



Women watering crops in Ethiopia. Irrigation has shown great potential to improve nutrition and livelihoods. Photo: IFPRI/F.G. Mariam

Gendered pathways to better nutrition

Food and nutrition security cannot be achieved without paying attention to gender. Much is already known about the close links between agriculture, nutrition and health and the roles that women and men play respectively in this context. But there are still many open questions.

Ensuring that poor people have access to nutritious and high-quality diets is a daunting challenge. Typically, poor households subsist on monotonous staple-based diets, lacking in nutritious foods, such as fruits, vegetables, animal source foods like fish, meat, eggs and dairy products, or wild foods of high nutrient content. Lack of diversity in the diet is strongly associated with inadequate intake and risks of deficiencies of essential micronutrients. The resulting deficiencies have far-reaching health and nutrition consequences, both in the short and the long term. Economic constraints, lack of knowledge and information and related lack of demand for nutritious foods are critical factors that limit poor populations' access to such foods.

■ Understanding agriculture, nutrition, and gender linkages

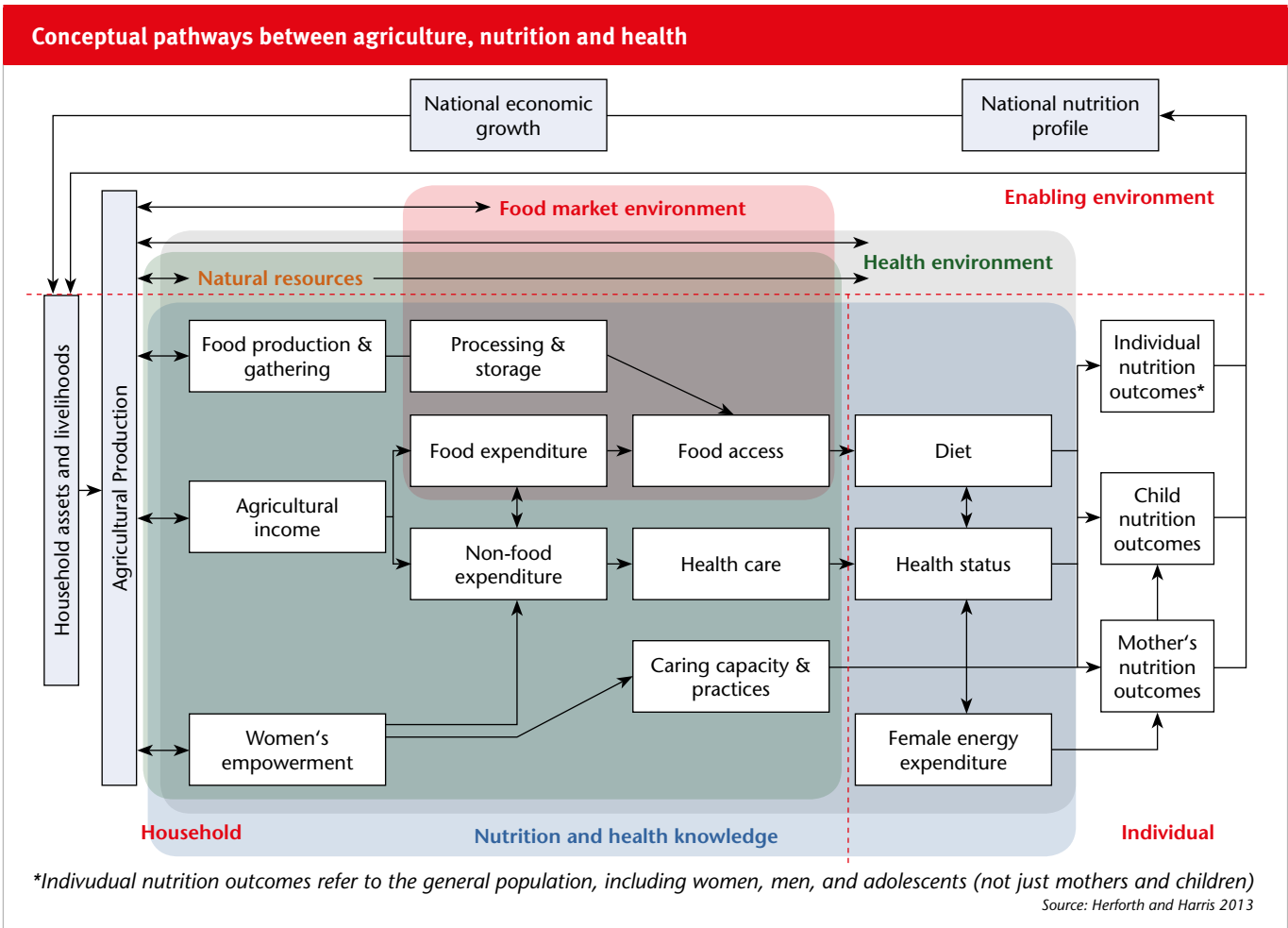
Both men and women have important roles in achieving good health and nutrition. They work together on

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family farms and in the labour market to earn income to buy food and other goods and services for their families. However, accumulating evidence shows that gender-based constraints may further impose limitations on poor populations' ability to achieve better nutrition. In addition to their roles as agricultural producers and income earners, women are more likely to be caregivers and food providers within their families throughout much of the world, and thus are considered the guardians of household food security and nutrition. At the same time, economic and cultural factors including gender roles – the socially-determined relationships between women and men – limit women and girls from actively participating in economic activities that may improve their status and the household's well-being, and in decision-making related to food purchases and allocation that may improve their nutritional status. Biological factors increase women and girls' risk of experiencing micronutrient malnutrition and poor health, especially during their reproductive years. Adolescent girls in particular may be vulnerable owing to their youth and low social status in many societies, placing them at risk for early marriage or risky sexual behaviour during a critical period for investment in their own human capital. Men face their

own unique set of social and biological risks to attaining good health and nutrition. It is not enough to focus on women as key to food and nutrition security; they must also be viewed in the context of their relationships with men, being influenced by, and also influencing, men.

The increased attention given to gender as a factor to consider in improving nutrition results from the large body of evidence showing that households do not behave "as one" when allocating food and nonfood resources. A wealth of empirical information from both developed and developing countries shows that males and females within households do not necessarily pool resources, and often have different preferences on how to use limited household resources to achieve multiple objectives. Women tend to spend their additional income on food, healthcare and children's education, while men spend more of their income on personal items. In Bangladesh, a higher share of women's assets is associated with better health outcomes for girls. In addition, simulations using Demographic and Health Survey data from 36 developing countries suggest that equalising women's status (by increasing women's decision-making relative to their husbands and improving societal gender equal-



ity) could lower child malnutrition in South Asia by 13 per cent (13.4 million children) and in sub-Saharan Africa by 3 per cent (1.7 million children). Moreover, gender roles often dictate what men and women grow and how resources are allocated to men's and women's plots. For example, in Burkina Faso, one reason why women's maize yields were lower than men's, within the same household, was that fertiliser and labour tend to be allocated to men's plots.

Moreover, men and women have different roles in agriculture value chains, from production to marketing. These roles vary across contexts. In many developing countries, both men and women produce crops and raise livestock on the farm, but marketing is often dominated by men, who have greater mobility to go to markets. In other contexts, such as Southeast Asia and parts of West Africa, women are very active traders in the market. Despite this, there is evi-

dence from Kenya and Tanzania that training on best practices is often still targeted mainly on men. Women and men did not have equal access to markets; women were more involved in the sale of livestock products, yet they had a lower number of market options available to them than men did. The different roles men and women play in agricultural systems indicate that men and women bear differential exposure to agriculture-associated health risks. For example, women from a Tibetan nomadic pastoralist community had a significantly higher risk of *E. multilocularis* (a small tapeworm) infection than men. This may be because the traditional responsibilities of women put them in contact with dogs and dog faeces more frequently than men, a risk factor for *E. multilocularis* infection.

Finally, the reproductive role of women has significant implications not only for agricultural production during their lifetime, but also for the inter-generational impact of their nu-

trition and health status. Frequent pregnancy and lactation may deplete a mother's nutrient reserves, which in turn can reduce the child's access to nutrients during gestation and through breastmilk. This increases the risks that children will be born small, will continue to experience growth faltering during early childhood, will have impaired cognitive development and lower schooling performance and will become smaller, less healthy and less economically productive adults. In the many areas of the developing world where societal norms discriminate against girls, these effects will disproportionately affect girls and women, and perpetuate the transmission of poverty, poor health and undernutrition into the next generation. For example, early marriage and child-bearing in many developing countries imply that many adolescent girls become mothers even if they have not yet attained full physical maturity, with negative implications on their own health and the health of their children.

■ Mapping gendered agriculture-nutrition-health pathways

The roles that both men and women play along agriculture-nutrition-health pathways are highlighted in the figure and can be differentiated as follows:

- 1) Agriculture as a source of food: Farmers produce for their own consumption, but gender roles influence what is grown by women and men.
- 2) Agriculture as a source of income for food and non-food expenditures: As a major source of rural income, agriculture influences diets and other nutrition- and health-relevant expenditures.
- 3) Agricultural policy and food prices: Agricultural conditions can change the relative prices and affordability of specific foods and foods in general. If men and women grow different crops, price policies may affect the differential return to those crops. If food prices increase, men (who are often viewed as primary breadwinners) may be favoured in intrahousehold food allocation, at the expense of women and children.
- 4) Women's roles in agriculture and intrahousehold decision-making and resource allocation may be influenced by agricultural activities and gendered control of assets, which in turn influences intrahousehold allocations of food, health, and care.
- 5) Maternal employment in agriculture and child care and feeding: A mother's ability to care for her child may be influenced by her engagement in agriculture. Women fulfil multiple household responsibilities, as the children's primary caregivers and as wage-earners. Factors such as poverty, an inflexible or time-intensive job, the type of alternative caregiver and control over income earned can have a negative effect on child growth.
- 6) Women in agriculture and maternal nutrition and health status: Maternal health and nutritional status may be compromised by the often arduous and hazardous conditions of agricultural labour, which may in turn influence child nutrition outcomes.

These pathways acknowledge the unique multi-functional role of agriculture. Unlike other productive sectors, agriculture provides rural households with food as well as income, it frequently employs multiple household members, it directly affects household members' energy expenditure, and it is shaped by household decisions. Ultimately, whether an individual is healthy and well-nourished depends on whether he or she obtains the right food, both in terms of quality and quantity, and the right inputs of health, care, and time. Gender matters for all of the six pathways because: 1) existing gender differences in roles, preferences and power mediate nutrition and health outcomes; 2) the agriculture-nutrition-health pathways can bring differential benefits and risks to different genders and social groups, given that men and women have specific health needs and sources of resilience that vary across contexts and the life cycle, and 3) the pathways also present opportunities to shift gender relations, en-

hancing women's empowerment and their own well-being.

These pathways show that we cannot hope to achieve food and nutrition security without paying attention to gender. Although the conceptual linkages between agriculture, nutrition and health may make sense intuitively, reality is much more complicated. Many questions remain unanswered. For example, which gender-based differences matter the most for nutrition and health outcomes in a given context? Should we be worried about the unintended consequences and tradeoffs between outcomes of agricultural interventions? These are precisely the evidence gaps that the CGIAR Research Program on Agriculture for Nutrition and Health (A4NH) is hoping to address (see Box). Agricultural research is therefore crucial in understanding exactly how gender influences agriculture's impacts on nutrition and health along these pathways and in identifying opportunities to enhance gender equity.

Where should research on gender, agriculture, and nutrition go?

The CGIAR Research Program on Agriculture for Nutrition and Health (A4NH) has identified three strands of research that deserve greater attention:

Impact of gender-based differences on nutrition- and health-related outcomes (pathways 1, 2 and 3): Which gender-based differences matter for nutrition and health outcomes? Through which mechanisms do they influence nutrition and health (for example, men and women's preferences on production and consumption decisions, allocation of productive and reproductive work, and access to assets, credit, information, social capital, and so on). These questions are particularly critical for research related to agricultural development interventions or delivery, since investigating and addressing gender-based differences is important in the design and ultimately for the success of such projects.

Improving nutrition through women's empowerment (pathway 4): How do different aspects of women's empowerment affect various nutritional and health outcomes? Ongoing research investigating the impact of decision-making power, access to and control of assets, autonomy in production and hours worked, and women's time use on nutrition and health outcomes has begun to indicate that different aspects of women's empowerment influence different health and nutritional indicators (e.g. diets, child feeding practices, maternal and child anthropometric measures). More research is needed to understand the patterns of impact in different contexts, as well as the mechanisms driving impact. Gender dynamics – relationships between women and men – are likely to play an important role, but one that varies across contexts and cultures.

Avoiding unintended consequences to women's well-being and empowerment (pathways 4, 5 and 6): Do agricultural interventions have unintended consequences for women's well-being and empowerment? Are there tradeoffs between outcomes of agricultural interventions? Gender-based differences can increase women's exposure to risk and potentially harm women and children's health and nutrition through impact on women's energy expenditure, time burden, and access to and control over assets. Anticipating these consequences and tradeoffs at the design stage, or being able to make mid-term corrections during implementation, will be important for interventions to achieve their desired objectives, while improving gender equality and women's empowerment.