INTRODUCTION TO THE CHALLENGE OF ACCESS AND BENEFIT SHARING

For decades, there has been an ongoing and intense debate about the appropriateness of patents for living matter. This debate was greatly intensified in the late 1990s with the convergence of three developments. First, advances in science led to a rapid increase in the number of biotechnology patents in the late 1990s, particularly in the field of genetics. Second, the international community negotiated in 1995 a new international regime for intellectual property protection through the World Trade Organization’s Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement). Third, international debate about ownership, control, access and benefits sharing related to global plant genetic resources heated up through a variety of negotiating venues under the auspices of the Convention on Biological Diversity (CBD). These three developments at times supported and at other times challenged the international innovation agenda that is increasingly focused on knowledge-based economic growth.

The expansion of private rights to intellectual property, particularly for inventions related to composition of living matter and genetic isolates, is viewed as the foundation of knowledge-based economic growth. This has generated significant public debate. The dominant agenda generally operates on the assumption that patents are essential to the identification of research targets, the mobilization of public and private resources, the oversight of new technologies and products and the active adaptation, adoption and use of new end-products. Those supporting this extension argue that, in a period of knowledge-based growth, private investors need to have the incentive for and assurances of monopoly access to and use of their inventions. Many of these supporters firmly believe that private initiative is the only way to generate the optimal amount of investment in Research and Development (R&D) and that any resulting inequities should be handled outside the formal Intellectual Property (IP) system. Arrays of opponents challenge this expansion of private rights, arguing either that the range and scope of rights may be excessive or, in some cases, inappropriate.

This issue is important for everyone involved in agri-food research and general development policy. The debate and related conflicts about access and benefits sharing do not align exclusively along a North–South axis. While many of the higher profile conflicts relate to germplasm drawn from indigenous communities in “southern” developed countries, there is rising interest and concern about how indigenous communities in Canada, the US, Australia and many other developed countries will be able to control access and share benefits related to use of...
their traditional knowledge and genetic resources. Similarly, virtually all agri-food research programs in all nations depend heavily on germplasm from others—no country is self-sufficient in any major crop. Hence, how the debate unfolds and how rights are sustained or realigned will have an influence around the world.

The chapters in this book offer a range of frameworks for analyzing the issues and assumptions that underlie the varying perspectives on the appropriate use of patents on higher life forms. Aside from the moral concerns associated with “life patents”, an area we discuss but expect is not amenable to consensus, we ask a variety of questions that should provide a basis for consensus building in this contentious policy area. Specifically, is there really any profound social or economic problem with patents on higher life forms? That is, do gene patents create more problems than benefits? If so, what is the nature and scope of the problems? Are these problems likely to be enduring, such that reform to the patent system is needed? Or are the problems related to the relative novelty of patents in this area? Can changes be made that will make matters better? And, given that much of the debate is about access to and sharing the benefits of traditional, contemporary and anticipated improvements in living organisms, we also must ask whether we need to substantively address access and benefits sharing and, if so, should that be a common responsibility?

THE ECONOMICS OF PATENTS

Property rights are a social construct that confers exclusive rights to a specific individual to use a specific asset. The intellectual property rights regime, in particular, provides inventors and their assignees with exclusive rights to their inventions as an incentive to private investment to undertake R&D and to commercialize new technologies or products. The agri-food industry has recently been a testing ground for the extension and management of new property rights. In particular, this extension of the legal rights of inventors has thereby extended the modern, market concept of invention to many countries where collective and traditional practices either undervalue or spurn individual enterprise and ingenuity, generating a significant debate about access and benefits sharing.

The root of the problem is the nature of invention and innovation. A variety of economists through the years (e.g. Plant 1934; Schumpeter 1954; Wright 1983) have noted that perfect markets with free flow of information can be inimical to private investment in research. When the inventive step behind new products or processes can be codified into disembodied recipes or instructions (often called intellectual property), the knowledge often can be relatively easily disseminated to others skilled in the art. It is often impossible for inventors by themselves to exclude others from using the new ideas. This is the root of the economic problem. If a firm were to invest to create an invention under these conditions, any resulting benefits or profits would be bid away by imitators who would adopt or emulate the new invention, without compensating the firm or inventor for the sunk, fixed investments they made in the process of invention. This would make it impossible for innovators