

## Extension Approaches for Conservation of Indigenous Crops for Sustainable Agriculture Development

Chinmayi V.<sup>1</sup> and Harisha N.<sup>2</sup>

<sup>1</sup>Technical Officer, Myrada Gulbarga Project, Kalaburagi, Karnataka

<sup>2</sup>Senior Research Fellow, Tirupathi, ANGARU, Andhra Pradesh

### SUMMARY

Seed is a most critical input in cultivation of crops and it is highly significant for increasing production and productivity. In mid of 20th century, Green Revolution shifted the focus of Indian agriculture away from biodiversity to increased yield. With the modernization of agriculture and agricultural practices, the cropping pattern has changed. As a result, the genetic base of traditional seed varieties reduced considerably and several traditional seed varieties are extinct. These varieties were inherently more compatible in the local farming conditions, economically, practically and environmentally sustainable than the high yielding varieties being used today. They are also more resistant to pests, diseases and drought condition. These varieties of seeds are still preserved by a few farmers and they are getting depleted at an alarming rate. However, many efforts by individual farmers, NGO, government institute, private sector etc., are in vogue to provide quality seeds through various means. One of such ways and means is community seed bank.

### INTRODUCTION

Agricultural biodiversity contributes to the diversity of the ecosystem and can increase agricultural output, guarantee production stability and enhance ecosystem functions. It is also environment-friendly. It improves the adaptability of crops and the resilience of the agricultural system, as well as reducing risks of changes in environmental conditions, crop failures, market fluctuations, and attacks of pests and diseases. Since the rise of modern agriculture, when a foreign crop is introduced, the focus is often on increasing production output while its adaptability to the local natural environment is ignored. Chemical fertilizers and pesticides are usually applied in large quantities to ensure a high yield, resulting in severe damage to the farmland ecology and have adopted the practice of monocropping on a large scale. In addition, farmers have to pay for seeds. As they become dependent on external provision of seeds and less self-reliant, they are faced with the problem of seed security. The result has been a diminishing of crop diversity. Conserving traditional crop varieties is, therefore, an important issue in ecological agriculture. Preserving crop genetic resources enhances the biodiversity of farmland and guarantees food security, and thus it is an important condition for the emergence and development of sustainable agriculture. For this we advocate conservation of local crop varieties and the revival of agricultural biodiversity and the awareness of its importance and also a strong network of extension systems is functioning, along with government initiative, NGO's and other organizations.

### Approaches

By promote and disseminate this vast wealth of local knowledge and realize its true potential. With help of different approaches: Individual approach, Community approach, Institutional approach and Integrated approach.

#### Individual Approach:

Individual farmer is maintaining/preserve the ancestral land races of traditional crops in the field without extrinsic motivation. Farmers giving handful of seeds to interested farmers to encourage them to grow the seeds out and make enough seeds for themselves. They are conducting training programmes on awareness of seed conservations and importance and they also established "museum.

**Seed Growers Associations:** Some seed banks were registered as seed growers' associations (SGAs) under the civil societies act. An SGA is made up of about 15 farmers, 50 per cent of whom are women. At the beginning of every crop season, the association prepares a plan and procures seed from various sources; multiplication is carried out by the members. During the growing season, members organize visits to seed plots to monitor management quality. At the end of the season, based on requirements, seed is procured by the SGA and stored in seed banks

or retained by farmers. Seed is documented and catalogued; then, at the beginning of the growing season, it is distributed to farmers.

**Krishi Prayog Pariwara :** *Krishi Prayog Pariwar* was registered as a Trust under Indian Trust Act in 1996. Promote indigenous, self-reliant and organic eco-friendly agriculture, which is thoroughly sustainable. It is a farm developed by Sri Purushothama Rao at Thirthahalli. KPP has set four community seed banks. These banks conserve, propagate, extend, distribute and maintain local, traditional crop varieties. These seed banks are run and maintained by the communities themselves. Presently these community seed banks are functioning in Shivamogga and Uttara Kannada districts.

### **Institutional Approach**

Government, institutions and non-govt. organizations (NGOs) are involved in conservation activity and capacity building programmes.

**National Bureau of Plant Genetic Resources:** The National Bureau of Plant Genetic Resources (NBPGR) has its headquarters at New Delhi. Main aim of acquisition and management of indigenous and exotic plant genetic resources for food and agriculture as well as research.

**Functions:** Conducts workshops and training programmes and brings out publications of interest. “Community Seed Banks” documenting the experience of working with an NGO Seva Mandir based in Rajasthan.

**Non-govt. Organizations:** NGOs are played a significant role an in crop conservation.

- GREEN Foundation (Genetic Resource Ecology Energy and Nutrition)
- Deccan Development Society
- Sahaja Samruddha
- Navadhanya

### **Integrated Approach**

Cultivation of traditional crop varieties is decreasing day by day, due to the competition of high yielding varieties in the market. High yielding varieties are highly fertilizer, climate responsive and many of the crops are exotic. Continuous aberration of monsoon leads to crop failure in the conventional agricultural practices. Conserving and promoting traditional crop variety cultivation is the only alternate source to mitigate the changing scenario, because it thrives well in various climate conditions. Traditional varieties are highly nutritious compared to recent varieties. In this concern erode Krishi Vigyan Kendra took initiatives on identifying and documenting the local land races / traditional varieties of Erode district.

### **CONCLUSION**

Indian Traditional knowledge system on agriculture has rich heritage and our ancestors have been making their own innovations to sustain this practices for centuries. However, the intervention of modern agriculture has disrupted and made them from responsible authority into a mere cog in a purely mechanical production and marketing process. However, due to recent trend on getting awareness about the nutritional and food security and also health consciousness among the farmers and general public, revamping of traditional knowledge system on agriculture is being reconsidered by public, private institutes and NGO's through suitable extension approaches. Mere documentation of traditional agriculture is not sufficient, however, it has to be encouraged and helped to take its rightful place in the context of in modern agriculture.

### **REFERENCES**

- Mehta.P.S, Negi, K. S. and Ojha, S. N., 2012, Indigenous method of seed conservation and protection in Uttarakhand Himalaya. *Indian J. Traditional Knowledge*; 11 (2), pp.279-282.  
<http://richfarmerpoorfarmer.blogspot.in/2011/09/conservation-of-traditional->  
<http://www.envfor.nic.in/divisions/ic/wssd/doc3/chapter11/css/Chapter>