

**IPR impacts a Tribe:
Looking at the “arogyapacha” Case in Kerala, India**

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Abstract

The paper will look at how intellectual property disputes have deep cultural and historical roots and evolve out of different paradigms of knowledge production, one grounded in property and identifiable ownership and the other in the commons. The propertisation of knowledge in the commons is of deep cultural significance, and often has unintended consequences such as the reconfiguration of notions of identity and belonging. This paper will look at an intellectual property rights dispute between actors that revolves around sovereignty, national boundaries and ownership of knowledge and how the structure, scope, and boundaries of existing legal and policy frameworks on IPR are being constantly challenged beyond the confines of the nation state. Second, it tries to show how the legal, and mostly Western, regime of intellectual property that has become predominant as a result of far reaching changes in the late 20th century reconfigures the very notion of community and identity.

Current attempts to ensure that indigenous people are given their rightful due in the Intellectual Property Rights paradigm fail to address the actual impact of benefit sharing agreements on notions of identity, community, and the nation state. Previous research has investigated the link between intellectual property policy, innovation, trade and economic policy (e.g. Etro, 2005, Cook, 2005, Karani, 1996). And though the literature on IPR is large, there has been a lack of focus on specific case studies that study the impact of efforts to accommodate differing conceptions of intellectual property rights within the existing paradigm especially on tribes, non tribals, the state, the nation and the interaction between all these.

At present, most of the literature is on the well known case of the Hoodia cactus and Pfizer in South Africa (Dutfield, 2004, 52-55; Chennells, 2007). The lack of specific case studies of benefit sharing agreements, a reflection of the relative youth of such agreements all of which date from the 1990s, has made it difficult to reach definite conclusions as to how the international IPR regime can proceed. In this regard, an examination of an actual benefit sharing agreement can throw light on problems with the current regime, and signpost directions towards further reform (Calestous, 1999:2). The key aim of this paper is to look at an actual case of benefit sharing—that by Tropical Botanic Garden and Research Institute (TBGRI), a research institute in Kerala with the Kani tribe who live in the Agastya forests of Kerala state¹, whose traditional knowledge of the invigorating properties of the “arogyapacha” (*Trichopus zeylanicus*, eng.trans. evergreen strength) was used to create an energizing drug, “Jeeva” with the benefits accruing from the commercialization of the drug being shared with the tribe. The benefit sharing agreement with the Kani tribe has been hailed as a perfect model, for which the then director of the institute Dr Pushpangadan, and Kani tribal leader Kuttimathen Kani received the United Nations Equator Initiative Prize 2002 at the Earth Summit held in Johannesburg.

This paper will look at this case of benefit sharing focussing on how intellectual property disputes arise out of completely different paradigms of knowledge production, one grounded in property and identifiable ownership and the other in the commons. Rather than focus on the modalities of the agreement, my focus is on how social processes affect the governance of

¹ The Kani tribals belong to a traditionally nomadic community, who now lead a primarily settled life in the forests of the Agast-Hymalai hills of the Western Ghats, a mountain range along south-western India, in the Thiruvananthapuram district of Kerala, India. The Kanis, numbering around 16,000, live in several tribal hamlets, each consisting of 10 to 20 families dispersed in and around the forest areas of Thiruvananthapuram district. The Kanis are the traditional collectors of non-timber forest products from the forest.

intellectual property: how the agreement impacted the tribe, how benefit sharing agreements throw up broader questions of identity, and how this has broader significance for the current IPR paradigm. Thus, this paper will look at an intellectual property rights dispute between actors that revolves around sovereignty, national boundaries and ownership of knowledge and how the structure, scope, and boundaries of existing legal and policy frameworks on IPR are being constantly challenged. Second, it tries to show how the legal, and mostly Western, regime of intellectual property reconfigures the very notion of community and identity and how the inclusion of this aspect is a key need in any formulation of IPR policy.

There are three approaches to how the current intellectual property rights paradigm can be modified: revision, (Kansa, et.al., 2005) a complete dismantling and reconstruction, (Shiva,1997) and keeping the current system (Jensen, 2005). Was the benefit sharing agreement in the case of the "aryogyapacha" successful, and crucially what impact did it have on the community? If not was this the fault of the system itself or is any benefit sharing system fundamentally incompatible with current paradigms of IPR and traditional commons property? Studying actual benefit sharing agreements addresses several of the theoretical issues in the IPR regime that lack scholarly attention especially the way in which benefit sharing agreements redefine and re-conceptualize the community. Benefit sharing agreements raise a whole set of questions that challenge the conception of the community and the tribe. These include

1. Who represents the tribe? Is it the whole community? Or traditional authority figures like chiefs, or elders? Or those among the tribe who have access to traditional knowledge (traditional healers, priests etc)? Or the researchers that use traditional knowledge to create commercially viable products? Or those who commercialize the knowledge?
2. How should the benefits be divided? What proportion of the benefits must go to the tribe? And how is this divided? Does a benefit sharing agreement lead to a shift in the authority structures in the tribe?
3. Does increasing demand for the product lead to a commercialising of traditional knowledge?
4. Should programmes for the sharing of benefits be managed at the level of the individual, sub-clan, clan (in this case Kani), state (Kerala) or nation (India)? How does the state impact benefit sharing agreements?

5. Since a beneficial plant can be native to a host of countries, as in the case of the “arogyapacha”, or belong to a tribe that spills across national boundaries, is there an obligation to share benefits with other nations or groups of indigenous peoples in those countries?
6. How does a benefit sharing agreement impact a tribe? Does it lead to a reconfiguration and assertion of identity?

These are just a few of the issues that benefit sharing agreements raise, and this paper shall look at these with reference to the case of the “arogyapacha” in Kerala. There is both a theoretical and practical need to address these questions and to incorporate them into policy making regarding IPR. However, while this paper will touch upon these with reference to the “arogyapacha” case it is beyond the scope of this paper to answer all of them. Thus, the aim of this paper is to signpost a series of questions that can be the basis of further research. The extant literature is fragmented, straddling such diverse fields as biodiversity conservation, intellectual property law, International trade, technology transfer, traditional knowledge, economic rights, etc. A rigorous political science approach to the question of intellectual property rights with reference to traditional knowledge, and especially with regard to the impact of benefit sharing agreements on target communities, is missing. Current efforts to create a global standard on intellectual property have been met with resistance, mostly from the Southern countries and indigenous communities who have seen the attempts of Western pharmaceutical companies as a new form of colonialism. However, resistance by nation states in the South has been couched in national terms, ignoring the actual indigenous communities who are seen as mere citizens of the state. Thus, while the right of developing countries to share the benefits of biotechnological innovation is acknowledged in international agreements like the CBD it is always from a national perspective. Some authors have argued that the need is for more rigorous procedures to screen patent applications into the intellectual property laws of advanced countries. This approach would need advanced nations to take explicit steps to take into account the pre-existing knowledge on which the patentable innovation might be based. (Muzu, 2006: 19). In all this, indigenous people have been effectively sidelined, being reduced to the status of mere bystanders.

The private sector has emerged as a powerful player in cutting edge areas such as IT and bio technology, where multinational firms wield more commercial and political power than many governments. Moreover, this has coincided with a denationalization of science, a phenomenon

evident in academic and policy-making circles after 1960, when the term ‘multinational’ was first coined (Horrocks, June 2007: 233). In spite of all this the state remains the reference point for traditional IR theorizing on the environment. Therefore, the approach to properly compensating indigenous communities has been from the agency of the state. One of the key suggestions has been that research institutions draft policies privileging a *national* framework for prospecting. The TBGRI, the research institute that is at the Center of the “arogyapacha” case tribe is an autonomous research organisation, that was established by the Kerala state government in 1979 to conserve biodiversity².

Another key factor is the impact of globalization on technology between the 1970s and the 1990s. The retreat of the state, the consolidation and integration of pharmaceutical, chemical, industrial and other sectors has led to an underscoring of the market dominance and their stake in ensuring a conducive regulatory environment. Mergers and acquisitions have consolidated this process, driven by competitive pressures and the huge expense of biotechnology research and development (R&D), (Newell, 2003: 57). The trend has also been to grant broad patents that have the effect of driving competitors out of the market and, by deterring entry, increasing consolidation. Finally, global patterns of knowledge ownership are moving towards the private sector throwing up a new governance problem of biotechnology. The form of the policy response will be crucial, since increasingly globalised patterns of production and strategies will challenge both scope and effectiveness of regulation and the capacity of political authorities to provide effective governance of biotechnology. (Newell, 2003: 57-59).

Over the past few decades, emerging interests and new developments in science, biotechnology and intellectual property rights (IPR) regimes have coalesced to see a return or re-return to nature as a site for cosmetic, pharmaceutical, chemical and agricultural discovery work. (Hamilton, 2006: 158). What makes traditional knowledge so important is that it narrows down the effort required by bio technology and pharmaceutical companies to locate beneficial species. Thus, the hunger suppressing properties of the Hoodia Gornia plant of South Africa were known to Bushmen of the Kalahari desert, and this knowledge was used by Pfizer to create an appetite suppressant drug. In the same way the invigorating qualities of the “arogyapacha” was used to create a commercially available energy booster—the Jeevani. Interestingly, the “arogyapacha” is also believed to have properties that retard ageing—the Holy Grail of pharmaceutical companies worldwide. Both these are examples of how the nature of knowledge creation in biotechnology

² <http://www.tbgri.in/>

requires the sharing of intellectual property globally (Loypacher, July 2004: 550). Biotechnology also represents a major pillar of the knowledge economy that most developed economies see as the basis for their future relative prosperity (Gaisford et al., 2001). The enormous stakes involved mean that companies who are involved in the creation of intellectual property require a significant return to recoup their investment (Boyd *et al.*, 2003). What makes traditional knowledge significant is that increasingly pharmaceutical research is based on information already known to traditional communities worldwide—80 percent of the worlds remaining bio diversity areas are also indigenous homelands (Adamson, 2006). Thus the temptation to help oneself to invaluable traditional knowledge without proper compensation is extremely powerful. The key difference between traditional knowledge and modern day science is the existence of and the key differentiation is the existence of “organized innovation,” (Horrocks, 2007: 228). Some of the suggestions that have been put forward to ensure that there is an equitable distribution of benefits and these include vesting local communities with “custodianship rights of innovation” through either local community leaders who are nominated or appointed to act as trustees of traditional knowledge for the community, or where a government holds relevant intellectual property rights in trust for the local community (Blakeney, November 1998). One of the innovative approaches that the Indian government has tried is the creation of Community Biodiversity Registers (IDRC, 2000) that tries to document the knowledge of conservation, as well as economic uses of biodiversity resources that rest with India's local communities. Local communities collaborate with high school and college students, and local NGOs, collect information in a register, and the information can thus be used or shared only with the knowledge and consent of the local community. The community, when consenting to the access, can charge fees for access to the register and collection of biological resources. Decisions on how to disburse the funds are to be made through village community meetings. However such a register means that knowledge hitherto regarded as secret by communities move into the public domain, and that once this is done it would open the way for corporate and research interests to freely access and use the local knowledge about the biodiversity resources .

The open source nature of the traditional knowledge has led to the phenomenon known as “biopiracy”, referring to the fact that many patents have been granted for products deriving from genetic resources that emanate from developing countries, without the consent of the owners of the resources, or even without informing them (Martinez Alier, 2002). Consequently, activists in the Third World have generally opposed the Western paradigms of intellectual property rights.

For example, in 1998, a coalition of two hundred non-governmental organizations challenged a series of U.S. and European patents involving local plant species. In each case, the charges were based on some form of “bio-piracy” (Prakash, 2000: 160; also appendix 1). Their key charge is that the activities of pharmaceutical companies who trying to create products based on traditional knowledge held in common with no single identifiable owner, and then patent them so as to create an exclusivity of knowledge are a new form of exploitation (Shiva, 1997) However, my contention is that the issue is not simply one of piracy and protection, or of tribes being colonised and exploited yet again. This paper argues that the emotionally loaded term of “bio –piracy,” by making tribes appear to be mere victims, does not capture the complexity of the issue especially the impact that benefit sharing agreements have on tribal communities.

The first part of this paper will examine how traditional knowledge interacts with the current IPR regime, the second part will look at the “arogyapacha” case and the Kani tribe, the third will scrutinise the benefit sharing agreement and the paper will conclude with the lessons learnt.

TRADITIONAL KNOWLEDGE AND THE IPR REGIME

At its core, Intellectual Property is a system of permission-based restrictions. Those who “own” the property set the default limits for those who wish to use it, subject to certain public policy constraints such as fair use. (Kansa, et.al 2005: 287-289). Exclusive paradigms of knowledge protection under Western intellectual property rights traditions lay claim to the whole of knowledge, while the opposite “knowledge is free” paradigm insists that nothing must be protected since knowledge is the heritage of mankind. In fact, “this binary scheme forces some communities to choose between imperfect fits for their own needs,” (Kansa et.al, 2005: 287) but fails to address the actual difficulties of implementing such agreements. Proponents of the knowledge is free paradigm advocate and restricted access while traditional knowledge rights advocates seek at least a limited protection for cultural knowledge. One possible way around the dilemma has been the adoption of a “sui generis” mode tailoring IPR paradigms to suit the unique needs of the nation, with the country emphasizing issues like biodiversity protection, community rights, and sustainable use, something that India has been active in, but again from a nation state perspective (Shields, 2007).

Another approach has been that of the “some rights reserved” idea that falls between these two paradigms (Kansa, et.al. 2005). This approach tries to protect community owned knowledge

paradigms from unfair commercial exploitation. However, significantly this either or approach does not take into account extraneous factors that impact knowledge paradigms. Traditional knowledge does not fit quite easily into this paradigm. Whether stored in the minds of indigenous peoples, or represented in ethnographer notes, museum records, or arcane research publications, it always was often relatively inaccessible and therefore less vulnerable to exploitation (Kansa, et.al 2005: 289). Moreover, colonial practices of exploitation of religiously and culturally significant traditional knowledge have left a lingering suspicion of the Western paradigm of knowledge creation that stresses exclusivity and profit garnering as opposed to the open infrastructure of traditional communities (Shiva, 1997).

However, in an age of bio-technology when such arcane knowledge could be the basis of incredibly profitable innovations in the pharmaceutical industry, and faced with a legal milieu that imposes a certain knowledge paradigm both of which dramatically impact local economies and community life, tribal communities are unwittingly become “stakeholders” in the process of knowledge acquisition (Kansa, et.al 2005: 296). While it is romantic to argue that all knowledge should be free and open this neglects the fact that those most capable of exploiting traditional knowledge would be the most organized and the best qualified, which usually are private or organized government interests. Moreover, the issue is not only one of exclusivity to knowledge, it is also one of how best traditional knowledge can be protected. In fact, many traditional knowledge rights activists warn against romanticisation of traditional wisdom and stress the proprietary nature of some domains of culture, especially when they are protected by patent and inaccessible to the original owners of the knowledge. The inability to predict whether a certain innovation would contribute positively or retard access to new knowledge that exclusivist barriers produce remain issues of concern (Muzu, 2006: 2).

At the multilateral level, the successful conclusion of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPs) in the World Trade Organization elevates the protection and enforcement of IPRs to the level of solemn international commitment (Maskus, 2000) making it easier for companies to profit from traditional knowledge. However, the current intellectual property paradigm remains biased in favour of the Western paradigm with the key reference point for studies of the IPR system and its limitations remaining the Uruguay Round of the Trade Related Aspects of Intellectual Property Rights (TRIPs) agreement, established in 1994, and its push towards harmonized intellectual property and country compliance measures including enabling persons or institutions to patent a country’s biological resources (or knowledge relating

to such resources) in countries outside the country of origin of the resources or knowledge. (TWN, 19-22 March, 2001). There are many reasons behind the sudden interest in traditional knowledge, These include rapidly advancing environmental research, including the rise of new technologies such as bio technology, the consolidation of research in private hands, commercial pressure, a change in national or state policy, and the quest for full policy harmonization in IPR which is a stated goal of the EU (Maskus, 2000: 5).

However, in a patent based regime the increasing importance of traditional knowledge to emerging fields such as biotechnology means that imposing the current intellectual property rights paradigm in its entirety would lead to two outcomes, both undesirable (a) pharmaceutical companies would have pay a fortune to traditional communities to use their knowledge, and this could inhibit research into a wide variety of fields, such as cancer research, in a morass of patent legislation. On the other hand, granting pharmaceutical companies free and open access to traditional knowledge, but then allowing patent rights to products created using that knowledge is akin to colonial practices of exploitation.

At present the international system is in favour of the latter. Commercial companies, given the essential agreement on the sanctity of private property, have found that attempts to enforce the intellectual property regime have been as easy as gaining the attention of government officials and putting the issue on the policy-making agenda. Moreover, the current IPR regime allows leading sectors within the U.S. economy, such as bio technology and IT, to capitalize on their global dominance over intellectual property production (Bettig, 1990:66). One area of growing concern is that profitability of investments in biotechnology can be endangered by intellectual property piracy, particularly in developing countries (Gaisford et.al, 2002). Thus, India, which had since independence followed a process based patent system, that ensured cheap drugs by manipulating the manufacturing process, had to switch to a product based patent system that hiked the prices of essential drugs (Smith, May 2000) though it did augment the fortune of Indian pharmaceutical companies ((Smith, May 2000: 17-19) In line with the TRIPS agreement the Indian Patent Act of 1970 has been amended twice. The 1970 Act provided a process patent for 5-7 years, while in the US and Europe product patents of 15-20 years were the norm. The first amendment in 1999 changed this to a product patent, and India changed its patent law in December 2004 to meet a January 2005 deadline to allow patents on the chemical molecules used in drugs -- not only for new drugs starting in 2005 but also for many others that were patentable after 1995. (United Nations, 2003: 27). At the heart of the issue is the close relation between

innovation and research---and the larger question of whether innovation is tied up to the power of exclusion in knowledge. The excessive power of exclusion assigned to a right holder may prevent rather than promote the production of new knowledge, giving rise to a “tragedy of anti-commons” as opposed to the “tragedy of commons” which occurs when there is open and free access to produced knowledge, leading to a lack of incentives to undertake efforts to create new knowledge. (Muzu, 2006: 9-10). In fact,” there is a relationship between reducing exclusion power from research and reducing monopolistic power,” (Muzu, 2006: 14). However, as the case of the “arogyapacha” shows, benefit sharing agreements rarely tend to be straightforward and the sheer poverty of tribal areas in India and the lack of trained personal such as lawyers who understand the intricacy of the current IPR regime, or activists who can stand up for tribal rights, tend to make the tribes especially vulnerable to commercial exploitation. Again, given the illiteracy and unawareness of rights that is a mark of tribal and indigenous people, it is still quite difficult for tribals to profit from the current IPR regime. All these features are evident in the “arogyapacha” case.

Moreover, the fairness of distributing the commercial benefits of a patent to individuals or companies whose only role has been the using of traditional knowledge, considered common heritage of public domain to which everybody has free access, to create a marginally different product has been questioned, sometimes successfully, as for example in the case of tumeric, when the U.S Patents and Trademarks Office ruled that a patent for turmeric issued to the University of Mississippi Medical Centre in December 1993 was invalid because it was not a novel invention, a victory that activists saw as the first blow in the battle against bio-piracy (eg Shiva, 1997). These are however exceptions (see Appendix One).The counter argument as to why access to traditional knowledge that is already in the public domain within the borders of a country, must be denied to those apply outside the country’s borders has not been answered (Stenson and Gray,1997:). One argument is that traditional knowledge fell into public domain owing to abuses of human rights towards indigenous people who were denied and deprived of individual rights to their knowledge without any prior consent (Dutfield, 2004: 58), but this is questionable, especially in cases like that of the “arogyapacha” when the knowledge was freely given.

Terms: benefit sharers, bio piracy, bio prospecting, local people

In this paper, 'local people' is defined as people who live in tropical forest habitats whether they are indigenous people or people of mixed descent. With reference to them the key question is how indigenous and local people can be provided reciprocal benefits, and through what types of mechanisms (Steven R. King, 1996: 46). Over the last few decades knowledge that has been held by the tribe as traditional knowledge has become important in a commercial sense, However, what has “what has aroused current attention is not the intellectual property of individuals but the intellectual property of groups” (Greaves, 1995: 202).

The key issue is that traditional knowledge does not sit well with the current paradigm of Western intellectual property rights. At heart is a clash between what is traditional and what is modern--what is traditional is not new; there is no identifiable author or inventor; there is no documentation; and finally, traditional knowledge is already in the public domain (Greaves, 1995: 204; Appendix 2) So who can claim the benefit of a commercial innovation that exploits tribal knowledge? I use the definition of benefit claimers as “the conservers of biological resources, their by-products, creators and holders of knowledge and information relating to the use of such biological resources, innovations and practices associated with such use and application (Steven R. King, 1996: 46). However, as the “arogyapacha” case will show, this is hardly a simple matter. Trying to identify the benefit sharer, often when it come to financial recompense, is something that challenges the definition and image of the tribe.

The loaded term “bio-piracy” automatically assumes that drug companies steal plant based indigenous knowledge from developing countries, only to sell them back to the source countries at premium prices. Businesses argue that such allegations are false, that they not responsible for the poverty of their countries that have indigenous knowledge at their disposal but are unable to exploit them commercially. (Mgbeoji, 2006). Another approach is that of biodiversity advocates and conservationists who, adapting a market based approach, argue that once the local people have a stake in the biological resources, they can also share the benefits derived from the use of biological resources. Intellectual property rights can be translated into financial gains, thereby serving as an incentive to encourage research and innovation Finally, the state centered approach holds that the issue is striking a balance between interests of those countries that are seeking facilitated access to genetic resources (commonly referred to as the “user” countries) and those holding the genetic resources and associated traditional knowledge (the “provider” countries

(Martha Chouchena-Rojas et.al, 2005). In all these approaches the tribe itself is reduced to a subject to be acted upon.

THE 1998 Convention on Biological Diversity (CBD) and the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)

The two international agreements that approach the issue of bio diversity have radically different approaches. The Convention on Biological Diversity (CBD) that India ratified in 1994 and is seen as more indigenous community friendly. The CBD contradicts the TRIPS agreement at times, and this occasional discrepancy represents the conflict between two different approaches to intellectual property protection for non-formal knowledge though both are rooted in the Western paradigm of intellectual property rights. For example, the CBD requires that prior informed consent (“disclosure”) be garnered before genetic resources are to be used for product development, whereas the TRIPS agreement does not require such prior consent. The TRIPS emphasizes the right of the IPR holder, CBD that of the nation state, TRIPS emphasizes exclusive patent rights while the CBD does acknowledge the community oriented approach of most traditional knowledge. Another stumbling block is the lack of inter governmental agreements concerning biodiversity conservation and intellectual property policy. (Gaisford, 2002) Many countries are being intensely nationalistic in the protection of their biodiversity resources, but this approach does not include the exclusive right of the indigenous communities to their knowledge. Thus, even provisions of the CBD that oblige countries to recognize local community rights and fair benefit sharing—esp. Art.15.4, 15.5. and 15.6 the focus is on the country and not on the community as such. The key aspect of the CBD is the recognition of the sovereign rights of states, and not local communities, over their biodiversity and knowledge. Thus, the entire approach to the IPR question focuses on how the Indian nation state can benefit from biodiversity but the tribal population rarely benefit from any progress towards the recognition of the realm of traditional knowledge and intellectual property protection. As the Kani case demonstrates, the state always has the power to cut out the community.

A large body of IKS literature focuses on the value of self-motivated development and community empowerment (Gaisford, 2002; Shiva 1997) However, while empowerment is a key issue what is specifically not addressed is how this can be done. This is all the more important in

countries like India where there exist great gulfs in education and wealth and tribal populations are among the most disadvantaged. India has all the advantages of a key player in the biodiversity and bio technology sphere--- democracy, a stable political climate, a fluid policy environment, scientific capacity and knowledge, a well-developed business sector, and most importantly, one of the most biologically diverse resources to be found on Earth. On the other hand, the specific disadvantages that it faces include infrastructure and capacity problems that are key to the gap between developed and developing countries, the inability to take advantage and benefit from the current regime, poor public awareness, the lack of government policies. All these are multiplied manifold when it comes to the tribes. Together these have an enormous impact on the governance of bio technology and on benefit sharing agreement. Moreover, this intense focus on traditional knowledge as a national resource harms traditional communities. To take one example, traditional knowledge can exist as a buffer against poverty, and opportunities for self-employment in the informal sector (Laird, 1997:27). Yet, as was evident in the case of the Kani tribe, national laws conflicted with community interests when the Forest Act of 1927, that deems forests state property and prevents anyone but the state taking out anything except “micro-produce” was used by the state to prevent the Kani from taking out “arogyapacha” plants.

THE CONFLICT BETWEEN TRADITIONAL AND MODERN KNOWLEDGE

According to the World Intellectual Property Institute, traditional knowledge (TK) includes “tradition-based literary, artistic or scientific works; performances; inventions; scientific discoveries; designs; marks, names and symbols; undisclosed information and all other tradition-based innovations and creations resulting from intellectual activity in the industrial, scientific, literary or artistic fields”. (Gillespie-White, 2003) However, how do indigenous knowledge system and forms of traditional knowledge become intellectual property in the eyes of the official intellectual property regime? More crucially, what are the implications of such integration? At the heart of the dispute is the notion of two separate property paradigms- one focused on private, individually owned knowledge and the other focused on communal and open knowledge. The debate in its essence revolves around what “may rightfully be the subject of private ownership”, and both activists and bio prospectors follow practices that have deep roots in colonial modes of cultural perception. Thus, activists see indigenous communities as helpless and in need of protection, romanticizing indigenous people while bio prospectors see the rich resources of tribes

as ripe for commercial exploitation. Both reflect —a Western discourse about the ‘Other’ – (Sarup, 1996) reducing the Kani tribe to mere bystanders who cannot actively engage with the current intellectual property paradigm. In both, the indigenous community is merely acted upon. What is missing is an element of cultural sensitivity. It is important that unique qualities of traditional knowledge systems be recognized and respected; so too the privacy, dignity, culture, traditions and rights of local communities including their right to choose not to be involved in proposed research (Laird, 1997: 197) Often local communities do not have the knowledge or the means to safeguard their property in a system that has its own origin in very different cultural values and attitudes. This throws up a key question regarding any benefit sharing agreement between indigenous communities and pharmaceuticals. Are they culturally insensitive and hence, inherently unfair for one of the partners? Finally, are benefit sharing agreements empowering or disempowering for tribes like the Kani? Can this agreement be seen as an independent initiative or the continued reliance of tribe on outside patrons for empowerment? This paper will try, by moving away from a purely economic and law-based approach to intellectual property right and by incorporating issues such as culture and identity to create a better overall understanding of the “arogyapacha” case—how did it come about, how it transpired, and what lessons can be drawn from it. There are two contrasting approaches to this question. Those in favor of a free market argue that what is required is training for indigenous people so that they have the resources to exploit the immensely valuable resources that they have. Others argue that this will open the gates to subversive influences of materialism and consumerism that could overwhelm and destroy these societies. They call for the formulation of a rights regime which reflects the culture and value-system of these communities as a device to prevent their knowledge from being usurped, commoditized, and privatized and to ward off any threats on the integrity of these societies. The current rights system is inherently unfriendly to traditional knowledge. For example, intellectual property must be new, original, innovative or distinctive to qualify for protection. These requirements make it difficult for traditional knowledge – generally handed down from generation to generation – to obtain IP protection.

Moreover, from the perspective of the tribe, the emphasis of the existing western intellectual property rights regime on individual proprietary rights does not address the collective nature of traditional knowledge. Because western IP law is based on individual property ownership, its aims are often incompatible with, if not detrimental to, those of traditional communities. For

many traditional communities, intellectual property is a means of developing and maintaining group identity and survival, rather than promoting individual economic gain.

Another key concern shared by indigenous peoples worldwide is that the present intellectual property rights regime favours multinationals and other non-indigenous interests. Where IP protection may apply, the prohibitive costs of registering and defending a patent or other intellectual property right effectively limits its availability to the vast majority of indigenous communities, primarily in developing countries. In this way, the existing intellectual property rights regime is seen to help corporate interests and entrepreneurs lay claim to indigenous knowledge without appropriate acknowledgement or compensation for the communities who have developed that knowledge. (Simeone, March 2004: 5-6)

Indigenous knowledge systems also have deep roots in the community—preserving them becomes a way of keeping alive the traditions and often the tribe itself. Consequently, an understanding of the community and its approach to ownership is key to understanding any cases on traditional knowledge and intellectual property. This is in direct contrast to the western paradigm that puts individual, profit, and initiative at the centre of human activity. This is one key fissure in the two paradigms: the Western oriented paradigm clashes with the community oriented one that marks the tribe. Moreover, the successful commodification of intellectual goods can only be achieved in a society which embraces individualism which contrasts with the community centred approach of indigenous people.

THE “AROGYAPACHA” CASE³

“Arogya Pacha” is the name of a Plant (*Trichopus zeylanicus* ssp. *Travancoricus*) from which a drug named ‘Jeevani’ has been developed using “Arogya Pacha” and three more ingredients by TBGRI. ‘Jeevani’ is patented by TBGRI in India and the license for manufacture of the drug was given to one of India’s largest ayurvedic firms, the Coimbatore Arya Vaidya Pharmacy (AVP), with exclusive rights for the manufacture and sale of the drug in India and abroad.⁴ The key aim

³ For the technical details of the agreement I heavily draw upon (Anuradha, 2003; Chaturvedi, 2007; D.P.Agrawal, n.d, Bijoy, 2007)

⁴ Response of Smt. Panabaka Lakshmi, Minister of State for Health & Family Welfare in a written reply to a question by Shri Raghuveer Singh Koshal in the Lok Sabha (Indian

of the Institute is in conservation and sustainable utilization of plant diversity in tropical India and the “arogyapacha” case has made it famous.

However, it also demonstrates the pitfalls of changing intellectual property paradigms. The first aspect of the case is that access to the traditional knowledge of the Kani tribe was achieved only through informal networks, pointing to the lacunae in current intellectual property paradigms for the transfer of knowledge in a formal manner, something that would enable more equitable methods of benefit transfer. In 1990, Dr Pushpangadan, who had been the Chief Coordinator of an ethno-botanical research project moved from a regional research laboratory to become Director of the TBGRI. Earlier, in 1987, on an expedition to the Kani tribal areas in the Western Ghats, the director had noticed that his two Kani tribal guides, who periodically munched on a leaf, never seemed to get tired. After much persuasion the guides revealed that the leaf that they were chewing, the “arogyapacha” had rejuvenating properties, but that it was a tribal secret and sacred knowledge. The director promised that if the product were commercialised, he would ensure that the Kani received a fair share of the proceeds, and started research into the properties of the “arogyapacha”--research that moved along with him to the TBGRI. The two guides were then hired as consultants on the research project spending two weeks at the institute every month. Finally, in 1994, based on research into the plant, a product jeevani was patented, and an agreement drawn up. The AVP was given the licence to manufacture Jeevani for an initial period of seven years at a cost of US\$50,000 for the licence plus 2 per cent royalty. The TBGRI received Rs 10 lakh (around 10,000 euros) as licence fee and 2 per cent royalty on ex-factory sales. The TBGRI decided that the Kani tribes would receive 50 per cent of the licence fee, as well as 50 per cent of the royalty obtained by TBGRI on sale of the drug. A 7 year tech-license agreement was signed between TGBRI, the Kani trust and Arya Vaidya Pharmacy.

The agreement was the first that implements the benefit sharing initiatives of Article 8(j) of the UN Convention of Biological Diversity. It respected, preserved and maintained the traditional lifestyle of the Kani, it took their knowledge with their permission and shared the proceeds of the agreement with them. However, the exclusive access that the tribe had to the plant had more to do with a fluke of nature rather than the power of the agreement. “Arogyapahca” grows only in the Kani tribal belt (Augustya Muni forest) This meant that the these invigorating plant could be sourced only from the Kanis and Indian forest laws reserve the right to cultivate within the forest

Parliament), Press Information Bureau, Government of India, “ Patenting Of Traditional Medicine By USA”, March 8,2006

exclusively to those who live there. Thus, unless supplied by the tribe itself nobody could make the drug---the lack of a patent or a trademark notwithstanding. Further, when TBGRI applied for the patent in 1996, India had not signed the WTO and followed the process patent paradigm. A plethora of drugs were patented using the leaf.⁵

THE IMPACT OF THE BENEFIT SHARING AGREEMENT

The Kanis registered a trust called the Kerala Kani Samudaya Welfare Trust, which received half the licence fee (Rs 5 lakh) and receives a share of the royalty. The trust funds were used to build schools, hospitals and welfare actions and also to buy some much desired TV sets. One of the key impacts of this process of commercialising the drug was on the Kani community. Traditionally poor and marginalised they suddenly had access to a nominal amount of money. At the 1996 rates one kilogram of the berries cost Rs. 150 (about \$ 5) and with an annual yield of 200 kg this meant about Rs 60,000 (USD 150). This did not convert into riches but enabled the tribe to have access to a marginally better form of life with better schools, water supply and a few television sets. The significance of this agreement was that it approached the ideal model of benefit sharing. The tribe was financially rewarded, its contribution to the creation of the drugs was acknowledged, and it was marked by "informed consent" of tribals, sustainable harvesting and benefit sharing. However, the model soon ran into obstacles—a combination of archaic colonial laws, falling out over the benefits, and finally changes in the IPR milieu.

Under the 1927 Indian Forests Act, only minor produce could be taken out of the forest and officials of the state forest department refused to allow the Kanis to cultivate or take out the

⁵ In total, 12 active compounds were isolated from arogyapacha, and five process patent applications were filed since 1994 the most important being the process of preparing an immune system enhancing anti-fatigue, anti-stress and hepato-protective herbal drug, "Jeevanii" (Pushpangadan, S. Rajasekharan and George V., Patent application number 959/MAS/96, 4 June 1996); a process for the Isolation of a Glycolipid Fraction from *Trichopus Zelyanicus* Possessing Adpatogenic Activity (K.K. Butani, D.K. Gupta, B.S. Taggi, K.K. Anand, R.S. Kapil, Pushpangadan P, and Rajasekharan S, , Patent application number 8/Del/94 (1994); a patent application for a diabetes medicine (957/MAS/96, June 4, 1996), the second a sport medicine, Vaji (958/MAS/96, 4 June 1996) and third, a process to prepare an herbal preparation for cancer (MAS/650/2001)."

“arogyapacha” saying that it was not classified as a "micro-produce". Next, it became difficult to distinguish between genuine forestry used and produced from that which had been smuggled outside the forest by locals who are not tribesmen. When Kanis took “arogyapacha” leaves out of their settlements for sale, they were stopped at the forest check-posts.

Soon, non-tribals who were interested in the commercial exploitation of the plant were involved. In return for a small amount of money or alcohol the Kanis would collect the plant and give it to these locals who would then sell it for high prices. The state’s response was a blanket ban on the taking up of the plant from the forest. This, however, hit the tribes the hardest. In the market, it became difficult to distinguish between illegally sourced fruits and plants that had been sourced legally. The AVP that manufactured the plants argued that they had used only legally sourced fruits, and to the limited extent that they had used only medicinal plants that had been supplied by the tribe, this is true. However, unscrupulous middlemen had used the loopholes in the agreement to smuggle out the herb and given its popularity it is possible that both legal and illegally sourced leaves were used.

This indicates a key gap in the current intellectual property paradigms that tries to address the basic issue of inequity in property relations by measures such as benefit sharing--the difficulty is on how to identify and define the tribe. Moreover, tribes do not exist in a vacuum. They interact with non tribals, the state, and authorities on a daily basis and often close links that exist between tribes and non tribes—commercially, intimately, and socially.

Another aspect that the benefit sharing agreement brought to the fore was conflict between the official body charged with the development and improvement of the welfare of the tribes the Kerala Institute for Research, Training and Development of Scheduled Castes and Scheduled Tribes (KIRTADS) and TBGRI. Supported by many Kani elders who believed that the purity of the practitioner was the key element in tribal culture they resented the agreement and argued that traditional knowledge was sacred and should remain exclusive and closed to outsiders. In September 1995, a group of nine Kani healers wrote a letter to the chief minister of Kerala opposing the sale of their knowledge and tribal activists tried to persuade the Kanis from entering into the deal with TBGRI and selling “arogyapacha”. The Kani case thus demonstrates a clash between differing paradigms on how best to look after indigenous people.

It also shows how the state itself can be divided when it comes to benefit sharing agreements. Unlike KIRTADS other government bodies supported the agreement. Thus, in 1995, the government's Integrated Tribal Development Project in Nedumangad initiated a scheme in

collaboration with TBGRI to help the Kanis grow medicinal plants in their settlements. Under the project, 50 select families received Rs 1,000 (20 euros) each with 20.25 hectares coming under cultivation. The TBGRI bought the leaves from the Kanis, paying Rs 30 (0.50 euro) per kg for the chemical trial and for pilot production. However, non tribals again got involved. During the second harvest, some people uprooted the whole plant from their gardens and some others took the wild herb from the forest, according to TBGRI officials. This alerted the forest department against possible large-scale 'smuggling' of the herb. When Kanis tried to sell the herb, they were caught. In a widely reported operation in 1996, forest officials confiscated 10,500 “arogyapacha” plants from a private nursery in the forest. Thus an ideal benefit sharing agreement clashed with archaic colonial laws that saw the forest ass belonging to the state rather than to the communities that belong to it and lived in it, and unscrupulous elements that used the tribes, offering them a pittance to cultivate the herb that was then sold on the black market.

Identifying the Kani

Finally there was the whole question of who were the Kani. The “Kani” identity is nebulous. Though the traditional knowledge of the plants invigorating properties was known to the entire Kani tribe, including some tribesmen who had shifted into an urban setting, the TBGRI benefit-sharing arrangement was made with only one Kani tribal group - the one to which the two guides who had given the information about the plant, belonged. Other Kani groups protested against this and the money could not be distributed for a few years. From the perspective of the tribe, the benefit sharing agreement can be seen as an attempt to come to terms with an entirely different concept of intellectual property rights and to engage modernity. In fact, one of the key objections of KIRTAD to the agreement was that the Kani themselves had not been involved in the negotiating process. However, the impetus behind the impulse to share the knowledge was not altruistic but essentially a way of making money. It was this that the tribal elders who were more puritan and more traditional resented. Moreover, the agreement marked a key shift in the cultural ethos of the tribe. For the first time instead of freely giving away their knowledge they were failing to profit from it. However, the earlier willingness to give was circumscribed by notions of exclusivity – the secret of the plant would be given only to those who belonged to the tribe or only to those who were trusted. Moreover, had it not been for the personal relationship that scientists at the TBGRI had with the Kani, especially the relationship that the director had, the

agreement would not have been reached. This reflects the broader conception of knowledge in traditional societies. In keeping the secret, the tribe was following the practices of indigenous people worldwide, and the quest for esoteric knowledge possessed by tribes reflects a key aspect of modernity—the fascination of the West with traditional wisdom, a fascination that now has tangible commercial rewards.

Moreover, the agreement also showed the extreme vulnerability that tribes who are poor face when it comes to their traditional knowledge,. This is one reason why despite the opposition of the elders of the tribe, the Kani were willing to negotiate with the TBGRI. The implication of this is that for tribes who are marginalized and poor, what is really important is not the debate over cultural commodification or the exploitation of indigenous resources that activists generally focus on but bread and butter issues like buying a new television set, building a new school for having access to clean water. It is extremely significant that it is not ideological differences over the nature of poverty and property that drive negotiations between tribes and pharmaceutical companies. Therefore, by trying to reform the intellectual property paradigm without addressing the basic issues that create the commodification of indigenous knowledge, activists may be putting the cart before the horse. It also brings to the fore the broader question of the place that tribes have in emerging economies like India. Is a paradigm that focuses on how indigenous people can benefit rather than asking why they are in a position where they can not profit from their knowledge nor preserve their culture the right one? It is significant that both in the “arogyapacha” case and in a similar case, that of the Hoodia in South Africa, the benefit sharing agreement was brought to the tribes by external agencies-- in the first case by the TBGRI and in the second, by an NGO. On the other hand, the “arogyapacha” case can be seen as an example where an indigenous tribe was made aware of the value of their traditional knowledge. Surely it can be argued that marginalised tribes like the Kani and the San tribe in South Africa that share their knowledge are profiting from the demands that emanate from the West—the desire to go on a diet in the case of the San, the desire to have reinvigorating drugs in the case of the “arogyapacha”. On this note, the development can be seen as positive, as enabling hitherto marginalised tribes to profit without having to join the mainstream, and on the basis of traditional goods that are suddenly valuable. The case also points to the emerging role of external actors such as research institutes in the recognition and acknowledgement of the traditional knowledge that several indigenous people have.

However, it is significant that the case also shows that tribes still depend on the goodwill of others from the non tribal world to facilitate this. The director of TBGRI has described the tribes as “innocent” and in the whole case, from the way the knowledge was initially revealed, to the way the agreement was signed, to the conflict with other agencies, were all done with the effective marginalisation of the Kani. Depending on one’s perspective, this can be seen as aid for traditional communities to claim their rights, or an external intervention in the affairs that then breaks up the community and disturbs the harmony of the tribe. Additionally, the case also shows how developed research institutions and a growing recognition of natural resources as potential economic development creates an environment favorable to bio-prospectors.

As biotechnology emerges as a cutting-edge area of research, the knowledge that traditional communities have has become a valuable commodity. Can historically marginalised tribes become active players in the process of the commodification of knowledge, and adapt to a knowledge society that is marked by the owning, controlling and managing of knowledge? Such adaptation obviously means a paradigm shift in the culture, society, and the economy of these marginalised tribes. On the other hand, as the “arogyapacha” case shows, this rise of the knowledge society could also mean the emergence of new forms of exploitation of historically underprivileged communities. It has been argued that these communities, even if they do trade their traditional knowledge for commercial purposes do not really benefit. The difference in the costs of the final product that was produced using the knowledge of the tribe, and what the tribe actually got out of the benefit sharing agreement points to this. At present the cost of a small bottle of Jeevani is roughly 60 times more than what was originally paid.

One key problem that emerged from the case was the question of how to adapt previously communal knowledge into a privatized system. If considered a success, the agreement is only to be considered successful *within the current IP paradigm*. There are broader discrepancies and injustices apparent in the compromises that had to be made at the expense of the traditional knowledge holders. The growing awareness of the immense wealth that traditional communities possess through the age-old ways of life has also brought to the fore how these communities are defied. Previously unchallenged assumptions of what the tribe is suddenly become important when the question of benefit sharing arises. If the benefit sharing agreement is reached, who must benefit?, The whole tribe? Those who represent the tribe? And if so how such representation should be acknowledged? Must it be on the basis of traditional positions of authority such as the chief of the tribe, in case of the Kani the mottu kani, who is priest, chief and leader combined but

who usually only has a ceremonial role? Or must it be on the basis of those who know? In the Kani case, the knowledge was transferred by two guides on the basis of a personal relationship and they, by later being hired as consultants, benefited. One of the key questions that benefit sharing agreements give rise to is that many people outside the tribe have this knowledge in a cultural and collective sense. Must only those who can prove that they have historically utilised the plant be allowed to benefit? Should anyone who has been defined as belonging to the Kani community benefit? Should those who know about tribal secrets second hand, or those who know it because they are aware of knowledge in the commons benefit? Moreover, there is the question of the modalities of the benefit sharing agreement—must the benefits accrue only after the commercial potential of the drug has been utilized, or must agreements be drawn up even before the research begins? Or, going further, must the research potential of traditional knowledge be accessed before bio prospecting even begins?

In all this, the question is “Who defines the tribe”? Unquestioning acceptance of state defined or government defined categories suddenly becomes extremely important when it comes to the question of delineating beneficiaries. Simplified notions of the community can be useful when it comes to benefit sharing agreements but then, as the “arogyapacha” case shows, simple definitions of the tribe can break down in the face of economic and social pressure. The challenge is to convert simplified notions of 'community' into more specific policy recommendations" without causing damage to the tribe and the community. More specifically, one of the major complications arising from the case at hand is the problem of designating beneficiaries and how to distribute awards.

If the definition of the community as focuses on a shared locale, on common ties and social interaction and the community is seen as a spatial unit, an economic unit and as a unit consisting of a web of kinship, social and cultural relations, then the Kani are difficult to define in the traditional way. The Kani are not confined to a specific geographical area though the majority of them live in the Agastya forests near Trivandrum, and they have also crossed state boundaries with some of them living in the neighbouring province of Tamil Nadu. Social boundaries have also been crossed as a result of affirmative action by the state government and the national government. Therefore, there cannot be a monolithic definition of the notion of the Kani community, and the Kani community which is frequently cited in the case carries a high degree of uncertainty in the way it is defined. Even the approach of the TBGRI was criticised for favouring a section of the tribe, for having chosen the section of the tribe to which the guides

belonged, and for treating the tribes as mere subjects. This brings into the debate on intellectual property rights the debate on who defines the tribe, and the extend to which colonial attitudes towards tribes, as seen in the Indian Forest Act of 1927, and the general attitude of the TBGRI and other agencies like KIRTAD of believing that the tribals cannot speak for themselves, they should be spoken for.

Moreover, neighbouring communities interact within the same ecological system and have some degree of knowledge and the one who gets the rights is the one who claims them. This then brings about the question of who the actual owners of the knowledge are. This was one of the key problems of the “arogyapacha” agreement. While the case of the “arogyapacha” is confined to Kerala, this raises the broader question of how one defines within geographical limits a tribal community. Must the agreement for benefit sharing be confined to those who are within the specific boundaries of the nation state? Or should one go beyond the paradigm of the nation state to provide benefits? The introduction of incentives for being classified or defined in a certain way tends to create conflict in previously benign attempts to determine community as those that perceive themselves in the core want to exclude the periphery in order to garner greater benefit. Another question that arises is whether relations are defined by history or by society or by the ownership of land, or by outsiders?

Lessons Learnt

The “arogyapacha” case shows that benefit sharing need not be confined to potentially conflict inducing financial incentives, but to other benefits such as infrastructure and capacity building, or the augmentation of on-going community efforts. At the same time, the “arogyapacha” case shows the sudden influx of financial wealth into a traditional community can have a potential destabilizing effect. Several studies address the question of importance of including mechanisms to facilitate technology transfer in partnership agreements. Moreover, agreements to rights to intellectual property are usually made between national governments and foreign firms but this begs the question of how the communities that actually possess the knowledge can benefit. Moreover, even if the government decides to share the benefit, the exact modalities of the transfer including the amount of money transferred, the benefits that go to the community, who represents the community etc remain contentious issues. Of greater significance than “official” determinations of trust funds, benefit sharing, and research

guidelines, the debate as to whether policy means practice is foundational, in the realm of bio-prospecting has been only lightly addressed in the literature. The lessons of the “arogyapacha” case bring into question the actual extent to which “marginalized communities” benefit from bio-prospecting deals and point to the need for a concerted and co coordinated to address conservation and development problems. There is a need for such efforts to be accompanied by a set of comprehensive and innovative approaches towards consumptive and non-consumptive use of biodiversity.

Patents Based on Indigenous Knowledge of India Appendix One

<i>COMPANY</i>	<i>US Patent No.</i>	<i>Pirated Indigenous Knowledge Related to:</i>
W. R. Grace 1750 Clint Moore Road Boca Raton, Florida, U.S.A. 33487-2707	[4556562] [4946681] [5124349] [5001146] [5405612] [5409708] [5411736] [5397571]	Neem (Hindi); Margosa Tree (Eng.); <i>Azadirachta indica</i>
RiceTec Inc. Schloss Vaduz FL-9490 Vaduz Liechtenstein	[5663484]	Basmati (Hindi & Eng.); <i>Oryza sativa</i>
Sabinsa Corporation 121 Ethel Road West, Unit #6 Piscataway, NJ 08854, USA	[5536506]	Kali Marich (Hindi); Black Pepper (Eng.); <i>Piper nigrum</i>
Calgene <i>(Subsidiary of Monsanto Co)</i> 800 North Lindbergh Boulevard St Louis, Missouri 63167, U.S.A	[5510255] [547991] [5494790] [5538868] [5475099] [5576428] [5558834]	Erand (Hindi); Castor (Eng.); <i>Ricinus communis</i>
Calgene <i>(Subsidiary of Monsanto Co)</i> 800 North Lindbergh Boulevard St Louis, Missouri 63167, U.S.A	[5463174] [5563058] [5512482] [5455167] [5420034]	Sarson (Hindi); Mustard (Eng.); <i>Brsassica compestris</i>
Pioneer Hi-hred/DuPont International Inc., Des Moines, IA, USA.	[5638637] [5625130] [5470359]	Sarson (Hindi); Mustard (Eng.); <i>Brsassica compestris</i>

Appendix 2: Differences between the Western and Traditional Knowledge paradigms

Differences Between Western Science and Traditional Knowledge(2)⁶

Factor	Western Science	Traditional Knowledge
Approach	Compartmental	Holistic
How communicated	Written	Oral
How taught	Lectures, theories	Observations, experience
How explained	Theory, “value free”	Spiritual, social values

⁶ Taken from Indian and Northern Affairs Canada, *A Community Guide to Protecting Indigenous Knowledge*, Ottawa, 2001, p. 4.

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