

IMPROVING HUMAN NUTRITION FROM THE GROUND UP: LINKING AGRICULTURE TO HUMAN HEALTH

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Malnutrition is the leading cause of death globally. Both overt nutrient deficiencies and diet-related chronic diseases account for over 20 million deaths a year. The causes of malnutrition are complex and many but are rooted in dysfunctional food systems dependent on agricultural systems that have never had an explicit goal of improving human nutrition and health. These deaths are preventable. Closely linking agricultural systems to human nutrition and health could provide sustainable tools needed to address this global crisis in nutrition and health. Various agricultural tools can be used to improve the health and felicity of resource-poor people in the developing world afflicted with micronutrient malnutrition.

Biofortification (using plant breeding to develop staple food crops that fortify themselves with micronutrients) is one tool that is currently being used to address micronutrient malnutrition among resource-poor families in the developing world. Micronutrient fertilizers (a agronomic biofortification strategy) are another tool that has been used successfully to address selenium, iodine and zinc deficiencies in several nations. There are numerous other “off the shelf” agricultural tools that could be used to improve the nutrient output of farming systems and improve the health all people dependent on agricultural systems for their sustenance. These include: designing cropping systems to maximize nutrient output, using agronomic practices to improve the nutritional and health promoting quality of food crops, re-diversifying cropping systems, and genetically modifying crops to be more nutritious. This can only be accomplished if explicit links are made between the agriculture, nutrition and health communities. Further, government policies should be reoriented to reflect the important roles that agriculture plays in the nutritional health of all people. We need to closely link agriculture to our nutrition and health goals if we want to find sustainable solutions to malnutrition globally.

Keywords: Biofortification, food systems, micronutrient malnutrition, nutritional quality