

SIACHEN: SYMBOL OF HOPE NOT HOSTILITY

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The Siachen glacier is the highest and possibly the harshest battlefield in the world. This icy wasteland is a drain on the exchequers of both India and Pakistan. It costs India about 200 crores every month to maintain a troop presence in the Siachen. Possibly it costs Pakistan the same. For a fraction of this cost and a great deal of imagination, this bone of contention could become an asset for both. The Siachen with its military presence could become the perfect Gene Bank for the region's precious and highly specialised genetic resources! This symbol of fractious fighting and hostility could be turned into a symbol of hope and collaboration for the future, if the leaders of our warring nations show ingenuity and courage.

India which has recently acquired the largest gene bank in the world, in Delhi, understands the importance of conserving genetic material. Pakistan does too. For both nations, genetic resources form the backbone of the economy and the basis of the livelihoods of tribal and rural communities. Genetic resources are also the raw material for Biotechnology which will dominate up to 60 % of the global economy in the coming years. India and Pakistan can develop as important producers of biotechnological products given the richness of their genetic wealth. To do this, they must begin by conserving and storing their genetic wealth in Gene Banks. One option is to store it in a Gene Bank in the permanently frozen glaciers of Siachen.

India and Pakistan, as the entire sub- continent, is home to several thousand species of plant, insect and animal life. This biological wealth is one of the most sought after resources in the world today. The Indian subcontinent contains some of the most important biodiversity „Hot - Spot „ areas of the world. This region has given the world several varieties of food and cash crops and has contributed significantly to the stability in global agriculture. The famed Basmati being poached by America and now Thailand belongs to the Indo- Pak region. The subcontinent has contributed atleast 20,000 varieties of rice to the International Gene Bank in the Philippines. Similarly it has contributed many kinds of pulses, peas and beans, other kinds of cereal like ragi, vegetables and spices to various gene banks that are conserving genetic resources for the future.

A Gene Bank is one of the facilities necessary to conserve the fast eroding genetic diversity in our fields. If we fail to conserve our genetic (biological) diversity, we risk the future food security of this country, as also of the world. In addition to plant varieties in agriculture, there is an urgent need to save our forest resources, the animal and fish species in our rivers and the insects and the microorganisms of our region.

Most of the gene banks in existence are located in western nations. Although they are governed by an international mandate, practically, the control over the genetic material in the bank is not in the hands of those who are the contributors. India for example, has little control over the many thousand rice varieties lying banked in the Philippines. All our microorganisms are lying banked in an American facility because we do not have our own gene bank for storing these. At this time, with an aggressive biotechnology industry demanding access to our genetic resources and forcing an international patent regime to monopolise these resources, it has become imperative for us to think of our own gene banks, under our control.

Gene banks are expensive options and the cost has been one of the major impediments to setting up our own facilities on a large scale. The newly installed National Gene Bank in Delhi has been an Indo- US effort. Given the current climate of controversy over genetic resources, in the matter of storing our genetic material, it is best to be independent. Although a conventional gene bank is an expensive proposition, an unconventional gene bank need not be so.

A gene bank is essentially a combination Fridge and Freezer. Here there are two ways of storing genetic material, usually in the form of seeds. Seeds can be stored for 5 to 15 years (medium term storage) in the "Fridge" section, at 5 degrees Celsius. This is not so difficult. Seeds that have to be stored for the long term which theoretically means „forever“, have to be stored in the „Freezer“ section, which means at -20 degrees Celsius. This is somewhat more difficult because it means very heavy energy costs. Maintaining a gene bank at - 20 degrees not only means heavy electricity bills but given the power shortage here, it means providing back- up support by captive power generation, making the whole exercise still more expensive.

The permanently frozen Siachen is a natural Freezer .The - 20 degrees is provided by nature and entails no electricity bills. Here is a free gene bank of almost unlimited capacity, provided we have the imagination and the will to seize the opportunity. India and Pakistan maintain highly trained troops in that territory. This skilled manpower is bored out of its head and has nothing better to do than take pot-shots at each other. It is not unreasonable to assume they would be more than happy to catalogue, store and maintain the foundation of their children's future provided their leaders let them.

Making a gene bank in the Siachen would really be quite a simple affair. All the technical know-how is available at the National Gene Bank in Delhi. What is essentially required is for seed samples to be treated appropriately for long term storage, put into special aluminium pouches, labelled properly and put into the bank. What is important is that the samples can be retrieved periodically and sent back to the field to test that nothing has gone wrong in storage and that they are still viable. The seeds derived from these grown-out samples can go back to the bank. Suitable sites in the Siachen can be selected as, so to speak, Ice Cupboards where boxes containing the aluminium pouches can be stored.

A similar, perhaps less glamorous but under the circumstances, more easily implementable option is available for us in the experimental station we maintain in Antarctica. In this perma-frost region nature has also provided conditions which are suitable for natural gene banks. Here also we maintain highly trained teams of scientists so manpower will not be an additional cost. For a modest sum of money, the banking facilities for the genetic resources of our region can be extended almost indefinitely.

Gene banks in the Antarctic and Siachen are new ideas but they have tremendous potential. Their likely impact on securing the livelihoods of our people and strengthening the economy of our region should be incentive enough to try. Given the crucial importance of genetic resources to our joint future, it is time for the leaders of India and Pakistan to demonstrate a quantum leap in creative thinking.