

The presence of uncultivated food in the food systems of South Asia is a survival issue for many of the poorest families, some of whom rely on uncultivated food for 100% of their dietary needs. This article underlines the critical connection between the conservation of the local diversity of food sources and the broader social goals of poverty alleviation, livelihood enhancement and sustainable development.

Forgotten food

Food that money can't buy

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¹ Binayak Sen, "Politics of Poverty Alleviation", in R Sobhan (ed.), *Growth or Stagnation: A Review of Bangladesh's Development*, 1997, UPL.

² ASA, *Dropout in Micro-Credit*, Dhaka, April 1996; BRAC, *BRAC Programmes 1990-1995: A Status Report*; October 1997; AAH Dewan, "Review of Current Interventions for Hardcore Poor in Bangladesh and How to Reach Them with Financial Services", paper presented at the *Workshop on Drop-out Features, Extending Outreach and How to Reach the Hardcore Poor*, held at BIDS, Dhaka, November, 1997; M Rahman and A Razzaque, "On Reaching the Hardcore Poor: Some Evidence on Social Exclusion in NGO Programmes", *The Bangladesh Development Studies* Vol. XXVI, March 2000, No.1.

Recent research on poverty programmes shows that by and large they are abject failures, especially in relation to the poorest of the poor. The failures are twofold. Economists have noted the mismatch between micro-level claims of poverty programmes and national or macro-level performance, raising serious doubts about the result of large development investments and national strategies for poverty alleviation.¹ There is also a serious problem of "social exclusion" in poverty programs. In Bangladesh, the poorest of the poor (the so-called "hard core poor") cannot be reached by existing anti-poverty and micro-credit programmes.²

Green Revolution-style agricultural production and trade in food, the two pillars of government food and agriculture policies over the last few decades, have also failed to address the problem of access to food by the poor. It is now apparent

that food insecurity amongst the very poor is not due to inadequate food supply, but rather to the problem of what Sen has called "entitlements"; bumper yields of grain in the Punjab remain out of reach of people with too little money to purchase food on the market and too few other entitlements to access food locally. Genetic engineering and biotechnology in the food system are equally irrelevant to the problem of poverty and food insecurity because they do not address access and entitlement to food, while at the same time raising many safety and ethical issues.

A lack of understanding in policy circles of the meaning of agriculture and its relationship to food, ecology and culture is a major hindrance when dealing not only with poverty but also with other policy matters such as sustainable development both at the conceptual and programme design

levels. Understanding agriculture simply as the production of food as a commodity, and poverty as an absence of income in a narrow sense, reduces the range of policy options to an equally narrow set of interventions that have already failed and can never be sustainable.

Survival issues must be addressed

Poverty and livelihood schemes are based on an understanding of economics that emphasise the income and employment dimensions in community life. Pure income-generating schemes inevitably undermine the role of expenditure-saving activities and non-economic livelihood strategies such as food collection. But the collection and gathering of uncultivated food has great influence in determining the well-being and survival capacity of the poor. Even in conventional economic analyses it has become evident that in a context such as Bangladesh “expenditure-saving activities contribute as much as a fifth to the annual household welfare of the rural poor”³.

We argue that poverty is a crisis in livelihoods, driven by the complex interactions between economic and non-economic activities, and the displacement of the people from the ecological basis of life. The new direction in rural South Asia is to create an enabling policy environment for the conservation, promotion and enhancement of local biodiversity, including both cultivated and uncultivated foods used in the diverse food systems of the region. This direction involves defending the integrity and health of local ecosystems that generate cultivated and uncultivated biodiversity. It also involves recognising and rebuilding the customary rights of the poor in communities and common property which enable access to food and related sources of livelihood.

Cultivated and uncultivated food

The critical relation between poverty and the customary rights of the poor to collect and gather food from their surroundings is not obvious. But research results from Bangladesh and the Deccan Plateau of South India, two contrasting physical environments with a common heritage rich in agricultural traditions and biological diversity, demonstrate the kinds of connections that exist.

In Bangladesh, uncultivated foods such as leafy greens, tubers, small fish and small animals collected from agricultural fields, water bodies and forested areas constitute nearly 40% of the diet in communities where local biodiversity has been conserved.⁴ Amongst the very poor, landless members of these communities (comprising some

15% of the rural population, many of whom are women-headed households) dependence on uncultivated sources of food and fodder is nearly 100%. Throughout the year, their daily survival and well-being is ensured through the collection of uncultivated foods directly, and through systems of exchange with rice farmers and the sale of goats and chickens in the local market to enable the purchase of oil and other food items they need but cannot collect directly.

More than 100 different leafy vegetables (commonly known as *shak* or *saag* in different South Asian languages) are used for food and fodder. They are collected while weeding fields and gathered from plants cultivated for other purposes (for example, the tender leaves of jute). These leafy vegetables are part of the historical cuisine system of Bengal described in epic stories and poems, and remain important food sources wherever they are available. As is widely recognised in Bangladesh, the most tasty and nutritious fish are not cultured but rather collected in the open water systems of the rivers, rice fields and mixed crop fields. This biologically rich open water fishery includes between 260 and 500 species of inland fish, more than in all of Europe. Some 75 of these species are consumed regularly by poor rural communities.⁵

The high proportion of uncultivated food in the diets of people living in communities where local biodiversity has been conserved is significant, especially considering the nutritional contribution of micro-nutrients supplied by these food sources, in contrast to the carbohydrates provided by rice alone. Leafy greens, tubers and small fish are the main sources of nutrition that keep the rural

³ Mujeri et al, *Macroeconomic programme, structural Adjustments and equity: a framework for analysis of macro-micro transmission mechanisms in Bangladesh in Monitoring Adjustment and Poverty in Bangladesh*. CIRDAP, Dhaka 1993.

⁴ UBINIG, *Uncultivated food: summaries of preliminary data compiled from field reports*, UBINIG 2002.

⁵ SF Minkin, *Flood Control and the Nutritional Consequences of Biodiversity of Fisheries, Bangladesh Flood Action Plan (FAP 16)*, ISPAN, Dhaka 1993; SF Minkin et al, “Fish Biodiversity, Human Nutrition and Environmental Restoration in Bangladesh” in Eds. Chu-fa Tsai and M Youssef Ali, *Open Water Fisheries of Bangladesh*, University Press Limited, Dhaka 1997.



Boys fishing in a pond in Bangladesh. Ponds such as these are becoming more and more polluted, threatening this important food source, particularly for poorer families.





This Bangladeshi farmer intercrops his aubergine crop with onions and garlic to keep nematode pests at bay

population active, productive, and relatively disease free. The contribution of uncultivated food is not merely a matter of satisfying hunger or overcoming stress conditions, it is an essential part of the diet that must be ensured, along with community relations linking fishers, farmers and tradespeople in a web of economic and social transactions.

Agriculture is not only crop production

Production of monocropped and pesticide-laden crops has destroyed uncultivated food sources in many areas of South Asia. When these losses are considered, increases in rice production reported as an increase in 'food' production are in fact directly responsible for severe declines in the abundance and availability of the overall food sources.

The policy implication of this finding is profound. Simply halting the environmental destruction caused by pesticide use and enhancing the local biodiversity of cultivated and uncultivated plants would ensure some 40% of the food needs of the rural population. For the very poor, the effect would be even greater. Alternative policies protecting and enhancing local biodiversity would act as a social safety net, providing local access to health-giving foods, medicine and numerous livelihood options, including opportunities for livestock management and local agro-industry based on handicrafts, non-timber forest products and the professions of midwives and informal home-based work.

The significance of the erosion of access to uncultivated foods is also apparent if we examine

what happens to livestock when they are integrated into a farming system that is not supportive of uncultivated foods. Wherever pesticides are used, the seed and cropping system has to alter. The normal sorghum-pigeon pea-cowpea mixed cropping system on the Deccan Plateau in India cannot tolerate herbicide use: herbicides applied when one species needs weeding negatively affect the growth of the other intercropped plants. Furthermore, farmers do not feel that use of herbicides in this kind of cropping system is economic. The use of herbicides automatically requires a shift to monocrops like cotton or potato.

This has two implications for fodder production. On the one hand, herbicide use makes it impossible to get any fodder from uncultivated plants. On the other hand, the crop itself, whether it is potato or cotton, does not produce residues which can be used as fodder. Therefore fodder availability from the main crop is reduced to zero.

Compare this with a field that supports uncultivated foods. The crops of the Deccan plateau produce significant amounts of fodder. Two acres (0.8 hectares) of sorghum can support three head of cattle all year round. Besides sorghum, the vines of the lablab (hyacinth) bean and cowpea make excellent fodder while the husk of pigeon pea, cowpea and lablab bean are much sought after for cattle feed. When the cropping system that supports uncultivated foods is altered, the fodder needs of one to two head of cattle per acre (0.4 hectares) are also lost.

The relationship between a farming system that hosts uncultivated foods and the needs of the village cattle and other livestock is symbiotic. Cattle supply all the nutrition that the system needs in the form of urine spilled on the soil and dung laid on the land by farmers before ploughing the field. The cattle also supply all the draught power for transportation done from and to the field. Produce comes out of the field, manure goes into the field. This is a unique system of energy recycling which mechanised and chemical-based farming cannot reproduce.

In return, the farming system provides all that the cattle need: a continuous supply of green fodder during the cropping cycle, dry fodder from the crop residues (such as paddy straw, sorghum and pearl millet stalk, and little millet straw), feed from the husk of the grains and pulses (such as paddy, pigeon pea and mung dal), and a host of creepers which are central to the farming system (such as cowpea and beans).



Destruction of food sources disempowers women. The strategic role of uncultivated food and fodder in rural areas has important implications for land policies. The negative consequences of the privatisation of common areas is particularly experienced by women who rely on their surroundings for food and access to life-enhancing spaces and raw materials. Many of the productive activities of women in these communities are not mediated by the market or related directly to employment and income. Women are concerned about the privatisation of common lands and transformation of public spaces such as roadsides and ponds as these have a direct impact on the livelihood options of people who depend on public spaces to graze animals or collect items for food or sale. Common areas and customary rights to these areas have been completely ignored in the policy context.

Ensuring the maintenance of uncultivated food sources in and around the immediate environment as common resources accessible when necessary is not only a food security issue for the community. It is the missing link for poverty programs. The degree of control over local food sources, as opposed to uncertain access to uncertain markets, is the measure by which development programs can ensure the capacity of the poor communities to participate in the market. Rather than supplying food through state distribution systems and corporate subsidies, governments should protect and enhance local cultivated and uncultivated biodiversity, including the uncultivated food sources.

Biodiversity is a development issue

Research on ecological agriculture now shows that mixed farms and community forests, grazing areas and water bodies provide individuals, households and communities with more equitable and sustainable livelihoods than production systems such as mono-cropping and tree plantations that reduce biodiversity or rely on a small range of exotic biodiversity. This is because rural livelihoods involve not just the production of crops (which are sold or eaten) and the sale of family labour (on farms and in cities) but also a wide range of livelihood-enhancing activities that bring people into constant interaction with many interrelated natural and social resources. Rural people collect medicinal plants in common and private spaces to address health problems, use crop residues to feed their animals, exchange services with trades people and crafts people in the community, collect forage from uncultivated lands and forests, collect fish in open and closed access water bodies, collect food while weeding crops for neighbours, and

so on. Livelihoods of this nature rely to a high degree on the biodiversity of local spaces: fields, field boundaries, seed stores, household patios and common areas. They also rely on the social and institutional relationships that regulate access to biodiversity: gender relations, community membership, kinship, specific legal provisions, etc. The development of equitable and sustainable livelihoods in communities therefore needs to support and enhance both the biodiversity in the ecosystem and the social relationships that enable people to access and use the biodiversity in the ecosystem.

Thinking of policies in relation to uncultivated foods is a way to link between food, ecology and livelihood. An understanding of the role of uncultivated foods in the food systems of the poor reveals the multiplicity and richness of life-affirming agricultural practices and community relations which support livelihoods. Why should we accept the idea that the object of agricultural science is the production of a few selected crops in narrowly defined spaces? Why exclude the spaces around and between ploughed fields, the water bodies, the grazing areas, forested areas and the homesteads? Is “food production” synonymous with “cultivation”? Why has the concept of cultivation lost its ecological and cultural connotations and fallen into the maw of the factory model?

The idea that “food” must be supplied by “farms” operating as industrial factories and only available on the shelves of supermarkets is a strange phenomenon in human history, rejected by agricultural traditions grounded



This mandala celebrates diversity by including its many elements - grains, pulses, pest traps, wild plants, and botanical sprays

Masangari Yesu, DDS



in the continuity of the knowledge created in relation to food sources. These knowledge systems developed over thousands of years and are being discarded almost overnight. Under the pressure of modernising policies, food production and food consumption have drifted apart, leaving rural people with no sustaining link to their homes and their communities. This separation is inherently conflicting and destabilising.

Agriculture is a way of life

For food producing communities in South Asia, as in many other societies as well, food is not merely an object of consumption. Food is a joy of life. We eat not only to satisfy our hunger, but also to savour food, to share it with our family and friends, neighbours and kin. Human beings are not machines with big holes in their stomachs. We are social beings, and food makes our social relations possible. Sharing food is deeply ethical and cultural. Food does not merely provide physiological and nutritional need. It is the premise upon which ethical, cultural and social institutions are built. This is the reason why food must not be reduced to a mere commodity, a consumer item to buy and sell in the market. Once this notion is understood, the spiritual, cultural and social role of uncultivated food also becomes strikingly visible. Erosion of food culture deepens the erosion of ethical, cultural or social institutions and human bonds. The political notion that "hunger" is only a biological phenomenon that can be resolved by relying mainly on world trade and the capacities of transnational corporations to produce food for the hungry ignores this reality altogether.

The survival and availability of local cultivated and uncultivated food is a political issue for security reasons as well. Food insecurity is a major cause of social and political instability in South Asia because it leaves people vulnerable to injustice and violence. Whether it drives people from rural to urban areas or demoralises food-producing

communities, the link to regional tensions is direct and immediate. Moving out from the community in the absence of the availability of food is the most obvious indication of the breakdown of cohesion and social fabric within a community. Trafficking of women and children displaced from their homes has emerged as a major issue jeopardising regional harmony. Migration within and between nations of the region has also become a significant source of conflict, leading to border clashes between India and Bangladesh and between India and Nepal. Never before in history has the significance of local food security been so paramount in redefining strategies for peace and poverty alleviation.

Protecting biodiversity is the missing link

The underlying problem is that governments and donors have lost touch with the idea and meaning of agriculture and its capacity to feed people where they live and work. On the other hand, the vision of agriculture is clear from the point of view of farmers and food-producing communities: the protection and enhancement of local biodiversity creates and sustains livelihoods for a wide range of people, not just farmers. Unless governments can guarantee significant new rural and urban livelihoods, there is no reason to sideline existing biodiversity-based livelihoods created by farming communities and promoted by many grassroots organisations. The policy challenge is to defend the food sources of rural communities by defending the principle of local and ecological food production, and governance of the social relations of food by the food-producing communities themselves. 2

This article is a reproduced from the South Asia Network on Food, Ecology and Culture (SANFEC) Policy Brief No. 1: Poverty Programmes have bypassed the "hardcore poor". More information about SANFEC can be obtained from www.sanfec.org. Email: ubinig@siriusbb.com or hd1_ddshyd@sancharnet.in

