

## *Morals, Ethics, and Policies: Intellectual Property Rights and Agri-Biotech<sup>1</sup>*


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The question of ownership over life is the most obvious and important issue.

However, there are many other issues, such as the need to ensure that there are adequate safeguards for the environment and people in the use of biotechnology, prior informed consent of the custodians of genetic resources such as the local farmers, and how to ensure that there is equity in the use of technology. The complex legal, social, and economic ramifications of biotechnology need attention if the benefits of this technology are to be equitable and the technology is to fully contribute to sustainable development.

To date, much of the debate about the role of Intellectual Property Rights (IPRs) in agricultural biotech and development has been negative. Four common concerns frequently raised by developing countries are:

- The extensive appropriation by corporations in developed countries of IPRs in genes and plant varieties, as well as in



enabling technologies, raises the concern of developing countries that their research in plant genetic resources will be stultified. It has been estimated that only 6% of the biotechnological patents granted between 1990 and 1995 were obtained in developing countries. A consequence of this is that such research will be concentrated in the hands of a few multinational industrial seed suppliers.

- A number of notorious instances in which IPRs have been obtained by applicants from the North, in relation to genetic resources obtained from the South, have raised concerns that the international IP regime is being maintained in a way which encourages the so-called “biopiracy”, instead of benefit sharing.
- The tendency of patent offices in developed countries to grant broad scope patents, over both

processes and species also has the effect of annexing for enterprises in those countries, large areas of potential biotechnological invention, to the disadvantage of developing countries.

- Similarly, the seeking of IPRs over material acquired from germplasm collections maintained by the Consultative Group on International Agricultural Research (CGIAR) in trust for the international community has also called into question the integrity of the international IP system.

These key issues have emerged on the international agenda. The World Trade Organization's Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPs) requires most developing countries to develop an IPR regime. The ongoing globalization of the patent system under the Patent Cooperation Treaty (PCT) is further speeding this development. The role of agricultural biotechnology is one of the key elements that are affecting the shape and boundaries of that regime IPRs.

### Policy Challenges

- Capacity building has a key role in unlocking potential and managing the risks associated with the technology.

Biotechnology, in its development and application, is a

knowledge-intensive technology. As such, capacity building has a key role in unlocking potential and managing the risks associated with the technology.

Basic developmental experience and theory suggest that making the most of the opportunities that biotechnology promises will, first and foremost, require sustained commitment by developing countries to developing the right type of capacities. Developing countries such as Argentina, Brazil, China, and Cuba, have well-developed biotechnology programs, with a wide range of initiatives.

- Existing models of IPRs need to be adapted to the particular needs of the developing countries and the MDGs if they are to support sustainable agricultural development.
- The myriad of questions on bioethics and the limits of the IPR regime need to be meticulously dealt with.

Genomics has reconfigured scientific understanding and assumptions regarding relationship between species. For example, we have much more in common genetically with other species than previously thought. It is now known that the humans and chimpanzees share 99.4% and 98.4% of their genes. The

consequences of this relatedness extend far beyond taxonomic classification.

Indeed it has very real consequences for the existing IPR system. As a result, patent offices are issuing biotech patents that are far broader than previously thought. For example, in 1998 a patent was issued for "Primate Embryonic Stem Cells" based on research with rhesus monkeys and the common marmoset.

With the new understanding about genomics, it is possible that these patents also cover human embryonic stem cells. This extension of IPRs obviously raises profound ethical issues that need urgent attention. The existence of overlapping patents over shared DNA may generate significant negative chilling effects on future scientific research and innovation.

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