

# **SURVEY DOCUMENTATION AND VALUE ADDITION OF *HIPPOPHAE* SPP. (SEA BUCKTHORN) IN COLD DESERT AREAS OF UTTARAKHAND HIMALAYA**

## **Need of project**

- *Hippophae salicifolia* or Sea buckthorn is widely found in Uttarakhand Himalaya since time immemorial and its fruit juice was in local use by the tribal and ethnic community in district Uttarkashi, Chamoli and Pithoragarh.
- However, the medicinal value and the ecological advantages of sea buckthorn was not known locally.
- Accordingly, during Financial Year 2015-16 the NMPB, Govt. of India has supported a project titled Survey Documentation and Value Addition of *Hippophae* spp. (Sea buckthorn) in cold desert areas of Uttarakhand Himalaya (PROJECT NO. CONS/VA-01/2016) to Herbal Research & Development Institute, Mandal-Gopeshwar, Distt. Chamoli, Uttarakhand



***Hippophae salicifolia* or Sea buckthorn Fruiting Plant**

## **Objectives and targets**

- a) To set up 5 Processing and Value addition units to make 4 - 5 products from this super fruit Sea buckthorn
- b) To develop market linkages for Sea buckthorn products
- c) Generate employment /livelihood to local community (particularly women SHGs)
- d) Plantation/Cultivation in JFM/Van Panchayat areas including demonstration plots 1 ha. each in 3 districts

## Execution of project

Survey: Three districts of Uttarakhand have been selected for study i.e., Chamoli, Uttarakashi and Pithoragarh.

Following area were explored district-wise for physical survey of sea buckthorn (*H. salicifolia* and *H. tibetana*)

1. **Chamoli:** *Hippophae salicifolia* was found from 2200-3300 m. above mean sea level in both Niti and Mana valleys.

The Villages surveyed were Peng, Raini, Lata, Tolma, Phagti, Tamaknala (permanent bhotia villages), Long, Jumma, Kaga, Gerpag, Rweeng, Dronagiri, Jelum, Malari, Kosa, Ferkiya, Bampa, Gamsali and Niti (migratory Bhotia villages). *H. tibetana* is rarely found only above 4000m elevation, just above the village of Niti.

In Mana Valley *H. salicifolia* it is found along with the river Alaknanda catchment area and also in Khiron valley.

2. **Uttarakashi:** In Uttarakashi, it is available in all the three valleys namely Gangotri, Yamunotri and Har-ki-dun.

However, only first two valleys were surveyed; in Gangotri it was found near villages Sukki, Jhala, Jaspur, Purali, Harshil, Dharali along the Ganga river and in villages Kharsali, Beef, Ranachatti, Badya and Jankichatti etc.

3. **Pithoragarh:** *H. salicifolia* is found in Munsyari and Dharchula blocks.

In Munsyari is it found in villages of Malla Johar like Bhogdyar, Lasps, Rilkot, Martoli, Tola, Brfu, Khilanch, Mappa, Ganghar, Pachu, Bilju etc.

*H. tibetana* is abundantly found above the village Milam near glacier.

Commercial exploitation of *H. tibetana* is only found in Milam village by the local Bhotia people.

Villages of Gori par also contains some population of *H. salicifolia*.

**Value Addition:** Sea buckthorn pulp was extracted with the help of SHGs.

Following SHGs were formed in district Uttarakashi and Pithorgarh .

S. No	District	Name of SHG's
1	Uttarakashi	Mahila Samuha Taknaur Jhalla, Sukki-8
		Mahila Samuha Taknaur Jhalla-Jasgur-6
		Mahila Samuha Taknaur Jhalla-Purali-3
		Mahila Samuha Taknaur Jhalla-Jhalla-2
		Mahila Samuha Taknaur Jhalla-Mukhwa-1
		Mahila Samuha Taknaur Jhalla-Dharali-2

2	Pithoragarh	<b>Mahila Ekta Samuha Nigalpani, Dharchula</b>
		Jai Nyula Gabla Samuha Nigalpani, Dharchula
		Myujir Sajir Samuha Nigalpani, Dharchula
		Himchuli Swayam Sahayata Samuha Bon, Dharchula
		Hya Laga swayam sahayata Samooh, Napalchyu, Dharchula
		Mahila Ekta Samuha Nigalpani, Dharchula

### **Achievements/outcomes of the project**

3 value addition processing units were established in Dharchula, HRDI Nursery, Pithorgarh, HRDI, Gopeshwar, Chamoli



**Following products has been developed in the name of Badree Berry**

1. **Sea buckthorn fruit extract:** this has been extracted at the site of its occurrence by the farmer's self-help group. This is rich in antioxidants and excretes toxins from the body system and also useful in cancer, diabetes, liver problems etc. This has good response among the users. After packing is Rs. 1000/lit.

2. **Sea buckthorn fruit juice:** This is a product made from fruit pulp with the help of horticulture department. It is good for health as it also contains all the chemicals in diluted form as the extract, but it is not allowed for diabetic patients. It is about Rs. 150/lit. In future it will be packed in tetra pack for large scale market.
3. **Sea buck thorn seed powder:** this product is made with seeds after the extract is taken from the mature fruits. This is good for cancer and whole body system as it has also antioxidants. It is Rs. 500/Kg.
4. **Sea buck thorn seed pickle:** The seed powder is also processed into pickle mixed with salt, and other spices. The pickle is Rs. 600 /Kg.
5. **Himalayan herbal tea:** This is a unique product made from sea buck thorn seed powder, leaves and some other herbs. This is having strong antioxidants and used in different ailments of the body system and basically works on the principle of exuding toxins from the body system. It is Rs. 2000/Kg.



**Himalayan Herbal tea**



**Sea buck thorn seed pickle &**

**Cultivation:** 2 hectare plantation was done in Institute land at Munsyari with high yielding variety procured from Himachal Pradesh Agriculture University, Udayapur. These plants will serve as mother plants.

1. **Through seeds:** Seedlings raised through seeds can be planted into degraded land and to enrich poor soil condition

2. **Through cuttings:** One experiment was done to raised plants through cuttings at Munsyari, Mandal, Darma, Byans and Chaudas during Nov. Dec. but the result was not more then 10 percent. However, the experiment will be repeated in the early spring month before the sprouting of the leaves.



**Sea buckthorn Nursery**



**Women SHG engaged in  
cultivation of Sea buckthorn**



**Sea buckthorn Cutting**