Limited agrobiodiversity underpinning food systems to provide sufficient, affordable, nutritious and diverse diets in a changing climate

Contested international policy environments on genetic resources and precision genetic technologies

Variable, often slow rate of genetic gain from CGIAR breeding and low varietal replacement in farmers' fields

Breeding optimization is hindered by strategic and operational constraints

Prioritization is supply driven, lacks transdisciplinary insights, and is ill coordinated with NARS and other diverse, key partners

Inadequate capacities and partnership models to co-develop and scale-up novel solutions

Challenges

Farmers
National Agricultural Research and Extension Services (NARES)
Consumers
Ministries
Universities
Advanced Research Institutes
NGOs
Regional organizations
Funders
Seed companies
Food industry

Demand partners

Conservation and use of genetic resources (Genebanks)
Accelerated breeding: Meeting farmers' needs with nutritious, climate-resilient crops
Enabling tools, technology and services for genetic gains
Accelerating crop improvement through precision genetic technologies
SeEdQUAL: Delivering genetic gains in farmers' fields
Market intelligence for more equitable and impactful genetic innovation

Initiatives

NARES
Governments
Seed companies
Private breeding companies
Vendors and contracting services
Universities
Advanced research institutes
NGOs
National genebanks
Community organizations
Agricultural businesses
Food industry

Innovation & scaling partners

Researchers, breeders and other users access genebank collections where use is facilitated with more data associated with accessions
CGIAR & partners produce better, demand-driven, more impactful varieties defined by multidisciplinary, holistic market intelligence
CGIAR & partner breeding programs increase their efficiency and speed of variety development by using best practices and shared services
CGIAR & partner breeding programs accelerate variety development and quality by securing access and using novel, cutting-edge technologies
Public and private sector partners increase co-ownership and co-implementation of research and investment decisions
Seed sector actors increase their investments in scaling-up new varieties from CGIAR breeding pipelines
Farmers adopt climate-resilient, nutritious, market-demanded varieties more broadly and rapidly

Outcomes

Families
NARES
Consumers
Ministries
Universities
Advanced Research Institutes
NGOs
Regional organizations
Funders
Seed companies
Food industry

Demand & scaling partners

Nutrition, health and food security: Crop varieties with higher nutritional content and quality increase nutrition and health of population
Poverty reduction, livelihoods and jobs: Productive varieties better suited to farmers' needs contribute to increased income
Gender Equality, youth and social inclusion: Women and marginalized groups are empowered through varieties addressing their needs
Environmental health and biodiversity: Loss of genetic variation reduced through agrobiodiversity conservation. Expansion of farmland prevented with increased productivity
Climate adaptation and mitigation: Climate smart varieties with novel traits increase resilience of food system actors

Impact

Source: CGIAR 2022–2024 Investment Prospectus