Potential Impact of GURTs on Smallholder Farmers, Indigenous & Local Communities and Farmers Rights

The Benefits of GURTs

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Genetic Use Restriction Technologies (GURTs) were first made public in 1998. It is thought that several companies and possibly institutions are conducting research on GURTs. However, to this date, no GURTs have been approved for release and commercialization. Research on some GURT systems has progressed to a point at which the concept has been proven in test species in the laboratory and greenhouse but no plants containing GURTs, in any crop species, have been released for field testing. Since the introduction of the concept, there has been controversy over the technology, even though it is not out of the lab yet.

There has been a great deal of conjecture about the potential negative effects of GURTs on small farmers and indigenous communities. However, there is very little supporting data or evidence for many of the statements made condemning GURTs and their purported negative effects. The International Seed Federation (ISF) believes that GURTs have the potential to benefit farmers and others in all size, economic and geographical areas. Therefore, ISF encourages an objective and balanced approach to the consideration of the possible effects these technologies will have on farmers in various parts of the world and in a wide array of economic circumstances. In reality, the potential effects of the GURTs may be beneficial to small farmers and quite positive for the environment and biodiversity.

Some groups consider intellectual property protection (IPP) to be a negative attribute of GURTs. It is true that one purpose of utilizing GURTs is IPP. However, IPP is not bad for farmers anywhere in the world. Because of IPP, there is an incentive to conduct breeding research in crop species and geographies which have received little or no research attention in the past, because there was no economic incentive to conduct costly research with no prospect of economic return. Increased breeding research and the subsequent production of new, improved varieties to benefit growers is obviously an advantage to the farmers to which these varieties become available.

Farmers, even small, poor farmers at a subsistence level can, with new, highly productive varieties, afford to buy seed, if their production is increased substantially enough to have surplus product to market, giving them an income from their production. Some of these improved GURT varieties may even carry some transgenes.

It is important to appreciate what is already understood by people involved in the agricultural supply industry, which includes seed producers. This is that if a supplier to the farmer charges too much for its product (seed), the farmer will simply choose not to buy the product. Without customers, individual seed companies are out of business. More importantly, without IPP the seed industry as it exists today would not exist. Neither would the advancement in seed genetics and productivity.

Contrary to the view of some that the use of GURTs will result in a reduction of competitor seed companies in a geographic area, depriving the local farmers of choice, it is the view of many others in the agricultural community that employment of GURTs will result in increased choices to farmers. The possibility of a return on research investment will result in an increase in competition among companies, with more companies entering a market area and an increase in production of new improved varieties. This would obviously be beneficial to farmers. Prices should remain competitive and support a steady flow of new and improved varieties every year, to provide the farmers with more choices than in the past.

Based on the experience with previous technologies one should expect that GURTs will be available to many seed companies, both small and large, and competition for the farmers' business, at reasonable prices, will increase with the introduction of GURTs. Through licensing and other methods, other technologies have been made readily available to many seed companies. The technologies have not been restricted to few. There are no reasons to expect that the situation will be different when GURTs are introduced.

With GURTs, farmers' choices should also be increased. Because of intellectual property protection, more varieties will be introduced into markets earlier. However, it is unlikely that seed companies would recommend, nor would farmers likely adopt their varieties for all their production acreage, especially when first introduced. This approach would prevent any possible security of seed supply problems that some cite as a reason for not growing GURT varieties. The loss of alternate seed sources that would leave the farmers with no seed of adapted varieties to plant would not be expected to be a problem.

Both large and small farmers and subsistence and production farmers should always have choice in selecting varieties. They should, in fact, have more choices with increased competition. It is also important to note that, in many cases in the world, GURTs and other IPP would not restrict access to improved varieties but, would give access to new germplasm not available in the past, because companies can introduce new varieties with known IPP and, in addition, will have the incentive to breed new varieties.

It should be further noted that because the owner of an intellectual property protected variety makes income off of the sale of the seed of that variety, this does not mean that others, including farmers, do not benefit. Seed companies can only market seed and make a profit by selling seed at a realistically reasonable price and farmers can also reap benefits from buying seed of those advanced and productive varieties. Benefits to the farmers would include such varietal attributes as higher yields, new or improved input traits such as effective pest resistance and traits which reduce production costs. Benefits to both the farmers and seed companies selling seed to those farmers are not mutually exclusive. It is the strong belief and position of the ISF that GURTs would potentially provide more choice, to the farmers, rather than less choice.

An example of advancing productivity is the introduction of hybrid rice seed in Bangladesh in 1999. In many cases, farmers are producing over 30% higher yields than with local varieties previously grown. The farmers can afford and are willing to pay for new hybrid seed each year and for fertilizer which aided in reaching the genetic potential for higher yields, because of the higher production and subsequent increased profit from the sale of their crops. They were more than willing to do this but, were discouraged, by NGO's, from putting themselves in the position of purchasing seed every year.[1] Policy objectives should be to increase farmers' income and welfare, not to relegating the farmers to past practices which limit his potential and restrict them to conditions of the past. Not having to purchase seed is not a rewarding goal for farmers. This is an unfortunate case of farmers being asked to restrict their choices, at the expense of the farmers own economic well being. Farmers' welfare will be improved when the farmers are allowed to make the choices based on economics, not on non-farmers' beliefs about whether farmers should save seed for replanting.

There is no evidence that introduction of GURTs will reduce biodiversity. Contrarily, it can be argued that the introduction of GURTs will increase crop varietal choice and new product introduction would increase significantly. Increased competition among seed companies and the willingness to introduce varieties should result in many new and diverse varieties for local farmers in a region, resulting in more diversity than in the past.

Positive environmental impact is another probable positive result of the introduction of GURTs. It is believed that in the improbable event of transgenes in GURT crop plants escaping, through pollen, to related wild species, the resulting seed from these pollinations will not express the new trait or will be unable to form a viable seed, thus preventing the possibility of undesirable gene flow. The utilization of GURTs could also prevent the expression of the

new trait in volunteer seeds or even the sprouting of volunteer seed of varieties carrying transgenes, thus preventing the spread of these transgenic plants as “weeds” in subsequent crops.

Policies and reports relating to policy on GURTs should be guided by unbiased analyses and should reflect both expected benefits and possible concerns and risks associated with these new technologies. Too often the case has been that arguments made against the adoption and use of GURTs in crop plants are speculative on the environmental, economic and social effects expected from the introduction of GURTs. Only after GURTs have been fully developed and evaluated under regulated field tests, should conclusions and policy decisions be made concerning their benefits and risks. Decisions based upon speculation and/or emotion will result in sound policy only by accident.

In summary, GURTs are technologies that exist only in the lab at this time. GURTs are technologies with potentially large economic, environmental and social benefits. While this type of technology has created controversy about risks, as claimed by some groups, policy decisions should be based on objective data and analysis, not on speculation. To do so could result in a loss of a type of technology with large potential benefits to farmers of all sizes and economic conditions throughout the world, as well as for biodiversity and the environment.

[1] BBC News, June 1, 1999