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EDITORIAL

HARNESSING THE HIMALAYAN RESOURCES



Our visit to Institute of Himalayan Bio-resource Technology (IHBT) at Palampur in Himachal Pradesh was memorable for a number of reasons. This was probably for the first time I was overwhelmed by the luminous presence of the Himalayas in the reflected sunlight from the mid-afternoon sun. I have seen

Himalayas from Kurseong, I have seen Himalayas from Darjeeling. In all those endeavours we were bent upon to see the snow covered peaks of Himalayas reaching Tiger Hill at early morning, sometimes disappointed by the presence of spoil-sport clouds but this time the snow-covered Himalayas itself appeared suddenly before us with its grandeur at the sharp turn of our vehicle on our way to Palampur from Chandigarh. Light of the afternoon sun reflected from the snow etched a scene in my mind hard to forget.

Looking at the tall trees standing upright with many smaller plants sheltered around them a question occurred to me 'Does nature care for our love and attention'? They really don't. Without getting any attention from us they grow, bear fruit, produce progeny and allow us to reap all the benefits and to enjoy its beauty. It is a kind of hypocrisy to call ourselves 'nature lovers' because we only roam around to enjoy the beauty of the nature and do nothing for the nature. Can you remember when was the last time you watered a plant in your locality out of love, yet the trees around the city, trees along the roads are there to grow, to survive out of the limited resources and in the midst of all sorts of obnoxious gases produced by us. What

nature wants from us? It whispered to my ear 'Leave me alone'.

About Palampur, it is a small town in the Kangra Valley situated about 5000ft above the sea level. A town with a population of about one hundred thousand and having such a beautiful natural beauty at the lap of Dhauladhar range of mountains is a place of envy to anyone living in the mad crowd of Kolkata. To many scientists of IHBT living at a place with limited entertainment facilities doing science in solitude is a kind of entertainment they enjoy.

To Indians the Himalaya is much more than a mountain on the north defining the geography of the Indian region—it is a sacred symbol of nature which influenced every aspect of the lives of Indians. The Himalaya has been a subject of investigation from time immemorial to philosophers, poets and mystics to understand it, to unravel its mysteries and thus produced lots of myths and mythological stories in the process. Kalidasa described the Himalaya in his *Kumarsambhava* as "The Himalaya exists at the north. It is the lord of all mountains, with its two extended arms reaching out to the eastern and western oceans, standing unsurpassed as the measuring rod of the earth".

According to K.R. Narayanan, former President of India, it is the interplay between the ocean and these mountains, between the sea, air and land, that has shaped the geography, climate and the very history of India. The range is in integral union with the landmass of India and part of the life, lore, history and civilization of this ancient land and a treasure trove of water resources, minerals, flora and fauna.

Water is the most important natural resources provided by the Himalayas. The ice fields and glaciers around the Himalayas provide about 75 per cent of the country's fresh water's resources. The utilizable water resources out of just the three great rivers, the Indus, the Ganga and the Brahmaputra, covered the total catchment area of more than 800,000 sq. km serving as a source of water for millions of people. Water coming out of the Himalayas with a tremendous force has the capacity to hydroelectric potential equivalent of about 75,000 MW of electricity of which only about 20% has been tapped so far. It is known that hydroelectric power generation is the most efficient means to produce power: about 95% of water energy is convertible compared to about 40% and 30% for wind and coal respectively. I was told that the water coming out of the Himalayas is so pure that people of Palampur till a few years back drink direct water from the Himalayas without filtration.

However, hydro power projects are related with two major problems, one is socioeconomic and other one is environmental. First one is related with displacement of large number of people and their rehabilitation. The second one is the environmental degradation due to dumping of muck. The excavation and underground work are so huge in hydel power project that disposal of huge amount of muck produced is a major challenge. Scientists of IHBT, Palampur are seriously engaged to remove the ugly scar made in the land areas by reclamation of the dumping areas of muck by plantations etc.

The sage Nagasena described the Himalaya as 'the dwelling place of multitudes of creatures, the producer of myriad perfumes and enriched with hundreds of magical drugs'. Truly, the Himalayas is a treasure trove of important medicinal and aromatic plants. Mapping of biological resources in the Himalayas itself is a challenging task, forgetting about the inaccessible terrain. Incidentally, it was

Linnaeus, a Swedish scientist who was the founding member of the Royal Swedish Academy, was probably the first person who in mid eighteenth century did extensive surveys of the natural resources of the entire country of Sweden which was larger even than France at that time. Scientists at the IHBT, Palampur have started to investigate, explore and map its bio resources essentially to conserve and utilize the resources for the benefit of the humankind. The exploration of the botanical plants helps to establish a whole scientific library. We present here in this issue of the endeavour made by the scientists of IHBT, Palampur in this direction. Reading this cover article, readers will understand the magnitude of its importance, level of challenges, dedication and the use of modern age technologies by the scientists.

Other important Himalayan resources which remain less explored compared to those in the peninsular shield are mineral resources. The Himalayan studies indicate deposits of valuable metals like gold, copper, zinc, nickel, antimony, lead and non-metallic materials such as graphite, borax, borax sulphates etc. Large quantities of limestone, marble, quartz, granite etc. are also available and have been quarried as construction materials.

With increasing population demanding development, natural biological resources in particular are soon depleting and introduced an extreme environmental change for the worse. The impact of human activity on flora and fauna has produced an irreparable damage. It is said that one oak tree felled destroys a hundred orchid species of great botanical value, loss of one medicinal plant is equivalent to destruction of the whole scientific library. IHBT scientists are also in the process of conserving bioresources including medicinal plants. It is an open question whether the medicinal plant grown in natural environment of the Himalayas when removed and grown in laboratory will have the same degree of medicinal quality.

It is true that developmental processes triggered by increasing population and economy can not be stopped and leave the Himalayan mountains alone to their virgin purity and grandeur but scientists should have to find out means of development keeping the ecological balance undisturbed. It sounds oxymoron but science and technology need to be applied to find means to safeguard or at least to minimum damage.

Greatest threat to the Himalayas is the environmental degradation. It is true that developmental processes triggered by increasing population and economy can not be stopped and leave the Himalayan mountains alone to their virgin purity and grandeur but scientists should have to find out means of development keeping the ecological balance undisturbed. It sounds oxymoron but science and

technology need to be applied to find means to safeguard or at least to minimum damage. K.R. Narayanan once remarked 'there is only one Himalaya to lose and scientists can ensure that we not only do not lose it, but also that we do not diminish its grandeur and importance'. □

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