BioSpect
the business of Bi
24 years of leveraging the business of Bio
www.biospectrumindia.co

Biodiversity laws: Simply obsolete or genuine concerns?

12 May 2015 | Features | By BioSpectrum Bureau

Biodiversity laws: Simply obsolete or genuine concerns?



A group of students at the prestigious Indian Institute of Technology (IIT), Chennai, got together a few years ago and decided to turn entrepreneurs. They had managed to extract good quality biofuel from seaweeds that grow abundantly along the long stretches of Chennai's sea shores. With great enthusiasm they formed a company, found a mentor and initial financial support to make their dreams a reality.

After a few years, their dream run has hit a major hurdle. It is a law, enacted with great fanfare by the National Democratic Alliance (NDA) government led by Prime Minister Atal Behari Vajpayee in 2002, called the Biodiversity Act, 2002.

The Vajpayee government enacted this omnibus legislation in good faith to protect India's rich biodiversity. It was also an international obligation for India as a signatory to the Convention on biological Diversity (CBD). CBD itself was the result of the high profile Earth Summit in June 1992 held at Rio de Janeiro, Brazil, as the world's first global meet to save the environment.

Now what is the problem with the Biodiversity Act? The framers of the Biodiversity Act have put many stringent provisions in their overzealous attempt to protect everything that lives and grows in India.

Let us take the first major hurdle. The seaweed entrepreneurs cannot access venture capital from most of India's leading financial institutions except the government-owned banks. Because, almost all the Bluechip financial institutions have substantial foreign share and investment holding. The Biodiversity Act prohibits foreigners and foreign companies from having any say in the running of companies that deal with biological resources for commercial exploitation.

Â

What is intriguing is that even after 12 years of its existence, the government has not defined 'foreign holding' for the purpose of the Biodiversity Act. So even if a foreign entity holds a single share or anyone of the senior managers of a company dealing with biological resources, it is equivalent to 'foreign holding' and a big no under the Act. The Biodiversity Board will not give the required permission.

Second major hurdle is that despite one of the largest coastlines in the world, it is difficult to get sufficient stretches of sea surface to grow seaweeds or any other such marine algae in the country. There are too many other regulations that govern the use of coastal land. So the only option is to look for foreign shores to do this.

Entrepreneurs who are looking at using various tools of biotechnology to turn India's rich biodiversity are confronted with many other problems induced by the Biodiversity Act. Permission is required from the state-level Biodiversity Boards or the central board to do any business related to the use of biological resources. A five percent fee on investments has to be paid to the Board. Only research work can be done. No patent application can be made on any product developed without the permission of the Board.

Speed is essential in filing of patents. But the central Biodiversity Board meets infrequently. It has met only 32 times in the 12 years since its launch in January 2003. That is on an average 2.6 meetings a year. Then there are huge gaps in between meetings. The last meeting of the Board was held in December 2014. The proceedings and decisions taken at the 25th meeting held in September 2012 only has been made public so far.

So has the Biodiversity Act gone overboard in implementing its mandate? Only a handful of products have come out of using the nation's rich biodiversity. Thousands of potential breakthroughs in the use of medicine using our rich diversity remain untapped thanks to the hurdles caused by this Act.Â

The National Biodiversity Act (NBA) 2002 was legislated to protect the sovereign rights of the country over its biological resources. The imposition of several stringent restrictions on the access to biodiversity was for guarding the country against likely deluge of biopirates from within and outside India. However, more than a decade after the Rio Summit, bioprospecting has had minimal impact the world over. India cannot even cite one successful outcome of prospecting (and consequent sharing of benefits) commensurate with its rich biodiversity. While the extent of responsibility of the biodiversity laws for this state of affairs can be debated, it stands to reason that no law should be as stringent and narrow as to hamper domestic research and international collaboration.

Agreeing with this assessment, Dr Priyadarsanan Dharma Rajan, senior fellow and program leader (Ecosytems and Global Change), Ashoka Trust for Research in Ecology and the Environment (ATree), said, "India enacted the law mainly to regulate access to biodiversity and facilitate benefit-sharing. Despite imposing severe restrictions on the access to biodiversity in the country, India's gains in sharing commercial benefits of biodiversity among its stakeholders are minimal." Dr Priyan and his team had earlier proposed amendments in the obsolete clauses of certain sections of law in a letter to the then union minister

for environment and forests, Mr A Raja.

Most developing countries, it seems in hindsight, have grossly overestimated the value of their bio wealth, felt Dr S Natesh, Consultant Advisor, National Institute of Immunology. He explained, "Soon after the Convention on Biological Diversity was concluded at Rio de Janeiro, it was expected that the technology-savvy northern nations would make a beeline for the microbes, plants and animals of the countries in the southern hemisphere. Bioprospecting agreements were prophesied to provide a steady pipeline of revenue from the global north to the global south."

"The movement should be free for research purposes without much restriction," said Mr Ram Kaundinya, director general, ABLE-AG who added, "As caretakers of the land and environment, farmers know that rich, healthy soil delivers life sustaining benefits to the crops and livestock they raise. However, traditional intensive cultivation and land management practices can be hard on soil, reducing its quantity, quality and capacity to sustain life. With this in mind, the plant science industry has developed technologies and solutions -from novel crop protection products to seeds enhanced through biotechnology - that enable farmers to incorporate soil-friendly, sustainable practices such as conservation tillage."

Detrimental to innovation?

Each expert has his own way of describing the problem though most agree that when innovation is a buzz word, the law in present form, no longer holds value. As per Ms Priti Khastgir, Indian Patent Attorney, Tech Corp Legal LLP, "The current Biodiversity act is hampering innovation in biotech by delaying the approval process from the date of receipt of application. In my view, the timeline should not be more than 2 months to grant the approval as the long time period would refrain foreign nationals from investing their resources in India. Subsequently, a balance of convenience has to be maintained in safeguarding the biological resources and at the same time respecting the research and development activities of scientific institutions."

"The law is very discouraging," says Dr Reena Singh, Fellow and Area Convener, Centre for Mycorrhizal Research, The Energy and Resources Institute (TERI) adding further, "Presently, non-Indians cannot have access to Indian genetic resources and even if they have the expertise for biotech innovation, they will have to undergo bilateral agreements and material transfer agreements and long approval processes. Through these bilateral agreements, basic research can still be done but commercialization is being affected by this act as Indian companies cannot hire NRI's/OCI's as scientific advisors or senior managers otherwise Indian Company seize to be Indian Company and have to undergo long approval processes.

Agreed Dr Shrikumar Suryanarayan, chairman, Sea6 Energy who said that while the step seems very laudable from the point of view of preventing Indian resources from being "exploited" by foreigners and non-Indians without benefit to the local people - but what is the fallout The Act does not describe, who is Indian and who is not? Explaining further, he added, "Indian companies that are innovating in the area of biodiversity are constrained from raising any "foreign risk capital" at all to stay clear of having any foreign shareholding and therefore having to take "prior approvals" under the provisions of the NBA 2002. Surprisingly this definition of what is an Indian company is different from normally accepted practice (i.e >50 percent Indian shareholding is considered an Indian company)."

Dr Priyadarsanan highlighted another issue, "It is perplexing to note that the Rules and guidelines framed to implement the Biological Diversity Act, are being irrationally imposed on fundamental research and curtails the scientific freedom of individual Scientists." For example, section 5 of the Act 5. (1) The provisions of sections 3 and 4 shall not apply to collaborative research. Projects involving transfer or exchange of biological resources or information relating thereto between institutions, including Government sponsored institutions of India, and such institutions in other countries, if such collaborative research projects satisfy the conditions specified in sub-section (3).

"The law should be made enabling for the active use of biodiversity - rather than discourage the use of biodiversity. The best way to conserve biodiversity is to make it commercially an important thing. The more it is used, the better it is conserved. The current act is a sure way to slowly kill India's largest resource its biodiversity, slowly," said Dr S Ramaswamy, professor and dean, Institute for Stem Cell Biology and Regenerative Medicine, and CEO, Center for Cellular and Molecular Platforms, National Center for Biological Sciences (NCBS).

To be continued....