



ABOUT INDIA

India's relevance to the global development agenda, including achievement of the Sustainable Development Goals, cannot be overstated. The country is the seventh largest in the world in terms of land area, with 1.3 billion people calling it home (World Bank, 2017). According to the United Nations, it is projected to be the most populous country in the world by 2024. It is also a young country: half of Indians are under the age of 25, while two-thirds are younger than 35. This means that, by 2027, India will likely have the world's largest workforce, with a billion people between the ages of 15 and 64.

Geographic scope and population size are not the only considerations Indians and those working to help them achieve development goals are grappling with. The economy is growing, incomes are rising, and time available to spend on food preparation is shrinking. Chronic and persistent challenges such as undernutrition and micronutrient deficiencies remain: as recently as 2015, nearly one in four Indian children was stunted, and approximately one-fifth are wasted (National Family Health Survey 3). At the same time, rates of overweight and obesity are on the rise, placing the country at risk of the double burden of malnutrition. Ultra-processed foods and sugary beverages, are growing in availability and popularity, upending traditional food systems and eating habits and creating new health issues such as rising rates of diabetes.

Problems such as these are intensified with growing rates of urbanization. India is feeling these impacts, with one-third of the population now living in urban areas. This kind of change affects food systems across the board, from food consumption and intake, to the food environment, to social safety nets, and even health and education systems. The scope of nutrition and health challenges facing India, along with the need for research and the opportunities for international and national partnerships, make it a natural focus for the CGIAR Research Program on Agriculture for Nutrition and Health (A4NH).

ABOUT A4NH

A4NH, led by the International Food Policy Research Institute (IFPRI), is designed to fill the existing gap between agricultural development and its unfulfilled health and nutritional benefits. Within CGIAR, A4NH is an integrated program focusing on the system-level outcome to improve food and nutrition security for health. To explore nutrition and health impacts, the



Harvesting pulses / Melissa Cooperman / IFPRI

program begins with consumption—of healthy, affordable, and safe foods—rather than with agricultural production and food supply alone.

A4NH IN INDIA

India is an A4NH focus country, along with Vietnam, Ethiopia, Bangladesh, and Nigeria. In India, its work is coordinated by IFPRI. A4NH's work in India is underway in all five of the program's research flagships: Food Systems for Healthier Diets (Flagship 1), Biofortification (Flagship 2), Food Safety (Flagship 3), Supporting Policies, Programs, and Enabling Action through Research (Flagship 4), and Improving Human Health (Flagship 5).

Flagship 1: Food Systems for Healthier Diets (FSHD)

A4NH's food systems work is tasked with not only establishing an understanding of the nuances of food systems at the global, national, and regional level, but also with identifying interventions in these systems that can lead to healthier diets. India's food system is unique, with relatively low levels of meat consumption due in large part to the high prevalence of vegetarianism. This leads to a reliance on alternative forms of protein, such as pulses, and researchers are studying the pulse sector, to identify improvements, incentives, and enhancements in areas such as technology and trade. Another unique challenge in the Indian food system is the rapid increase in availability and consumption of snack foods, which is associated with increasing levels of overweight, obesity, and noncommunicable diseases such as diabetes.

Researchers in FSHD, which is led by Wageningen University and Research, are also working to understand evolving demands from consumers, and how those demands are shaping diets. Snack consumption patterns in rural, urban, and peri-urban areas, consumption of processed foods, and rising levels of overnutrition are all key considerations to understand and address.

Flagship 2: Biofortification

More than two billion people worldwide suffer from some form of micronutrient deficiency, a crisis of “hidden hunger” that impedes growth and development, not only of countries or regions, but also of individuals. HarvestPlus leads A4NH work in biofortification, working to develop and deliver staple crops rich in three key micronutrients: iron, zinc, and vitamin A. In India, HarvestPlus and partners aim to biofortify three key staple crops: pearl millet with iron, and rice and wheat with zinc. Research to date has focused on developing and testing these varieties and generating evidence on their efficacy for improving nutrition and health outcomes, as well as on their acceptability by farmers and consumers. Efforts to increase awareness and availability of these micronutrient-enriched staples involve working with partners from research, government, business, and civil society. HarvestPlus supports the National Agricultural Research System in India to breed, test, and release iron pearl millet, zinc wheat, and zinc rice, developed through partnerships with other CGIAR Centers including the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) for pearl millet and the International Maize and Wheat Improvement Center (CIMMYT) for wheat.



Negotiating market traffic in India / Melissa Cooperman / IFPRI

Flagship 3: Food Safety

As food systems evolve, and consumers have access to more food choices, they are increasingly demanding assurances and proof that the food they are consuming is safe. India is experiencing this as more people move to cities, and no longer grow the bulk of their own food. The International Livestock Research Institute (ILRI), an A4NH Managing Partner, is working with local government partners and the World Bank in Assam to examine transformations in the dairy and pig sectors under the Assam Agribusiness and Rural Transformation Project with a strong focus on consumer demand (APART).

Under the agreement, ILRI is providing technical support, developing capacity of value chain actors and laboratories, and establishing quality assurance in line with the Food Safety Standard Act for India. Other research focuses on brucellosis, an important milk-borne disease in India.

Flagship 4: Supporting Policies, Programs, and Enabling Action through Research (SPEAR)

Understanding the nutritional impact of current policies, capacity, and programs is critical to addressing problems related to malnutrition in all its forms and improving nutritional outcomes. A4NH's fourth flagship works to build the knowledge base and help partners at all levels identify appropriate policy changes and improvements. In India, this work, led by the International Food Policy Research Institute (IFPRI), A4NH's Lead Center, provides strategic inputs to program and policy decision makers in the region through initiatives such as Partnerships and Opportunities to Strengthen and Harmonize Actions for Nutrition (POSHAN) in India.

Flagship 5: Human Health

Agriculture transforms landscapes and influences livelihoods, changing both the conditions in which human disease emerge and spread and the capacity of communities to protect themselves. A4NH's fifth flagship, led by the London School of Hygiene and Tropical Medicine and ILRI, is leading efforts in this field. In 2018, ILRI with the support of A4NH organized a consultation in India attended by leading experts and government officials from the agriculture and health sector from five southern Asian countries to discuss the issue of antimicrobial resistance in the food system, its impact on human health and the emphasis of multi-sector policy interventions. This provided experts from the region with a forum to discuss ways to strengthen long-term partnerships around intensifying food safety systems and health research, as well as a way to share experiences and collaborate across sectors to develop new research methods and preserve the efficacy of existing ones.

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