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Food Plant Diversity in Homegardens and its Contribution to Family Nutrition — A Case Study from Rural North-Eastern Bangladesh

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Abstract

Child stunting and anemia amongst children and young mothers as indicators for malnutrition are on alarmingly high levels in Bangladesh as vitamins and minerals from fruits and vegetables are often insufficient in rural diets. Homestead food production may be a promising way to combat malnutrition, considering the high crop diversity and potential year-round production in homegardens. However, little data exists on crop diversity in homegardens in many parts of Bangladesh and its contribution towards nutrition security of farmer families.

This study aimed at assessing the effect of food plant diversity in homegardens on dietary diversity and nutritional status (wasting and stunting) of young mothers (< 30 years) and their children (< 3 years). Environmental factors, socio-economic characteristics of the households and challenges for intensifying food production were identified, alongside the effects of socio-economic factors on dietary diversity.

In rural north-eastern Bangladesh, 64 households with homegardens were randomly selected and all food plants (fruits, vegetables, spices, staples and stimulants) inventoried in each homegarden. Socio-economic household data and information about homegarden management and used plant species were collected with interviews, and a 24 hour dietary recall applied to mothers and children.

A total of 82 food plant species were found in the surveyed gardens with a mean of 18.1 species per homegarden (range 4–45 species). Dietary diversity for women (WDDS) was low (mean 3.7, range 1–7) and homegarden produce contributed only little to the women’s diets. As the survey was performed in the vegetable growing season (December-January), even lower dietary diversity and higher micronutrient deficits most probably exist during the rest of the year. As much as 53.3% of the surveyed children were stunted and 8.6% were wasted. Multivariate linear regression analysis showed that socio-economic factors such as wealth and size of paddy land had a larger impact on dietary diversity than the number of food plant species grown in the homegarden.

The potential for intensifying homegardening was apparent, so that agricultural interventions in the area would have to raise awareness for dietary diversity in the households, enhance homegardening skills and reduce seasonal gaps in the year-round food supply.

Keywords: Dietary diversity, fruit, homestead, malnutrition, stunting, vegetable