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Biotechnology, Biodiversity and Intellectual Property Rights

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I. INTRODUCTION

Biodiversity refers to the variety and variability among living organisms and the ecosystem complexes in which they occur. It includes diversity of forms right from the molecular unit to the individual organism, and then on to the population, community, ecosystem, landscape and biospheric levels. In the last thirty years, all over the world, there has been a revolution in the field of Biotechnology-new discoveries and the inventions in the area of isolation and manipulation of genes, better understanding of biological molecules and the advent of recombinant DNA technique. Biotechnologists all over the world have made efforts to create transgenic crops which will withstand the pests as also have enough resistance to withstand environmental stress. In fact, Biotechnology is inherently knowledge-intensive and having strong infrastructure would lead to value area of agriculture, animal husbandry, fisheries, forestry and medicine.

Biotechnology is not a miracle solution to the problem of biodiversity crisis. Rather, the use of biotechnology in the production of uniformity in plants and animals has threatened not only the life forms but also rendered entire community or ecosystem unstable. Further indiscriminate and unregulated uses of genetically modified organisms pose a threat to mankind. In fact, uniformity in life forms accelerates the loss of biodiversity. The institutional structure that controls the biotechnology, therefore, should not overshadow those institutions that deal with conservation of biodiversity, and on no account ignore the rights and privileges of the local communities.

II. PRODUCTIVITY AND DIVERSITY:

Productivity goes against diversity as it creates imperative for uniformity and homogenization. This has generated the paradoxical situation in which modern land improvement is based on the logic of uniformity and homogenization. Green revolution, for instance is based on high productivity and low biodiversity. There is no need to combine high productivity and high genetic diversity to enhance yield as well as to provide insulation against environmental stress and pollutants. Over the last few decades lakhs of traditional crop strains and hundreds of domesticated livestock breeds have been replaced by a handful of laboratory-generated hybrids or dominant cash crops. Similarly forestry schemes introduced monocultures of commercial species like teak, eucalyptus and bamboo, and pushed into extinction the diversity of local species. Agriculture modernization, fisheries, commercial forestry and animal husbandry thus produce uniform crops and domesticated livestock and destroy the diversity of local species which fulfill local needs. Such a strategy of productivity increase based on the logic of destruction of biodiversity is no longer desirable as it will ultimately lead to loss of biodiversity. Monocultures are ecologically unstable. Being genetically uniform, they invite diseases and pests; also vulnerable to environmental stress and pollutants. The technology for breeding high yielding varieties, indeed, a technology which breeds uniformity and at the same time threatens the biodiversity conservation and sustainability. If production continues to be based on the logic of uniformity and homogenization, it will continue to displace diversity leading eventually to biodiversity erosion.

III. BIODIVERSITY –MEANS OF PRODUCTION OR PRODUCT

For peasants and forest-dwellers, biodiversity has been the source of sustenance for basic needs such as food, fibre, fodder, fuel, timber, shelter and medicine. The tribal and the farmers reproduce the necessary part of their means of livelihood by planting crop each year. The seed thus represents the capital with a simple biological barrier and would reproduce and multiply under suitable environmental conditions. New technologies by removing biological barrier transformed the means of production and product into mere ‘raw material’. The cycle of regeneration of biodiversity is thus replaced by a linear flow of free germplasm from farms and forests into corporate labs and research stations, and the flow of modified uniform products as priced commodities from corporations to farms and forests.

Through technological innovations, biodiversity is transformed from a renewable into nonrenewable resource. It does not produce itself; it needs the help of inputs to produce. It is his shift from the biological processes of reproduction to the technological processes of production that underlies the problem of dispossession of farmers and tribals and the problem of erosion of biodiversity. The manufacture of the product in corporate labs is regarded as production. The reproduction of the raw material by nature and Third World Farmers and forest dwellers is mere conservation. Biotechnology development thus leads to biodiversity erosion by way of converting the means of production or product into mere 'raw material'

IV. POLITICS OF PATENTS AND INTELLECTUAL PROPERTY RIGHTS

Biotechnological processes use life forms or derivatives thereof, to make or modify products or processes for specific use. Under Intellectual Property Rights (IPRs), transformed microorganisms, plants and animals can be patented and become exclusive private property. The North has always used Third World Germplasm as a freely available resource and modified it. The issue of patent protection for modified life forms raises a number of unresolved political questions about the ownership and control of the genetic resource. By simply manipulating the life forms one does not acquires the patent or property right, because the modified life forms do not arise from nothing but from existing life-forms which belonging to others. Also, biotechnology does not create new genes, but merely relocates genes already existing in the organism. The advanced capitalist nations wish to retain free access to the developing world's storehouse of genetic diversity, while the south like to have the proprietory varieties of the North's industry declared a similarly public good. The North, however resists this democracy. US has freely taken the biological diversity of Third World to earn millions of dollars of profits, none of which have been shared with Third World Countries, the original owners of the biological resource. For Instance, an American Industry earned $8million a year in 1962 simply by increasing the soluble solid contents of a wild tomato variety, *Lycopersicum chomrelewskii* taken from Peru. None of these profits or benefits was shared with Peru, the original contributor of the genetic material. The Convention on Biological Diversity is also not clear on this score. Industrialised countries, particularly the US interpreted key clauses of the treaty in a manner that would protect the interest of its own biotechnology industries. This is a clear set back to the developing countries, who stand to lose the benefits due to them.

In absence of a proper biotech base, a developing country cannot match an industrial country although the former may be far richer in biodiversity. However, the Convention on Biodiversity, helped to place the subject matter of technology transfer and IPRs on the top of the agenda of policy and decision makers. Furthermore, access to genetic resources and transfer of technology is treated on the same plan.

On the issue of IPRs, the basic requirement of the Dunkel proposals is that inventions in all branches of technology shall be patentable, whether products or processes, if they meet the three tests of being new, involving innovative steps and being capable of industrial applications. It has also been provided that microorganisms will be patentable. In respect of plant varieties there is a separate obligation to provide them protection by patents or by an effective *sui-generis* protection implies a system different from other categories of intellectual property protection and is a class by itself. Dunkel text, thus does not compel to patent seeds (i.e. plant varieties). So far we are concerned, seeds are also not patentable in India today, and we do not have any intension of changing this system. However, we will adopt our own system for the protection of plant varieties under which we may provide certificates for plant breeder's right. The farmer's rights include their using the seeds for their own needs or for exchange in the village community according to their traditional custom. Since farmer's right will be fully safeguarded under system of protecting the plant breeders' right, there is no truth in the allegation that the farmers will not be able to retain the seeds for their own use and that they will have to buy seeds every year from multinational companies. Furthermore, India is not in favor of the patenting naturally occurring life forms/germplasm.

The extension of IPRs to plant varieties either in the form of patens or in the form of plant breeder's Rights is bound to result in increased in prices of seeds, greater domination of agriculture by multinational companies and slower diffusion of new varieties. These would be in sharp contrast to the experience of the Green Revolution where the new varieties of seeds evolved by the government institutions percolated down to the fields in a short span of time with very little cost to the individual farmer. Our farmers will have to face great hardship due to the new regime. India calls for the removal of distortions in the IPRs regimes in areas related to prior existence of knowledge in nutrition

The South had not merely preserved much of its precious biogenetic resources, but also the knowledge and practices about their optimum and sustainable utilization. Access to these resources have to be regulated and careful exercise, in keeping with the objectives of the convention and with due

compensation to such people who have preserved their resources.

How to recognize and measure the value of indigenous knowledge is one of the basic problems in deciding the compensation and for protection of farmers' IPRs. As a result of the persistent North-South split, the CSD could able to move forward on this contentious issue. However, the decision of the CSD to include in their medium-term program, the knowledge, innovations and practices of indigenous and local communities is an important step in the direction of the protection of traditional knowledge and practices of the indigenous and local communities relevant to conservation and sustainable use of biological diversity.

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