

# Conservation Practices of Indigenous Seeds for Sustainability of Agro-ecosystem and Food Security of the Mountainous Communities in the Western Himalaya, India: A Climate Change Perspective

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NAVDANYA



## INTRODUCTION

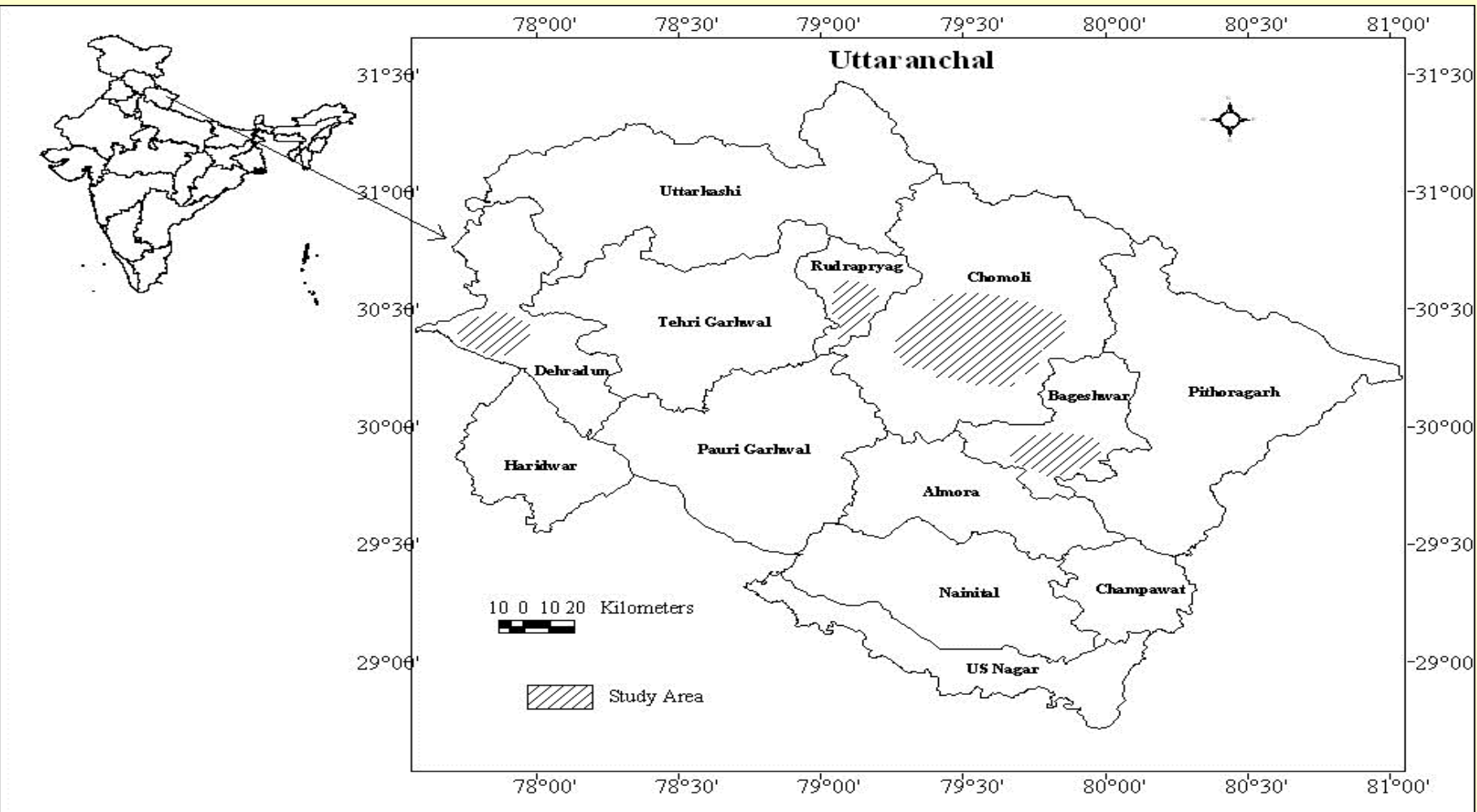
Diverse ecosystems give rise to diverse life forms and diverse cultures which are the basis of sustainability. Communities all over the globe have cultivated knowledge and found ways to derive their livelihood from nature's bounty of diversity in both wild and domesticated forms. Due to high demand of food security, various techniques have been adopted for cultivation of high variety of crops and use of fertilizers and pesticides, it's resulted the genetic base narrowed down considerably and several traditional varieties are now at the verge of extinction. To conserve the agro-biodiversity studies has been initiated to strengthen community seed banks and identifying seed keepers and seed producers in different agro-ecological zones in the mountains. These community seed banks are a step towards the identification and conservation of important traditional seed varieties. These also help in orienting the agricultural community towards conserving and cultivating the important, highly nutritive traditional crops and varieties. In the recent past, community seed banks have helped to conserve the traditional agro-biodiversity. Training and awareness campaign were organised for seed sovereignty, food security and sustainable agriculture system. Indigenous crops such as millets, pseudo-cereals and pulses have been conserved and promoted in the rural areas, avoiding monoculture practices. Rural community organized to collect, multiply and exchange traditional seeds and indigenous knowledge based on them. They have commitment and responsible for conservation of indigenous crop varieties. The seed bank is provided with the initial supply of seeds by Navdanya, either from the farmers who are already cultivating in surrounding villages or from the existing seed banks or farmers of similar agro-climatic regions.

## OBJECTIVES

- ❖ To document indigenous crop seeds in Garhwal region.
- ❖ To document sowing, cultivation and indigenous preservation methods of seeds.
- ❖ To identify available initiatives and challenges associated with farmer/community for conservation of indigenous seeds for Community Seed Banks in Garhwal.

## STUDY AREA

- Study has been conducted in 12 villages of two districts (Chamoli & Rudraprayag) of Uttarakhand state of India.
- Villages were selected on the basis of different altitudinal gradient so as to cover maximum information on medicinal plants of different climatic zone of the study area
- Uttarakhand state comprises of 13 districts including 49 Tehsil and lies between 28° 43' - 31° 8' N and 77° 35' - 81° 2' E.
- The state is known as “green and herbal state”
- Approximately more than **70 percent** area of the state comprises natural forest and high altitude pastures



Villages Surveyed	12 ( 2 Districts)
Group Meetings Conducted	6
Workshop with Community	1
Data Collection of Seeds Preservation	20 species
Publicity material provided for conservation of seeds	12 villages

Sr. No.	Name of Village	No. of Respondent	Habitat & Forest Types
<b>Chamoli District</b>			
1	Khalla	8	Broad leaved
2	Siroli	8	Broad leaved
3	Mandal	8	Broad leaved
4	Koteshwar	10	Mixed forest
5	Birangana	15	Broad leaved oak
6	Baddwara	3	Mixed forest
7	Devoli	10	Broad leaved
8	Semi	8	Broad leaved
9	Guar	8	Broad leaved
<b>Rudraprayag District</b>			
10	Maikoti	15	Conifer
11	Bamoli	3	Broad leaved
12	Kumoli	5	Conifer

## METHODOLOGY

- ❖ Survey of seed resources using questionnaire, individual interview, oral testimony, group discussions, seminar and Participatory Rural Appraisal (PRA) exercise.
- ❖ Oral testimony of selected farmers using publicity material has been provided in the Navdanya farm.
- ❖ Organizing and building local institution
- ❖ To begin with, village level indigenous seed bank demonstration, small workshop has organized in the study village to sensitize and develop their knowledge about indigenous seeds of the area. Participatory Rural Appraisal (PRA) exercise was with the help of resource persons to identify the natural resources for sustainable livelihoods of rural area.

## OBSERVATIONS

- ❖ Majority of the farmers have handed over their land to some of the marginal community people of the village.
- ❖ Preservation of seeds, its quality and production has not been monitor by the owner.
- ❖ Seeds have been distributed by the Govt. agencies without any quarantine check.
- ❖ Their knowledge must be considered as an essential component for the development of the rural areas.
- ❖ Failure to document this indigenous knowledge would represent a tremendous economic and scientific loss to mankind.
- ❖ The main purpose of the study was to document the indigenous knowledge and suggest appropriate for the rural areas of Garhwal.
- ❖ Natural resources and indigenous crops are an integral part of the life of the people.
- ❖ A large number of natural resources have been used in traditional system of medicine which is found in different habitats and ecosystems.



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