Title: Cultivating sustainable food systems: The implications of agricultural biodiversity for healthy diets

Current food systems are falling short of providing the high quality diets needed to cultivate healthy populations. The declining diversity of agricultural production and food supplies worldwide is of particular concern, and may have important implications for global diets, achievement of the Zero Hunger Sustainable Development Goal (SDG 2), and sustainable development more broadly. While smallholder farmers typically manage agricultural biodiversity for yield stability, risk avoidance, soil conservation, and pest and disease management, diversity within agricultural systems is also essential for supplying the diverse foods needed to sustain healthy diets and prevent malnutrition in all its forms. This presentation highlights recent findings from Bolivia, Malawi, Burkina Faso and Peru examining the associations of agricultural biodiversity with diet diversity and quality. In Malawi, longitudinal analysis of nationally representative data sets were used to examine associations of crop species richness and evenness with metrics of household diet diversity and quality. These studies find consistent, yet small, positive associations of three distinct indicators of agricultural biodiversity with household dietary diversity and daily per capita intakes of energy, protein, and key micronutrients. These relationships were strongest among the poorest households, and were equally important for households engaged in subsistence agriculture as those more oriented toward commercial agricultural production. In Bolivia, Peru and Burkina Faso, primary collection of agricultural production data, quantitative dietary intake estimates, and plot-level field sampling was conducted to examine similar relationships. Higher agricultural biodiversity was again found to be associated with more diverse and more micronutrient adequate diets among women and children with no apparent modification by the market orientation of farms. These findings, and those from this literature in aggregate, highlight the importance of promoting agricultural biodiversity within low- and middle-income countries as a strategy not only to enhance the productivity and resilience of farms, but also to contribute to the diversity and quality of diets of low-income households. Furthermore, it is increasingly clear that more diverse farms are consistent with market engagement and higher agricultural incomes, thus suggesting the importance of both market and subsistence pathways for linking agricultural biodiversity and diets.