*Page 1820 - 1828* **DOI:** *https://doij.org/10.10000/IJLMH.115989*

# INTERNATIONAL JOURNAL OF LAW MANAGEMENT & HUMANITIES

[ISSN 2581-5369]

**Volume 6 | Issue 5**

**2023**

# Biopiracy; The False Innovation: The Epistemological Lens

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## ABSTRACT

*The commentary critically examines the Intellectual Property Rights from its epistemological framework. It explores how the definitions of 'innovation' and 'creativity' that are adopted across the world by IPR regimes, are such that they not only permit but also encourage the exploitation of knowledge and resources in the public domain, leading to economic and moral failures. The author especially engages with ethical considerations of patenting living organisms and biological processes. The author takes support from the analysis of Dr. Vandana Shiva to state that innovation should not be commercially defined. It is the author's argument that the guarantee of profit is not the driving factor of human creativity. Through an epistemological lens, it is the author's objective to bring forth the failures of existing theories in IPR law and their hazardous impact on public interest.*

***Keywords:*** *Biopiracy, indigenous knowledge, western epistemological approach, environmental law, nutrition, health, exploitation.*

## I. INTRODUCTION

'Rationality' is a system of thinking; Conclusions follow from the application of the system's foundational principles, which may be termed as the system's 'logic'. The concept of rationality is a tool of abstract thinking that allows us to break down reality; it dares us to question it and permits us to redefine it.

The identification of foundational principles in a system of rationality allows us to effectively categorise and classify 'ways of thinking'. Differentiating between rational systems permit us to anticipate their differing impacts and outcomes on practical matters or issues. This is why, approaching law from the positivist framework may lead to a legal system that may be too rigid; on the other hand, approaching law from a naturalist framework of rationality may lead to relativist legal system.

Without delving into the debates of naturalist law[2] and positivist law[3], we can safely say that legal rules and limitations are formulated within rational frameworks. Luckily for humanity,

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[2] Natural Law https://iep.utm.edu/natlaw/ accessed 2 October 2023
[3] Legal Positivism https://iep.utm.edu/legalpos accessed 2 October 2023

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many rational frameworks agree on the basic principles of morality. That is why both legal systems punish murder and theft. However, as humanity has evolved, experiences have become more convoluted and the differences in rational frameworks that often simultaneously govern society, are becoming irreconcilable. These clashes have caused injustice across the world, with the 'mightier' frameworks overpowering the 'weaker' frameworks, in the process, perpetuating inequality and accumulation of wealth and benefits to only a few people. One may rephrase that to say, that the rationality of an empowered country overpowers the rational system of a weaker/developing country. We must, therefore, concern ourselves with identifying what rational system is governing a particular scheme of law and how it may or may not be leading to the desired outcomes.

Today, the most prominent rational frameworks are 'economic frameworks.' Humans are reduced to elements in economic models, and we attempt to predict their behaviours according to the suitable model. We have evolved to attempts of controlling behaviours of humans to force into reality, the 'optimum point' of the governing economic model. It is the author's assessment that the epistemic framework developed through economics has fallen short in defining our reality and has led to injustice, inequality, and 'bad' conscience, due to its limitations, especially in the context of intellectual property law.

## II. IPR IN THE CAPITALIST FRAMEWORK

The author in this article is concerning herself with examining the epistemologies governing the IPR[4] regime, especially in the Indian context.

The most widespread rational framework that is informed by economic principles is capitalism. The rationality is based on the premise of ownership of property. In the capitalist framework, it can be expected that laws would protect private property and labour of an individual; the economic arrangement encourages exclusive ownership. This rationality, the author would like to term as the 'western approach'[5]. In the capitalist framework, the human need and desire to own is taken as 'essential' for progress and it is this supposed fundamental truth that informs the capitalist morality and the legal systems under it.

The author seeks to contrast the 'western approach' with the 'eastern or Indian approach' in the way that the latter focuses on 'sharing', while the former on individual ownership. In its essence, the western approach envisages the world as a battlefield where you only succeed if you "own", to do with anything as you please. On the other hand, the eastern approach envisages the world

[4] Intellectual Property Rights
[5] Based on the theories of Jeremy Bentham, John Locke ad J.S. Mill and Hegel

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in a more collaborative way. The empty field, in the eastern approach, never goes to waste as each human considers it their responsibility to maintain it.[6] The eastern approach would not only protect traditional knowledge systems, but would apply traditional/indigenous metrics, values and philosophies to develop such system of protection.

### (A) The Tragedy of Definitions

In the context of intellectual property, the above-mentioned approaches assume different 'origin stories' for 'creativity' and thus have contradictory definitions of 'creativity'. This leads to opposing assessment, of the economics of the current IPR regime, by each framework.

Robert Sherwood[7] has expounded the understanding that without "encouragement for extraction" human creativity will remain buried. This encouragement is seen to lie in the ability of a person to make profit on his idea, take credit for it and prevent the use by others of said innovation. It is argued in economic circles that the countries that cannot provide protection to intellectual property of individuals, will not see an upsurge in innovation. It is further assumed that the loss of progress by virtue of knowledge not being in the public domain is balanced out by the economic, creative progress and quality protection that is achieved by exclusive rights.[8] The western approach is often supported by an 'observational analyses' of the United States of America. The public opinion is that the 'economic and scientific progress' in the US is because of the strong protection mechanism of intellectual property rights. The argument stems from the assumption that creativity and innovation find their causality in the assurance of profit and exclusion of others. The basic premise of this argument is not only purely capitalistic, but also based on a false analysis of the causes of creativity; A faulty definition of innovation.

## III. WHAT IS INNOVATION?

If a legal system attempts to promote and protect creativity, it must define it. As we see in our current IPR regime, any entity that fits into the term 'innovation' would find protection in law. To identify this "creation", the western IPR schemes have used words *"novel, non-obvious and commercially exploitable"*.[9] As definitions are formulated in law only to achieve an objective; the legal definitions of innovation in the western paradigm have been made with the objective

[6] Hardin, Garrett. "The Tragedy of the Commons." *Science*, vol. 162, no. 3859, 1968, pp. 1243–48. *JSTOR*, <http://www.jstor.org/stable/1724745> Accessed 2 Oct. 2023.
[7] Robert Sherwood, *Intellectual Property and Economic Development.* Oxford: Westview Press
[8] Chandra, Rajshree, 'The Utility of Intellectual Property Rights', *Knowledge as Property: Issues in the Moral Grounding of Intellectual Property Rights* (Delhi, 2010; online edn, Oxford Academic, 18 Oct. 2012), https://doi.org/10.1093/acprof:oso/9780198065579.003.0004, accessed 2 Oct. 2023.
[9] Agreement on Trade-Related Aspects of Intellectual Property Rights, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex IC, Legal Instruments-Results of the Uruguay Round, 33 I.L.M. 1125, 1197 [hereinafter TRIPS]

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of commerce. Furthermore, we can note that these definitions only fit into the western scientific epistemology. It excludes all other possible types of innovations and creations, existing outside said epistemology. If an innovation is not inherently commercially exploitable it is not included within the scope, if a creation is not owned privately, it is not treated as a creation.

The most concerning of all, the definition allows for living processes to be considered as human innovation if there is a slight upgradation or chemical synthesis is involved, especially with respect to micro-organisms and processes[10].

When innovation is defined in the capitalist way, the economic theories and assumptions of Robert Sherwood stand true, since the concept is self-fulfilling. The paradigm cannot be said to be complete failure, the author recognises that it may have been created to benefit scientists and artists, to protect their work from being stolen and allow them to sustain themselves through their research. The author would argue that an alternative method of protection which is not based in exclusive commercial rights for an investor, would be equally effective in encouraging research and sustaining scientists. The danger lies also in the fact this definition of innovation being universalised, and utilised for the newer biotechnological innovations, without acknowledgment of its limitations.

It is the argument of the author that most innovations have found their cause in 'need', and the human pull to be creative. As the old saying goes, "Necessity is the mother of all creation". It cannot be said to be driven by the need for credit or profit. Profit can be a consequence of innovation but not an essential cause. The convoluted paradigm of IPR and economic theories which have been created over time to support the capitalistic approach, have disregarded the innovations and creations made by indigenous peoples for their communities. The long practice of Ayurveda and Unani have brought to us beneficial remedies that do not belong to a company or a person, they continue to develop not because one corporate body is interested in making profit. The practice and popularity continue for it benefits people's health.

The western approach of IPR, especially in the field of medicine has also managed to discredit the indigenous systems of medicine, preventing their development through research and practice. It is now only a patented medicine, with a patentable chemical structure and a cost attached to it, that is considered good for public health. Preventing the development of indigenous knowledge systems, either by discrediting them or limiting their access to the resources in the public domain has been the modus operandi of the western approach to intellectual 'property'.

[10] Article 27(3)(b) of TRIPS Agreement

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This absurdity shows its impact when we investigate the recent patenting laws especially those relating to plants and medicine. There has been a rise in the 'propertization' of living processes. We know of cases where the activists of our country prevented the patenting of Neem[11] and Turmeric by MNCs[12]. The impact of it would not only have been limited access to neem and turmeric or their utilisation but would have also led to the criminalisation of its traditional use by a common farmer or person.

### (A) The criticism by Dr. Vandana Shiva

The fallacy of the western approach is criticised comprehensively by Dr. Vandana Shiva[13].Dr. Shiva rightly points out that biopiracy lies also in introducing chemicals in organisms and claiming rights over them. The present paradigm permits the recreation of genome sequence occurring in nature and allowing somebody to claim exclusive rights over it. This practice of 'translation' is wrongly viewed as innovation[14].

In allowing the patenting of plants by a corporate body or acknowledging small chemical tweaks in the plant as 'innovation' and 'intellectual property' we are not only disregarding the self-organisational characteristic of a living organism but also creating a falsity that nature can be the creation of the human inventive genius[15]. It is a theft of truth; such patents are a moral failure. We must relook this 'protection mechanism' in the paradigm of IPRs and see who are the real stakeholders, for whom are we protecting these rights, is it the fertiliser company based out of USA or mankind's ability to be creative? We must also understand why we are protecting these rights.

Dr. Shiva has also warned us about the hazards of GM seeds and biological patents. She has been able to map out in her writings that introducing non-organic seeds and fertilisers to our fields, leads to immense harm to our health. Not only would the nutrition go down, but the dependence of farmers would be created on these chemical seeds, which would only be manufactured by one or two companies. Since chemical seeds don't regenerate as naturally occurring seeds do, the farmer would be expected to buy seeds from banks for each sowing period. The harvest would be of a monoculture, incapable of adapting to an environmental change which an organic seed can. Our attraction to GM seeds is based on 'high yield', but as

[11]Traditional Knowledge And Patent Issues: An Overview Of Turmeric, Basmati, Neem Cases https://www.mondaq.com/india/patent/586384/traditional-knowledge-and-patent-issues-an-overview-of-turmeric-basmati-neem-cases Accessed 2 October 2023

[12] Jayaraman, K. *US patent office withdraws patent on Indian herb*. Nature **389**, 6 (1997). https://doi.org/10.1038/37838

[13] Dr. Vandana Shiva, *Biopiracy.* Natraj Publishers, 2012

[14] Dr. Vandana Shiva, *Biopiracy. (Natraj* Publishers, 2012) 17

[15] Dr. Vandana Shiva, *Biopiracy. (Natraj* Publishers, 2012) 23

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is obvious the metrics that assess this yield are biased and do not include, nutrition and the cost of fertilisers, pest control drugs that need to be introduced[16] and the long term economics involved.

The Hon'ble Supreme Court in a recent judgment titled ***Aruna Rodrigues and Ors, v Union Ministry of Environment, Forest, and Climate Change and ors,***[17] refused to review the allowance of release of a GM crop, citing that interference would be judicial overreach. The court stated that since there exists a government mechanism of regulation, the same is a policy decision. Whether the protection comes from courts or the legislature, it must come.

## IV. THE PRESENT SCENARIO: CONCERNS

The economics of IPR in the present regime, envisages the 'protection' of intellectual property as incentive for innovation and development. This 'protection' has found its way into the latest technological development—Biotechnology. As we tweak DNA and protein molecules to develop, medicines, crops, and other consumable products, we are looking to encourage such research and attribute it to the human intellect just as much as any other technological innovation. This is a blatant exploitation of traditional knowledge and natural resources, where 'inventors' have claimed to have 'created' the synthetic copy of a traditional medicine or naturally occurring resource—a clear case of Biopiracy. Unlike other technological inventions, which are themselves not entirely free from criticism, biotechnological inventions rely on biological processes and organisms' ability to organise themselves. It is a flawed and unnecessary extension of the definition of 'innovation' and 'creativity' which attempts to cover. It is also leading to private or exclusive ownership of public resources, environment, and knowledge.

We can see that the present policy itself has been adopted based on TRIPS and GATTS agreement. Protection of Plant Varieties and Farmers' Rights Act, 2001 is based on paragraph 3 of Article 27 in Part II of the "Trade related aspects of Intellectual Property" agreement of which India is a signatory. The paragraph allows the exclusion of patentability of materials that are diagnostic therapeutic and "biological processes of organisms". It excludes from its protection "non-biological processes and micro-biological processes". It makes it obligatory for member nations to provide protection to Plant Varieties *through patents or a sui-generis system*. The Patent Act and other such laws, though perhaps adopted for the Indian conditions are still based on the western epistemology of science. For example, in the Protection of Plant Varieties

[16] **Genetically modified food: What are the pros and cons? https://www.medicalnewstoday.com/articles/324576 accessed 3 October 2023**

[17] WRIT PETITION (CIVIL) NO.260 OF 2005 Supreme Court of India

and Farmers' Rights Act, 2001 the definition of "the propagating material"[18] incorporates this reductionist view of science, any component of plant or seed which is capable or suitable for regeneration into a plant is labelled as the "propagating material" and can be registered under Section 14 of the Act. This approach is clearly at odds with a holistic approach to a living organism as no single component, but the entirety of biological processes embodied in every aspect of the plant is required for its characteristics and regeneration. In the definition of Novelty[19], non-obviousness, a matter of concern remains the proviso which states that a variety may still be registrable even when it is common knowledge. Perhaps, the authority is expected to ensure that common varieties are only 'protected and not privatized'.

The hazardous impact on traditional knowledge was noticeable even to the international community and hence the Nagoya Protocol was also signed. The current practice has managed to phase out the existing knowledge systems which are labelled as outdated and led to the recreation of the knowledge in terms of 'modern science'. This has either caused a complete removal of traditional practices or has forced them to conform to western standards.

The author came across the news of the Indian Biological Data Bank[20], it was inspiring news. Most indigenous knowledge finds no space in consolidated databases. This has allowed easier access to the new colonisers, having taken the shape of MNCs, to collect data of our farmers, practitioners and claim it as their own. This new database with the bank would allow a record of genome sequences of plant varieties, assisting in keeping evidence to show that these so called new synthetic sequences created by companies are being pirated from existing varieties of plants. This type of a bank also allows a geography specific database, assisting scientists in determining whether laboratory made GM crops can do as they claim in our specific geography.

The author hopes that more such efforts will continue to question the western approach and help establish an eastern approach to IPR. The decolonised Indian legal paradigm wouldn't envisage protection of IPR in the same way as the western paradigm. It would not be to promote commerce and/or make profit. It would be to protect the resources and knowledge from over-exploitation. It would attempt to promote creativity to benefit the community and answer its needs.

## V. CONCLUSION

The international agreements force the Indian legal system to conform to the western approach

[18]Section 2(r) Protection of Plant Varieties and Farmers' Rights Act, 2001
[19] Section 15 Protection of Plant Varieties and Farmers' Rights Act, 2001
[20] Indian Express (Delhi, 13 November 2022)

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i.e., promote private ownership over community rights. Our legislators have indeed managed to introduce some relevant provisions which encourage the protection of community rights. The Plant Varieties Act does allay some concerns regarding criminalisation of innocent farmers in developing varieties which may have been patented by a body or a corporate body. Under Section 42, if a farmer has no knowledge of existence of a patent, his use or innovation of such a variety will not be considered infringement. Even the Biodiversity Act, provides for the concept of benefit sharing with communities from whom knowledge of a particular biological process is taken to create the patented material.

What is obvious from the regime is that we are being forced to fit our morals into an economic model, not the other way round. This is not just an economic principle, failure of which can be debated, but a moral failure, principles of which are not up for debate. Be it the judiciary or the executive, it is important we heed the warning of Dr. Shiva on how this flawed philosophy guiding our practice of IPRs may lead to immense harm to the environment and would affect our health and sustenance in the coming years in very negative ways. The present structure hardly seems too far from the Indigo cultivation, that had led to the first Satyagraha. Our traditional sustainable practices are being phased out for the so-called "cash crops", where only a large corporate body stands to benefit, as it claims ownership over nature attempting to exploit it and utilise it as it pleases. Most arguments in favour of the current regime of privatisation and patented seeds speak of 'mass production' to feed a large population and yet despite the Green Revolution, we find ourselves struggling with food security, incapable of combating farmer suicides. It must be acknowledged that though perhaps coming from a 'good place', to assist in production of high-quality food in huge quantities, the 'quick fix' developed in laboratories is not a suitable and sustainable solution. It has been built on the exploitation of nature and has a flawed focus in terms of stakeholders. The stakeholders may have initially been the public, but it now is only a corporate body which is only interested in controlling means of production and making huge returns on their investments. Perhaps, as a student, the author cannot understand complicated principles of economics and social political theories, but the author is confident that no regime built on theft and exploitation has ever benefited those it has exploited and stolen from.

Being a manifestation of creativity, innovation differs in definition when viewed from the western approach and the eastern approach respectively. The author's argument is that the western approach is limiting and is perpetuating injustice in the field of knowledge and public access to innovations. It is also permitting hazardous innovations to take place at the cost of environment and public health. It is hoped that there would be development of the eastern

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approach, which would faithfully accommodate incentives for research, but also encourage growth and preservation of community knowledge systems and values. The author estimates that the failures of the current regime in not being able to encourage substantially beneficial research and in allowing private entities to limit access to medicine, knowledge, health, and progress, for financial benefit, would find solutions in the alternative approach. The value of the existent patent laws can be appreciated but the IPR regime is claimed to have been put in place as a policy for encouragement of innovation; it has only been a regime that encourages investment and an investor. This indirect and commercial approach to innovation and knowledge, especially creative and scientific knowledge is an ethical failure.

It would be ideal, where innovations are protected not for commercial exploitation but for access to the public, for further development of science and technology, especially indigenous systems. There may be separate acts that govern living processes and bio-technological innovations. There may be a separate set of guidelines for medicine and its patentability. These guidelines or rules may only protect the research during its initial stages and post due recognition of those bodies that engage in research, a system whether co-operative or private may come in place for its commercial distribution. The rules must further be designed to protect environmental resources from being exploited through the IPR regime. In conclusion, there should be more periodical and objective assessment of the impact of the IPR regime. The author can only hope that a new and alternative epistemological basis for the regime would be explored and adopted soon.

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