

Traditional Cultivation Practices and Landraces of Rice from Velhe Region of Pune District, Maharashtra State (India)

Dr.Mrs.S.A.Gaikwad

Associate Professor
Department of Botany
Anantrao Thopte College Bhor

Abstract: Rice crop has wide diversity in its characters, growth pattern and maturity from 60 to 200 days at varied elevations. Velhe is in the Western Ghat region of Maharashtra having elevation of 1500 mtr above sea level. This area comes under heavy rainfall to medium rainfall. The major crop of this area is Paddy/Rice. Velhe area in Pune district is known for rice growing belt in Maharashtra state. Documentation of local landraces of rice and traditional cultivation practices were not recorded earlier. Local people prepare land for rice cultivation with local agricultural implements. In this respect, traditional cultivation practices and local landraces of rice has been investigated for the very first time.

Keywords: Velhe Region, Cultivation Practices, Landraces, Rice

Introduction

Rice is the most important cereal crop in the developing world and the staple food of over half of the world's population (Juliano, 1993). Rice cultivation is thought to be the oldest form of intensive agriculture by man (Fernando, 1977). The geographical site of rice domestication is not yet definitely known and hence remains a matter of conjecture. It is general belief that rice cultivation in Sri Lanka was started by Indo-Aryan immigrants before about 540 B.C (more than 2500 years ago), where it was probably grown as a dry land crop (Grist, 1965; Perera, 1980).

India's rice possesses wide diversity in its characters. At one extreme, the deep water rice grows between 6 to 15 cm of water and at the other; it grows with an annual rainfall of barely 500 mm. This traditional practice was propagated based on the intimate knowledge of rice varieties then prevalent in ancient India followed by the varietals choice (Sarawgi and Rastogi, 2000). Maharashtra state has rich diversity of rice due to variation in soil, climate and choice of local people. Kulkarni *et al.* (1998) reported 25 landraces of rice like Kala rice (aromatic rice), Varangal, Rajguda, Kolamba, Tam, Raibhog, Halva, Garva, and White rice collected from Western Ghat of Maharashtra.

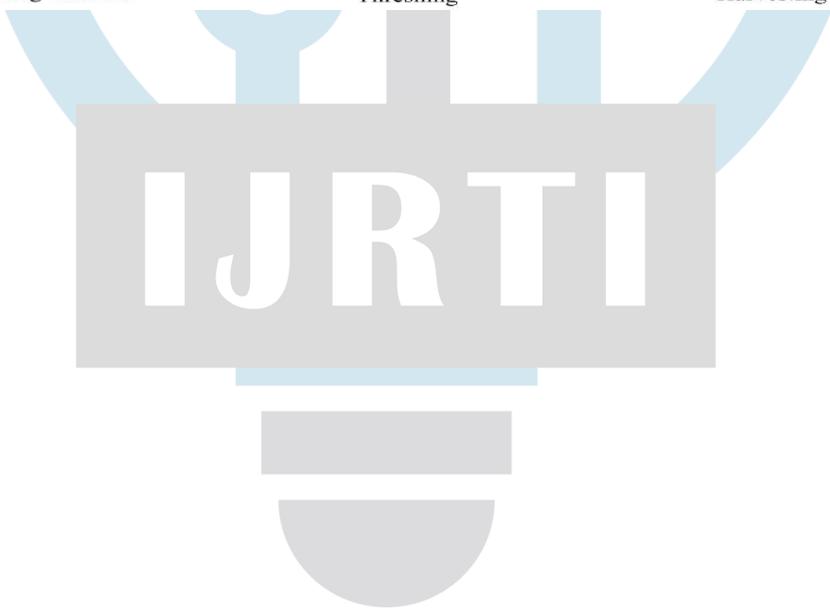
The main occupation of people of this region is agriculture. They have an accurate knowledge of the environment, including species and ecological relations as they have long association with nature. Farmers from this area grow traditional rice varieties and follow traditional agricultural practices.

Materials and Methods: The following materials and methods are used for the cultivation practices of rice.

Land preparation for seedlings of rice:

Selection of land for seedling preparation is defined by each farmer depending upon land holding. *Raab* is traditional slash and burn agricultural practice and is the core economic activity of the local communities comprising Kunabis, Konkans, Varlies and Mahadev kolis.

Seedbed preparation is performed by farmyard manure or dry cow dung of first layer. Second layer of plant twigs, *Butea monosperma* (Lamk.) Taub., *Calycopteris floribunda* (Roxb.) Poir., *Holarrhena antidysenterica* A.DC., *Tectona grandis* L., *Bridelia squamosa* Gehrm and *Terminalia crenulata* Roth and the third layer of different types of grasses leaf litter. There is no uniformity in these practices in Velhe regions. It changes according to the availability of the plant material. The processes of cultivations were analysed by taking interviews of 20 farmers in this region. After clearing of ash from the seedbed, seeds are sown 2-3 days after *Rohini Nakshatra* is initiated in a bed of 40-50 sq. m. depending upon the land holder's seedling transplanting area. Fields are ploughed a number of times in standing water (paddling). Paddling of soil facilitates easy transplanting of seedlings. Generally, seedlings are one to one and 15 cm in length and spacing between two spots is 22.5 cm, and at each spot about four seedlings are transplanted. Under the wet system of cultivation, continuous standing of water into fields is observed. The following flow chart shows the processes of cultivation.



LOCAL INFORMANTS



Special landraces were selected like *Kolamba* with early maturity and less water requirement, *Tak*, *Varangal*, *Jeera* and *Ekakadi* which are drought resistant and suitable in coarse sand. *Kalbhat* and *Basamati* are scented type of rice and generally grown in the middle of the field due to destruction of crop before maturity by wild animal like Bison. The yield of rice is very low but has economic value. Some improved rice varieties are *Indrayani*, *Komal*, *Poonum*, *Rashipunam*, *Ratnagiri-24*, *Shan*, *Anupum*, *Indum*, etc. Local landraces and improved rice varieties are playing major role in agriculture of Velhe region. The following are some of the images of local landraces and improved rice varieties of Velhe region.



BASMATI



EKAKADI



KOLAMBA



JEERA



TAMBDISAL



VARANGAL



KOMAL



POONAM



RATNAGIRI 24



SHAN



INDRAYANI



INDUM

Results and Discussion

No	Name	Characteristics
1.	Tak	Thick grains, good keeping quality, drought resistant
2.	Kalisal	Husk black coloured, elongated grains, Resistant to pest, scented
3.	Jeera	Fine elongated grain, scented
4	Varangal	Thick grains, non-scented
5	Ekakadi	Drought resistant, suitable in coarse sand
6	Ambemohar	Scented, bold grain shape, superfine grain quality
7	Rajguda	Resistant to disease, less water requirement
8	Tamsal	Scented, medium grain, fine quality grain
9	Laal Bhat	Red grains, Scented, medium grain, coarse quality grain
10	Raibhog	Scented, medium grain, fine quality grain
11	Kolamba	Scented, less water requirement, fine quality grain, early maturity
12	Ajra	Scented, medium grain, Superfine quality grain
13	Halava	Early Maturity, Non-scented
14	Garva	Late Maturity, Superfine, Scented

Conclusion:

During the survey, more than 14 rice landraces have been found. These landraces of different places of Velhe region are having the characteristics such as early maturity, drought resistant, less water requirement, fine grains, good head rice recovery, aromatic, red pericarp etc. Also, they are rich source of proteins, carbohydrates, vitamins and minerals. So, it is necessary to conserve such valuable landraces of rice before they become threatened.

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