



Monocultures, Monopolies, Myths and the Masculinization of Agriculture

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ABSTRACT *Vandana Shiva challenges the assumption that Third World women farmers are partners in the projects of genetic engineering of crops and patenting of seed. She argues that women must resist the attempt by the biotechnology industry and agribusiness as well as governments of the US and Canada to coopt them.*

Working in the Doon Valley

I am writing this from the beautiful Doon Valley in the Himalayas where the monsoons have arrived, and our Navdanya (Nine Seeds – our national movement on conservation of biodiversity) team is busy with transplanting over 300 rice varieties which we are conserving along with the rich diversity of other agricultural crops. Our farm does not use any chemicals or external inputs. It is a self-regenerative system which preserves biodiversity while meeting human needs and needs of farm animals. Our two bullocks are the alternative to chemical fertilizers which pollute soil and water as well as to tractors and fossil fuels which pollute the atmosphere and destabilize the climate (RFSTNRP, 1993; 1994; 1995).

One of the rice varieties we conserve and grow is *basmati*, the aromatic rice for which Dehra Dun is famous. The *basmati* rice which farmers in my valley have been growing for centuries is today being claimed as 'an instant invention of a novel rice line' by a US corporation called RiceTec (no. 5,663,454) (Shiva, 1998a). The *neem* which our mothers and grandmothers have used for centuries as a pesticide and fungicide has been patented for these uses by W. R. Grace, another US corporation (Shiva, Vijayalakshmi and Rahda, 1995). We have challenged Grace's patent with the Greens in the European Parliament in the European Patent Office.

Biopiracy not partnership

This phenomena of biopiracy through which western corporations are stealing centuries of collective knowledge and innovation carried out by Third World

women is now reaching epidemic proportions. Such 'biopiracy' is now being justified as a new 'partnership' between agribusiness and Third World women. For us, theft cannot be the basis of partnership. Partnership implies equality and mutual respect. This would imply that there is no room for biopiracy and that those who have engaged in such piracy apologize to those they have stolen from and whose intellectual and natural creativity they want to undermine through IPR monopolies. Partnership with Third World women necessitates changes in the WTO/TRIPs agreement which protects the pirates and punishes the original innovators as in the case of the US/India TRIPs dispute (Shiva, 1998b). It also requires changes in the US Patent Act which allows rampant piracy of our biodiversity related knowledge. These changes are essential to ensure that our collective knowledge and innovation is protected and women are recognized and respected as knowers and biodiversity experts (Shiva, Jafri, Bedi and Holla-Bhar, 1997).

Women farmers as seed keepers

Women farmers have been the seed keepers and seed breeders over millennia. The *basmati* is just one among 100,000 varieties of rice evolved by Indian farmers. Diversity and perenniality is our culture of the seed. In central India, which is the Vavilov centre of rice diversity, at the beginning of the agricultural season farmers gather at the village deity, offer their rice varieties and then share the seeds. This annual festival of *Akti* rejuvenates the duty of saving and sharing seed among farming communities. It establishes partnership among farmers and with the earth.

IPRs on seeds are, however, criminalizing this duty to the earth and to each other by making seed saving and seed exchange illegal. The attempt to prevent farmers from saving seed is not just being made through new IPR laws; it is also being made through the new genetic engineering technologies. Delta and Pine Land (now owned by Monsanto) and the US Department of Agriculture (USDA) have established a new partnership through a jointly held patent (No. 5723785) to seed which has been genetically engineered to ensure that it does not germinate on harvest, thus

forcing farmers to buy seed at each planting season. Termination of germination is a means for capital accumulation and market expansion. However, abundance in nature and for farmers shrinks as markets grow for Monsanto. When we sow seed, we pray, 'May this seed be exhaustless'. Monsanto and the USDA, on the other hand, are stating, 'Let this seed be terminated so that our profits and monopoly is exhaustless'.

Challenging terminator logic

There can be no partnership between the terminator logic that destroys nature's renewability and regeneration and the commitment to continuity of life held by women farmers of the Third World. The two world views do not merely clash – they are mutually exclusive. There can be no partnership between a logic of death on which Monsanto bases its expanding empire and the logic of life on which women farmers in the Third World base their partnership with the earth to provide food security to their families and communities.

There are other dimensions of the mutually exclusive interests and perspectives of women farmers of the Third World and biotechnology corporations such as Monsanto.

The most widespread application of genetic engineering in agriculture is herbicide resistance, i.e. the breeding of crops, to be resistant to herbicides. Monsanto's Round up Ready Soya and Cotton are examples of this application. When introduced to Third World farming systems, this will lead to increased use of agri-chemicals thus increasing environmental problems. It will also destroy the biodiversity that is the sustenance and livelihood base of rural women. What are weeds for Monsanto are food, fodder and medicine for Third World women.

In Indian agriculture women use 150 different species of plants for vegetables, fodder and health care. In West Bengal 124 'weed' species collected from rice fields have economic importance for farmers (Shand, 1997). In the Expana region of Veracruz, Mexico, peasants utilize about 435 wild plant and animal species of which 229 are eaten (UNDP, 1995).

Trying to preserve diversity

The spread of Round Up Ready crops would destroy this diversity and the value it provides to farmers. It would also undermine the soil conservation functions of cover crops and crop mixtures, thus leading to accelerated soil erosion. Contrary to Monsanto myths, Round Up Ready crops are a recipe for soil erosion, not a method for soil conservation.²

Instead of falsely labelling the patriarchal projects of intellectual property rights on seed and genetic engineering in agriculture which are destroying biodiversity and the small farmers of the Third World as 'partnership' with Third World women, it would be more fruitful to redirect agricultural policy towards women-centred systems which promote biodiversity based small farm agriculture.

A common myth used by Monsanto and the biotechnology industry is that without genetic engineering, the world cannot be fed. However, while biotechnology is projected as increasing food production four times, small ecological farms have productivity hundreds of times higher than large industrial farms (Shiva, 1998c).

Women farmers in the Third World are predominantly small farmers (Shiva, 1998c, 1998d). They provide the basis of food security, and they provide food security in partnership with other species. The partnership between women and biodiversity has kept the world fed through history, and will feed the world in the future. It is this partnership that needs to be preserved and promoted to ensure food security.

Agriculture based on diversity, decentralization and improving small farm productivity through ecological methods is a women-centred, nature friendly agriculture. In this women-centred agriculture, knowledge is shared, other species and plants are kin, not 'property', and sustainability is based on renewal of the earth's fertility and renewal and regeneration of biodiversity and species richness on farms to provide internal inputs. In our paradigms, there is no place for monocultures of genetically engineered crops and IPR monopolies on seeds.

Moving away from the masculinization of agriculture

Monocultures and monopolies symbolize a masculinization of agriculture. The war mentality underlying military-industrial agriculture is evident from the names given to herbicides which destroy the economic basis of the survival of the poorest women in the rural areas of the Third World. Monsanto's herbicides are called 'Round up', 'Machete', 'Lasso'. American Home Products which has merged with Monsanto calls its herbicides 'Pentagon', 'Prowl', 'Scepter', 'Squadron', 'Cadre', 'Lightening', 'Assert', 'Avenge'. This is the language of war, not sustainability. Sustainability is based on peace with the earth.

The violence intrinsic to methods and metaphors used by the global agribusiness and biotechnology corporations is a violence against nature's biodiversity and women's expertise and productivity. The violence intrinsic to destruction of diversity through monocultures and the destruction of the freedom to save and exchange seeds through IPR monopolies is inconsistent with women's diverse non-violent ways of knowing nature and providing food security. This diversity of knowledge systems and production systems is the way forward for ensuring that Third World women continue to play a central role as knowers, producers and providers of food (Shiva, 1991).

Genetic Engineering and IPRs will rob Third World women and their creativity, innovation and decision-making power in agriculture. In place of women deciding what is grown in fields and served in kitchens, agriculture based on globalization, genetic engineering and corporate monopolies on seeds will establish a food system and worldview in which men controlling global corporations control what is grown in our fields and what we eat. Corporate men investing financial capital in theft and biopiracy will present themselves as creators and owners of life.

We do not want a partnership in this violent usurpation of the creativity of creation and Third World women by global biotechnology corporations who call themselves the 'Life Sciences Industry' even while they push millions of species and millions of small farmers to extinction.

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Notes

- 1 This article is based on a paper prepared for a panel on 'Women's Knowledge, Biotechnology and International Trade – Fostering A New Dialogue into the Next Millennium' at an International Conference on Women and Agriculture organized by the Government of Canada held in Washington from 28 June–2 July 1998.
- 2 Speech delivered by Hendrik Verfaillie, President, Monsanto, at the Forum on Nature and Human Society, National Academy of Sciences, Washington, DC, 30 October 1997.

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