

Problems and Prospects of Biological Resource Utilisation in Meghalaya

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Introduction

The traditional knowledge base of Indian ethnic and local communities particularly in North East India is perhaps the richest in the world. North East's tribal and folklore traditions, particularly the traditional medicine systems are rich and unique. The tribal community has for long been the custodian of natural wealth of biodiversity and hence they have gathered the perfect knowledge and art of sustainable exploitation as well. The global resurgence of interest in herbal medicine systems stems in part from the belief that plant based medicines are devoid of any serious side effect. Traditional herbal remedies are also popular because they cost significantly less than their modern counterparts. Traditional medicine is often a more widely available and more affordable source of healthcare. Moreover, cultivation of medicinal plants by local communities can lead to wealth creation.

Indigenous Knowledge, Herbal Medicine and Wealth Creation

The extraction of herbal medicine from the medicinal plants can be given due importance in this region by looking at the international scenario that around 40 per cent of industrialised nations

are still utilising traditional systems of health care. Indian medicinal plant related trade is worth Rs. 500 crore while Rs. 900 crore worth of herbal medicines are produced annually worldwide. A country like Nepal exports medicinal plant and its related product to the tune of \$22–71 million and it is the 3rd largest export article of this small country. The medicinal plant resources in North-East India can be a source of revenue from extractable products. Greater attention needs to be paid to harness such resources through profitable utilisation of intellectual property rights. This will lead to the generation of high value products and hence economic benefits and also ensure sustainable use of biogenetic resources. A case in point of such profit sharing model of the traditional knowledge and its profitable utilisation for economic benefit is the Aarogyapacha plant and Kani tribes of Kerela. This plant has innate medicinal property and Jeevani, a scientifically validated, standardised herbal formulation was formulated with this plant. The special property of the plant was unknown to modern science until told by the Kanis. The transfer of knowledge of the tribes on a commercial scale struck a deal to percolate the benefits to the Kani tribe too. The nomadic Kani tribes have formed a trust and the amount due to the Kani tribals from the sales proceeds of Jeevani is transferred to the trust and the earning is used for the welfare activities of the Kanis. The Jeevani story is not just path-breaking news, it is an eye opener — a pointer to what may be achieved if people are made aware and literacy on the sustainable exploitation of nature's wealth is inculcated.

In India, Ayurvedic medicine constitutes 84 per cent of the total Indigenous System of Medicine (ISM). Claims for several ISM products are being criticized for not having any scientific evidence to back them and the approach to clinical practices is not found.

A recent UN study of 762 randomly selected US patents relating to medicinal plants revealed that 49 per cent were based on traditional knowledge. The formulations or medicaments recorded in indigenous systems of medicine offer little scope for patenting. However, extracts or concentrates or novel formulations based on traditional remedies practised by the tribes and local practitioners, which are not recorded but primarily kept as secrets and passed on from generation to generation through

folklores have been practised for over hundreds of years. These knowledge based medicines can be patented on the strength of data on a few patients or experimental animal models. In case these medicaments have been developed and practised by local practitioners, the benefit of royalty will accrue to them and the sale of flora to the population growing these plants. The market growth of herbal drugs is nearly double of that of modern drugs. Considering the strength of well practised knowledge of traditional medicine, India has not been able to capitalise on this wealth of traditional knowledge for economic security.

Need for Development of Literacy

Surviving life forms, especially plants endowed with innate quality as source of medicine can contribute greatly to the development of unique drugs. Meghalaya is fortunate to be a home to an incredible number of plants and animal species, some of which are waiting to be assessed for their potentials. There is a need for building upon the Indigenous Knowledge System (IKS) available in the form of traditional knowledge, through the application of modern scientific literacy and techniques. This may include the development of standardised herbal formulations and establishment of scientific evidence base for traditional medicines, through understanding the mechanism of their action and toxicology studies. However, there are also the dangers of the valuable knowledge being misused and exploited by unscrupulous elements. Protection of these fragile knowledge systems through documentation and implementation of intellectual property right is equally important.

At the national and regional level, information and education campaigns on 'economic alternatives' or 'development literacy' can help grass root people to learn why they and their fellow citizens are impoverished. Through information campaigns, projects can be made popular and to consider alternatives that are in the interests of the indigenous community. It must be ensured that the indigenous knowledge and resources are not eroded or lost without due economic rewards. There is a need to develop a new paradigm, which takes into account the rich natural as well as human resources. The richness of biodiversity, folklore and traditional knowledge endowed with rich intellect

offers scope in Meghalaya to harness the ideas and innovations for economic benefits. With systematic information system and skills in patenting, filing, reading and exploiting patents combined with awareness building, the traditional secrets may get unveiled bringing prosperity to the region. However, the lack of proper information and awareness may result in this intellectual property getting pirated by foreign companies or may never come out from the secrets of the tribal community for fear of exploitation.

If we are to take the big leap, which our economic programme foresees, it is essential that in the field of intellectual property rights and their protection, a progressive new culture and mindset be developed in business, research and other development activities. Further, local community should be made aware of these new developments and their implications such as the socio-economic impact of having strong intellectual property right regime and that may begin with the setting up of Intellectual Property centres throughout the country, as is the case of China. These institutes or Centres must reach out and connect to the different levels of democratic hierarchy permeating right down to the districts and villages through the establishment of Community Information Centres.

The world has suffered and continues to suffer from a profound loss of indigenous peoples and rural groups and their knowledge about the natural world constructed from their intimate relationships with the ecosystems in which they live. This loss has been accompanied by neglect and marginalization of such practices and beliefs, often dismissed as inferior forms of knowledge to be replaced by universalized knowledge derived from the western scientific tradition.

The imposition of scientific management regimes without the participation of local communities has prompted debate on whether the neglect of traditional knowledge violates human rights, civil rights and indigenous rights. In recognition of these issues, there is a dramatically growing national and international interest in incorporating indigenous knowledge system, including traditional ecological knowledge, into truly participatory approaches to development. Networks of indigenous and rural communities for promoting IKS are emerging and national institutions are now regarding IKS as an invaluable national resource.

In the years since colonisation, indigenous communities have often trustingly imparted such knowledge to visitors without realising that the visitors might commercially exploit it. It is said that this exploitation often occurs without acknowledgement of the traditional indigenous sources of the information and with little or no reward to the communities whose knowledge is involved. The important issue to be guarded here is that the benefits must go to the community.

Intellectual Property Rights are now being extended to beyond the conventional domain of mechanical and chemical innovations to include biological resources. National Biological Diversity Act of India in response to our commitment to the convention on Biological Diversity and Intellectual Property Rights must, therefore, devise operational mechanism to share benefits of commercial applications of traditional knowledge on biodiversity with communities. Also it will be useful to ensure a harmonised basket of rules made under the Patent Act, Protected Plant Varieties Act, and the Biological Diversity Act.

Development aid policies should focus on improving the indigenous scientific and technological knowledge base and infrastructure as a foundation for promoting indigenous knowledge system. This will lead to environmentally sustainable economic development to address the aspiration for a better life. Development aid decisions should include a consideration of development literacy as alternative strategy for utilisation of biological resources and profitable utilisation of intellectual property rights.

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