

ABSTRACT

BIOTECH INNOVATIONS IMPACTING FAMILY FOOD SYSTEMS IN RURAL AREAS

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There is little recognition of the fact that biotechnology innovations in food can have a negative impact on the way women are able to handle the food and nutrition needs of their families, specially on small farms in developing countries. Even though Article 26 of the Biosafety Protocol admits consideration of socio-economic concerns related to genetically engineered organisms, the scope is greatly restricted and is limited to effects on biodiversity. It is for developing countries to be proactive in developing the contours of more liberal socio economic risk assessment parameters and negotiate for their inclusion in the Protocol. A number of socio economic aspects are likely to emerge from the introduction of GM crops in developing countries. These may impact particularly on the food systems controlled by women.

The most popular and widespread Agbiotech innovation is the development of herbicide tolerant crops. These are designed to destroy all vegetation except the HT crop itself, so that weeding can be done by chemicals rather than manually. The GM industry claims HT crops will reduce the 'drudgery' of women who have to do manual weeding. This claim has little to do with rural reality in most parts of the developing world. The herbicide tolerance trait is essentially a labour saving and hence a labour displacing trait . It will hit at the livelihoods of agricultural labour, which comprise the largest section of the labour force in developing countries. Farm operations like sowing, weeding, harvesting and winnowing are key sources of rural employment. Weeding for instance is an assured avenue for earning casual wages in rural areas, especially for women. Sometimes it is their only source of income.

The social and economic definition of 'weeds' is different in industrial nations and developing countries.. Weeds are considered a nuisance in the monoculture agricultural systems of industrial nations, in the case of developing countries, apart from the main crop, the surrounding flora has several useful functions related to food, nutrition and health care.

Plants that are considered weeds and that are collected during weeding are nutritious leafy greens that are a valued source of nutrition in the family's diet. A typical rice or wheat field in India or Bangladesh could yield at least thirty to forty types of leafy greens over the cropping season. These greens provide nutrition in a fresh and easily available form, at no cost to poor rural families.

The plants/ weeds that are not consumed by the family, serve as fodder for the livestock that rural families maintain as additional income sources. This is critical in the case of

large livestock- fodder starved countries like India or Bangladesh. If rural families had to buy all the fodder that was needed to maintain their cows, goats or pigs, many would not be able to afford keeping animals and would have to forego the extra income.

In addition to this, using herbicide tolerant crops would make it impossible to plant crops on the field bunds, as is done in many parts of Asia both for additional food and for increasing farm incomes. Typically, farmers grow crops like yams, ginger or vegetables on the bunds surrounding rice fields. Thus two or three kinds of produce are available from the field in the same season, increasing and diversifying the food basket of the family.

The practice of intercropping and mixed farming would also suffer a setback if the HT trait were introduced.. Traditionally farmers plant more than one crop in the field. Sugar cane for instance is interspersed with lentils or mustard; farmers plant mustard along with wheat, or linseed together with lentils.

So called weeds are also the medicinal plants that rural communities depend on for the health and veterinary care needs of their families and their animals. The introduction of herbicide tolerant crops with accompanying herbicide use would kill the surrounding vegetation and deprive rural communities of the medicinal plants which form the basis of indigenous healing traditions.

The socio-economic impacts of the HT trait are extremely negative in developing country situations, where their introduction will lead to loss of sources food and nutrition, loss of additional income sources from livestock and loss of assured healing options based on the indigenous systems of healing.