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## Chapter 33

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### Involving Farmers in the On Farm Conservation of Crop Genetic Resources: A History of Save the Seeds' Movement in Garhwal, Indian Himalayas

V. Jardhari

Mr. Vijay Jardhari is an activist of *Beej Bachao Andolan* (BBA, Save the Seed Movement) and is working with traditional varieties of rice, beans, and neglected crops such as amaranthus. Mr. Jardhari said that in the face of the massive erosion of crop diversity all over the Indian Himalayas, some farming communities are attempting to conserve and revive their traditional seed systems and traditional cultural practices, which are characterised by the innovative use of a wide range of cropping patterns and wide crop diversity over space and time.

Mr. Vijay Jardhari is part of the group that made such an attempt in the central Indian Himalayas. He explained that agricultural development in the area has caused serious loss of crop diversity and farmer self-sufficiency. He had strong views on agricultural biodiversity and agricultural development. He said that scientists and government policies are the main cause of genetic erosion as improved varieties are replacing traditional varieties. When Mr. Jardhari decided to stop growing hybrid seeds, he was dismayed to find that only two to three indigenous rice varieties were still being cultivated in his area in Tehri Garhwal district. His primary aim became to collect, save, and promote the use of traditional seeds. Beginning with a few varieties from the surrounding villages, the search took Jardhari through a large part of the Central Himalayas. He has now collected 214 land races of rice, 8 of wheat, 40 of finger millet, 6 of barnyard millet, 110 of common beans, 7 of horse gram, 8 of local soybean, 10 of French beans, and many more of neglected crops. Some of the rice land races such as *Thapachini*, have good yields under marginal conditions. The *Chad Dhan* land race has special importance and every local household maintains it.

BBA's search for land races continues. BBA workers have travelled extensively in the Central Himalayas and found several remote areas in which traditional crops are still farmed and farmers continue to barter. 'Save the Seed' is not an institutionalised campaign, but an informal movement. This movement promotes the philosophy that "the best way to save traditional seeds is to continue to grow them in our fields". In the past, farmers' fields were living gene banks.

**Table 33. 1: Comparative Yield Performance of Modern Varieties and Land Races in 1995**

Variety	Origin	Grain Yield (t/ha)	Straw Yield (t/ha)
Thapachini	Land race	5.3	8.8
Jhumkya	Land race	5.0	8.0
Lalmati	Land race	4.5	4.6
Nagmati	Land race	3.8	8.0
Saket-4	Modern variety	4.9	6.0
Pant Dhan-6	Modern variety	3.6	4.9
Kasturi	Modern variety	2.4	3.4
Govind	Modern variety	1.9	2.1

(Source: Author Results of BBA Experiments)

### The Baranaja System of the Central Himalayas

Mr. Jardhari gave some examples that demonstrated the value of indigenous land races and traditional farming systems. He cited the practice of 'bharanaja' (literally '12 types of seeds') in the Garhwal mountains in which farmers practice mixed cropping with as many as twelve different crop species in the same field. The practice was very common in rainfed fields. The species include *manduwa* (finger millet), *ogal* (buckwheat), *ramdana* (amaranthus), *mash* (black gram), *bhat* (black soybean), *gahat* (horse gram), *masyang* (rice bean), *lobiya* (French bean), *kheera* (cucumber), foxtail millet, *rajma* (kidney bean), and *Jakhia* (cleome). Foxtail millet matures at a time when food grains are starting to run out in farmers' stores. *Baranaja* is geared towards meeting diverse household requirements. In this type of traditional cultivation, farmers have to spend almost nothing on inputs such as seeds, organic fertilizer, and pest control. In the past farmers would start planting when they felt that conditions were suitable, now the first thing they do is head for the seed shops. The traditional system of *bharanaja* is being replaced by commercial farming (soybean and cash crops) to feed the ventures of multinationals. Crop species are disappearing fast with the introduction of monoculture and hybrid crops. Farmers are being brainwashed into believing that traditional crops and systems like *bharanaja* are a sign of 'backwardness'.

"In traditional agriculture, crops are grown not only for humans but also for our cattle", said Jardhari. All traditional crops produce more fodder or straw than improved varieties. He is totally against mechanisation. "Tractors neither eat grass nor produce any manure. What will be the fate of soil fertility and the livelihood of mountain farmers in the long run?", he warned scientists who advocate mechanisation in farming. The main reason for villagers re-adopting traditional varieties and concepts are the end results, which address the real needs of farmers. He stressed that farmers have to save and revive traditional agriculture and varieties for sustainable mountain life. Up till now, national and international gene banks have taken in land race 'deposits', but 'withdrawals' by the communities that

bred them have been much less frequent. Indeed, the banks were not set up to operate in this way. The emergence of community-based conservation initiatives requires new thinking in this area, and gene banks need to have a broader role in supporting farmers' seed security.

The efforts of the Save the Seed Movement in reviving the use of indigenous crops and cropping systems and encouraging the growth of low-input organic farming is noteworthy. The work suggests that it is possible to combine diversity, productivity, and livelihood security in future agricultural policy. For this, the strategies to be followed should emphasise a mix of high productivity, high diversity approaches building on indigenous biodiversity and knowledge, transformation of negative repatriation from genebanks, inter-farmer exchange, appropriate returns for wider use of farmers' knowledge and resources, and the protection of critical agro-ecosystems.