

Contents lists available at ScienceDirect

Global Food Security

journal homepage: www.elsevier.com/locate/gfs



Taking action: Five ways to improve nutrition through agriculture now

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1. Introduction

The USAID-funded Strengthening Partnerships, Results, and Innovations in Nutrition Globally (SPRING) Project began in 2011 with a mandate to strengthen global and country efforts to scale up highimpact nutrition practices and policies. In 2012, USAID recognized the importance of multi-sectoral programming in order to reach nutrition targets and broadened SPRING's focus to include enhancing agriculture's contribution to better nutrition. As one of the first steps in this process, SPRING conducted a 19-country analysis of USAID Feed the Future programming (Du, 2014) to identify the gaps in linking agriculture and nutrition activities. Soon thereafter, we held a series of regional workshops in which USAID staff and partners explored how to better design and implement agriculture and economic growth investments to improve nutrition. Outputs from these workshops included increased awareness that our field needed better multi-sectoral coordination and collaboration, dedicated measures for nutrition-sensitive agriculture, and greater learning from proven implementation approaches. This led to greater investment from USAID in nutritionsensitive programming, placing SPRING in a unique position to work with the research community, develop practical tools, and share learning on proven techniques for strengthening the linkages between agriculture-led economic growth and nutrition.

From the outset, one of SPRING's primary aims has been to take existing concepts and evidence and communicate it in a practical way to program designers and implementers. SPRING distilled conceptual frameworks for understanding the linkages between agriculture and nutrition from the literature into an easy-to-understand three-part pathways framework (Spring, 2014a). Over the past five years, implementing organizations have also regularly challenged us regarding the "how to" for nutrition-sensitive agriculture. How do you operationalize the pathways? What are the best approaches for collaborating across sectors? How do you build capacity of frontline workers in nutrition-sensitive agriculture? Through direct implementation, technical assistance, and analysis of emerging evidence, we sought to answer these questions. From this work, we have distilled five key actions for improving nutrition that agriculture program designers and implementers should consider when targeting investments toward value chains or agricultural market systems development (Fig. 1). While these five ideas may not appear new or groundbreaking, we find few market systems development activities that consider them in their implementation or measurement. We developed the infographic to provide a visual reminder to designers and implementers of the five ways their agriculture-led activities might affect nutrition in a positive way and provided a few examples - not an exhaustive list - of concrete actions they might consider. This article explores these five areas of SPRING's learning and concludes with a discussion of the gaps in evidence and challenges that remain in improving nutrition through agriculture.

2. SPRING's key learning

2.1. Increase availability of and access to diverse, nutritious foods

SPRING's experience points to the importance of increasing year round access to diverse and nutritious foods. Increasing household food production not only provides diverse foods at home but, through the additional income earned from the sale of excess, can also increase purchasing power so farming households are better able to acquire diverse foods throughout the year in local markets (Spring, 2014a). Ruel et al.'s (2018) main takeaway from the literature is that production diversity and livestock ownership are consistently associated with household and dietary diversity. Confirming this finding, SPRING's interventions to diversify crops grown at the homestead level in Bangladesh resulted in increased dietary diversity scores among women of reproductive age and children younger than 2 years of age (Spring, 2017a). However, recent research also indicates that the dynamic between production diversity and consumption diversity is not straightforward. Dietary diversity among households closer to markets has been found to be higher than those that were further away because more isolated households relied on their own production. Land holdings and agro-ecological conditions in these areas are often inadequate to grow and raise enough different kinds of food throughout the year (Jones et al., 2014). This literature implies that markets could be leveraged to become more nutrition sensitive by providing a source of information about nutrientrich foods, healthy diets, and meal planning, further impacting diets and nutrition

Most smallholder producers are net food buyers. Therefore, if there is an intention to contribute to alleviating malnutrition, donor, national, and private sector investments in agricultural value chains of nutrient-rich foods need to ensure that these products are available for purchase in local markets by producer households. A more stable supply of nutrient-rich foods may also contribute to lowering prices for consumers. Investors aiming to facilitate market systems development

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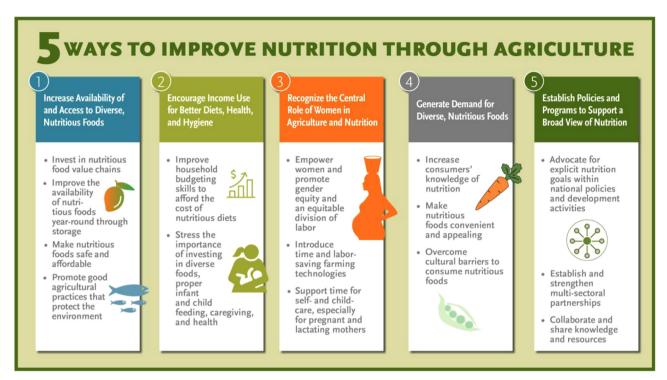


Fig. 1. SPRING's five ways to improve nutrition through agriculture.

must improve affordability of a diversity of nutrient-rich foods. This will likely require several strategies such as smaller package sizes, marketing campaigns, and short-term, targeted subsidies.

In addition, nutritious food must be safe and appealing so food safety needs to be part of the entire food system. The threat of contamination begins in the field and continues through harvest, storage, processing, transportation, and preparation. When used appropriately, food preservation, storage, and packaging techniques and technologies—e.g. refrigeration—can help address the challenge of year-round availability of safe, diverse, nutritious foods. Household access to these technologies is often limited, requiring the food system to respond through mechanization and innovations at scale. For example, in Rwanda, a Feed the Future dairy value chain activity supported cooperatives so that smallholder farmers could collectively process milk in industrial boiling equipment and rent large trucks to transport their milk to a milk collection center, thereby improving the safety of the product and increasing sales prices (Land O'Lakes International Development, 2016).

Finally, if we fail to adjust agricultural practices to changing climate patterns, the quantity, quality, and diversity of foods will decline in both households and markets. To ensure dietary diversity and improved health down the line, farmers, fishers, and pastoralists must adopt practices that reduce risks, protect the environment, improve water management, and promote sustainable production such as planting stress-tolerant crops and targeting use of chemicals (pesticides, herbicides and fertilizers) directly where needed to reduce environmental impacts.

2.2. Encourage income use for better diets, health, and hygiene

The pathway between increased agricultural income and improving nutrition is complex and rarely linear (Spring, 2014b, 2017a; USAID, 2017a). A prerequisite to the income pathway is that agricultural development interventions truly result in sustained increases in incomes for farmers. In addition, increases in income need to be leveraged to improve year round cash flow, whether through improved access to credit, improved terms of purchase and payment for agricultural inputs,

or greater savings. Smallholder farmers face a variety of stresses and threats to their livelihoods and well-being. With improved household budgetary skills, smallholder farm families can plan for contingencies and the cost of nutritious diets and health care for all household members. In this way, risks can be mitigated while also protecting families' nutritional and health status. We have found that project-supported farmers groups, producer groups, cooperatives, and saving groups can be good platforms to ensure that nutrition-related expenses and practices are included in agricultural planning.

A market development activity or commodity-specific value chain program is not the most appropriate mechanism for increasing households' knowledge around nutrition-specific practices such as early and exclusive breastfeeding, proper complementary feeding, and micronutrient supplementation. However, these programs can promote investments in nutrition-sensitive agriculture practices that, for example, help maintain a hygienic household and farm environment or ensure use of good agricultural practices that sustain productive resources to achieve year round supply of nutrient-rich foods, while also encouraging use of income to maintain diverse diets. Further, income-oriented agriculture activities can and must coordinate with other development programs that are focused on nutrition-specific interventions in order to reduce malnutrition. Targeting communities where health and nutrition programs are simultaneously building the awareness of and demand for key health and nutrition products and services ensures greater likelihood of success for both types of investments.

2.3. Recognize the central role of women in agriculture and nutrition

Improved access to nutritious, diverse diets and increased expenditure on health and nutrition is more likely to be achieved and sustained when women have some control over household resources and decision-making (Spring, 2014a; USAID, 2017b). Women spend a lot of their time on agricultural activities such as irrigating, weeding, harvesting, processing, transporting, and marketing agricultural commodities. This agriculture work, along with additional duties of caring for their homes and families, can compromise women's energy and the time that they might otherwise have available for self and child care,

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