

Biopiracy: The Plunder of Nature and Knowledge

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The greatest pirates of all time had style and panache. They were flamboyant, had loyal crews, and had a purpose. While most enjoyed their fame for a short time during the sixteenth and seventeenth centuries, the stories of their exploits have endured through today. A common thread amongst most pirates was that their victims were wealthy aristocrats traveling or sending their wealth across the seas, or were merchants transporting good. Rarely did pirates inflict their plunder upon the poor. Some have argued that Columbus' "discovery" of the "new world" was one of the greatest piracy acts of the last five-hundred years.

Environmental activist and anti-globalization author, Vandana Shiva exposes modern day corporate piracy while exploring how the North (West) takes advantage of the Third World (South) by patenting natural and biological resources in the book; *Biopiracy: The Plunder of Nature and Knowledge* (1997). Dr. Shiva is a champion for applying traditional practices to ecology and for fighting for the rights of the ordinary people of India. Prior to becoming an activist, she was one of India's leading physicists. In 1993, she became the recipient of The Right Livelihood Award for placing women and ecology at the heart of modern development discourse (UexKull, 1993).

Piracy on the intellectual level leads to environmental paucity and social conflict, predominantly in developing countries. It is with this perspective that Shiva helps those concerned understand the intricacies of life forms and their

intended rights. It is her contention that modern corporations have elevated themselves to the position of a creator of life rather than a servant of life.

Shiva's book on biopiracy is a primer into understanding issues of rights of communities and ecosystems, genetic engineering, trade policies, and intellectual property rights. These issues affect the political, cultural, social, economic, ecological, and biological aspect of people's lives around the world. While Shiva's viewpoint is that of a native of India and her focus is protecting her native soil, the implications of the issues she discusses are universally applicable.

Rights, ownership of nature and knowledge, and the exploitation of genetic resources are primary themes in this book. Shiva explains how some scientists, employed by corporations, now view nature as a source of raw materials instead of having integrity of its own. The General Agreement on Tariffs and Trade (GATT) supports this view. It was at the 1986 Uruguay Round where agriculture became exempt from certain rules and the rights of intellectual property holders expanded greatly. Treaties within GATT define rights of ownership as intellectual property. While in most situations application of intellectual property rights is to an invention, an idea, concept, or discovery by an individual GATT defined the rights of ownership as intellectual property rights (IRPs) and extended those rights to corporations as well. This expansion threw ownership rights back half a millennium to Columbus' time where his

“discovery” was the treatment of piracy as a natural right of the colonizer (Shiva, 1993, P 5). Shiva refers to GATT extensively in the book however in 1995, GATT became the World Trade Organization (Lamy, 2013)

The insult to citizens regarding IPRs stems from the definitions created under GATT. For example, a corporation whose scientist genetically alters a plant can now claim ownership to not only the research but also all future derivatives of that plant. Shiva takes issue with Monsanto and how its genetically engineered seeds and their rental agreements prevent many Indian farmers from using the next generation of seeds without paying the corporation additional fees (Moyers, 2012). This is one of the serious effects of granting IPRs to common items necessary for communities. GATT goes further in its treaties by stating that for consideration of IPR the innovation has to be capable of industrial application ( P. 10). It is with this arrogance of requiring an innovation to have an industrial application that Shiva questions whether new research, knowledge and learning may some day become extinct. If researchers seek to develop new inventions purely for economic benefit then the entire system of research becomes corrupt.

Shiva’s core quest is to find ways for people of underdeveloped nations to farm freely and feed themselves without the burden of fees to corporations. Unfortunately, the developments of pesticides and genetically modified organisms have made agriculture dependent upon synthetic plants that have replaced natural

ones. As a result, regional plants are lost as is their ability to be resistant to local pests and climates. While genetically modified plants promised improved crops, the opposite occurred. Farmers had fields that could not produce, yet the seeds purchased were useless and now due to IP contracts and treaties they were unable to plant a different seed. Shiva discusses how ecosystems are self-organizing and have the ability to mend themselves when left to survive in their own environment. Yet when farmers introduce genetically engineered forms of life into the ecosystems in many instances those systems are unable to survive. In rare instances, they may regain natural balance, but it is highly unlikely. As a result, people in third world countries are unable to feed themselves. This again perpetuates the disparity between the North and South communities and supports the argument that genetically modified organisms are a form of legal piracy.

As a scientist, Shiva fears the human cost of scientific discovery and intellectual property rights. She discusses the problems associated with individual ownership of agricultural or medicinal innovation. While this is a common method of Western thinking, many other cultures rely on community-based solutions especially when it comes to ideas and concepts that benefit their own communities. The wholesale granting of intellectual property rights discourages joint efforts to solving problems in the areas of medicine and agriculture. The privatization of ideas leads to fierce competition between people who in a model

that is not incentive based would normally work together in harmony. This model can lead to social and psychological discomfort.

In modern society, science and technology have developed into conjoined disciplines. The application of science without technology today is rare. In 1976, the United States Congress established the Office of Science and Technology Policy to work with the private sector, state, and local governments as well as other nations to coordinate scientific and technical work. The establishment of this branch was to provide the greatest benefit to society (Gibbons, 1976). It is with this utilitarian approach that the support of Western values for ownership of ideas, organisms, and technology made its way East. Corporations now had the U.S. Government as a powerful ally. The joining of science and technology would strengthen federal support for research and development within civilian technologies and that would ultimately influence economic growth. This support gave large American corporations additional power in domination of resources within under developed countries.

While India's independence from colonial rule was still fresh and agriculture was beginning to flourish in the 1970s, increased production of food was primarily coming from the well-irrigated areas. However as technology based farming increased, and the genetically modified seeds used, farm output began to increase. Farmers began to use these technologies not only for agriculture but also

for fisheries, livestock, and dairies. These technologies all bore the intellectual property rights of others and ultimately because of their restricted use clauses, created a system for the farmers similar to that of indentured servitude.

According to Shiva, biodiversity is a local resource and “A resource is common property when social systems exist to use it on the principles of justice and sustainability” (P. 67). However, with the implementation of IPRs biodiversity sees value as created through commercial exploitation. Shiva further adds that it is through this trend that biodiversity becomes an “enclosed private property” (P. 67) instead of a local commons. In this vein of owning biodiversity, corporations seek out indigenous knowledge in an attempt to own everything that can exist now or in the future. In this practice of bioprospecting, indigenous communities sell their birthright knowledge. Shiva contends that bioprospecting is unjust and is immoral.

To compensate for these injustices companies like Eli Lilly and Merck pay communities a few million dollars in exchange for exclusive worldwide sales and marketing rights to local information that help them develop pharmaceuticals and other products. These acquisitions are not exclusive to India; many Third World countries become subjected to this compensated exploitation scheme as well. In addition, while these communities realize prosperity for a short time, the compensation is insufficient for long-term sustainability. When the money is

exhausted, these communities revert to poverty levels while corporations continue to realize billions in profits. Some companies obtain the intellectual property rights with significantly lower negotiated purchase prices. Nevertheless, buying indigenous knowledge is not new, and many native communities suffered at the hands of European Colonists. Yet indigenous knowledge survives in many places and continues to contribute to modern science, agriculture and medicine.

Biopiracy has infected most every aspect of the relationship between technology and science. The effect of IPRs is a monopoly over commercial exploitation of the idea and information. While IPRs such as copyrights, patents, and trademarks are centuries old, Shiva exposes the extent to which IPRs are applied to living beings, plants, genes, and organisms of all types. The patenting of life forms challenges the ethical and moral compass of many conservative and modern societies. Its basis that nature exists apart from and for the benefits of humans fundamentally disrupts the evolutionary cycle of nature itself (Kothari, 1999). The ethical aspects of IPRs are serious and far-reaching and the big question Shiva leaves on the table for consideration is what happens when altering of species does not go well, who takes responsibility for the damage? The lessons learned from this book are many. For India and other under-developed countries, biopiracy is conduit for the new caste system. It takes away from people the few



things they can truly call their own, knowledge and information. Furthermore, it subjects organisms that once existed freely to be bound to slavery.

*Biopiracy: The Plunder of Nature and Knowledge* is a complex yet important book. The first two chapters include large quantities of unexplained jargon and terminology and assume the reader has extensive knowledge of contract law, science, and geopolitics. Yet by staying with it, one gains an important education on genetic engineering and intellectual property rights. The author repeats herself often with the intent of reinforcement, though at times this repetition diminishes the meaning altogether. From an editorial perspective, the preface could have provided greater contextual framing to help better explain the issues India was facing in 1997. As with other writings on conservation, sustainability, biodiversity, and contractual law context is critical to understanding the issues at hand.

Vandana Shiva is passionate about this subject. Her grass roots view of the extreme effects biopiracy and the havoc it wreaks on her homeland provide a unique stage from which she tells her story. *Biopiracy: The Plunder of Nature and Knowledge* is a relatively short book of 126 pages. One cannot help but wonder if the intent of this monograph is to be the first of a series of books on biopiracy. It appears Shiva has more to say. The abrupt ending and lack of summary may have been intentional as this topic was and perhaps still is emerging.

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