



ROLE OF SMALL LIVESTOCK AND BACKYARD POULTRY IN NUTRITION

Introduction

Small livestock and backyard poultry play a critical role in household food security and nutrition. Meat, eggs and dairy are excellent sources of good quality protein and micronutrients, thus playing a fundamental role in preventing and controlling micronutrient malnutrition (hidden-hunger). The consumption of animal source foods in Bangladesh remains low, with young children, and pregnant and lactating women being particularly vulnerable to nutritional deficits and micronutrient deficiencies. Raising small livestock and poultry in a household context significantly increases the availability and accessibility of animal source foods, thereby enhancing opportunities for a diversified and nutritious diet.



Consumption of Small Livestock and Backyard Poultry in Bangladesh

Diets in Bangladesh are largely inadequate in terms of safety, quality and diversity with over 60 percent of the dietary energy in household diets coming from cereals and containing only small quantities of good quality animal protein. The inclusion of animal source foods (ASFs) is a potentially sustainable approach to improve nutrition at the household level, particularly through strategies that involve animal husbandry at the household level, mainly for household consumption with some degree of income generation. Poultry, livestock and dairy are important ASFs that contribute to diversity and nutritional adequacy of the diet. The per capita consumption of livestock, poultry and dairy is shown in Figure 1.

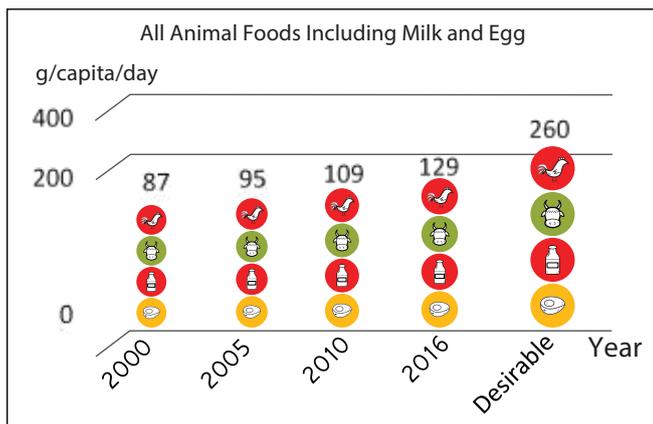


Figure 1: Trends in consumption of animal foods in Bangladesh (HIES, 2016 and Dietary Guidelines for Bangladesh, 2015)

Small Livestock and Backyard Poultry for Improving Dietary Diversity and Nutritional Adequacy

A third of children in pre-school age and over one fourth of non-pregnant and non-lactating women in age group 15-49 years were reportedly anemic in Bangladesh. The benefits of consuming an essential amount of animal products are well-known given their vital role in supplying good quality protein and bioavailable micronutrients to the body. Chicken meat, eggs and milk provide good quality proteins which are rich in essential amino acids. However, meat and eggs contribute to only 6 percent of the per capita consumption of vitamin A in the Bangladesh diet.

- Milk and milk products, like curd and cottage cheese (chana), are good sources of protein, calcium, vitamin A and riboflavin.

- Certain parts of livestock and poultry (liver, kidney and brain) are particularly rich in both macro and micronutrients. Chicken liver is known to be one of the richest sources of vitamin A and the second richest source of a compared to fish or plant sources. It also contains significant quantities of zinc. For this reason, the use of small amounts of chicken liver in the diets of young children and adolescents should be encouraged.
- From conception to 2 years is especially important for the growth, brain development and overall health of a child. Unfortunately, this period is often marked by protein, energy and micronutrient deficiencies that interfere with optimal physical growth and cognitive development.

Nutrition-Sensitive Livestock Interventions

Evidence has shown the benefits of food-based approaches that integrate meat or other ASFs. The homestead food production (HFP) programme which combined training of women of poor households in home gardening, small livestock production for the consumption of eggs, meat and liver, and nutrition education showed that this approach led to increased intake of micronutrient-rich foods. Improvement in vitamin A intake and anemia prevalence in mothers and children was more evident in the HFP intervention group compared to controls. Likewise, another project on improving backyard and small-scale poultry production that integrated nutrition activities reported that 60 percent of small-scale beneficiary groups had highest dietary diversity scores that consumed eight out of twelve food groups compared to other groups. The addition of modest amounts of meat and other ASFs to the diet from a variety of sources can greatly improve the overall energy, protein and micronutrient status and health of rural populations. Investing in diet improvement for children and women of reproductive age would maximize the chances of improving growth, cognitive development and school performance of children and pregnancy outcomes.

KEY MESSAGES

- Livestock products are major sources of good quality protein, micronutrients (iron, zinc, calcium, vitamin B12, A and riboflavin) and fats.
- Livestock have multiple important roles and functions, including their direct contribution to food availability and access for smallholders.
- Livestock play an important role in supporting food security through income growth, poverty reduction and improvement of livelihoods.

Backyard Poultry and Small Livestock are Inexpensive Foods

A significant advantage of eggs and poultry meat in Bangladesh is that there are no major taboos to its consumption. Broiler chickens do not only give healthy meat but are also the cheapest of all livestock. In addition, one chicken provides a meal for an average family without the need for a refrigerator to store leftovers. One egg is almost a meal and can be purchased relatively cheaply and by the piece.

Opportunities of Small Livestock and Backyard Poultry

- Subsistence farmers and poor rural communities can begin small-scale ventures with low investment and resources. In comparison to small livestock, poultry requires less investment.
- Raising poultry and small livestock is an attractive economic activity for rural populations especially women. Rural women in Bangladesh, as elsewhere, tend to be keepers of small livestock and poultry in their role as primary caretakers of the household. This attention to gender-based realities is important when considering interventions in rural areas.
- Care and management of small livestock and backyard poultry can be easy and less time consuming. It also requires limited space as small livestock can be grazed close to the household. Women can engage in rearing small livestock along with their daily household chores.
- Small livestock and backyard poultry not only make a vital contribution to household food and nutrition security but also foster economic security, generate employment for women and act as a safety net during times of crisis.

Improve Biosecurity for Safer Poultry Production

Improving biosecurity is identified as a key strategy in controlling poultry disease. In this case, biosecurity refers to preventive measures designed to reduce the risk of transmission of infectious diseases and management of biological risk factors in poultry. There is need to promote biosecurity in backyard and small-scale rural and peri-urban poultry production systems. Improved biosecurity will not only help combat poultry disease, but will also generate household income, and improve food security and nutritional status of households and communities through safer poultry production.

Strategies to Address Micronutrient Deficiencies Through Investments in Small Livestock and Backyard Poultry

- Small-scale livestock and backyard poultry interventions combined with extensive nutrition education and nutrition-sensitive food-based approaches could eliminate micronutrient deficiencies in a sustainable way.
- Food-based approaches draw on the National Nutrition Policy 2015 and the Second National Plan of Action for Nutrition (2016-2025) under strategy 6.2, namely “Ensure availability of adequate, diversified and quality safe food and promote healthy practices”. These approaches are also prioritized in The National Food Policy (NFP, 2006) objective 3, the NFP Plan of Action (2008-2015) and Second Country Investment Plan (CIP2, 2016-2020).

- The NFP, NFP Plan of Action and CIP2 outline strategies and activities for increasing the availability and access through enhanced productivity and sustainable production of animal-source foods with improved value chains and consumption for adequate nutrition, especially of mothers and children.
- Given the multiple benefits of small livestock and poultry, dietary diversification and nutrition-oriented training for promoting consumption of animal produce is one of the sustainable approaches to combat micronutrient malnutrition. Different training approaches can include training of Women Farmer Groups, Farmer Field Schools, Training of Trainers and field-level sessions which can be complemented by cooking demonstrations that promote improved nutritious recipes using livestock and poultry. The participatory and hands-on nature of this approach can build capacities of local women to diversify family meals, particularly for pregnant and lactating women, adolescents and children under 2 years of age.
- For even greater results, efforts should also be made to introduce processing and preservation technologies for recipes like liver chips, dried meat pickles, milk and egg-based products, and liver-based snacks, along with training on hygienic handling and safe storage of animal produce for improved nutritional outcomes.

Recipe from Locally Available Ingredients

Drumstick Leaves/Moringa Omelette, 2 Servings

- Drumstick Leaves/Moringa: 30 g (1 cup)
- Eggs: 2 eggs
- Flour: 3 tbsp
- Onion: 1 medium
- Oil: 2 tbsps
- A few sprigs of coriander leaves
- Tomato: 1 small

Preparation:

Beat the eggs well. Blend in the flour, salt and a little bit of water, and mix thoroughly to prepare a batter. Grease a hot pan, spread a spoon of the egg-flour batter and cook for a minute to make an omelette. Spread chopped onions, drumstick leaves, coriander leaves and tomatoes on the omelette and cook for a minute. Fold omelette into half, turn and cook for a minute till done. Serve hot.



Nutritive value/serving: Energy 348 kcal; CHO 23 g; Protein 12 g; Fat 22 g; Vitamin A [RAE] 274 µg; Iron 3 mg; Calcium: 123 mg; Vitamin C 62 mg.

Key Sources

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