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**Ensuring Agriculture Biodiversity Remains Central to Addressing the MDG One Hunger Target**

*Background*

As the world focuses on the ten-year progress made towards achieving the Millennium Development Goals (MDGs), it is with great hope that nutrition remains central. One of the targets of the first MDG is to reduce the proportion of people who suffer from hunger by half between 1990 and 2015, with hunger measured as the *proportion of the population who are undernourished* and the *prevalence of children under five who are underweight*. In low and middle income countries progress has been mixed. With one billion people hungry, 129 million and 195 million children are underweight and stunted respectively. Of the 117 countries analyzed by UNICEF in late 2009, 63 are on track to meet the MDG1 target based on the proportion of children underweight.

*Methods*

Using a mixed systematic review of global progress on the nutrition component of MDG 1, we examined experience from 40 community-based programs as well as national efforts to move interventions to scale. Information for this review was drawn from the published (including database searches of Medline, PubMed and Embase) and grey literature, alongside a series of personal interviews with government and country-level programs.

*Results*

From this systematic review, most strategies being implemented and scaled are focusing on treatment of malnutrition, rooted within the health sector or rest solely within production of major staple grains such as maize, rice and wheat within the agriculture sector. These programs address hunger as opposed to improving the quality and diversity of diets within communities.

From this analysis, it is clear that multi-sector programming is less researched and implemented, although agriculture biodiversity, and functional food systems that incorporate ecosystem services are imperative to address longer-term determinants of undernutrition. Results suggest that though raising smallholder agricultural productivity increases incomes and allows families to purchase more food, farmer-focused initiatives that are “food systems based” in nature, can also improve diet diversity and the associated micronutrients lacking in the diet of vulnerable populations. Such initiatives include promotion of homestead gardens to increase dietary diversity of non-cereal food sources, which are micronutrient-rich, in conjunction with small animal rearing and fish farming. These have an even greater impact on the household consumption of animal and higher quality plant products because of the direct availability of those products in the household and their potential to provide additional income. Programs that have been more successful have gone beyond the health sector by incorporating other sectors such as education, agriculture and environmental aspects into nutrition interventions.

*Conclusions*

This review confirms that integrating agriculture biodiversity and practices with broader integrated approaches to address underlying causes of nutrition insecurity is critical for generating durable and longer-term gains. Such an approach would inherently build on the knowledge and capacities of local communities to transform and improve the quality of diets for better child health and nutrition. Success in achieving the MDG1 hunger target will hinge on addressing the roots of poor nutrition – through evidence-based and contextually relevant food system approaches that can rapidly be taken to scale.