



Commodification of Nature and Knowledge

The TBGRI – Kani Deal in Kerala



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1) The Corporate Paradigm

The paradigm of private property is increasingly dominating not only the economic, but also the political discourse and practice. Turning everything into commodities is repressing the space for common ownership. “The ideology of greed has become the unquestioned driver of the economy” (Kneen: 2004).

The Convention on Biological Diversity (CBD) reflects this paradigm with regards to nature and knowledge. It was developed in the context of the biotechnology industries demanding a regulated access to the biological diversity as a kind of ‘raw material’ for their research. Bioprospecting is the search for active components in plants, which could become valuable ingredients for new agricultural or pharmaceutical commodities. “The driving force behind international biodiversity policy is not so much the conservation of biodiversity, but rather the various interests invested in the commercialisation of biological diversity.” (Brand: 2008)

The CBD promises the custodians of biodiversity, mainly the indigenous communities a “fair and equitable sharing of the benefits arising out of the utilisation of genetic resources.” However, in reality most approaches to benefit-sharing are dominated by the commercial bottom-line: ‘no patents, no benefits’. Benefit sharing is increasingly becoming a tool for pushing IPRs, promoting ‘biotrade’ and turning biodiversity into another commodity for sale. A positive benefit sharing would mean an end to all monopolisation of genetic materials through IPRs and would require genetic resources to be managed as a heritage to nurture rather than as a market commodity to sell.

One of the well published model of benefit sharing is the TBGRI-Kani deal from Kerala, India. However, a lot of apprehensions raised in the beginning of this deal, later became true. It was reported by many in the subsequent years of the deal that this model was not a successful example to be show cased.

2) The Indian Scenario

When India became party to the Convention on Biological Diversity (CBD), the two underlying concerns that guided India's legal enactments were the conservation and protection of biodiversity and the sustainable utilisation of it with “equitable” benefits to those communities that shared their biodiversity based traditional knowledge. India with more than 45,000 species of flora and 75,000 known species of fauna to protect and conserve was also becoming one of the

most vulnerable countries among the 12 world's megacentres of biodiversity. India is home to highly revered and effective systems of indigenous medicine, both documented like Ayurveda, Sidha and Unani and based on folklore such as tribal medicine. Both folklore and tribal medicine are known to be using more varieties of plants and the knowledge is known to be much more diverse and localised than the documented systems of indigenous medicine. Indian rural women are considered one of the richest possessors of knowledge needed for sustainable use of many of the natural life forms for food, medicine and for special care and nutritional needs. The documentation and transfer of the knowledge as well as the rights to the knowledge, from person to person or through generations, is also as diverse as the knowledge itself and often discretionary. It is also widely recognised that such knowledge has been well protected, and that the availability of the necessary biodiversity components is conserved by these communities or families that own this knowledge. But these traditions are under increasing threat from the onslaught of modernisation and industrialisation, especially after the liberalisation process in India that started in the early 1990s. These factors are leading to the undervaluing of the traditions of these communities or families. It is this knowledge and related lifeforms that are being increasingly sought after for “rediscovering” various medicines (or medicinal properties) that are finding increasing commercial value in domestic as well as global markets. The big question that India needs to ask itself is whether biodiversity and the related knowledge lying embedded within individuals, families and communities can actually be protected and a continuum of this through coming generations be ensured with the help of the legal mechanism that India has established consequent to the CBD.

Legal Framework

India enacted the Biological Diversity Act (BDA) in 2002 as the national implementation of the CBD. This Act was intended to provide for conservation of biological diversity, sustainable use of its components and fair and equitable sharing of the benefits arising out of the use of biological resources, knowledge and related matters. In 2004, India also promulgated the Biological Diversity Rules (BDR) to provide the necessary statutory and administrative mechanism to implement the BDA. Following the Act and Rules, a National Biodiversity Authority (NBA) has been established. Each state is to have a State Biodiversity Board (SBB) and as of 2008 most states have established them. At the Panchayath (village) level, Biodiversity Management Committees (BMC) are to be established, although this step is not yet implemented in most villages. But

neither at the national nor at the state level these administrative bodies have any representation from indigenous community, forest dwelling communities or even from traditional knowledge holders and the users of traditional knowledge and biodiversity. This is the most fundamental flaw in the implementation of the BDA and cannot be considered as an oversight. The only space where the local consultation comes is when decisions are taken by NBA or SBB regarding utilisation of biodiversity of some locality – in this case the BMCs would be consulted. Here again it is widely critiqued that this consultative process does not ensure the consent of the community in such cases. In the BDR 2004, the role of the BMC has been relegated just to the preparation and maintenance of People's Biodiversity Registers (PBR), one of its main objectives. PBRs, which are supposed to be comprehensive documentation of the biodiversity in the village and the local knowledge including traditional practices, are to be prepared by the BMC specifically using the guidelines prepared by the NBA. These PBRs are then to be digitised and stored in a centralised location – called the Traditional Knowledge Digital Library (TKDL).

Hence, this supposedly landmark Indian law that implements the commitments to the CBD has in fact turned out to be a law that facilitates alienation of indigenous people from their resources and decision making processes. It uses them to collect and centralise their knowledge pool and facilitates biopiracy. While the BDA does not have any strictures on patenting, it rather facilitates patenting. The very fact that it facilitates IPR on indigenous knowledge itself is seen as a threat to the biodiversity and raises the very question of the rights of the knowledge providers and people who have been conserving these for centuries. The only structure with local people's participation – the BMCs - also need not to have any members from the holders of such traditional knowledge. Moreover, the BDA undermines the 73rd and 74th amendment of the Indian constitution, whereby local governments through Panchayath Raj institutions (village level governments) have been made the most powerful bodies in decision making. Here the BDA is retrogressive and re-establishes centralised management of natural resources and knowledge. Yet, this continues to be speedily implemented as the instrument for the protection of indigenous knowledge systems.

It is with this understanding that one needs to look at the question of Access and Benefit Sharing as an approach for “equitable and just” sharing of benefits. As earlier discussed the BDA does not ensure any bearing of the owners of the knowledge, in fact it considers them as mere providers of knowledge for the preparation of the PBR, and it holds the BMC as the agency maintaining these

PBR for them. Therefore, the owners of the knowledge are not encouraged to continue in their own traditional methods, but are confronted with a complex set of questionnaires and forms prepared by scientists and facilitated by them. The process of PBR preparation is also complicated with modern approaches in data collection and has least respect for local systems of knowledge repositing and management. This is the first step of alienation of the knowledge providers and the protectors of biodiversity from their own traditional domains and roles. The second step of alienation is that BDA has no provisions whereby ownership rights of the communities or families are ensured. The paradigm is quite blatant: "If you have knowledge, give it to us for documentation, and if you want benefits, allow trade interests to prospect, research and develop an IPR out of it. If they are able to patent it, then you can negotiate for a benefit."

3) The TBGRI-Kani Deal

The story of Kani Access and Benefit Sharing model started in 1987 in the Agasthyamalai Hills of Trivandrum district in Kerala, India. Kanis or Kanikkar (in the local language Malayalam) are one of the 33 odd tribes in Kerala who reside in the Agasthyamalai Hills of the Southern Western Ghats. After India's independence, when states were reorganised, this region got divided between two states, Kerala and Tamil Nadu, and thus the Kani community also got divided.

Kanikkar are very good and gentle people and they make a living out of agriculture and non-timber forest produce collection. They have their own traditional health care systems using the plants from the forest and following certain cultural practices.

The Deal...

In 1987 two scientists from "Tropical Botanical Garden Research Institute" (TBGRI) visited the Kani chief and asked to help them in their research work on medicinal plants. This was part of their work under the "All India Coordinated Research Project on Ethnobiology" (AICRPE). The chief immediately agreed and allocated 3 people to assist the scientists. These were Mallan Kani, Kutti Mathan and Eachan Kani. They were from the same hamlet and related to each other.

During their survey in the forest the scientists saw the Kani guides eating some fruits from a small plant. When asked about it they said that they do this when ever they go to the forest without food, and that it keeps them energetic during the walk. They called the plant 'Arogyapacha', although its traditional name is 'chathan kizhangu'. Naturally, the scientists got interested in the plant. They had

collected some other medicinal plants already. Dr. Pushpangadan, the coordinator of the project, told the Kanikkar that if they could develop some new product which is economically profitable they will share a part of the profit with the Kani. The scientists took some plant samples for further study. They discovered the presence of some glycolipids and non-steroidal polysaccharides with immuno-enhancing and anti fatigue properties (Umesh Anand, 1998). In 1990, Dr. Pushpangadan was transferred to TBGRI and this led to the work on arogyapacha at TBGRI. By this time the plant was scientifically identified as "Trichopus zeylanicus, travancorensis".

TBGRI started working on the drug, arogyapacha, independently and also in combination with 3 other commonly used ayurvedic herbs. This led to the development of "Jeevani" (name given by TBGRI), a combination drug, in which Arogyapacha has a significant role. It took almost 10 years to develop the drug Jeevani.

Once the drug was developed, standardised and a (process) patent taken in 1996, TBGRI went for a tender inviting interested parties with facility for large scale production of the drug. Just before finalising the tender with Arya Vaidya Pharmacy, Coimbatore, Tamilnadu a well known traditional ayurveda company in India, the scientists went back to Chonampara, the village of Kanikkar who shared their knowledge. The scientists explained to them the development of Jeevani and the deal with the company and told them that they have to form a society, since TBGRI was planning to give them 50% of the license fee and half of the royalty they would receive from the company. This money should be used for the welfare of their community. The Kanikkar did not have the money to start a bank account, which was in the end provided by one of the scientist personally!

The Kanikkar received Rs. 519,062 (ca. 14,300 USD at that time) as their share of the license fee and the scientist advised them to put this money in a fixed deposit and they did exactly like that. Later they got some additional Rs.31,000 and Rs.19,000 as royalty. This is the total amount the Kanikkar received in the last 10 years. They accepted the money, but even now they are not aware of the total sales by the company and their profits. What ever they know about the product and its international significance they learned from the two scientists from TBGRI. The scientific coordinator, Dr. Pushpangadan, got transferred later.

Apart from this the two Kani men – Mallan and Kuttimathan - were appointed as consultants in the institute from 1994-2000. Their main job was to help in the processing of raw materials for preparation of medicines. They were happy getting the salary from the institute, but their role in a main stream institute like

TBGRI was not clear to them. They were sad when the new director came in 2000 and told them that they cannot continue to work in the institute. They did not understand the reason.

...and the Conflict

One of the important features of arogyapacha (subspecies: travancorensis) is that it is endemic to Southern Western Ghats and it grows in the rainforest, in the shade near the banks of streams in a slightly higher elevation which provide the plant a congenial climate. It is a small perennial herb with many slender stems arising from a rhizome. Once the value of it became known to the outside world as Jeevani, the demand for it increased instantly. The fact that arogyapacha is a forest plant restricts its availability. One of the said advantages to the entire Kani community was that they could sell the leaves of the plant to the ayurveda company at a good price, apart from the royalty they would receive. The revenues go directly to the families and not to the Kani welfare society. Many kani people got interested in that scheme, subsequently leading to a shortage of the plant material.

Arogyapacha is not in the list of minor forest produce which is allowed to be collected by the forest department. Even inside the forest the population of arogyapacha is not very high so that people cannot harvest as they wish. Arogyapacha is also a slow grower. Many animals like rabbits feed on this plant. TBGRI had to resolve the issue with forest department, tribal development department and the Kerala Institute for Research, Training and Development of Scheduled Castes and Tribes (KIRTADS), which work with tribals. Each of these agencies had their own interests and attitudes towards biodiversity and the lives and culture of tribals. KIRTADS was the most vocal critic of the deal from the very beginning and it suggested that the government should facilitate the production of the drug by the tribal community members themselves. KIRTADS had even drafted a bill for protection of the intellectual property of Kanikkar.

Finally it was decided to encourage the cultivation of arogyapacha in the kani hamlets and a programme was started. Kanis who are the holders of the knowledge were given training on how to cultivate arogyapacha under the integrated tribal development programme. This programme provided support to 50 kani families. Seedlings were taken from the forest and given to the kanis and the cultivation was started in Chonampara village. But 'illegal' collection from the forest continued since there was no sufficient quantity available for sale and also other villages were not under the programme. This created conflicts again with

forest department, which tried to confiscate the plant materials. Kanis found it difficult to handle the situation, to prove that the leaves were from their field. But they could sell their produce twice (300 kg and 700 kg each, latest in 2005). Not many hamlets were aware of this scheme, although the society tried to bring them all together (25,000 nos). They have not done any cultivation or collection of arogyapacha so far and hence have not benefited.

The kani benefit sharing deal was a voluntary initiative by a few scientists. However, they did not work in isolation, but under the AICRPE project, and the head of this project was closely linked with the national and global discussions on the protection of the indigenous knowledge system (Sachin Chaturvedi, 2007). The kani benefit sharing deal was a natural consequence of this. In the initial phase of the deal, kanis were just onlookers and did not actively participate in the process except the two 'consultants' who remained involved. In the executive committee meeting of the TBGRI in 1995, it was decided that the proceeds would be shared on a 50:50 basis. By this time India had signed CBD, what actually helped the director strengthen his position. After this decision was made, the scientists approached the kani community and discussed the plan with a 10 member team of kanis.

One of the most important and tragic impacts of this whole exercise is the conflict of interest which arose between closely related kanis, leading to a breakup of their relationship which was nurtured and flourished through generations. This happened between Mallan and Kuttimathan. Mallan even went against Kuttimathan and the two scientists to court. This happened after the TBGRI director Dr. Pushpangadan and Kuttimathan received the 'Equator Prize' of 30,000 USD during the Earth Summit in Johannesburg in 2002. Out of this award money the Kani Samudaya Kshema Trust received an amount of Rs. 70,000 (ca. 1,450 USD) in seven instalments.

Conflicts within the community are increasing day by day. 10 years have passed after they signed the deal with Arya Vaidya Pharmacy. There are many kani villages which are far away and who have not benefited from this deal, although Jeevani is sold well in the national and international markets. Even the families who are closely associated with the trust have not benefited much. It only added to their burden. With the meagre income from agriculture and minor forest produce collection, there is an added job for them – to resolve these conflicts.

There are 5 patents which arose from the research work at the Regional Research Laboratory, Jammu and at TBGRI. After the research moved to TBGRI

four patents were applied for. Among them one was for the process of producing Jeevani and this was received in 1996.

The conflict is exacerbated by the fact that patent period of TBGRI has come to an end. The license was given for 7 years and it is not renewed so far and both TBGRI and Kani Trust have lost the license fee for the second term. When this was made public, two companies came forward for bidding with double the amount (2 million rupees). However, a license was not granted by TBGRI, although Jeevani is still marketed in India.

In 2000, the American company Nutri Science Innovations LLC acquired a trademark on Jeevani. The company was importing the drug from AVP and they sold it at a higher price without the knowledge of TBGRI or AVP. When this news came out they changed the name of Jeevani to Jeevani Jolt.

Lots of scientific work on arogyapacha is going on in many private institutes and labs and more and more new properties of this plant are dug out. The latest in this list are the anti oxidant and DNA protecting properties of this plant, which were discovered by scientists working in A&M University, Texas. Kanikkar are unaware of all these developments.

The Kani trust recently wrote a letter to the government of Kerala asking for ensuring their rights over their knowledge and biodiversity. It is very unclear who owns this plant and the knowledge attached to it. Is it the Kanikkar, TBGRI or some other institute?

4) Lessons learned

Kanikkar did not ask for a share of profit when they shared their knowledge. But they were given a share in the beginning and it created a series of problems for them. And now it has become doubtful whether they will continue to get this share or not. Although scientists who were involved in the deal support them in their personal capacity, in the larger paradigm of commercial interests it is an open question how this benevolent approach will really help a marginalised community. The fact is that kanikkar have been pushed in to deep waters.

Not that kanikkar or for that matter any other indigenous community do not need money. But their welfare and happiness is still not equated to money alone. That is the reason why they innocently share whatever they have even to those who come to exploit them. It is also true that monetary benefits realised under this agreement are not an adequate compensation for their knowledge.

As a matter of fact the knowledge which the kanikkar shared belongs to a family in a particular village. But they were ready to share the benefits with their community. It shows the large heartedness of the tribal people, but this is not acknowledged by anyone. When this issue was discussed in one of the trust meetings, other members resolved to give an honorarium to the 3 kanis who shared their knowledge to the scientists initially and were following the deal.

Another ethical issue raised by many authors (Reddy, 2006; Gupta, 2004) is that TBGRI did not include the tribal informants as co-inventors in the patent application. Even after the trust was formed, till 1999 many villages were unaware of the whole process. All the initial discussions took place with few individuals in the community who were closely associated with the scientists.

It is also documented by many that conflicting institutional interests make the tribal community more vulnerable and this is exactly what happened in this case. While various institutions try to make their role felt, all in the name of kanikkar, nobody took an effort to ask them what they really want for the improvement of their lives. The problem of kanikkar is almost getting equated to arogyapacha, a plant which kanikkar never considered as the backbone of their existence.

In the main text of the benefit sharing agreement, the conservation of raw material was not included (Sachin Chaturvedi, 2007). This led to a further conflict between the forest department and the kanikkar.

The paradigm of the kanikkar is not of gross domestic product or intellectual property. Their strength lies in the 'common good' and 'collective rights' attitude and philosophy. However, much dilution has happened on this approach over the years. This is just opposite to the 'individual right' approach and private property approach of the mainstream. But kanikkar are one of the marginalised communities making a living out of forest and biodiversity. The current commercialisation process is largely dependent on these same resources and hence the interests are conflicting. So whatever is said in the debate on benefit sharing, the ultimate goal is to commodify the biodiversity and the knowledge of these vulnerable societies.

Knowledge is sacred - every tribe knows this. That is why they do not share it with everybody. The knowledge is not for sale. This is the eastern thought and it is particularly true for tribals of India. But the same community who still stores this knowledge about plants and natural elements now go to the allopathic hospitals even for small ailments. Is it not ironical and tragic that there is no genuine interest taken to protect and nurture this knowledge, based on biodiversity and culture? Instead through the paradigm of Access and Benefit Sharing (ABS) the

same knowledge is exploited and put to commercial use. Tribal people do not demand much. They are not violent, nor are they scheming. Governments and companies know this. They know they can satisfy them by providing some charity. The new name for this scheme is ABS. People who control the resources have always done this to please communities and to suppress any resistance.

Considering the legal framework India has set for the protection of biodiversity and knowledge, the question is: Is this the way Indian systems of conserving, preserving and propagating knowledge were known to be? If not, then why is the BDA facilitating a system that is totally alien to the Indian systems that communities have developed and preserved over centuries? Is it wise to wipe out such indigenous systems of knowledge and biodiversity protection even as India commits itself to the protection of them? Would the BDA with the mandate provided to the NBA and SBBs or with its expertise be able to preserve the complex web of social systems that have preserved these knowledges for centuries? Can they guarantee it, or are they actually destroying this fabric to facilitate commercial interests? Are they not actually destroying the very mindset and attitude of “community rights and good” for the sake of the “private interests”, but in the name of making knowledge available for the good of everyone and anyone? So many bothering questions are left unanswered, and addressing these belatedly would prove irreversibly damaging on the very traditional systems that the people wish to protect.

The reason behind the existence of community knowledge systems is that it evolved to use bio-resources as raw materials to make useful products for local community needs, while also conserving biodiversity as they were so dependent on it. Many communities in fact even recognised that human beings were not the only consumers of these resources and it was needed as an ecological good. The present paradigm of the law, triggered by global demands, is unfortunately in stark contrast and actually promotes bioprospecting and biotrading, aiming towards commodification, and that too (if at all) only for the human good.

In an era where legal protection of traditional knowledge is not harmonised globally and the aim is to appropriate, in whatever name it be (even if for global good), a country like India with its unbelievable diverse systems - varying even from village to village and family to family - cannot afford to destroy its systems for a monolithic IPR led – ABS regime that is so alien that communities with whatever help and support may not be able to cope and benefit from it, without serious impacts on their rights, attitudes and social fabric.

5) The Way ahead

Within the prevailing paradigm of privatisation and commodification of nature and knowledge a fair and equitable sharing of benefits is impossible. But also the concept of biodiversity as a “common heritage of humankind” did not protect the rights of indigenous communities and their way of looking at knowledge and resources.

What is necessary now is to develop new prospects that transcend the corporate paradigm. Reclaiming the commons (property and space that is ‘owned’ communally) will ultimately lead in the right direction. In this paradigm, patenting of life should not be allowed anywhere in the world .

Any alternative framework should be based on indigenous customary laws, such as mutuality and balance. One of the fundamental pillars of such an alternative framework has to be the continuation of traditional knowledge systems. When a traditional healer cannot find a successor for his practices, this is an alarming signal. When today's children do not even carry half the traditional knowledge that their parents have, we are seeing the extinction of knowledge happening.

What is needed is a paradigm that guarantees the continuum of knowledge within the communities. This means the transfer of knowledge and its practice from generation to generation, the evolutionary improvement to it, the culture, the methods and practices of sharing and transferring such knowledge all have to be ensured. Wild species, the knowledge to use them, the traditional ways of conserving and transferring the knowledge as well as the checks on misuse or over-exploitation leading to the extinction of the species and the ecosystems are all part of biodiversity conservation. This age-old ecological prudence and wisdom should be re-introduced in policy and education systems if ecosystems, species diversity and indigenous knowledge systems and practices have to survive and flourish. The new paradigm should primarily provide the confidence and security to the traditional holders and practitioners of knowledge to continue their practices in their communities and over the generations. It is this continuum which can eventually ensure the conservation of the biodiversity by the local communities themselves and ultimately benefit them as well as the larger human race.

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- Mr. Rajendran Kani (current president of the Kani Samudaya Kshema Trust), April 20, 2008.
- Mr. Kuttimathan Kani (secretary of the Kani Samudaya Kshema Trust), April 20, 2008.
- Dr. Vinod (ayurveda practitioner and activist, associated with the arogyapacha project in the initial years), March 31, 2008.
- Dr. Rajasekhran (scientist at the TBGRI, associated with the study on tribal knowledge along with Dr. Pushpangadan), April 18, 2008.