International Development (DFID)–convened Nutrition Development Partner Group and the Ethiopian-initiated National Nutrition Task Force and National Nutrition Coordinating Body.¹⁶

Despite the recent development of both nutrition-specific and nutrition-sensitive programs, policies, and frameworks, it may be argued that the most significant contributions to reductions in stunting nationwide have come from the incidentally nutrition-sensitive effects of growth in the agricultural sector, along with widespread improvements in sanitation.¹⁷ Headey hypothesized, based on the limited data available, that growth in the agricultural sector may correspond to some increase in basic food security, which may be partly responsible for the overall trend toward reduced stunting observed since 2000.¹⁸ Indeed, food production per capita has steadily increased, growing an average of 1.9 percent per year from 2002 to 2007 and 3.3 percent per year from 2007 to 2012, along with total agricultural production per capita, which grew 2.1 percent per year from 2002 to 2007 and 3.1 percent per year from 2007 to 2012.¹⁹ Cereal crop yields have also risen quickly since 2008

relative to the rest of the continent. Sanitation improvements (particularly reductions in open defecation) were associated in recent analyses with reductions in anemia in pregnant women.²⁰ This improvement in maternal health in turn is associated with increased birth size, making sanitation one of the potential factors driving observed stunting reductions between 2000 and 2010.²¹ The push to implement improved sanitation has been a notable policy success story, as will be discussed in the following sections.

This chapter uses household interviews to contribute to a discussion of improvements in agriculture and sanitation and their possible effects on lives and livelihoods at the community level. The discussion of agricultural improvements pays particular attention to nutrition-sensitive recent efforts in the study area (though these efforts were not termed “nutrition sensitive” at their inception). The discussion of sanitation describes in detail the strong commitment to implementing improved sanitation countrywide and identifies areas for ongoing improvements. Looking to the future of nutrition, we discuss the changes being made to the country’s PSNP—a flagship government-led social protection program under the Ministry of Agriculture that is concerned primarily with alleviating food insecurity and preventing asset depletion for the most vulnerable households.²² Recent changes to the program to make it explicitly nutrition sensitive demonstrate positive momentum toward improving nutrition and serve as evidence that nutrition is making its way into the policy mainstream. We conclude by discussing lessons learned from the different programs in place.

Background and Setting

The original data discussed in the following sections derives from research conducted for Stories of Change, a Transform Nutrition project designed

to narrate the changes surrounding nutrition programming in several countries with high burdens of undernutrition. The research team conducted 30 in-depth, semistructured qualitative interviews with a sample of households practicing rain-fed subsistence agriculture in the zone of Wolaita, located in the Southern Nations, Nationalities, and Peoples Region (SNNPR) of Ethiopia. All households were chosen from a single village in one *kebele* (the lowest unit of government administration) to better assess shared experiences of changes in the community over time ([Figure 16.1](#)).

Agricultural Growth and Nutrition

Improvements in agricultural production nationally have been one of the three major drivers of economic growth in Ethiopia since 2004, along with investment in the public sector and an expansion of the service sector.²³ The agriculture sector averaged 7.6 percent growth per year between 2004 and 2014. Within the agriculture sector, crop production has seen the greatest growth per year—8.8 percent on average—and accounts for one-third of all GDP growth. The widespread distribution of improved seed and fertilizer is claimed to have been one of the most significant drivers of overall increases in crop production.²⁴ Notably, the government has invested significantly in environmental rehabilitation in degraded areas using physical labor from the public works arm of the PSNP, though this has not necessarily been a major driver of crop production nationally.²⁵

The village under study was located on rocky, mountainous terrain that could be termed a less-favored area.²⁶ While villages less than 20 kilometers away had experienced rapid and significant improvements in agricultural productivity from the use of improved inputs over the past five years and were able to introduce irrigation, this area had undergone a progressive decline in soil fertility and

water retention owing to extensive erosion and a lack of watershed management.²⁷ The issue of land degradation was compounded by dwindling farm sizes, with the majority of the study sample farming 0.5 hectare or less.

A recent initiative for environmental rehabilitation and watershed management halted the decline. Measures such as improved terracing, trenches, and bunds had been introduced, along with a World Bank-funded project to replant forests at the top of the mountain. The government had also been intensively promoting the use of improved seed and fertilizer through the agricultural extension service, and extension agents (known as development agents or DAs) began making regular visits to households despite the remoteness of the area.

Farmers reported that the environmental rehabilitation initiatives and efforts to increase crop yields had intensified since 2010. Much of the pathway between agriculture and nutrition appeared to consist of leveraging agriculture as a source of food, with less consideration being given to the issue of dietary diversity.²⁸ Nonetheless, farmers were quick to mention the benefits of recent agricultural programs to their crop yields and household food security. Several farmers reported that crop yields had doubled as a result of increased application of fertilizer, improved seed, and improved soil and water conservation techniques, though yields remained low relative to nearby *kebeles* owing to the recent history of land degradation and small farm sizes. Many noted that they were better able to meet their household food requirements, though all respondents had difficulty meeting all of their consumption needs through farm activities alone. Farmers suggested that the emphasis on production was beginning to shift toward an acknowledgment of the importance of consumption patterns. Several households reported that DAs had started advising them to grow and consume a variety of fruits and vegetables where possible.

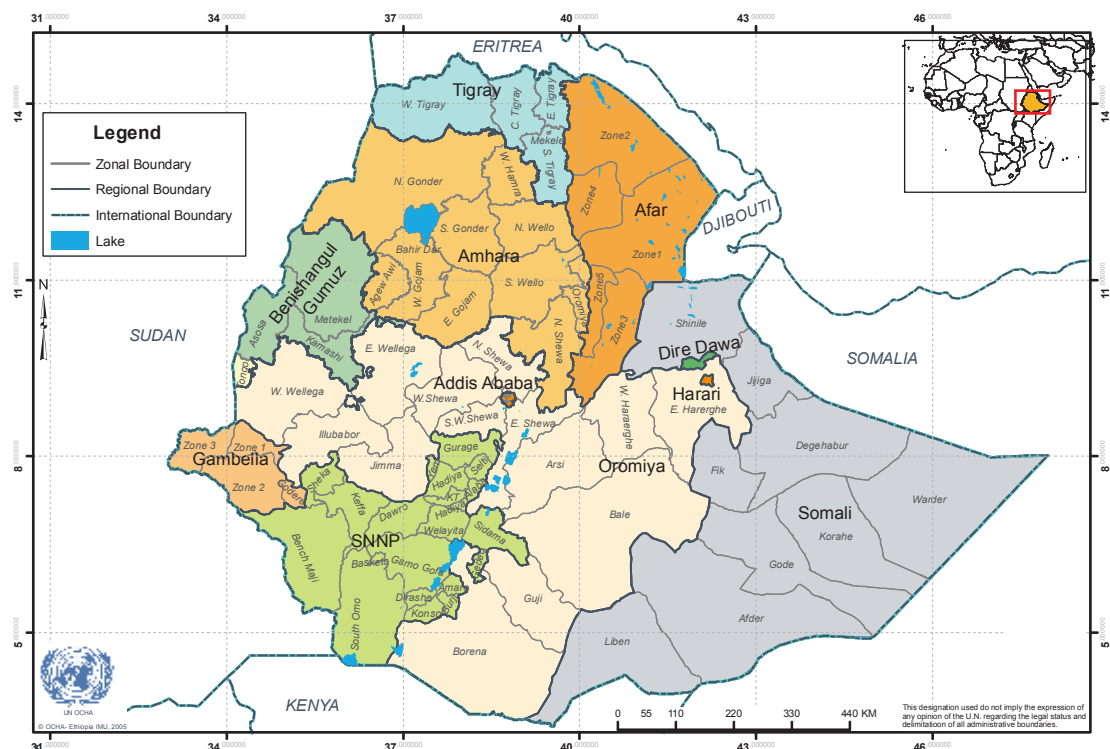
The events in the study area over the past several years illustrate the thoroughness of the government's approach to agricultural intensification. Although parts of the country could benefit from the direct application of fertilizer and improved seed, Ethiopia is home to a vast array of landscapes and climatic zones, making a one-size-fits-all approach to agriculture impractical. To illustrate, a village representative from an adjacent *kebele* with fewer erosion and soil degradation problems reported that the use of fertilizer and improved seed had allowed households in that area to meet close to 100 percent of their consumption needs through farming.²⁹ This area's unique needs had to be addressed through environmental rehabilitation efforts before the benefits of modern inputs could

be realized. According to farmers, the physical conservation measures had made the effective application of improved seed and fertilizer possible.

Sanitation

Change was stirring nearly 10 years before environmental rehabilitation took place, this time related to sanitation. In 2007, the Water and Sanitation Program³⁰ described a reportedly successful effort in the region from 2003 onward to promote "small doable practices" to improve sanitation and hygiene, emphasizing latrine-building and hand-washing at critical times. Households in the area reported that it took them several years to fully accept the idea of sanitation and hygiene, but with the strong

FIGURE 16.1 Administrative regions of Ethiopia



Source: Adapted from Relief Web, Administrative Regions of Ethiopia, http://reliefweb.int/sites/reliefweb.int/files/resources/73A23617425494808525721200700710-ocha_REF_eth051031.pdf.

commitment of the government, eventually all households reported that they had built pit latrines and adopted more hygienic practices. The study area was unique for its strong record in promoting improved sanitation and hygiene practices. At the district level, this area had recently received a Certificate of Excellence in water, sanitation, and hygiene from the federal government.

In the early 2000s, the government shifted from a curative to a preventative approach to healthcare. Sanitation, seen as one of the key low-input, high-impact interventions, was embraced as a cost-effective fit for the government's tight budgetary constraints.³¹ In the SNNPR, a high-impact approach advocated by John Snow International and USAID, combined with elements from the successful Community-Led Total Sanitation (CLTS) program, was piloted in 20 districts before being scaled up to the entire region. Notably, the "small doable practices" approach promoted by CLTS was consonant with discussions with households: that is, incremental, practical changes should be made first. Project implementers highlighted the SNNPR as one of the more successful regions in which this approach was implemented.³² Households reported anecdotally that they had noticed a decrease in diarrheal diseases in their children, a change potentially supported by national Demographic and Health Survey data suggesting that sanitation has an important effect on child growth outcomes.³³

The push to implement improved sanitation had strong government support, and commitment was apparent at all levels of government, including dedicated budgetary support. National implementation was facilitated by clear hierarchical structures in place from the federal to the ground level, which ensured knowledge dissemination and accountability.³⁴ To implement health programming and disseminate knowledge thoroughly at the community level, the government's National Health

Extension Program relied on what are known as 1:5 and 1:30 networks, in which one household acts as lead knowledge disseminator for five others, which are then organized into groupings of six or more, to form the larger 1:30 networks, also overseen by one leading household.³⁵ Latrine-building and hygiene initiatives were implemented and scaled up through the government's existing National Health Extension Program with support from international nongovernmental organizations and donors, including John Snow International and the Water and Sanitation Program.³⁶

At the community level, ownership of latrines is now widespread, albeit not all are up to a satisfactory standard. Based on their positive experiences in their own homes, some respondents suggested that as a next step, constructing public latrines would benefit the community. While official project reports suggest generally positive outcomes in the SNNPR, an independent study of water and sanitation in the Shebedino district of the SNNPR concluded that implementation of project activities was overly supply-driven, and the limited community participation in planning and decision making led to unsatisfactory outcomes.³⁷ For example, only 37 percent of study respondents had a ventilated improved pit latrine, and only 27 percent considered their latrine complete, with walls, floor, and roof. Furthermore, follow-up and continued health education have reportedly been absent in the study area. This omission is echoed by concerns regarding sustainability and ownership discussed in Baye³⁸ and in a brief by the Water and Sanitation Program,³⁹ and is part of the issue of lack of monitoring around sanitation and hygiene programs identified by Plan International⁴⁰ and in a more recent report by the Water and Sanitation Program.⁴¹ Given the potential importance of sanitation for improving nutrition outcomes, ongoing attention should be given to these issues.

Future Directions: The Productive Safety Net Program

Ethiopia's PSNP began in 2005 as a way to focus and coordinate repeated appeals for humanitarian aid to alleviate drought-related crises. When the program was introduced, it represented a marked shift in perspectives on poverty and vulnerability, seeking to build resilience among the most vulnerable households and to reduce poverty over time. Donors coalesced around these ideas, and the program, which was government led and implemented largely through government structures, began operating as a cash or food transfer program in the country's historically vulnerable districts. It is now one of the largest social protection programs in Africa south of the Sahara.⁴² Since 2005, the PSNP has played an important role in improving food security for its beneficiaries as well as serving as a

platform for disseminating improved agricultural technology and developing rural infrastructure.⁴³

In its previous three phases, the program reached nearly 8 million of the most vulnerable individuals.⁴⁴ The program is designed to help beneficiaries get through the lean season without depleting household assets. Beneficiaries participate in public works activities in exchange for food or cash transfers for part of the year. If physically unable to work, beneficiaries may receive direct support. To achieve a more holistic approach to reducing poverty and increasing resilience, targeted livelihood packages were added on through the Household Asset Building Program.⁴⁵ Nutrition-sensitive provisions were added to the third phase of the program. For example, descriptions of possible linkages between the PSNP and the National Health Extension Program were provided, and the



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Better sanitation and hygiene in Ethiopia appear to have boosted children's growth.

list of eligible public works was expanded to include attending classes for nutrition education. However, capacity constraints and a lack of guidance and monitoring are claimed to have prevented most of the provisions from being fully realized.⁴⁶

The changes to the PSNP, which went into effect in June 2015, will attempt to explicitly tie agriculture and health efforts together with a unified vision for improving nutrition outcomes nationwide through nutrition-sensitive programming. A social protection program at its core, the PSNP also serves as a space for experimentation and innovation in improving food security, economic status, and overall well-being. Over the course of its fourth phase (PSNP4, 2016–2020), the program aims to roll out nutrition-sensitive interventions and services as part of its normal operations and to put in place appropriate indicators and monitoring mechanisms to facilitate implementation.⁴⁷

Among other measures, PSNP4 will renew the focus on multisectoral coordination to effectively implement nutrition-sensitive measures and increase monitoring capacity to ensure accountability. These changes will include stronger linkages with the Ministry of Health to connect clients with health services. In partnership with the health sector, behavior-change communication materials focusing on nutrition will be developed, and clients will be given the option to replace a portion of their public works obligations with behavior-change communication.⁴⁸ Pregnant women will immediately be transferred to direct support, which they will receive for up to one year after they give birth. Targeting criteria will be increasingly sensitized to “nutritionally vulnerable” households, such as those with pregnant or lactating women. Public works will be made more sensitive to gender and feature reduced physical requirements for women. Households with temporary nutrition emergencies will be considered for

temporary inclusion. PSNP4 will also renew its focus on livelihood development and support but with a nutrition-sensitive spin.⁴⁹

As a new frontier for promoting nutrition and an important space for innovation and experimentation, the results of PSNP4 will provide lessons and examples of how agriculture and nutrition can be linked through social protection programming.

Conclusions and Lessons Learned

In this chapter, we highlighted and discussed agricultural growth, sanitation, and the PSNP as examples of “stories of change” around nutrition in Ethiopia. The first two topics represent a cascade of interventions that demonstrate commitment and coherence from the federal to the ground level, although limited community participation in decision making on sanitation investments detracted from achieving full benefits. They also illustrate the importance of nutrition-sensitive interventions for improving livelihoods and living conditions as well as setting the stage for further improvements in health, food security, and economic growth. The changes to the PSNP are an important step toward advancing nutrition in development agendas more broadly and suggest the future directions and potential staying power of nutrition in non-traditional or multisectoral contexts.

Until recently, agricultural programs focused largely on the sectoral mandate of increasing food production, while giving less attention to the consumption aspect. Farmers reported that this emphasis, too, was changing, with the recent advice from DAs to grow and consume a variety of fruits and vegetables. Increases in crop production do not inevitably translate into better nutritional outcomes in the immediate term but can lay the foundation for more diversified pathways between agriculture and improved nutrition to come. Further research is needed to fully describe these

potential sequences and linkages, particularly in marginal or less favored areas.

Lessons from the record of implementing sanitation improvements in Ethiopia are twofold. While improved sanitation appears, based on preliminary results, to have had a significant impact on improving child growth outcomes, research and evaluation reports indicate that greater community participation, more dedicated follow-up, and monitoring and evaluating such programs are necessary to achieve even greater impact and to sustain recent progress.

The changes to the PSNP are significant and have the potential to serve as a model for other countries interested in sensitizing social protection programs to nutrition. The program, however, reaches only 11 percent of the population and targets those most vulnerable to food insecurity.⁵⁰ For the rest of the population, a continued emphasis on the quality and reach of agriculture and health service provision will be important to drive further improvements in overall well-being.

Currently, inhabitants of the study area are not asking for more health or agricultural information as the road to health and well-being; instead, they are asking for tangible roads to be built in their area. Investment in rural infrastructure and transportation networks has consistently been one

of the major drivers of economic growth in high-potential agricultural areas. Moreover, research on investments in rural infrastructure in India demonstrated that road building in low-potential, rain-fed areas alleviated poverty much more significantly than did similar investments in high-potential areas.⁵¹ Recent research in Ethiopia indicating that access to markets is a key determinant of children's diets also highlights the importance of seeing nutrition through multiple lenses.⁵² This perspective points to the need to consider new pathways to engage support and interest in improving nutrition from a wide range of stakeholders as well as to broaden the horizon for what "counts" as nutrition sensitive.

An important takeaway of the research for Stories of Change is that the success of a single nutrition-specific initiative (such as dietary supplementation or the promotion of proper infant and young child feeding practices) is conditioned on meeting ongoing, deeper-rooted challenges to livelihoods, food security, and health. Nutrition-sensitive interventions have the potential to go much further to address the underlying determinants of undernutrition. Not only are both types of intervention needed to generate significant and sustained impacts, but they are likely to be mutually reinforcing.

