

Biofortified Rice - Delivering Zinc Nutrition in Bangladesh

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RATIONALE

Malnutrition is one of the major challenges in Bangladesh, affecting one in every three children under five and half of the women population suffer from zinc deficiency. This micronutrient deficiency can affect physical and cognitive growth, the functioning of the immune system and fertility and reproductive health. Common people cannot afford enough zinc micronutrient rich foods. Usually, Bangladeshi people manage to fill two-thirds of their plates with rice. In that case, biofortified rice can meet up to 40 percent of the required zinc intake from their daily diet of all common people of Bangladesh.

OBJECTIVES

To improve health and nutrition to the vulnerable people especially women, adolescents and children under five, in Bangladesh by promoting the cultivation and consumption of biofortified zinc rice

METHODS

HarvestPlus involved Public-private partners in developing biofortified crops and delivering them to farmers doorsteps. NARS organizations were engaged for crop development and early generation seed (EGS) production. Government agencies and private seed companies were engaged to enhance seed multiplication.

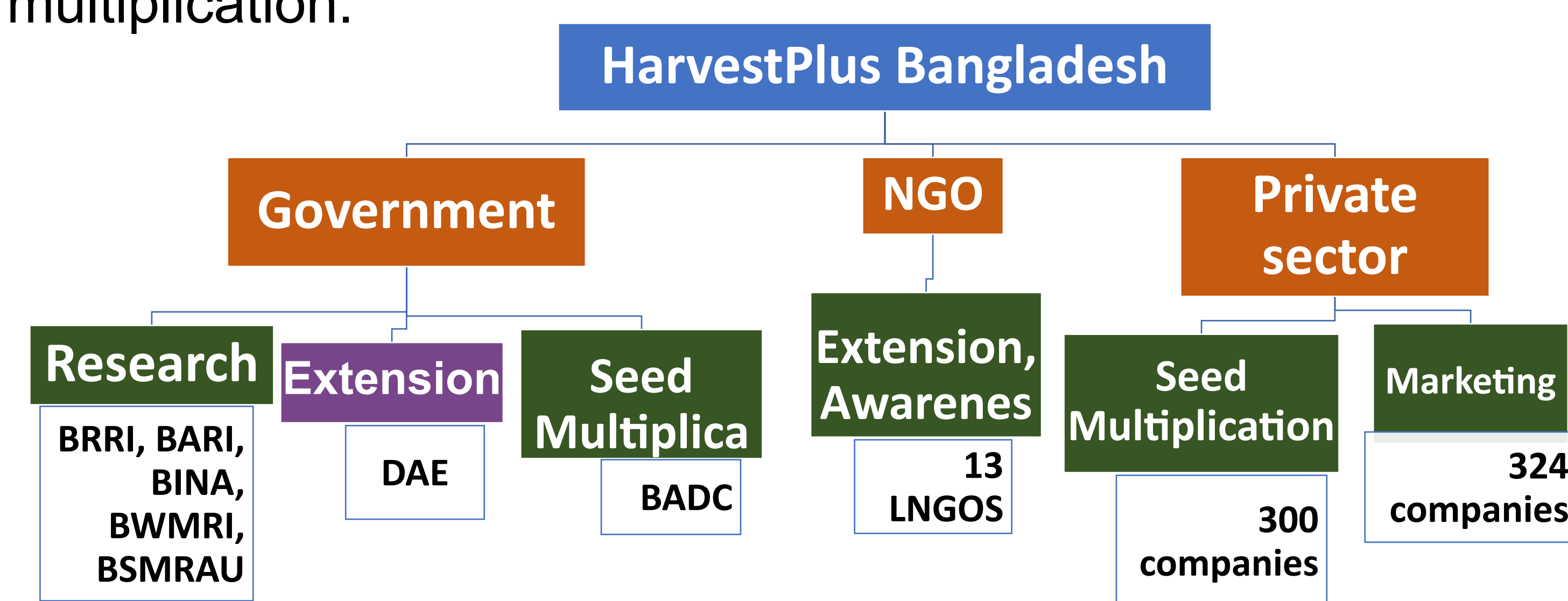


Figure 1: Public-Private partnership

Department of Agricultural Extension (DAE), NGOs, and seed companies were involved for technology dissemination (figure 1). Seed access was facilitated through free seed distribution and marketing coupled with farm saved seed and seed pass-on. Awareness creation, skill development, demonstration, linking value chain actors, promoting grain aggregation, processing, and branding helped in improving demand and supply. Policy advocacy led to biofortification's inclusion in national policies and plans. HarvestPlus used its monitoring and evaluation framework with 12 indicators to monitor expected outcomes.

RESULTS

About 94 MT early generation seed production leading to subsequent seed class multiplication is crucial for newly released variety dissemination. More than 15,000 MT of biofortified crop seeds were available and accessible to the farmers (figure 2). Through early generation seed multiplication, 324 private seed companies with the Government Seed Authority (BADC: Bangladesh Agricultural Development Corporation) are supplying seeds to farmers through local input dealers.

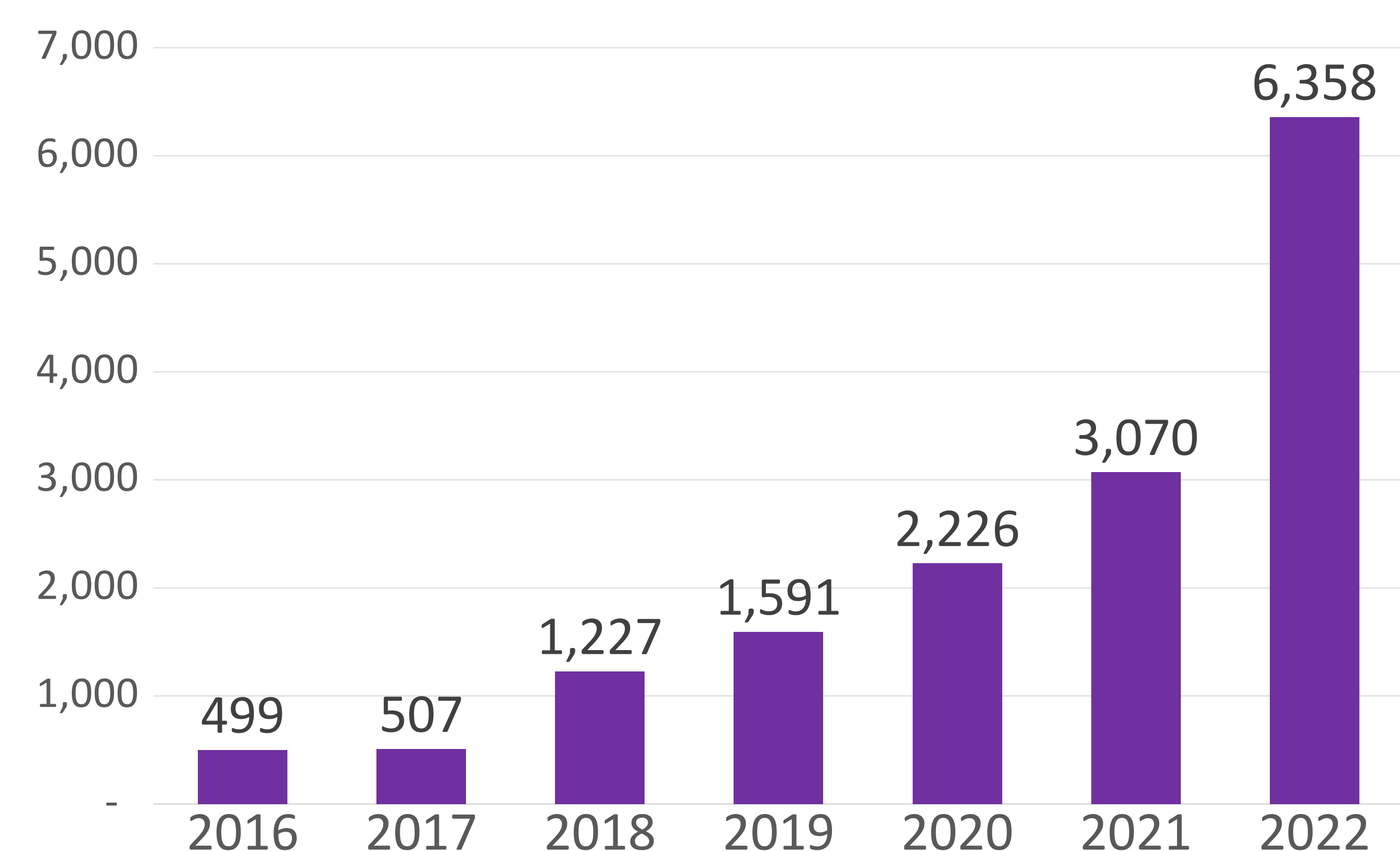


Figure 2: Seed production trend (MT)

About 3 million households have grown biofortified zinc rice in the country and more than 15 million people have consumed it in 2022 (figure 3).

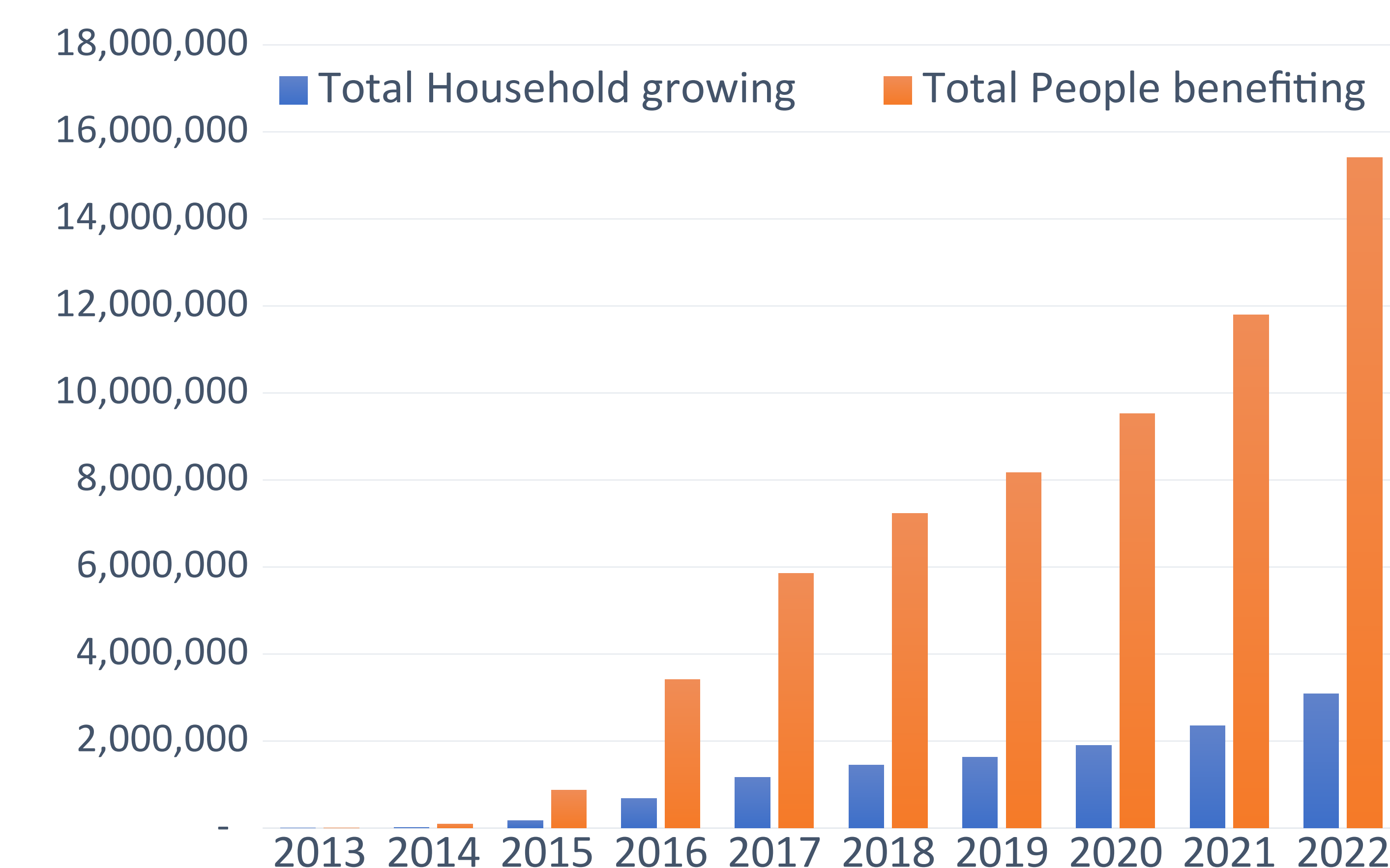


Figure 3: Household Reach

The government has now also integrated biofortification into its national strategy against micronutrient deficiencies under its Second Country Investment Plan (2016-2020): Nutrition-Sensitive Food Systems and National Strategy on Prevention and Control of Micronutrient Strategies (2015-2024).

IMPLICATIONS

Government mainstreamed biofortification in crop development, seed multiplication and extension services. Government and private seed multipliers doubled zinc rice seed production. The quality seed of biofortified crops increased around two folds and 31% people were benefitted through its consumption from the previous years. The government initiated procuring zinc rice for social safety-net programs. Women's participation was strongly integrated in growing, marketing and consuming zinc rice.