

Fodder and Energy Shrub Cultivation on Small Scale Farms in Bangladesh

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Bangladesh is a densely populated (1000 inhabitants per km²) agricultural based developing country. Agriculture contributes 33 % of the total GDP out of which animal agriculture contributes 6 %. About 60 % of the farmers are marginal (0.2–0.6 ha) and only 3 % are large farmers (> 3ha). Total cultivable land is exclusively used for production of food grains for human consumption. Livestock in Bangladesh are mainly reared at subsistence level to supplement farm income. Farmers' always face of feed supply shortages. They offer mainly paddy straw with conventional grazing and, sometimes cut and carry for their cattle, buffalo, sheep and goats various tree leaves, flowers, pods and twigs. However, the supplied concentrates to dairy and fattening animals have a low feed quality: paddy straw contains only 2.5-3.5 % CP and has a digestibility of 40 %.

Availability of feed and fodder are the major constraints to livestock production in Bangladesh. For this reason, production (milk yield, growth) and reproduction performance (fertility, malnutrition) of animals are low. The average milk production of an indigenous dairy cow is 1.5 kg d⁻¹ and growth rate is 200 and 40 g d⁻¹ of cattle and goat, respectively. Fodder and energy shrub cultivation on small scale farms can improve the present condition of animals. These types of shrubs can also provide fuel, fence to the crop lands and increase soil fertility as well as protect the fields from soil erosion. The cultivation of energy shrubs needs no extra land. Farmers' can make plant energy producing fodder and shrubs on fallow lands, bunds of cultivable lands, ponds and around the homestead.

Now-a-days, less than 10 % of the land in Bangladesh is covered with trees or shrubs with a decreasing trend. The autochthonous biodiversity of trees and shrubs is diminished and endangered. But autochthonous shrubs can be a fodder resource with high energy and protein content, branches can be used as fuel and can improve animal performance as well as soil fertility. Some of them can control endo-parasites which is very much important for organic animal farming. Though the potential of these shrubs is not yet clear to the farmers and even to science, the planting and harvesting management on farm, the impact on crop production and the potential in different sectors is indeed.

Keywords: Bangladesh, fodder shrubs, organic farming

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Preface

The Tropentag is the International Conference on Research for Development in Agriculture and Forestry, Food and Natural Resource Management - an annual event alternately organised by the Universities of Berlin (Humboldt), Bonn, Göttingen, Kassel (Witzenhausen) and Hohenheim in co-operation with the Council for Tropical and Subtropical Agricultural Research (ATSAF), the GTZ Advisory Service on Agricultural Research for Development (BEAF) and the German Forum on Research for Development (DFOR).

The Tropentag 2005 is the seventh annual meeting providing a forum for scientists, experts and students involved in research for development. The Tropentag 2005 conference theme is The Global Food & Product Chain - Dynamics, Innovations, Conflicts, Strategies.

Sustainable use and conservation of natural resources are priorities of the international community. Land, freshwater, energy, and biodiversity in natural and agricultural ecosystems are resources increasingly at stake. With view to the growing world population, the supply with agricultural commodities and food, food security, -quality and -safety must be achieved through an ever more efficient use of resources rather than through extending resource use. Achieving the United Nations Millennium Goals requires a considerable rise in overall food production, in which many international stakeholders take an interest. This leads to a global use of local resources, with global actors increasingly dominating the competition for access to these resources. The globalisation of food markets and the regulation of production through certification as means of consumer and market protection favours food industries rather than smallholder agriculture. With increasing globalisation, local food chains are articulated into a global food web, in which large scale agriculture serves the world market whereas smallholder agriculture rather serves domestic demands. In this context, not only industrialised agricultural production but also post harvest and food processing industries gain importance. A multitude of new issues arise in the field of resource definition, allocation, and use.

The Tropentag 2005 addresses the dynamics of the above processes, conflicts arising there from, strategies to overcome these conflicts and contribute to attaining food security and food safety and innovations that could form part of these strategies.