

Role of small livestock and backyard poultry in nutrition

Small livestock and backyard poultry production play a critical role in household food security, and consumption of animal products is essential to good nutrition. Meat, eggs and milk are the best sources of good quality protein and micronutrients, thus playing a fundamental role in preventing and combating micronutrient deficiencies in affected and vulnerable populations. Yet in Bangladesh, consumption of animal source foods remains very low. Young children and pregnant and lactating women are particularly vulnerable to nutritional deficits and micronutrient deficiencies. Raising small livestock and poultry in a household context significantly increases accessibility and availability of animal source foods, thereby enhancing opportunities for a diversified and nutritious diet.

Consumption of products from small livestock and backyard poultry in Bangladesh

Statistics show that around 70 percent of dietary energy supply in Bangladesh is obtained from staple foods (cereals, mainly rice), which contain only small quantities of good quality protein. Only 5.6 percent of dietary energy supply comes from animal products such as meat, fish, eggs and milk protein (HIES, 2010), compared with an average of 17 percent in all developing countries (FAO, 2009). The average per capita animal food consumption in the year 2010 was only 109 g/capita/day compared to the desirable intake of 180 g/capita/day (HIES, 2010). These low figures are in line with FSNSP estimates which indicate that backyard poultry is reared in only 42 percent of the households in Bangladesh (Food Security Nutrition Surveillance Project).

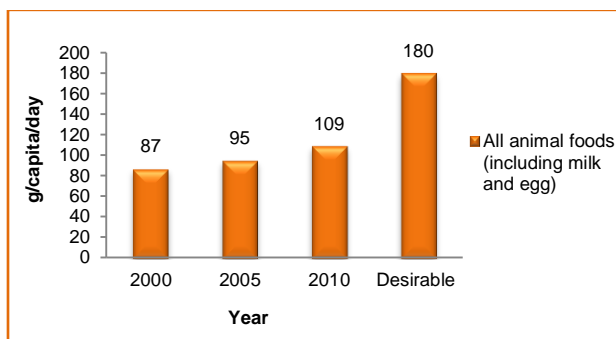


Figure 1: Trends in consumption of animal foods in Bangladesh

Micronutrient malnutrition is in fact prevalent in Bangladesh with 51 percent of children aged 6 to 59 months and 42 percent of women aged 15 to 49 years suffering from anemia. Analysis of consumption patterns shows that only 64 percent of children aged 6-23 months consumed foods rich in vitamin A while only little over a half consumed iron rich foods during this critical time period (BDHS, 2011). The window from birth to 2 years is especially important for the growth, health and development of the individual. Unfortunately, this period is often marked by protein,

energy and micronutrient deficiencies that interfere with optimal physical growth and cognitive development. Studies in Bangladesh and elsewhere have shown that plant-based complementary foods alone are insufficient to meet the needs for certain micronutrients (WHO and UNICEF, 1998). Therefore, for greater dietary diversity and nutrition, consumption of animal products such as meat, poultry, fish, or eggs is recommended on a daily or at least regular basis.

Role of small livestock and backyard poultry matter in improving nutrition

The benefits of consuming a reasonable amount of animal products are well-known. In general, macronutrients like protein and micronutrients like iron are more bioavailable in animal foods than plant sources. Chicken meat, eggs and milk provide high-quality proteins which are rich in essential amino acids; in turn, cereals generally lack these characteristics. Animal origin foods are also a good source of vitamins and minerals (micronutrients). Milk and milk products like curd and cottage cheese (*channa*), for instance, are essential sources of protein, calcium and B complex vitamins. Furthermore, 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 iron compared to any indigenous fish or plant source food. It also contains significant quantities of zinc. For this reason use of small amounts chicken liver in the diets of young children and adolescents should be encouraged.

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 also are 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 in itself and it can be purchased relatively cheaply and by the piece. For rural households, livestock and poultry



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is also a key asset and primary livelihood resource which can contribute to generating cash income, managing risks and building up assets in addition to being a direct source of food. The surplus from household production can be either sold to generate income for the family, or it can be stored and will last for several weeks if hard-boiled.



Photo courtesy: FAO

Rural women in Bangladesh, as elsewhere, tend to be keepers of small livestock and poultry in their role as primary caretakers of the household and family. This attention to gender-based realities is important when considering interventions in this area. Care and management of small livestock and backyard poultry is easy and consumes little time. It also requires limited space as small livestock can be grazed close to the household. Therefore, it does not burden women with additional work; they can engage in rearing along with their daily household activities, often with the help of children.

Ultimately, small livestock and backyard poultry not only make a vital contribution to household food and nutrition security but can also foster economic security, generate employment for women and act as a safety net during times of crisis.

Strategies to address micronutrient deficiencies in the diet through investments in small livestock and backyard poultry

Bangladesh's National Food Policy's (NFP, 2006) objective 3 identifies "adequate nutrition for all individuals, especially for women and children" as a major priority. It was recognized in the same document, that this objective requires decreased dependency on rice and increased dietary diversity. Accordingly, the NFP Plan of Action (2008-2015), Country Investment Plan (CIP, 2010 - 2015) program 10 and National Nutrition Services prioritize community-based actions to complement nutrition sensitive approaches in horticulture, livestock and fisheries sectors, and dietary diversification coupled with nutrition behavior change.

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 approaches to training exist in this respect, Training of Women Farmer Groups, Farmer Field Schools, Training of Trainers and field-level sessions can be complemented by cooking demonstrations that promote improved nutritious recipes using livestock and poultry produce. 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 and children under 2 years of age.

For even greater results, efforts should also be made to introduce processing and preservation technology for recipes like liver chips, dried meat pickles and liver based snacks, along with training on hygienic handling and safe storage of animal produce for improved nutritional outcomes of an integrated project.

Recipe from locally available ingredients:

Dim Narkel Sabji Torkari, 6 servings

- Coconut: 100 g
- Ridge gourd: 100 g
- Snake gourd: 100 g
- Beans: 100 g
- Sweet pumpkin: 100 g
- Carrot: 100 g
- Potato: 100 g
- Onion: 20 g
- Tomato: 200 g
- Eggs: 3 pcs
- Oil: 2 tsp
- Spices: green and red chillies, garlic, ginger, coriander leaves, turmeric powder, cumin, salt - to taste
- Lemon: 1 pc

Wash and chop vegetables into big pieces and slice onions. Grind coconut with green chillies and cumin. Boil beans and eggs and keep aside. Fry onions for 2-3 minutes, add tomato and chilli and cook for another 2 minutes. Add potato and carrot and cook for 5 minutes adding a bit of hot water. Add gourds and pumpkin and cook for 10 minutes adding ½ cup of hot water. Add coconut paste and stir adding hot water and salt. Cook for 5 minutes. Add boiled eggs and coriander leaves and cook for few minutes. Serve with steamed rice or ruti and lemon.

Nutritive value /serving: Energy 165 kcal; CHO 8 g; Protein 7 g; Fat 11 g; Vitamin A [RAE] 225 µg; Iron 2 mg; Calcium: 52 mg; Vitamin C 20 mg.



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