Hunger, malnutrition, and poor health are widespread and stubborn development challenges. Agriculture has made remarkable advances, but its contribution to improving the nutrition and health of poor farmers and consumers in developing countries lags behind.

CGIAR Research Program on Agriculture for Nutrition and Health (A4NH) begins with consumption – of healthy, affordable, and safe foods – rather than supply, offering an innovative perspective on the relationship between agriculture, nutrition, and health through research that strengthens the knowledge base and new partnerships that lead to real outcomes.

As CGIAR’s only research program on nutrition and health, A4NH operates as a lens, with a particular focus on the system-level outcome of improving food and nutrition security for health. Recognizing the magnitude of the task, A4NH is led by the International Food Policy Research Institute (IFPRI) and managed by a group of four other CGIAR Research Centers and two academic institutions, and brings together the talents and resources of other CGIAR Research Centers plus a wide range of partners, to carry out research activities through five unique, yet complementary, flagship programs and three cross-cutting units in at least 30 countries.

Agriculture for Nutrition and Health (A4NH) is built on the notion that agriculture can do much more than reduce hunger and poverty – it has an enormous potential to significantly improve the nutrition and health of people around the world.
Understanding Impact, Creating Change

Stories of Change in Nutrition are a series of case studies in Bangladesh, Nepal, Ethiopia, Senegal, Zambia, and the Indian state of Odisha, which aim to improve our understanding of what drives impact in reducing undernutrition, and how enabling environments, policies, and processes can be cultivated and sustained. The project studied the political economy and dynamics of processes, and gathered a set of analytical tools, frameworks, and methods to assess the underlying determinants of change in nutrition, and consider how that change came about. Researchers explored national, subnational, and global factors and actions, as well as community perspectives, and shared lessons through country-level workshops. For a wider audience, the Stories of Change website features country briefs and audiovisual stories, while case studies were included in the IFPRI book “Nourishing Millions” and findings were shared in the ReSAKSS report “Achieving A Nutrition Revolution for Africa.” Stories were presented at the Micronutrient Forum, and will be featured in a special issue of the journal “Global Food Security.” The approach will be applied more broadly, to build a rich body of experiential learning on how change happens in diverse contexts.

Photo: N. Palmer / CIAT

Solving a Silent Threat

Aflatoxins, produced by molds that widely contaminate foods and feeds, are one of many “silent” threats in Africa, affecting health, income, and livelihoods. A4NH research carried out by IITA, ILRI, ICRISAT and IFPRI has drawn more attention to viable solutions to this problem.

One solution is the biocontrol product Aflasafe. IITA, with USDA-ARS and national institutions, has successfully improved the technology, reducing groundnut and maize aflatoxin contamination consistently by at least 80 percent. Then, the team developed plans to expand Aflasafe to 11 countries in Africa, including initial risk assessment, developing and registering products, designing efficient manufacturing prototypes, and executing strategic manufacturing and distribution partnerships until partners are prepared to take over.

In Nigeria, nearly 32,800 hectares have been treated by 23,800 farmers as part of the AgResults project to incentivize the use of Aflasafe. In Kenya, IITA and the Kenya Agriculture and Livestock Organization (KALRO) signed a Technology Transfer Agreement, with KALRO officially launching Aflasafe KE01™ and constructing a modular manufacturing facility at its Katumani Research Station. Aflasafe KE01™ was applied to nearly 3000 acres of maize, with 98 percent classified as safe by the European Union and the Kenya Bureau of Standards, a first.

A4NH also works to raise awareness and support policy-relevant research on aflatoxin risks and market and technology solutions. In 2013, A4NH published a set of 19 briefs as part of IFPRI’s 2020 Vision Initiative. A set of 11 evidence-based technical papers by A4NH researchers led by IITA have informed the development of the East African Community (EAC) Aflatoxin Prevention and Control Strategy and Action Plan. Ten additional policy briefs on aflatoxin prevention and control are being disseminated by the EAC to member governments to raise awareness on the magnitude of aflatoxins. In 2016, a special edition of the African Journal of Food, Agriculture, Nutrition and Development on Aflatoxins in East Africa, with 12 articles from A4NH researchers, was featured by the Partnership for Aflatoxin Control in Africa with a message of gratitude from AU Commissioner Rhoda Peace.

Photo: IFPRI
Where We Work

Research

By 2022, we expect to be able to demonstrate observable changes, among our partners and in the countries where we work, as a result of A4NH research.

**Priority Countries**
- Bangladesh, Ethiopia, India, Nigeria, Vietnam

**Countries**
- Benin, Bolivia, Brazil, Burkina Faso, Cameroon, China, Colombia, DRC, Ghana, Guatemala, Haiti, Kenya, Malawi, Mali, Mozambique, Nepal, Niger, Nicaragua, Pakistan, Panama, Rwanda, Senegal, Tanzania, Uganda, Zambia

**Impacts By 2022**

By 2022, we expect to be able to demonstrate observable changes, among our partners and in the countries where we work, as a result of A4NH research.

- **10 MILLION**: fewer women of reproductive age who will be consuming less than the adequate number of food groups in Ethiopia, Bangladesh, Vietnam, and Nigeria.
- **20 MILLION**: more farm households in at least 12 countries, including nine in Africa and three in Asia, will have adopted improved varieties, breeds, or trees and/or improved management practices.
- **116 MILLION**: more people, of which 50 percent are women, will be without deficiencies of one or more of the following essential micronutrients: iron, zinc, iodine, vitamin A, folic acid, and vitamin B12 in at least 14 countries, ten countries in Africa and four in Asia.

**A4NH Results Framework**

**A4NH Portfolio**
- Flagship 1: Food Systems for Healthier Diets
- Flagship 2: Biofortification
- Flagship 3: Food Safety
- Flagship 4: Supporting Policies, Programs, and Enabling Action through Research
- Flagship 5: Improving Human Health

**Impact Pathways and Key Actors**

- **CoA 1:** Diagnosis and Foresight: linking dietary and food systems transformations
- **CoA 2:** Crop Development Mainstreaming and Capacity Building
- **CoA 3:** Evidence that Counts

**IDOs & Cross-Cutting IDOs**

- Enhanced smallholder market access
- Increased incomes and employment
- Increased productivity
- Improved diets for poor and vulnerable people
- Improved food safety
- Improved human and animal health
- More sustainably managed agro-ecosystems
- Mitigation and adaptation achieved
- Equity and inclusion achieved
- Enabling environment improved
- National partners and beneficiaries enabled

**SLOs**
- Reduced Poverty
- Improved Food and Nutrition Security for Health
- Improved Natural Resource Systems and Ecosystem Services
- Cross-Cutting Issues

**Agri-food Value Chains Pathway**
- Producers
- Chain agents
- Consumers
- Regulators

**Policies Pathway**
- Policymakers and investors
- Intergovernmental agencies
- Civil society organizations and industry groups

**Development Programs Pathway**
- Agriculture, nutrition, and health program implementers (NGOs and governments)
A4NH’s work is guided by seven managing partners:

**International Food Policy Research Institute (IFPRI):** Lead Center for A4NH, hosting the Program Management Unit and cross-cutting units; leads Flagship 4, all research clusters in Flagship 4, and the country coordination teams in Bangladesh and India; and co-leads Flagship 2, all research clusters in Flagship 2, and a research cluster in Flagship 1.

**Bioversity International:** Leads partnership with Rome-based UN agencies (FAO, IFAD, WFP) and co-leads a research cluster in Flagship 1.

**International Center for Tropical Agriculture (CIAT):** Leads the country coordination team in Vietnam and co-leads Flagship 2, all research clusters in Flagship 2, and a research cluster in Flagship 1.

**International Institute of Tropical Agriculture (IITA):** Leads a research cluster in Flagship 3 and the country coordination team in Nigeria.

**International Livestock Research Institute (ILRI):** Leads Flagship 3, two research clusters in Flagship 3, and a research cluster in Flagship 5; and co-leads Flagship 5, a research cluster in Flagship 5, and the country coordination team in Ethiopia.

**London School of Hygiene & Tropical Medicine:** Leads partnership with public health research institutions and a research cluster in Flagship 5.

**Wageningen University and Research Centre:** Leads Flagship 1 and co-leads all Flagship 1 research clusters.

**Working to Achieve The Global Goals**

The call for agriculture to support better nutrition and health is reflected in the discussions leading up to the United Nations’ 2030 Agenda for Sustainable Development and in the new CGIAR Strategy and Results Framework. A4NH puts this desire to unite agriculture, nutrition, and health into action, with all five research flagships working to contribute to both SDG 2 and SDG 3.