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**Bio-diveristy, Bio-technology and Genetically Modified Organisms'
Labeling Issues**

Draft Discussion Paper

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Introduction

Bio-diversity does not refer merely to the original bank of diverse genes, but also refers to the body of knowledge generated through the usage of (rare) plants and animals by the local communities. Bio-diversity has in the recent past become an important ingredient for bio-technology which has important implications for several forms of economic activity. The preservation of global bio-diversity is not merely required for preserving the genetic resources which have widespread industrial applications, particularly in the developed world, but it is also required to preserve the global ecological balance. Thus bio-diversity, most of which is to be found in the third world, has an economic as well as an environmental value.

The diverse uses of bio-diversity are to be found mainly in the pharmaceutical industry, in agriculture, food processing and in animal husbandry. While the bio-technologies which are developed with the genetic resources of the third world are covered by strict patent laws, bio-diversity and the knowledge associated with it are not protected by laws which will price this valuable resource in accordance with its opportunity cost. The impact of the development of bio-technology developed with the genetic resources of the third world will be particularly detrimental to several items of exports from the third world, and to its food security needs. For instance, the pharmaceutical industry in a number of third world countries is just coming of age, but the new bio-technology revolution may out-compete the cheaper chemically based pharmaceuticals exported from developing countries. Furthermore crops such as cocoa, medicinal and flavour/fragrance (e.g vanilla) crops are particularly at risk from the onslaught of bio-technical substitutes. Although bio-technology is being applied in only a limited way in the multi-million dollar beverage industry, confectionary, sugar, and vegetable oils, all of these applications could make the major third world exports non-competitive. However during the late 1990's a number of food crops are now produced by bio-technologies. To redress this patenting imbalance between bio-technology and bio-diversity, it is necessary to make bio-diversity itself a marketable item. Alternatively, the third world countries should be able to benefit from the gains of bio-technology, particularly if it will help alleviate hunger and poverty, in exchange for their access to third world bio-diversity.

As of today, bio-technology is not subject to any form of regulatory action. It is speculated that it may have caused untold damage to the environment. For instance, it is likely that in the constitution of genetically modified organisms (GMOs) a number of new kinds of permutations of genes which can pose grave environmental threats will be released in the atmosphere. In several cases, it is speculated that GMOs can cause irreversible environmental damage. Hence the need for the international monitoring of bio-technology has arisen. This need has manifested itself in attempts to negotiate a bio-safety protocol which however has not moved forward largely because of pressure from TNCs such as the Miami group.

Ironically the EEC council directive 92/43/EEC seeks to preserve the bio-diversity in EEC by cordoning off certain areas which are rich in bio-diversity and imposing regulations which will prohibit the depletion of bio-diversity. It has however no directive for preserving global bio-diversity. If the same rules were to be applied to preserve bio-diversity in developing countries then ecological imbalances would result as was evidenced in the case of trade bans on ivory tusks. Thus sustainable usage of bio-diverse resources may actually imply that they should be traded but at prices which reflect their true scarcity value.

LABELLING OF GMOS

Governments in Asia, Australia, and the European Union are making labelling of genetically modified food compulsory in their markets. The EU decision of 21 October 1999, requires all foods with at least one ingredient containing more than one percent GM material should be labelled. This could affect a large proportion of US exports. The EU has a de facto moratorium on allowing the growing or import of GM crops and does not allow anyone to label their foods "GM free". The definition of GM free will be subject of a separate plan being drawn by EU. Japan has adopted a slightly different approach. Its regulations take account of the fact that most GM crops and traditional varieties are not segregated in distribution systems inside and outside the country. Thus they plan to introduce labels which segregate products either as "GM based" or "GMO's non segregated". Manufacturers not using GM ingredients can label food as "GM free" on a voluntary basis. A five percent contamination ratio of GM material is however allowed for GM foods.

It is to be noted that a number of products such as vegetable oil, soy sauce and corn flakes will be exempt from the legislation especially in Japan. In Australia and New Zealand while worries about how much it will cost the industry remain, there is a commitment to mandatory labelling of GM food. GM controversy is also surfacing in the USA, where NGOs have forced the US food and drug administration to announce public hearings on the feasibility of labelling GM food.

The government of the US has argued in the past that labelling of GM food is unnecessary because there is essentially no difference between bio-tech and conventional varieties. It has also been claimed that separating the two was economically and logistically impossible. It is to be noted that the same arguments have been raised by developing countries in the context of voluntary eco-labelling of textiles but found little sympathy in the markets of United States. Similarly in the context of labelling of GMs, insistence by Japanese beer makers, European baby food manufacturers and British grocery retailers to ban GM ingredients has alarmed US administration and farmers. US agribusiness firm Archer Daniel Midlands has already asked farmers to segregate their maize and soy beans to respond to consumer concern and demand for non-GM crops.

There is a clear conflict between the interests of manufacturers and those of the consumers and this is one instance where consumer concerns with regard to labelling would have serious trade effects. As far as protecting consumer interests in developing countries are concerned labelling, even mandatory labelling, may not solve the problem. This is because a large number of consumers are illiterate and do not necessarily read labels. Also eco-labelling programs have been dismal failures in developing countries as markets do not respond to environmental qualities. Hence labelling will have to be accompanied by active consumer campaigns and even outright import bans if it is considered to be an important health hazard. For example, while India has legislated strict quarantine regulations on import of GM material including cereals, animal feed which contains GM feed may nevertheless be imported. Clear regulations such as those in the EU should be legislated in developing countries.

WTO implications

One interesting aspect of this issue is the question of WTO compatibility of labeling of GMOs. US has extensive trade in bio-technological products, whereas consumer preference in both EC and several Asian countries points to a distinct advantage for non-GMO products. In fact India was approached recently by Thailand to provide non-GMO animal feed. US contends that WTO agreements are aimed at reducing trade restrictions in agricultural products and ensuring that all measures are transparent and do not create unnecessary obstacles to trade. Trade liberalization should ensure that producers have fair competition in the marketplace and consumers are ensured of

transparent mechanisms and protection against identified health hazards. Labeling of GMOs according to them may not meet these objectives. EU on the other hand contends that recent case law shows that non-discriminatory trade measures used to achieve the level of safety desired by the importing country is fully consistent with WTO agreements. The US view on GMOs is completely contrary to its earlier stand on npr PPMs though several people contend that GMOs may actually be using product related PPMs which would allow importers to discriminate between GMOs and other like products.

Two aspects of GMO labelling need to be examined in discussing its WTO compatibility:

1) The issue of non-product related PPMs. As far as GMOs are concerned there is considerable controversy as to whether they use npr PPMs. While US contends that the method of production has no effect on the final characteristics of the product. However the physical characteristics of the product differs between GM and non-GM foods.

2) The issue of like products. Again here GM products cannot be treated as like to non- GM products because a) consumers tastes and habits are different b) the products' physical characteristics are different and c) the products, properties, nature and qualities are different.

Thus labelling, even mandatory labelling of GM foods cannot be considered incompatible with WTO rules. However, there is no established definition of like products concept in the GATT. The determination of whether any particular imported product is "like" a domestic product is made on a case by case basis when a dispute arises. GATT panels have consistently followed the reasoning of the Working Party Report on Border Tax Adjustments which states:

"With regard to the interpretation of the term 'like or similar products', which occurs some sixteen times throughout the General Agreement, it was recalled that considerable discussion had taken place in the past, both in GATT and in other bodies, but that no further improvement of the term had been achieved. The Working Party concluded that problems arising from the interpretation of the term should be examined on a case-by-case basis. This would allow a fair assessment in each case of the different elements that constitute a "similar" product. Some criteria were suggested for determining, on a case-by-case basis, whether a product is "similar": the product's end-uses in a given market; consumers' tastes and habits, which change from country to country; the product's properties, nature and quality..."¹

Import bans on gmo products and other initiatives

This should be confirmed at a more general level, through the use of the precautionary principle in order to respond to consumers demand. EU also links the provision of quality food with geographical indicators where reputation for quality is based on the geographical origin and should be thus labeled.

Another incentive to preserve bio-diversity can come from the regulations concerning biotechnology. The OECD national guidelines with respect to large-scale industrial applications and introductions of genetically modified organisms into agriculture and the environment seeks not merely to regulate the processes but contains notification requirements for the original seeds as well. This may imply that the original strains which are imported from developing countries will have to be notified to the regulatory authorities and may thus serve as a checklist of the forms of bio-diversity

¹ Working Party Report on Border Tax Adjustments, adopted 2 December 1970, L/3464, BISD 18S/97, 102, para. 18.

that are being exported. e.g the Seeds Act administered by Agriculture Canada ensures that imported, domestic and exported seed is safe, pure, efficacious and accurately represented to maintain identity and avoid fraud. Other countries also have similar legislations.