



Photo: Barlay



# INTEGRATING NUTRITION AND HYGIENE

into African Agriculture

## WHY FOCUS ON NUTRITION AND HYGIENE BEHAVIOR?

**A**gricultural interventions can increase production of crops and livestock, but ensuring the availability of nutritious foods requires that farmers are motivated to grow nutrient-rich crops, as opposed to focusing only on staple grains or cash crops. People must then be ready to eat these foods and feed them to their families, particularly pregnant and breastfeeding women, adolescents, and young children, who have high nutrient requirements. Ensuring that a diverse diet is provided at the right time is key to ensuring a healthy start to life; however, few African children receive this minimum adequate diet – just 3% in Burkina Faso, for example.<sup>1</sup> Rates of other essential practices are also low: on average, fewer than half of African children under 6 months are exclusively breastfed,<sup>2</sup> and this number is much lower in some countries (e.g., 12% in Cote d'Ivoire).<sup>3</sup>

Good hygiene also plays an essential role in nutrition: it helps prevent diseases, which hinder nutrient absorption while increasing nutrient requirements. Actions such as handwashing are critical to breaking this disease cycle but show considerable room for improvement: worldwide, rates of handwashing with soap at key moments range from 0 to 34%.<sup>4</sup> Changing such behaviors is hard, as they are sustained by ingrained habits and cultural norms. Interactive, innovative approaches are thus needed to shift beliefs and behaviors—and eventually improve nutrition throughout a community.



Photo: Alessandra Silver

## HKI'S APPROACH TO NUTRITION BEHAVIOR CHANGE

**H**elen Keller International (HKI) has been working to improve nutrition practices for decades using its well-validated approach, the Essential Nutrition Actions (ENA). The ENA framework includes WHO-endorsed interventions proven to significantly reduce undernutrition, which are also priority approaches for the Scaling Up Nutrition movement. These actions are: improved nutrition for pregnant and lactating women, optimal breastfeeding during the first 6 months of life, improved complementary feeding, appropriate nutritional care of sick children, integrated anemia control, control of vitamin A deficiency, and use of iodized salt.

The ENA framework uses a lifecycle approach to deliver the right messages to the right person at the right time, reaching near-universal coverage within and beyond the health system. The ENA toolkit also suggests mechanisms to reinforce knowledge, prioritize actions, and identify appropriate actions for each client. Capacity building on techniques for effective behavior change communication (BCC) is thus central to ENA implementation. After being trained, health workers are supported to use these skills with clients at clinics, while community workers apply them through home visits, public events, and groups within which parents support one another to adopt improved practices. While such activities often focus on women, men are also targeted, as they play an essential role in household nutrition, and behavior change requires their active involvement.

Integrating ENA with agriculture reaps benefits: as participants begin producing nutrient-rich products, they understand their role in household nutrition,

further increasing the motivation to grow them. Improved dietary diversity is amplified by practices such as optimal feeding of sick children. Through this integrated approach, HKI has helped improve nutrition across several African countries. A USAID-funded project in Burkina Faso (2009-2012), for example, approximately doubled caregivers' knowledge and practice related to timely introduction of complementary foods and early initiation of breastfeeding. Positive effects were also seen for minimum dietary diversity (rising from 1% to 22%) and consumption of iron-rich foods (from 10% to 59%), underlining the benefits of integrating ENA education with agricultural interventions. The program was thus able to reduce wasting, anemia, and diarrhea among targeted children.<sup>5</sup> Simultaneously, an Irish Aid-funded project in Tanzania increased production and consumption of nutrient-rich crops as well as adherence to certain ENA practices.

Through the Global Affairs Canada-funded CHANGE (2013-2016) project in Senegal, Burkina Faso, Cote d'Ivoire, and Tanzania, HKI

### NOVEL APPROACHES TO BCC: COMMUNITY VIDEOS

The USAID-funded SPRING (2012-2017) project in Senegal, on which HKI was a partner, aimed to reach a large number of beneficiaries through an extensive multi-channel BCC strategy and innovative partnerships. Through these efforts, 43,647 people were reached with ENA-related messages through community radio. Seeking to create an even more engaging approach to behavior change, SPRING worked with Digital Green to develop and disseminate community-developed videos. These covered numerous topics, such as hygiene and sharing workloads between men and women. The videos proved to be a fun, efficient approach to building awareness of good nutrition practices as well as demand for locally produced nutritious foods.



used a comprehensive approach to ENA promotion. Agricultural trainings were made nutrition-sensitive, and agricultural staff were trained on ENA. Women's agricultural groups participated in over 6,000 ENA discussions and cooking demonstrations. Volunteers later followed up with participants at home, working with them to adopt practices: about 40,000 such home visits were conducted across the four countries. Radio programs and community events, such as fairs offering samples of dishes prepared with vitamin-A-rich orange sweet potato, also proved very popular.

This multi-channel approach considerably increased caregivers' knowledge of key ENA practices; for example, knowledge of proper sick child feeding more

than doubled in two of four countries. Consumption of nutrient-rich agricultural products increased, as well. As a result, women's dietary diversity doubled in Burkina Faso and Tanzania, tripled in Cote d'Ivoire, and increased by 10 percentage points in Senegal; egg consumption among young children also rose considerably.

In addition to this community impact, HKI programs always work to improve capacity, particularly among public-sector staff. Through CHANGE alone, about 1000 service providers were trained in ENA techniques. Moreover, in 2007-2008, HKI collaborated with USAID and the West African Health Organization on a ENA training for health staff in eight African countries. The effects can still be seen, as most participating ministries of health subsequently developed nationally validated ENA training programs.



## INTEGRATING WATER, SANITATION, AND HYGIENE

As noted, hygiene is also key to nutrition and may be impacted by agriculture (such as through increased livestock rearing). HKI has thus incorporated into ENA a set of Essential Hygiene Actions (EHA): safe drinking water, hand washing at critical occasions, safe disposal of feces, food safety, latrine use, and creating barriers between toddlers and unclean environments (e.g., chicken scavenging areas). Through CHANGE, HKI promoted the EHA via diverse approaches tailored to local contexts. In Burkina Faso, where open defecation was common (just 13% of rural households own improved toilets)<sup>6</sup>, this included community-led total sanitation (CLTS), which uses participatory exercises to encourage a community to end open defecation. Nearly 400 latrines were built through these efforts. Simple handwashing stations were promoted in the three rural settings, where few houses had piped water. These were used during cooking demonstrations and at training farms

to promote integrated messaging. In Cote d'Ivoire, HKI also identified and promoted a local innovation, racks for storing cooking utensils away from animals.

Across all countries, strong EHA results were achieved. The share of caregivers able to name all critical moments for handwashing approximately tripled, and the portion of households with a handwashing station also skyrocketed, as did access to improved sanitation facilities (particularly in Burkina Faso). Overall, integrating WASH within the agriculture-based project proved successful and likely played a critical role in Burkina Faso, where an IFPRI-led impact evaluation concluded that including WASH activities reduced anemia prevalence in young children by an additional 11 percentage points over the drop seen in villages without the WASH intervention.<sup>7</sup>



## FUTURE DIRECTIONS

Although the HKI ENA/EHA approach has been well-tested, extensively used, and proven useful for integration within agriculture projects, HKI will continue to pursue new ways to promote improved nutrition and hygiene. We are currently testing the use of text messages to share information on optimal practices in Tanzania and are eager to devise new approaches, based on behavioral economics and marketing techniques, to amplify nutrition impact throughout the agricultural value chain, field to table.



Photo: Barthelemy

1 DHS (2014, 2010)

2 Global Nutrition Report (2015). Africa Nutrition Scorecard.

3 DHS (2011-2012)

4 UNICEF. "Handwashing" [https://www.unicef.org/wcaro/overview\\_4553.html](https://www.unicef.org/wcaro/overview_4553.html).

5 Olney DK et al. (2015). A 2-year integrated agriculture and nutrition and health BCC program targeted to women in Burkina Faso reduces anemia, wasting, and diarrhea in children 3-12.9 months of age at baseline. *J Nutr*, 145(6), 1317-1324.

6 DHS (2010)

7 Olney DK et al. (2017) Adding a WASH Intervention and a Lipid-Based Nutrient Supplement to an Integrated Agriculture and Nutrition Program Improved the Nutritional Status of Young Burkinabé Children. *FASEB J*, 31:455.1



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