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IPR In Traditional Knowledge And Bio-Diversity: Safegaurd, Concern And Feasible Conduct Forward

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Abstract: ***This paper provides synopsis of the issues implicated in value addition to bio resources and protection of IPR of TK holders, takes stock of the international and nationwide legal and strategy initiatives, and suggests a few measures to endorse value count, technology transfers, and IPR protection for TK holders.***

Keywords: Benefit contribution, biodiversity, CBD, IPR, technology transfer, traditional knowledge, TRIPS

Evidence based, value-added product maturity and its commercialization has turn into one of the greatest costeffective performance in the world. The liberalization of the worldwide trade policies and other economic reforms evolving currently with the emergence of the United Nations Convention on Biological Diversity (CBD) and the World Trade Organization (WTO) entail a deeper learn and indulgent especially in the light of the latest conduit breaking achievements in science and technology.

The past of human culture and maturity of economic system are all intrinsically and inveterately interwoven with our biological resources. WIPO has made a tremendous trademark to the areas of genetic resources in a sustainable manner through intellectual property rights, possible ones. The prevalent achievement of the 20th century is the development of the extent of property rights to accommodate insubstantial property, which in turn, facilitated astonishing set of parley which twisted the configuration of international trade to aid globalization.

Biodiversity is the multiplicity and changeability of livelihood on the orb and it shape the rock layer for sustainable economic development. The furthermost part of the global biodiversity (species diversity!) is found in animals and micro organisms. Biodiversity standardize and retain the solidity of environment, water regime, soil fertility, and eminence of air and on the whole health of the life support systems on earth. Secondly, biodiversity is the establishment from which human race derives food, fodder, fuel, fibre, shelter, medicine and raw material for pinnacle of other miscellaneous needs and industrial goods required for the ever changing and ever increasing needs and aspirations. Biodiversity is thus the biological capital of our planet and it forms the foundation upon which human civilization is built. TK is a universal expression, which refers to the united information, philosophy and practices of indigenous/local people on sustainable use and supervision of their ambient resources. Through years of annotations and scrutiny trial, error or experimentations, the established communities have been able to identify useful as well as harmful elements of their ambient flora and fauna. Such knowledge (acquired through ages) has always remained as part of their life, culture, traditions, beliefs, folklores, arts, music, dance, etc. TK covers a lane gamut of the local and indigenous people's traditional life and culture, art, music, architecture, agriculture, medicine, engineering and a host of other spheres of human activity. TK thus can be of direct or indirect benefit to society as it is often developed, in part as an intellectual response to the necessities of their life. Fortification and preservation of TK of local and resident communities is imperative for their wellbeing and sustainable development and for their intellectual and cultural vivacity.4

Genetic resources and linked TK have great potentials and their donations to global market and global intellectual property regimes are mammoth. Ranging from survival uses by indigenous and local communities for their livelihood security to the advanced research and development

programme on bio prospecting, genetic resources and associated TK find an ever increasing demand and utility in a diverse array of sectors such as biopharmaceuticals, biotechnology (including agricultural biotechnology and health care), crop protection, agricultural seed production, horticulture, phytomedicines, cosmetics and personal care, and a myriad of other areas of products and processes development based on wild and domesticated genetic resources and their derivatives extracted from both *in situ* and *ex situ* sources.

Intellectual Property Right (IPR), as the term proposes are intended to be rights to ideas and information, which are used in new innovation or processes. These rights permit the proprietor to exclude imitators from marketing such inventions or processes for a specified time. While IPRs such as Copyrights, Patents, and Trademarks are centuries old, the extension of IPRs to living beings, knowledge and technologies related to them is relatively recent.

In *Diamond* V *Chakrabarty5* patent claim for a genetically engineered bacterial strain, was permissible. This legitimized the view that anything made by humans and not found in nature was patentable. Till very recently, these trends were restricted to some countries, which could not impose them on others. However, with the signing of the TRIPs agreement, this has changed.

IPR IN OPPOSITION TO TRADITIONAL KNOWLEDGE

Traditional Knowledge is fundamentally ethnically sloping or racially based, and it is vital to the cultural uniqueness of the social group in which it operates and is preserved. "*Traditional knowledge*" is an open-ended way to pass on to tradition-based literary, artistic or scientific works, feat inventions, scientific detection designs, marks, names and cryptogram; undisclosed information; and all other tradition-based novelty and establishing consequential from intellectual activity. The definition of traditional knowledge used by the World Intellectual

Property Office (WIPO) includes Indigenous Knowledge (IK) relating to categories such as agricultural knowledge, medicinal knowledge, biodiversity-related knowledge, and expressions of folklore in the form of music, dance, song, handicraft, designs, stories and artwork.

THE "TRADITION" IN TK

What makes comprehension "traditional" is not its relic: much TK is not prehistoric or motionless but is a crucial, go-ahead part of the modern-day lives of a lot of inhabitants today. It is a form of knowledge which has a customary link with a certain community: it is understanding which is urbanized, unremitting and conceded on within a traditional community, and is passed between generations, occasionally through specific customary systems of knowledge transmission. A community might see TK as part of their cultural or spiritual identity. So it is the rapport with the community that makes it "traditional". TK is being created every day, and evolves as individuals and communities respond to the challenges posed by their social environment. This contemporary aspect is further validation for lawful shield It is not only advantageous to develop a safeguard policy that permit and preserves TK created in the past, which may be on the brink of disappearance; it is also important to consider how to respect and sustain the advance and proliferation of further TK that arises from continuing use of TK systems.

IPRS AGAINST BIODIVERSITY

"*Biological diversity means the variability among living organisms from all sources and ecological complexes of which they are part and includes diversity within species or between species and of ecosystem"6*

REASONS FOR THE NEED OF IPR IN BIODIVERSITY

- ✓ To standardize entrance to biological resources of the country with the principle of protected equitable share in payback out of the implementation of biological resources.
- ✓ To marmalade and sustainable utility of the biological diversity.
- ✓ To respect and defend knowledge of local communities related to biodiversity.
- ✓ To guard and mend threatened species.

The status of biodiversity has undergone a sea change in recent times. Sovereign rights are applicable to biological material. The conservation of Biodiversity is very important because the survival of human beings is intimately dependant on biodiversity.

Over hundred of years natives have urbanized a assortment of shrubbery administration practices that prolong to exist in tropical Asia, South America, Africa and other parts of the world. Populace also trail ethics that frequently help them standardize communications with their innate surroundings. Such systems are often

incorporated with conventional precipitation harvesting that encourage background heterogeneity through amplified escalation of trees and other vegetation, which in turn maintain a variety of fauna.

Traditional ancestral traditions: saced groves and sacred trees and forests. *regal traditions:* royal hunting preserves, elephant forests, royal gardens etc. *source of revenue traditions:* forests and groves serving as cultural and social space and source of livelihood products and services.

Traditional philosophy is reflected in a variety of practices including sacred groves and sacred landscapes. They are fairly well described.

One of the best examples can be the Pashmina shawl which is obtained from the Mountain Goat (CAPRA HIRCUS).

Another example from northeast India is particularly notable. The tribal communities of Meghalaya– *Khasis, Garos, and Jaintias* – have a tradition of environmental conservation based on various religious beliefs. As elsewhere in India, particular patches of forests are designated as sacred groves under customary law and are protected from any product extraction by the community. Such forests are very rich in biological diversity and harbor many endangered plant species including rare herbs and medicinal plants.

ANALYSIS

Established water harvest arrangement too is also home for a array of genus yet if pond mass is petite, as is the case in about 60% (out of 1.5 million total tanks) in India, it may still be useful habitat for many species in rural ecosystems. There are plentiful illustrations of therapeutic plant nurturing by local people in India. Socioculturally valued species find place in home gardens and courtyards.

ı in the region of the Nanda Devi Biosphere Reserve in the western Himalaya, the *Bhotiya community*, whose source of revenue depends on confined innate funds, practices cyclic and altitudinal immigration and stay inside the shock absorber zone for only 6 months (May-October). Of a total population, 90% refined medicinal plants on

78% of the total reported cultivated area (15.29 ha). Around 12 species of medicinal plants were under cultivation.

ı Thus, sustaining medicinal plant fostering at elevation in the Himalayas may help to spawn supplementary support to people as well as conserve the species in the wild.

ı Similarly, *Juang* and *Munda* tribes of the Keonjhar district of Eastern India use 215 plants, belonging to 150 genera and 82 families. This suggests a wealth of traditional knowledge on biodiversity and herbal health care in tribes of eastern India. Tribes in the region are dependent on forests for other species as species of mushrooms, wild berries, tubers, and flowers that are included in their diet including cooking oil. Understanding of traditional knowledge on biodiversity of the region will be most helpful in planning for sustainable forest management.9

Ayurveda is more primordial than civilizations, the World Health Organization acknowledges that 70 per cent of the people living in India use long-established medicine for primary health care. Today, scientists at the *Tropical*

Botanical Garden Research Institute in Thiruvanthapuram, Kerala, have used this traditional knowledge of the

Kanis to produce a stress-busting drug called *Jeevani* from the plant's leaves. Half of the royalties and license fees from the sale of '*Jeevani*' are paid to the *Kani* in recognition of their intellectual property rights. It is one of the few cases in India where traditional knowledge has been rightly respected and paid for.

In India, a noteworthy fraction of the land, forests and habitation of clannish public and local society is being exaggerated by human activities like deforestation, cataloguing, road construction and weir projects, mining, urbanization and renovation of forests to land for agricultural estate The loss of resources and habitat has disrupted the social and ecological context within which the communities have made use of their traditional knowledge. The traditional lifestyles of the indigenous communities have been urbanized with the migration of large chunk of indigenous and tribal people from rural areas to the urban areas. The impact of westernization on these communities, commercialization of agriculture with the introduction of export crops and spread of market economies, etc. have made international communities take the initiatives to protect and conserve biodiversity and knowledge related to the use of biological resources. The current international negotiations on the issue of protection of TK, the term protection is mostly seen as providing a framework to encourage the maintenance of practices and knowledge embodying traditional lifestyles.12

INTERNATIONAL MECHANISM IN PROTECTION OF BIODIVERSITY AND TRADITIONAL KNOWLEDGE

✓ TRIPS

Article 27.3(b) of the agreement on trade-related feature of intellectual property rights sets out definite state of affairs under which definite biological resources or intellectual modernization may be excluded from patenting.

The Article also contains a obligation that Article 27 be examined. In the TRIPS-related Doha Declaration of

2001, paragraph 19 lingering the review to a review of Article 27 and the rest of the TRIPs to include the relationship between the TRIPs and the 1992 Convention on Biological Diversity (CBD) and the protection of traditional knowledge and folklore.

✓ THE CONVENTION ON BIOLOGICAL DIVERSITY (CBD)

The CBD, signed at the United Nations Conference on Environment And Development in 1992, was the first worldwide ecological caucus to develop procedures for the use and shelter of traditional knowledge, related to the storing up and sustainable use of Biodiversity.

The CBD has two out of the ordinary rations relating to IPRs. One (Article 16.5) states that astringent Parties shall lend a hand to ensure that IPRs are "compassionate of and do not run counter to its (the CBD's) objectives".

However, this is "subject matter to national legislation and international law". Another (Article 22) states that the CBD's provisions will not affect rights and obligations of countries to other "existing international agreements, except where the exercise of those rights and obligations would cause a serious damage or threat to biological diversity

✓ NAGOYA PROTOCOL

In 2001, at the Doha conference, that it was agreed under para 19 of the Doha Declaration that pursuant on Article 71.1 of TRIPs the TRIPs congress should scrutinize the affiliation between TRIPS and CBD. After numerous years of deliberating process various fora, the parties to the CBD meat at Nagoya, Japan in 2010 and complete he draft etiquette which defines the terms for access to Genetic Resources (GR), their operation and fair and evenhanded sharing of benefits from such employment

TRIPS OPPOSED TO CBD

The TRIPs agreement is only likely to significantly deepen the impacts delineate above. In particular, its attempt to regulate IPR management militates against a country's or community's sovereignty to choose the technique in which it wishes to deal with the use and protection of knowledge. Uniformly chief, it includes no provision for the protection of

indigenous and local community knowledge. Such knowledge, because of its nature, may not be amenable to protection under current IPR regimes. Finally, it has no recognition of the need to evenhandedly share in the benefits of knowledge related to biodiversity. Indeed, it legitimizes the conservative unfairness that have characterized the interactions between the industrial-commercial use of biodiversity-related knowledge, and the community/citizen use of such knowledge.

INDIAN ARRANGEMENT FOR PROTECTION OF TRADITIONAL KNOWLEDGE AND BIO-DIVERSITY

CSIR COORDINATED PROGRAMME ON DRUG DISCOVERY

CSIR has initiated a harmonized curriculum on drug discovery with a net of 19 CSIR laboratories and other R&D institutions operational in the area of fixed system of medicines and universities. The programme which was initiated in 1996 aims at discovering new bioactive molecules from plants, fungi, microbes, insects, etc. using new techniques of both synthesis (combinatorial chemistry) and bio evaluation (medium and high through put screening). The programme also includes discovery of molecules based on mechanism of the disease, functional genomics, anti-sense agents, etc. Currently bio evaluation of the following eleven major diseases is in progress:

- ✓ Bacterial infection
- ✓ Malaria
- ✓ Tuberculosis
- ✓ Filaria
- ✓ Hepatitis
- ✓ Hypertension
- ✓ Memory
- ✓ Leis mania
- ✓ Inflammation and Arthritis
- ✓ Diabetes
- ✓ Cancer.

NEW MILLENNIUM INDIAN TECHNOLOGY LEADERSHIP INITIATIVE (NMITLI) ON DRUG PROSPECTING

The Planning Commission sponsored the NMITLI, one of the most ground-breaking bioprospecting programmes. NMITLI has major herbal drug enlargement series for developing effectual herbal antidote for hepatic disorders, arthritis and diabetes, which has shown highly encouraging results within a short period of less than one year. Four CSIR laboratories namely; National Botanical Research Institute (NBRI), Lucknow; Regional Research Laboratory (RRL), Jammu; Indian Institute of Chemical Biology, Kolkata; and Indian Institute of Chemical Technology, Hyderabad; and a large number of medical colleges/hospitals like Kings Edward Memorial Hospital, Mumbai; Nizam Institute of Medical Science, Hyderabad; All India Institute of Medical Sciences, New Delhi; Bhartiya Vidyapeeth Deemed University, Pune; Bhartiya Vidya Bhavan's Swami Prakashanand Ayurvedic Centre, Mumbai; are the research partners in this programme. Kottakkal Arya Vaidya Pharmacy, Arya Vaidya Pharmacy, Coimbatore, Dabur Pharmaceuticals.

To jam the biodiversity and defy the problem of bio piracy, India made a maiden effort in the world by enacting the following two legislations in the parliament:

- ✓ The Protection of Plant varieties and Farmers' Rights Act (PPVFR), 2001 (Act 53 or 2001) and
- ✓ The Biological Diversity Act (BDA), 2002;
- ✓ The Patent (Amendment) Act 2005

THE PROTECTION OF PLANT VARIETIES AND FARMERS RIGHT ACT, 2001

Legislation for the fortification of Plant Varieties and Farmer's Right Act 2001 concede that the management, traveling around, gathering, portrayal. Assessment of plant genetic resources for food and cultivation are critical to convene the goals of nation food and nutritional precautions as also for sustainable advance of agriculture for the present and potential cohort. It also acknowledges that the plant genetic resources for food and agriculture are the raw material indispensable for crop genetic improvement.

The model of effectual benefit distribution bargain among the contributor and the beneficiary of the deposit hereditary possessions form an essential ingredient of our Act. The amount of assistance sharing will be depending on the degree and character of the use of genetic fabric of the pretender in the expansion of the range and also the money-making use and sale in the advertise of the variety. To make this momentous, obligatory revelation of the geographical locality from where the genetic substance has been taken and information concerning to the involvement, if any, of the unindustrialized population linking such variety, has been made. The safety provided to a plant diversity sort by a breeder can be nullified if there is a faux pas or unlawful leak of the information.

THE BIOLOGICAL DIVERSITY ACT, 2002

India is a social gathering to the caucus on Biological Diversity (CBD), which came into force in December 1993.

The CBD proposes prospect to India to comprehend the assistance of these resources. India has previously enacted an Act to provide for protection of biological diversity, sustainable exploit of its apparatus and equitable benefit sharing arising out of the use of the biological resources. It addresses the fundamental concerns of access to, album and deployment of biological resources and awareness by outsiders and sharing of benefits arising out of such access. The legislation also provides for a National Authority, which will award approvals for admittance, theme to state of affairs which guarantee equitable sharing of benefits.

The key aim of this legislation is to care for India's biodiversity and coupled information aligned with their use by folks/ association without sharing the benefits arising out of such use and also to check bio-piracy. The legislation provides for a centralized board structure with the National Biodiversity Authority (NBA) at the apex and Biodiversity Management Committees (BMCs) at local community level. The BMC and the NBA is required to consult BMC in decisions relating to

the use of biological resources related knowledge inside their jurisdiction.

The law also affords for endorsement of conservation, sustainable use and credentials of biodiversity. Preceding consent of NBA would be mandatory for applying for any form of IPR within or outside India for a contraption based on research or information on biological resource obtained from India.

THE PATENT (AMENDMENT) ACT 2005

This Act, which is an amendment to the Patent Act of 1970, it instructs exposé of the 'foundation and geographical derivation of the biological equipment in the design, when used in a contraption'. The new Patent

Act of India includes two important clauses for revocation of a patent on the grounds that: (i) complete specification does not disclose or wrongly mentions the source of geographical origins of biological materials used for the inventions; (ii) e invention so far as claimed in any claims of the complete specification is anticipated having regard to the knowledge, oral or otherwise, available within any local or indigenous community in India or elsewhere.

These two provisions warrant safeguard of the rights of the source country of a biological material or traditional knowledge of local or indigenous community, and thereby enabling recognition and reward of source countries and traditional knowledge holders through appropriate benefit sharing mechanisms.

DECISIVE DYNAMIC FOR BENEFIT SHARING

In accordance to Section 21 and Rule 20 of the Biodiversity Rules, be resolute up on counting apposite benefit sharing requirements in the right of entry accord and reciprocally approved conditions allied to admission and relocate of biological resources or gen happening in or acquired from India for commercial use, bioexamination, bio-utilization or any other pecuniary purposes. The clout shall extend strategy and shall alert the explicit minutiae of pro partaking modus operandi in an spokesperson gazette on a case-to-case basis. The recommended benefit chipping in instrument may include 'fiscal benefits' such as royalty, joint enterprise, technology transfer, product enlargement, and 'non – monetary benefits' such as tutoring and wakefulness raising activities, institutional competence building, venture capital fund, etc. The time outline and quantum

of benefits to be shared shall be resolute on case-to-case based on mutually agreed terms between the applicant, authority, local bodies, and other relevant stakeholders, including local and indigenous communities.. In cases where such individuals or organizations could not be notorious, the monetary benefits shall be paid to the National Biodiversity Fund. Five percent of the benefits shall be put aside for the Authority or State Biodiversity Board towards the administrative service charges.

OPPORTUNITY OF TRADITIONAL KNOWLEDGE PROTECTION: TENDER BY BUDDING INHABITANTS AND JURISTS

There has been extensive discussion within the international community as to the nature of protection that is to be given for Traditional Knowledge and Biodiversity. Solutions have been proposed in the form of defensive protection and positive protection. This section discuss about the various proposals which are intended for the protection of TK and BD which are advanced from various world nations at different international fora. Most of these proposals are now in practice through various national legislations. An effective implementation of these proposals can result in sustainable use of knowledge of indigenous communities.

ADDITIONAL EDICT AND GUIDELINES WITH COMPORTMENT ON TK OF BIODIVERSITY

We also need to look into some of the obtainable laws and policies as well as approaching legislation which have some relation, direct or indirect, to the storing up of biological resources, recognition of the rights of local and indigenous communities etc., which also have an allusion on IK protection. We have to in brief look into *the forest and wildlife legislation, Joint Forest Management, the National Environment Policy, 2004, the provisions of the Panchayat Extension to Scheduled Areas Act, the Seeds Act, Geographical Indications of Goods (Registration and Protection) Act, 1999, and Patents Amendment Act, 2005* from the perspective of TK and BD protection.

PATENTING FASHION IN NAUTICAL BIO-DIVERSITY

'Maritime world' brag of inestimable verve form each with a inimitable distinguishing, making its hereditary make-up the most wanted after meadow for maritime researchers. An assortment of investigate pitch and products ranging from makeup to pharmaceuticals are now yoked from marine bioresources and patented for generating high revenues. Sprouting intellectual property regime endow with an imminent into the current research trend of this fascinating and difficult field.

Pharmaceutical corporations conceded research on assortment of marine life including sharks *mollusks, male toad fish, sea horse, tuna fish, jelly fish, snails, cyanobacteria, turtles and coral reefs.* The far-reaching constant research for harnessing marine life for pharmaceutical, nutritional, cosmeceutical and various other research purposes led to an implausible coverage by intellectual property in the figure of patents being dossier universal.

COMMENDATION FOR MODIFICATION IN NATIONAL LEGISLATION TO PROTECT TK AND BD

I would like to make the following counsel with respect to existing habitual laws, practice and national legislation in protecting TK and BD.

- ✓ There is no common protection worldwide, so WIPO should develop a universally acceptable (*sui generis*) protection systems or any other viable system.
- ✓ There is no separate statute to give legal protection for Traditional Knowledge, so Indian Parliament should bring separate statute and define TK which is pertinent for Indian System.
- ✓ There is a strong need for protecting and promoting the traditional knowledge related to biodiversity, so Government shall allocate a significant budget to facilitate the effective implementation of Biodiversity Act, 2002 to protect biodiversity.
- ✓ National Biodiversity Authority needs more support from Government. So, Government may take the following initiatives for effective protection and conservation of Biodiversity and TK:
  - Setting up or promoting herbal gardens of traditional medicinal plants.
  - incorporating traditional knowledge as part of the curriculum for schools, colleges, universities and research centre.
  - Enhancing traditional medicine and healing arts in state-run hospitals.
- ✓ Demand for high standards of proof by statutes and judgments. Need for judicial bodies to recognize and internalize components of customary law.
- ✓ For customs to contribute effectively to IK protection, need to be accepted as law per se and to be recorded as state- sanctioned formal rights.

CONCLUSION

The IPR question connecting to Biodiversity is very multifarious predominantly in the occasion of transmit of biological stuff from India to alien. The Benefit sharing issues are even more intricate, when the objects fit in to the restricted group of people. It is clear that industries, with amplified hold from administration are swiftly establishing manage over plant genetic resources and allied comprehension through the use of IPRs. Yet resistance to this incursion on community rights has been disparate and experimental. Overall, communities are increasingly losing control over their own plants and are being increasingly exploited for their knowledge. As awareness amongst groups, communities and even governments increases, and as those affected become more organized, the tide has begun to turn. There is however a lot of strategic work to be done among NGOs and people's movements in order to build a stronger social force against the growing influence of trade and IPR over genetic resources and traditional knowledge. IP rights are vacant for novelty based on Biodiversity but not on Biodiversity itself, So, as a ordinary personality in the globe each and everyone have to take an effort to conserve our Biological Resources and Traditional Knowledge of Indigenous communities.

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