

Scaling biofortified zinc wheat seeds and grains in Pakistan

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Introduction and Background

- One quarter of the Pakistan's population is living below the national poverty line and 39% is poor (FAO 2022).
- 40% children under 5 years old are stunted.
- More than **50 million** people in Pakistan has inadequate zinc intake (19% of Pakistani children under five and 22 % of WRA).
- Wheat is the main staple crop contributing 72 percent of Pakistan's daily caloric intake.
- Bio-fortification of wheat is one of the most suitable and sustainable interventions to address zinc deficiency.
- It reaches the most vulnerable people, living in remote rural areas with no access or money for fortified foods.



HarvestPlus - Our Journey



2003-2007
Discovery

- Identified priority target populations
- Conducted proof-of-concept and feasibility studies

2008-2012
Development

- Bred first-wave biofortified crop varieties
- Developed nutritional efficacy plans
- Developed crop delivery plans

2013-2017
Delivery

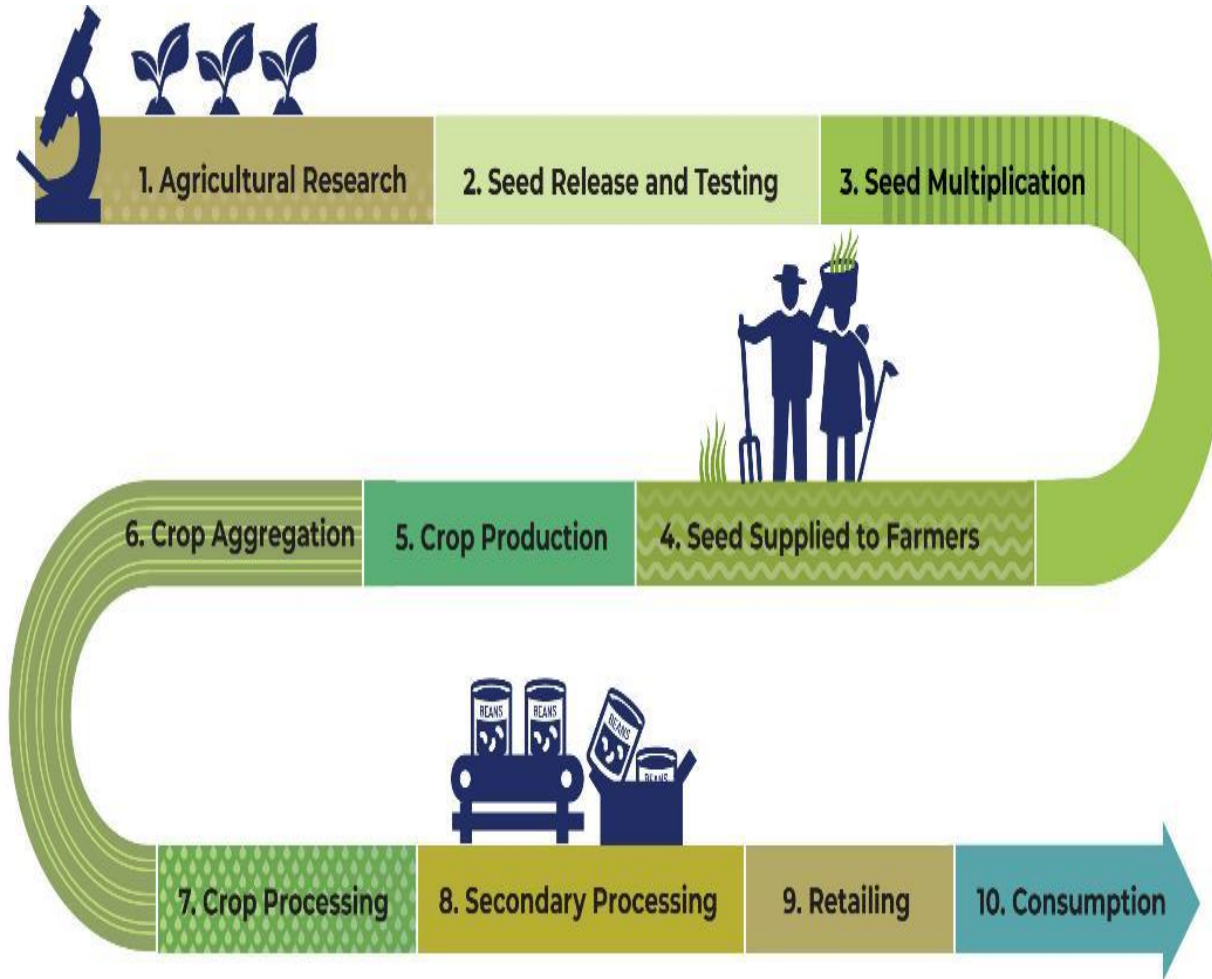
- Established proof of performance programs in selected countries
- Initiated advocacy efforts
- Expanded and documented the evidence base

2018-onward
Catalyzing Scale Up

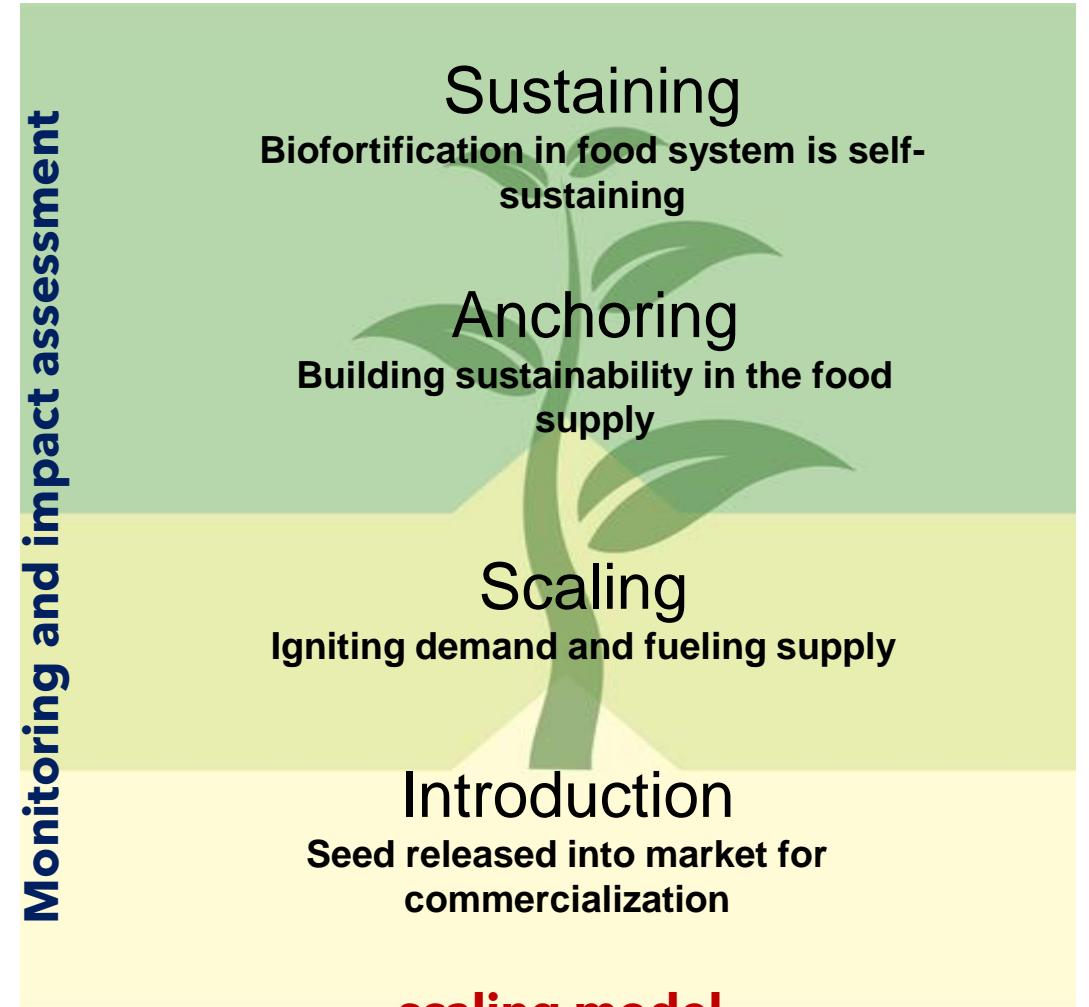
- Mainstream breeding
- Integrate biofortification in national policies and programs, and in IFI loans
- Work along the value chain and facilitate investments in biofortification
- Share /exchange know-how



Creating a Delivery & Scaling Model - Biofortified Zinc Wheat



delivery model



scaling model

Demand Creation and Capacity Building Activities

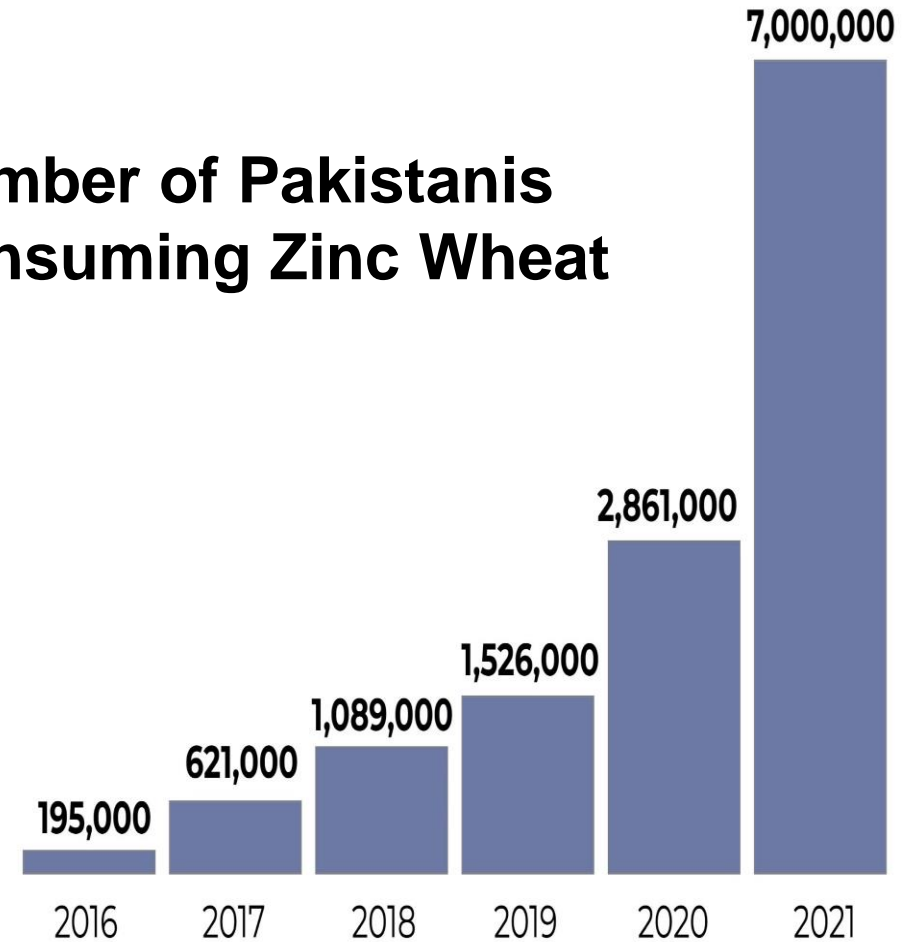
- Training of trainers for agriculture extension workers
- Hands on trainings for SMEs on quality seed production
- Seed promotion seminars for wheat farmers and VCAs
- Farm filed days, research trials and demonstration plots
- Awareness raising and capacity building through digital media (Reach – more than 5 million)
- SMS campaign through telco companies – 1.8 million
- Media engagement workshops for earned media
- Civil society engagement



Key Results

- 3 high zinc wheat varieties developed and being cultivated by thousands of farmers
- 3.5 million metric tons grain harvested in 2021-22 cropping season
- 1.4 million farming households growing zinc wheat
- 7 million people consuming zinc wheat and products
- More than 65000 metric tons of certified seed produced for 2022-23 cropping season
- Farm saved seed is in addition to this

Number of Pakistanis Consuming Zinc Wheat



Zincol 2016

Akbar 2019

Nawab 2021

Critical Success Factors

- Integration of zinc wheat into government policies.
- Competitive product development through CGIAR with subsequent new product addition.
- Ensuring quality early generation seed production.
- Ensuring a continued pipeline of new seed innovation.
- Use and adoption of digital technologies and a full value chain approach from seed R&D to consumer food marketing are the key facilitators.

Way Forward

- Mainstream biofortification in the food system – continue developing climate resilient nutrient dense crop varieties.
- Increase production, awareness and supply of biofortified zinc wheat and other nutrient dense crops.
- Continue building capacity of value chain actors in the production, processing, and marketing of biofortified seeds, grains, and food products.
- Ensure market penetration of biofortified foods and food products through their integration in markets.

Thank you

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