

A Local Answer to a Women's Innovations to

BY SEEMA KULKARNI

In the Indian Himalayas a pair of bullocks works 1,064 hours, a man 1,212 hours and a woman 3,485 hours in a year on a one-hectare farm.

Cet article explore l'impact de la mondialisation sur la nourriture et la sécurité alimentaire des femmes et elle discute de la pensée qui sous-tend une vision féministe alternative et des quelques initiatives des femmes rurales qui réagissent au désastre de la mondialisation. L'auteure plaide fortement en faveur des droits des femmes à la terre et aux ressources de l'eau et de la possibilité d'améliorer la viabilité des petites fermes pour contrer la menace qui pèse sur la sécurité alimentaire.

Rural Indian women are extensively involved in agricultural activities. However, the nature and

extent of their involvement differs with the variations in agro-production systems. Female participation in agricultural production varies with the land-owning status of farm households. Their roles range from managers to landless labourers. In overall farm production, women's average contribution is estimated at 55 to 66 per cent of the total labour with percentages much higher in certain regions. In the Indian Himalayas a pair of bullocks works 1,064 hours, a man 1,212 hours and a woman 3,485 hours in a year on a one-hectare farm, a figure that illustrates women's significant contribution to agricultural production (Venkateshwaran). Depending on the region and crops, women's contributions vary but they provide pivotal labour including everything from seed selection to planting, from harvesting to post-harvest operations.

In the highly diversified Indian context, no simple gender division of labour exists with regard to crop production. In certain areas in India women play a key role as seed selectors and in seedling production. Their knowledge on seeds and seed storage contributes to the viability of agricultural diversity and production. As weeders, women contribute to crop management. This also puts them in a good position to select weeds that are edible and can be a source of food for the poor.

In pockets where intensive agriculture has been introduced through green revolution "package deals" women's role has been largely marginalized. Although one cannot deny that green revolution technology did address the

issue of domestic food insufficiency, it has not come without costs to the environment and to women's lives. The green revolution focused on certain areas leaving large parts of the rest of the country unproductive and fallow.

The Nutrition Foundation of India has ascertained that in some economic "boom" areas, like those chosen for the green revolution programs, the health and nutritional status of women has actually deteriorated, and the incidence of low birth-weight babies and neo-natal mortality has increased quite sharply. A key factor is the persistent allocation of unmechanized agricultural activities to women, which along with their other domestic responsibilities, results in a heavy and exhausting work burden without correspondingly greater shares of food to sustain them. The relationship between cash cropping and food grain shortages is often overlooked in economic planning, although the effects on family nutrition are disastrous. Cash crops usually only mean more money to husbands and increased drudgery for the women.

Depleting water resources have also had an impact on women's lives as they have to walk farther to collect the water they need on a daily basis. Much of the literature on gender and water revolves around domestic water (Joy and Paranjpe). Although women toil in the fields they have no right over productive use of water. Water for irrigation has remained in the male domain. The current practice in irrigated agriculture has had a negative impact on some of the crops. A study of the emerging Karnataka water markets says that the cultivation of millets and lentils has gone down while paddy and sugarcane have gone up in the Mandya district (EPW 2002).

In India, livestock plays a multi-faceted role in providing draught power for the farm, manure for crops, energy for cooking, and food for household consumption as well as the market. In animal husbandry women's activities vary widely ranging from care of animals, grazing, fodder collection, cleaning of animal sheds to processing milk and livestock products. Dung composting and carrying it out to the fields is also women's work as is preparing cooking fuel from dung.

The Indian population, particularly in rural areas, is highly dependent on the forests. Fuel wood comprises 84 per cent of the total household energy consumption and it is the women who are responsible for daily fuel and fodder collection basis. The country has been losing 1.5 million hectares of forest cover annually (CSE Citizens

Global Mess Secure Their Livelihoods

Fifth Report). With the degradation of the resource base the pressures on women and other resource poor are increasing.

Impact of Different Policies on Women's Access to Natural Resources

Inequitable access to resources, growing population and the consequent reduced per capita availability of land, along with consumption patterns, cropping patterns, and choice of technology used in agriculture and for water resources have contributed significantly to the deterioration of the environment. The appropriation of resources by the state and private interests is another important factor in the declining role of women in the management and use of natural resources. This has been further aggravated with the current pace of globalization, liberalization, and privatization (GLP). The already scarce resources are handed over to a very few individuals or to multinational corporations and in this process of privatization—whether it is in the name of land reform or otherwise—it is clear that the women and the poor have gained very little collectively. The old feudal patriarchal order has been replaced by a new one marginalizing women further.

The pre-GLP era, dominated by the development model, was unsustainable and paved the way for the GLP policies. The combined effect of statization, privatization, and environmental degradation led to reduced fertility of soils, loss of control over resources of the poor, and increased damage to the primary productivity of the soil by forcing small farmers to further increase external inputs. The lowering of ground water tables and policies promoting such intensive use of external inputs have depleted the natural resources. This vulnerability facilitated the entry of the GLP reforms and policies.

Trading Democracy

The liberalization of agriculture can be either external or internal. Agricultural liberalization under the World Trade Organization (WTO) is a form of external liberalization. It includes liberalizing fertilizer imports and deregulating the domestic manufacture and distribution of fertilizers; the removal of subsidies on irrigation, electricity, and credit; the deregulation of the wheat, rice, sugar cane, cotton, and oilseed industries; and the dismantling of the

food security system. This has placed control of agriculture in the hands of transnational agribusiness corporations such as Cargill and Pepsico.

Structural adjustment programs (SAPs) and the WTO Agreement on Agriculture share the same approach in putting pressure on third world countries to liberalize their agriculture sector. While some aspects of liberalization may have positive effects, each country should have a right to choose the pace and nature of liberalization, as well as the right to protect the interests of farmers, sustainable agriculture, or food security. However, SAPs and/or the WTO are placing external pressure towards liberalization at a forced pace and in a manner that significantly erodes the right of governments and communities to determine the appropriate balance of liberalization and protection.

The Dispensability of Small Farmers

The globalization of agriculture is violating all the components of food-related human rights. The rights of small producers to land, water, and biodiversity are being undermined by undoing land reform, by the privatization of water, and the monopolization of seed and plant resources. A case in point is the Food and Agriculture Organization (FAO) study on the impact of agriculture liberalization on 16 developing countries which concluded that liberalization under structural adjustment programs has had clear negative impacts and similar measures required under the WTO Agriculture Agreement would thus have negative impacts as well.

Since the implementation of the WTO Agreement, the impact of the rules and disciplines of the Agreement and the WTO have added to the burden of developing countries. For the vast majority of developing countries, the lowering of tariffs and removal of import control and domestic support, together with the onslaught of cheap subsidized imports, have undermined local food production and farmers' livelihoods. Subsidized globalized food trade may look like an opportunity in the trade perspec-

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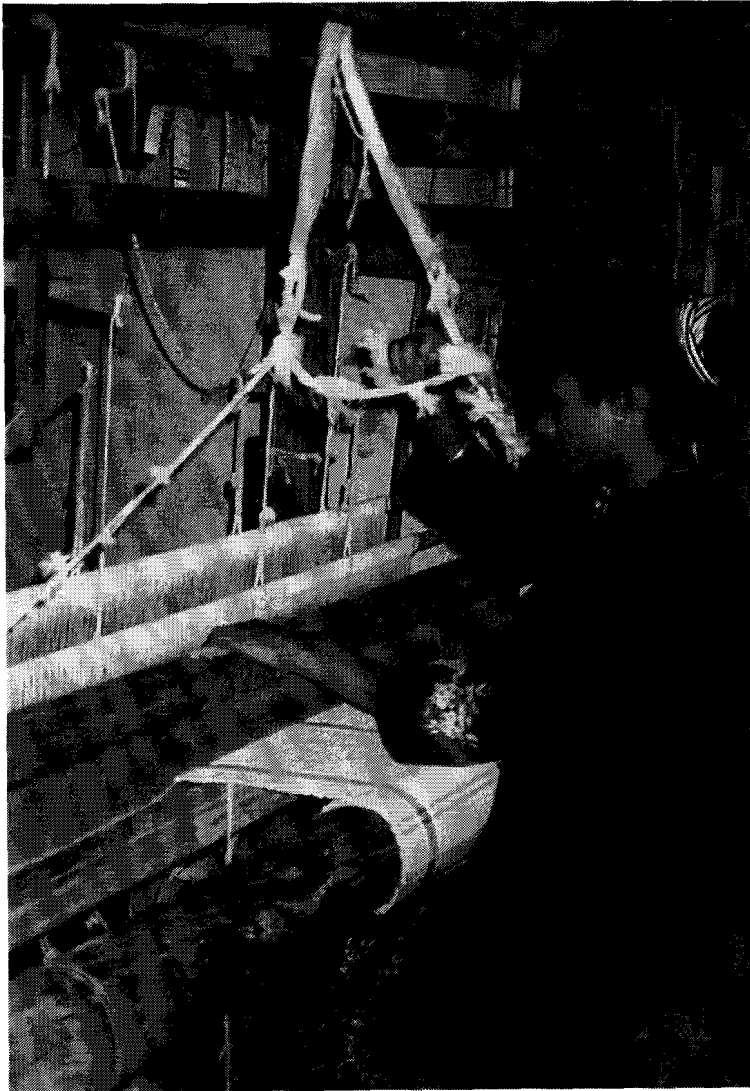


Photo: Brenda Cranney

tive, but it has a serious impact on the entitlements of already vulnerable groups by undermining the right of farmers to decide on their choice of crops.

In India 60 to 70 per cent of the gross domestic product (GDP) from agriculture comes from subsistence agriculture managed by small and marginal farmers, the majority of which are women. The WTO agenda favouring corporate farming and/or contract farming is gaining currency however and small farmers are paying the price. The industrialization of food and corporatization of agriculture is being justified by what is seen as the low productivity of the small farmer. To the small farmer globalization means new strains/exports to supermarkets and having to develop skills for particular crops. These small farms are usually devoted to the cultivation of staples and are much more cost intensive to develop.

Right to Choice of Agriculture Technology

The introduction of genetically modified foods (GMF) has

deprived women and other resource-poor farmers of the right to grow whatever they wish. The consumption of the untested GMF also leads to increased health risks. In Indian agriculture women use 150 different species of plants for vegetables, fodder and health care. The herbicide used for some crops, glufosinate, kills almost everything green and deprives women and families of nutritious vegetables that women once had access to. The herbicide-resistant crops that have replaced the subsistence crops of small farmers were approved by Canadian and American governments even though there is clear evidence that the herbicide causes birth defects in animals.

The ancient right of farmers and women to save their seeds and breed their own plants may quickly become a thing of the past. "Terminator" seeds are threatening a farming practice as old as agriculture itself. Very recently one of the most far-reaching patents ever granted went to the U.S. Department of Agriculture (USDA) and Delta and Pine, an American seed company. They have developed a genetic technique that prevents seeds from germinating when replanted. This new development will force farmers back into the seed shop for a fresh supply of seeds every year. Already the hybrid seed culture obliges farmers to go back to the seed corporations by the second or third year of the planting season. The "terminator seed" will give corporations total control over seeds. So far this technique has only worked on cotton and tobacco seeds, but scientists believe that within a few years crucial crops like wheat, rice and soya beans—staples for three-quarters of the world's poor—may also be under the control of international agribusiness.

Increased Food Insecurity and Its Impact on Women's Lives

Food security must be at the national, regional and community level, household level, and individual level. Food security of one generation cannot be at the cost of future generations. Food security, as I would like to define it, means having access to productive resources; capabilities to enhance the primary productivity of the natural resources, particularly land and water; availability of food through the Public Distribution System (PDS), and utilization of the food (i.e., although food is available, in many cases women of the household have little or no access to it due to socio-cultural factors).

Women's key role in the production of major grains and minor millets illustrates their invaluable contribution to food security. In addition, women play a crucial role in ensuring food supplies as food vendors and post-harvest processors of livestock and fishery products. As the ones responsible for the purchase of family food and for preparing meals, women thus ensure adequate food security. In

India, food security as a national objective was placed on the policy agenda much earlier than in other developed and developing countries.

With the arrival of the green revolution technology, India was able to achieve self-sufficiency in the production of food grains. Nevertheless, India makes up 40 per cent of all those people in the world identified by the World Bank as living below the poverty line in 1990 (Rural Poverty Report). Approximately 35 per cent of the households below the poverty line are headed by women (Venkateswaran).

By international standards, 44 per cent of those living below the poverty line in 1997 had an income of one dollar per day while 86.2 per cent had an income below two dollars per day. Women's share of that earned income is only 25.7 per cent (Venkateswaran). Despite the significant role that women play in meeting the survival needs of the household, women's access to productive resources is negligible.

The removal of food subsidies has led to a decrease in food purchase from the public distribution system. The off-take of rice has declined from 10.1 metric tonnes in 1991-92 to 6.9 metric tonnes in 1995-96. The off-take of wheat has also gone down from 8.8 metric tonnes to 3.8 metric tonnes. While agricultural exports as a percentage of total exports have gone down, cereals exports have gone up from 1.4 per cent to 3.4 per cent, indicating that exports are increasingly based on the creation of domestic food insecurity (Abhijit Sen).

The Food Corporation of India (FCI) is withdrawing from its primary responsibility for food procurement as it is deemed to be ecologically and financially unsustainable and, therefore, the government is planning to completely privatize the storage and procurement of food grains. This targeted public distribution scheme for the poorest of the poor is a result of pressures from the World Bank (WB) that demands cuts in subsidies to trim public expenditures and ensure loan repayments to the International Monetary Fund (IMF) and the WB. In order to cushion the impact of structural adjustment on the vulnerable groups, the WB suggests that the subsidies be targeted to reach the poor. This is called "adjustment with a human face." Yet, the amount of food grains distributed since 1991 (i.e., the post structural adjustment era) has actually fallen. The subsidy has been rising not for distribution of the grains to the poor but rather for the storage of undistributed grains lying in the go-downs (Frontline).

Cereal consumption has declined by 12 per cent in rural India during a decade of reforms (Abhijit Sen). As imports continue to drive out domestic production, further destroying livelihoods, especially those of the poor, consumption levels will continue to fall.

For women, social and cultural taboos have always



Photo: Brenda Cranney

impacted on their food intake. The situation of women remaining hungry amidst food is not a rare one. It is difficult to measure gender impacts as food security is usually measured at the household level, however, the widening gaps in health care and education have been well researched and point to a similar gap in food security.

The National Family Health Survey conducted in October 2000 clearly points to increasing malnutrition among children and women. Maharashtra statistics indicate that 49.6 per cent children are malnourished and of this 17.6 are severely malnourished. The mal-nourishment figures among women is as high as 39.7 per cent. Almost 50 per cent of the women living in Maharashtra suffer from anaemia. Those with severe anaemia constitute 2.9 percent. The proportion of pregnant women (aged 15-49 aged) with anemia is as high as 88 per cent (UNDP).

Iron-deficiency anaemia is the most widespread nutritional problem among women, and has severe conse-

quences for both their reproductive and productive roles. Maternal mortality rates are significantly higher among anaemic women, as are premature birth and infant mortality rates. Although there is limited direct evidence concerning the effect of anaemia on women's physical work capacity, research on men shows a clear association between iron-deficiency anaemia and reduced work capacity. Because low-income rural women living in the tropics experience the highest rates of iron-deficiency anaemia (along with other forms of malnutrition and morbidity), and also bear the most physically demanding work responsibilities (including weeding, threshing, pounding, fetching fuel, and hauling water), it is probable that anaemia among women accounts for a significant loss of productivity, and therefore of family welfare, in developing countries.

These are the challenges before us. We must:

- restore the degraded environment by enhancing its primary productivity (no external inputs productivity);
- improve the control over resources for women and the poor;
- give options for choices of technology that promote regeneration of the resource base;
- increase access to PDS and assured entitlements to food and nutrition;
- ensure wider socio-cultural awareness of the need for equitable access to food and nutrition services.

Can the process of globalization stand up to these challenges? In order to achieve these goals an alternative socio-cultural, political, and economic perspective, inclusive of women and other resource-poor, is crucial.

Gender Perspectives on Natural Resources

In recent years the link between gender and the environment has become an important focus both for research and for development of policies and practice. Gender relations are seen as an integral part of the social and economic organization, which mediates people's relations with their immediate environments. The gender perspective in the context of Natural Resource Management (NRM), therefore, must be broad-based and have the potential to address the gender division of labour set in the current patriarchal system at the socio-cultural, political, and economic levels.

A lot has been written about women, the environment and development. Much of this research is focused on the following themes:

- women as victims of the process of environmental degradation as a result of having to bear the brunt of the use of chemicals in agriculture, pollution, and food insecurity;

- women as having deep environmental knowledge whether from their natural or material affinity to nature;
- women taking the lead in management of the environments because of their deep knowledge and affinity to nature;
- women's entitlements and right to resources.

This entire body of knowledge has contributed immensely to developing the perspective on gender and environment and has also been of considerable help in my analysis of the situation and prescriptions for the same.

Towards an Equitable, Regenerative, Rational, and Productive use of Land and Water Resources

Right to land

Access to or control over land guarantees assurance of food and nutritional security for women and the resource poor. There must be an emphasis on separate allocations for women either as groups or individual. In Maharashtra studies are being conducted to decide upon the necessary amount of land required to guarantee food and nutritional security for a family of five (SOPPECOM).

Right to water

Access to water must be granted as a basic service to all in order to meet livelihood requirements. In the case of some drought-prone regions of Maharashtra, pilot studies have indicated that the basic water quantum is 5000^{m³} (SOPPECOM). Similar studies will have to be conducted in different regions to gain an understanding of minimum water requirement in all regions of India. This quantity must be guaranteed as a basic service to every household, with separate allocation for women either in groups or as individuals.

Shifts in the cropping patterns

All the users of the water and land should ensure that at least one third of the area they are using is under a permanent vegetative cover to maintain a continuous organic input in the soil that will sustain the productivity levels of the land. Certain cropping practices must be introduced to gradually lead to the reduction of external inputs. The goal is to increase the primary productivity of the land thereby reducing the dependence on the fast depleting external inputs.

Capability building for resource enhancement

There has to be a systematic effort to integrate skill development programs under the different poverty alleviation programs. These skills can be used to develop alternative practices in farming and water usage, and technologies that facilitate optimum use of water and land, the assessment of the resource use, and planning for larger eco-system development are crucial.

Institutional supports

Establishment of appropriate institutions to ensure the right to resources for women and the resource poor is also crucial. These institutions should have mechanisms to guarantee these rights for women and the resource poor. Meeting nutritional requirements and sustainable prosperity is the ultimate goal.

Implications for Policy

Policies should be based on the sustainable, equitable, and regenerative use of resources and must ensure access to land and water resources for sustainable resource use; the development of capability building for regenerative and productive use of the resource; availability of food entitlements through PDS systems; utilization through nutrition education programs; and poverty alleviation programs for development of resource base.

Policies or programs cannot be premised on a generalized grouping of women as a category—caste, class, and tribe differences have to be understood. They must also include the perspectives of resource-poor men in order to ensure that this alternative vision is not removed from the wider socio-political, economical, and ecological perspective. Further, any perspective or development practice that increases the workloads of poor women without granting them entitlements or rights over the produce, must be recognized as unsustainable.

Initiatives

The Society for Promoting People's Participation in Ecosystem Management (SOPPECOM) has taken the lead, along with other strong local organizations, in various initiatives and pilot studies. For example, intensive studies were conducted in several regions of the state in order to establish the minimum water and land requirement to attain a productivity level that can meet the subsistence needs of a family of five.

SOPPECOM implemented pilot programs in one district of the Maharashtra region of India where it was proposed that water users associations be formed on all surface irrigation projects. An important condition was the stipulation that everyone have equitable access to water. This meant that on a preliminary basis each land-holder would have access to a certain quantity of water that would meet their basic food security needs. The surplus water would then be given to those who wanted it at an extra fee. There was a clear understanding of water as a basic service to meet subsistence needs of all the landholders in the command area and surplus water as an economic service for those who could afford to go beyond subsistence needs.

However much of this earlier effort was limited to allowing access to water from surface irrigation to landholders alone. The landless and women were left out of

this service. To address these issues another pilot study was conducted in a small village, Khudawadi, in the drought-prone region of Maharashtra.

In this small village a minor canal of a medium irrigation project was developed to irrigate about 400 ha. of land. However, 30 years after the completion of the project the canal could not irrigate more than 50 ha. of land in the command area. This was the scenario when SOPPECOM first met with the villagers in 1992. Around 1993, after intensive discussions with the farmers and the irrigation department, it was agreed that a water users association (WUA) be formed. This time the emphasis was not on equitable water distribution for the landholders alone but for the landless as well.

It was agreed in principle that the WUA would allocate specific quantity of water for the landless in the village. The quantity was decided after assessing the number of landless families in the village. Initially there was resistance from the larger farmers, however, negotiations pointed out that they were gaining not only from the surface water but also from recharging of their wells. They were asked to either pay for the recharged water or to make very specific allocations of water available for the landless. A 15 per cent allocation was made for the 100 odd families from the village. This would effectively amount to 3000^{m3} of water for each landless family. The questions that emerge revolved around three issues:

- institutional building to ensure and guarantee water rights for landless women;
- the development of strategies, skills, and programs for use of the water right;
- availability of credit for using the resource right meaningfully.

A written agreement with the Water User's Association ensured a specified quota of water would be allotted to landless households. Negotiations resulted in landowners providing long lease agreements on land to the landless with a clear understanding that the harvests would be shared. The landowners agreed to lease out land for a period of 15 years. In return the landowners would receive a 40 percent share of the harvested crops, while the landless farmers would keep the remaining 60 per cent.

Women's Strategies for Resource Use

It was largely the women of the landless families who took the initiative in the program after it was clear that the only land that would be available to the landless would be fallow land outside the command area. For men this was a lost opportunity as they were weaving dreams of using surface irrigation for cultivating lands in the command area to grow cash crops. When access to such lands was denied they dropped out of the program. However for women it was an opportunity to gain employment and

access to at least fuel and fodder. With women's participation, the direction of the program changed radically with fuel and fodder collection being the main focus area.

The development of ten hectares of wasteland was one of the key programs. Various local drought-resistant fodder and fuel species were selected and planted. Different techniques for optimum use of water resource were also worked out. Women learned new skills and systematized their traditional ones for planting trees. At the end of two years of hard work about 8,000 diverse trees planted on 8 ha. of otherwise degraded and undulating land.

Another program that was implemented involved the cultivation of small plots. Prayog Parivar a network of farmer in Maharashtra. has been using different skills and practices to enhance productivity in a sustainable manner. The landless women's group took up this experiment on a small plot about one-quarter acre of land. The goal was to meet livelihood requirements through a combination of small plots and wasteland. The different techniques used in this type of cultivation essentially revolved around two areas—soil building and tending and nurturing.

Although the women did acquire some skills in the year and a half that the program was implemented, there was little time to realize productivity gains. In part, this was because the lease arrangement for this plot was too short. It nevertheless provided valuable lessons in terms of making institutional arrangements for land agreements, such as the need for:

- proper institutional arrangements to assert rights to resources on a long term basis.
- clarity with respect to which livelihood needs can be met through different programs. It therefore becomes important to define livelihood needs for the group with whom work is planned;
- systematic experimentation and data building on innovative and regenerative resource use techniques;
- designing training material on the use of these techniques by drawing from the traditional knowledge base as well as using the modern science inputs;
- systematic training inputs which include both theoretical as well as practical inputs;
- pilot studies in different areas to test productivity levels and sustainability of these practices;
- the formulation of schemes around these programs once they are tested.

There is a clear focus on the nutritional needs of women and children. Ensuring a basic right to resources will ensure nutritional needs are fulfilled thereby alleviating malnutrition.

The challenge before us is to continue place the livelihood perspective at the centre. Although rights to resources is the first step in this process, it alone cannot guarantee livelihood security. Only resource enhance-

ment and capacity building can pave the way to livelihood security and sustainable prosperity.

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