

Nationally Important Agro-biodiversity Heritage Sites (NIABHS): An Innovative Concept for Sustainable Conservation Efforts

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Introduction

The Protection of Plant Varieties and Farmers' Rights Act, 2001 under section 45 states that:

1. The **Central Government shall constitute a Fund** to be called the National Gene Fund and there shall be credited thereto -
 - (a) the benefit sharing received in the prescribed manner from the breeder of a variety or an essentially derived variety registered under this Act, or propagating material of such variety or essentially derived variety, as the case may be;
 - (b) the annual fee payable to the Authority by way of royalty under sub-section (1) of section 35;
 - (c) the compensation deposited in the Gene Fund under sub-section (4) of section 41;
 - (d) the contribution from any national and international organization and other sources.
- (2) **The Gene Fund shall, in the prescribed manner, be applied for meeting -**
 - (a) any amount to be paid by way of benefit sharing under sub-section (5) of section 26;
 - (b) the compensation payable under sub-section (3) of section 41;
 - (c) **the expenditure for supporting the conservation and sustainable use of genetic resources including *in-situ* and *ex-situ* collections and for strengthening the capability of the Panchayat in carrying out such conservation and sustainable use;**

- (d) the expenditure of the scheme relating to benefit sharing framed under section 46.

The highlighted points clearly mandates that the PPV&FR Authority should, in prescribed manner (that is through Gazette Notification), develop a system which can support the conservation of ex-situ collections in such a way that it can simultaneously strengthen the capabilities of the Panchayat in carrying out such conservation efforts and further create avenues for using it in a sustainable way. Based on this, the present Concept Note is an attempt to carve out a system for identifying and strengthen '**Nationally Important Agro-biodiversity Heritage Sites (NIABHS)**'.

Nationally Important Agro-biodiversity Heritage Sites

The logic of identifying and promoting some sites as 'Nationally Important Agro-biodiversity Heritage Sites' revolves around the fact that:

- These sites have sustained the local population with round the year supply of food items as well as other livelihood needs.
- The natural evolution and selection is still ongoing in these areas and can continue for years to come.
- These sites can provide diverse genes and gene sources for adaptive research dealing with climate change.
- The complex ecosystems of such sites provide unique opportunities for perpetual speciation and production of diversity.





Agro-biodiversity from Chitrakoot and near by areas

- The word 'Heritage' signifies the mutual relationship between the residents of the area and the *per se* agro-biodiversity available with them for sustenance.
- These sites are supposed to be rich in Indigenous Technical Knowledge associated with the agro-biodiversity existing in the area.

Synergies

- 'NIABHS' concept has close synergy to the concept of Globally Important Agricultural Heritage Systems (GIAHS) which are being identified and promoted by FAO since 2002 with a vision of "Dynamic conservation of all agricultural heritage systems and their

multitude of goods and services, for food and livelihood security, now and for future generations". FAO indicates that "Traditional agriculture systems are still providing food for some two billion people today. They also sustain biodiversity, livelihoods, practical knowledge and culture. This global agricultural heritage needs to be recognized and supported in ways that allow it to continue evolving - and provisioning goods and services for the present and future generations'.

- Some of the Indian GIAHS sites identified by FAO include Yak-based pastoral management in Ladakh, Saffron system in Kashmir, Seethampheta in Andhra Pradesh, the





Darjeeling system in the Himalayas, Koraput System in Orissa, etc.

The criteria for NIABHS

It is proposed that following basic requirements should be fulfilled for identifying any area as NIABHS:

1. **Sustenance of Food and Livelihood Security of the Area:** The first and foremost importance of identifying any area as NIABHS is associated with its ability to sustain the Food and Livelihood needs of the residents. The site should have enough agro-biodiversity to provide round the year supply of food and other needs of the residents.
2. **Indigenous Nature of the Agro-biodiversity:** The site should have proven indigenous agro-biodiversity of its own rather than the collection made by the progressive farmers.
3. **Richness of ITK associated with the Agro-biodiversity:** The knowledge system governing inherent potential, dynamic use, commercial processing etc associated with the agro-biodiversity available at the site is a must for sustainable and dynamic conservation of the agro-biodiversity.
4. **Conservation of Rare and Endangered agro-biodiversity:** The areas which have proven record of conserving rare and endangered agro-biodiversity should be identified and developed as NIABHS.
5. **Richness of germplasm/varieties available at a particular site:** Even if the number of species being conserved in any particular area may not be more, but if the area is rich in germplasm/varieties of a particular species or few species, the site can be identified as NIABHS.
6. **Ability of the Area to be developed as a Heritage Site:** The NIABHS concept revolves around dynamic conservation and up-scaling of activities related to sustenance of food and livelihood security of any area. Thus, it is important to identify only those areas as

NIABHS which have inherent ability to progress as Heritage Site which will involve a complex mix of human efforts as well as market forces.

Proposed Implementation Guidelines for NIABHS

Mode of Implementation: The concept will be implemented in Project Mode out of the funds earmarked under National Gene Fund. These projects will be invited through open advertisement and will be time bound in implementation.

Project Design: Each project will have some basic technical components and some innovative components. The basic technical components will be based on the listing of genetic resources related to agrobiodiversity of the area, listing of beneficiaries/ affected residents, the developmental scenario of the area, the natural map of the site, a report on the ability of the site to sustain the residents, the prospects of development and increasing livelihood of the beneficiaries, the employment generation, etc. The innovative component will deal with the innovative ways and ideas for up-scaling the conservation efforts along with ensuring livelihood sustenance of the beneficiaries/ residents.

Demarcation of the Site proposed under the Project: Each Site will have demarcated before the implementation of the project. A baseline database on the socio-economic status, market access, market potential, quality and quantity of agro-products being produced etc will be required. For the purpose the Task Force may recommend for a limited amount of budget before finally approving the total project.

Evaluation and Valuation of the Project: Each project will be screened by the Task Force/ Expert Group, both at the site and through presentations at the appropriate place. The quantum of financial help will be decided by the Task Force/ Expert Group on the basis of quantum of work proposed in the project, the needs of the agro-biodiversity conservation at the site, the needs of the



developmental help to be provided through the project, etc.

Signature Developments at NIABHS: Each NIABHS to be identified and developed under this concept will have some Signature Developments, so that these can be easily identified and unified in future. For example, each site should have a specially designed and erected Site Office with facilities of management, storage, transaction, processing, etc. This will facilitate the inter-connectivity between all such offices, head office and later on with other developmental activities which can be undertaken under the project for sustenance of such NIABHS.

Stakeholders: The proposed stakeholders for the implementation of the project along with their responsibilities will be as below:

- **Nodal Implementing Agency:** State Agricultural University/ ICAR Institute located nearby / Reputed NGO of the area with agricultural research facilities. The Nodal Agency will be responsible for the identification of the Site, selection of the stakeholders' to be associated with the project, preparation of the project, execution of the project, financial management of the project, etc.
- **Technical Support Partners:** Biodiversity International and ICAR-NBPGR will be involved as technical Partners in the implementation of the concept at different levels.
- **Line Departments:** Government Line Departments dealing with agriculture, horticulture, forestry, etc will be needed for synchronizing/converging the efforts being made under different schemes, identification of beneficiaries, up-scaling activities to be taken-up under the project, liaison among the residents, etc.
- **Panchayats/Local Bodies/Custodian Farmers:** The role of Panchayats/ Local Bodies/ Custodian Farmers will be involved in identification of beneficiaries, imple-

mentation of developmental activities, etc.

- **Beneficiaries:** The beneficiaries will include farmers/ tribals etc residing in the area and directly associated with the target agro-biodiversity under the project.
- **Hired Manpower:** For smooth conduct of day to day activities of the project certain manpower will be required to be hired under the project as per need.

Expected Outcome of the Projects

Each project will develop a NIABHS, which will have a:

- Well documented catalogue of Agro-biodiversity of the defined area.
- Dynamic and Vibrant System, which is self sustainable with scaled-up activities related to conservation and systematic commercialization of the agro-biodiversity related products.
- Scientifically protected and well defined site for natural evolution and selection.
- Scientifically documented ITKs.
- Scientific record where gene mining can be taken-up in future whenever climate resilient genes will be required for breeding programmes.
- Working system with facilities for research and education of the agricultural scientists/ students.
- Place where a common man can visit as tourist to understand the natural heritage of the area or the country as a whole.

Besides these, one major role which NIABHS will play is ploughing back of the benefits for those who have conserved the agro-biodiversity since ages.

Aim of Nationally Important Agro-biodiversity Heritage Sites

The aim of the NIABHS is sustainable and profitable 'in-situ' or 'on site' conservation of agro-biodiversity under natural conditions.

