



## Effects of Seed System Changes on Food Security and Nutrition

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### DESCRIPTION

Food and nutrition security is a critical development indicator for children's health, growth, and development it lowers child mortality and promotes cognitive development and productivity of a population despite decades Current estimates state that about 720-811 million (9%-10%) face hunger and 2.37 billion people are facing moderate or severe food insecurity (30.4%), with the majority in Asia and Africa. Agriculture is one of the sectors through which nutrition-specific and nutrition-sensitive interventions can improve nutrition and health. The potential of agriculture to contribute directly to nutrition especially for the most food insecure is large and widely acknowledged, primarily through improving diet quality Enhancing access to and utilization availability of high-quality seed is usually regarded as critical to agricultural development. Agricultural interventions that encourage the production and consumption of healthy foods, on the other hand, frequently lack information on the seeds and other agricultural inputs. As a result, there is little information on seeds and seed systems contribute directly to improved food quality and nutrition.

Seed systems refer to a range of technologies, organizational setups, and market and non-market institutions through which seeds are accessed and used Smallholder farmer's access seeds through both informal and formal seed systems. Farmers in informal seed systems produce, collect, and store their own saved seed or obtain seed through informal groups where seed is distributed, given as a gift, bartered, or purchased from local marketplaces. Low germination and vigor, disease contamination and build-up, and a lack of quantity and diversity of seed are all issues that face the informal seed system. Plant breeding and multiplication procedures, mostly employed by the public or commercial sector, as well as formal regulation, certification, and regulations, govern the formal seed system. Poorly established seed value chains, such as insufficient breeding, manufacturing, or distribution, are major formal seed system issues. Smallholder farmers benefit from both official and informal systems, which complement each other. The system employed is determined by the crop, varietal characteristics, seed accessibility, price and quality of yield, and market value.

The review used the guidelines in the Joanna Briggs Institute (JBI) Manual for scoping reviews as well as the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR). Studies that met the predefined PCC (Population, Concept, and Context) criteria were taken into consideration for inclusion

- Food security
- Household resilience
- Dietary quality and diversity

### Food security

A state where everyone has equitable access to safe, nutritious food their dietary needs and food preferences for an active and healthy lifestyle on a physical, social, and economic level. Studies had a food security outcome when they assessed or linked changes in food availability, food access, food utilization, food security, or income.

### Household resilience

The ability of a household to maintain a certain level of well-being, i.e., food secure by enduring shocks and stresses, which is based on available livelihood possibilities and ability to handle risks. Change in income, poverty, consumption expenditure, calorie intake, off-farm self-employment harvest, welfare, labor, livelihood, tolerance against weather variability or projected climate change and other natural hazards, self-sufficiency to household wellbeing and food security.

### Dietary quality and diversity

Dietary diversity is the amount of food types ingested throughout a specific time period, and it indicates nutrient adequacy of the diet. When studies evaluated changes in dietary diversity, dietary intake patterns, micronutrient consumption, food provisioning habits, consumption quantity, or nutrient yields, they produced a dietary quality and diversity.

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