

Horticulture: Augmenting Income in Rainfed Regions

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ABSTRACT

Kandi represents a region that does not have any assured source of irrigation. Such regions depend upon rainfall for cultivation of crops. The major land and water management problems being faced in this *Kandi* belt include excessive runoff, soil erosion, land degradation and erratic rainwater distribution in space and time. All of them hamper agricultural production resulting in low productivity in these regions. Horticulture is a predominant sector contributing greatly to the rainfed economy. The article carries the story of a farmer from a village in Samba district of Jammu Kashmir UT who shifted to growing of different fruit crops and is getting handsome returns. By successfully managing his resources, today the farmer has become a brand in the region to which everybody looks for.

Keywords: *Kandi*, rainfall, cultivation, horticulture, returns

The sub-montane tract lying in the outer Himalayas of Jammu division of Jammu and Kashmir is locally termed as *Kandi* belt. This unit is an extension of the *Kandi* belt in the states of Himachal Pradesh, Punjab, Haryana and Uttaranchal (NIH, 2010). The upper portion of *Kandi* belt consists of low hills covered by shrubs and forest, and the lower terrain has cultivated lands and gully beds. It has an undulating topography, steep and irregular slopes, erodible and low water retentive soils and badly dissected terrain by numerous gullies. *Kandi* region does not have any assured source of irrigation and depend upon rainfall for cultivation of crops. The usual cropping system in this region is wheat and maize as the major crops along with oilseed crops like Toria, Mustard and pulse crops like Mash, Moong, Lentils and fodder crops like Bajra. The major land and water management problems being faced in this *Kandi* belt include excessive runoff, soil erosion,

land degradation and erratic rainwater distribution in space and time. All of them hamper agricultural production resulting in low productivity in these regions. Approximately 65-70 % of population in the district of Samba depends upon agriculture and about two third of the area of the district is *Kandi* and rain fed (Agriculture Status, District Samba).

About 23 kilometers from summer capital of UT of Jammu and Kashmir is tehsil of Vijaypur falling in district Samba. Situated on the bank of river '*Devak*', known locally as '*Gupt Ganga*', it is one of the most fast-growing towns near Jammu. The name of Vijaypur is derived from Brij Dev Singh, a descendant of the Jammoria family. As of 2011,

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India Census, Vijaypur had a population of 21044. Males constitute 51% of the population and females 49%. Vijaypur has an average literacy rate of 73%, lower than the national average of 74.4%: male literacy is 77%, and female literacy is 69%. The town also hosts some of the important shrines in the state, most famous being *Baba Sidh Goriya Devsthan* situated at the village Swankha, at a 9 kilometers distance from the town. One of the oldest shrines among Dogra community with its history dating back to 11th century, this temple is dedicated to Baba Goria, a follower of renowned legendary saint Guru Gorakh Nath who took salvation while bathing in the pond at the place where it stands. Since then, it is believed that the water of the holy Sarovar (pond) have mystic powers (Rasgotra, S.2016). A few meters away from the railway crossing of the Vijaypur town is a village of the refugees that came from Chamb sector in Akhnoor during the 1971 Indo-Pak war. The village is *Thalodi* Camp, suffix camp to denote the migrants that were placed in camps after they were displaced from their original habitats due to one or the other reasons. The village has a mix of different communities majority of which are *Jatts*.

In the village is an ex service man Sh. Paras Ram who retired as a *Subedar* from Indian Army way back in 1997, about 25 years ago. Paras Ram has two sons one of whom is a lecturer in a degree college and the other runs a stationary shop in the town. He inherited about 21 kanals (1.05 ha) of land in which he used to grow Maize, Wheat, Bajra, Mustard and fodder crops. As the area falls under rainfed conditions, the output from the growing of crops was subjected to

vagaries of weather. In case of timely rainfall Paras Ram got some food grains, but in case of untimely, erratic or inadequate rainfall, his fields remained fallow or yield was so low that it did not cover his cost of cultivation. Besides the non remunerativeness and uncertainties of weather, the monkey and pig menace in the region that destroyed his crops forced him to shift towards horticulture and put all his land under different fruit plants.

On his 21 kanals of land, he raised two orchards with about 600 trees (Fig. 1). The orchards were established about 5 years back in 2017. Of the total number of fruit plants, the maximum no. is of Guava (500), Ber (50), Mango (50) and other fruit plants like Pear, Amla, Chiku in few numbers. He also has some other local citrus varieties in his orchards.

Ensuring adequate irrigation was a challenge for Paras Ram in the initial years of establishment of his orchard. The problem was more serious as the region fell in the belt *Kandi*. The *Kandi* is the local name for the regions where farming depends upon rainfall. For this, he constructed a farm pond in one of his Orchards and covered both of his orchards with underground pipes (Fig. 2) for taking water from farm pond to every nook and corner of his Orchard. For filling pond with water he has installed a tube well which runs day and night to fill the pond whenever it is necessary. The farm pond is 35 feet in length, 30 feet in breadth and about 12 feet in depth.

In horticulture grafting is used for a variety of purposes: to repair injured trees, to produce dwarf trees and shrubs, to strengthen plants' resistance to

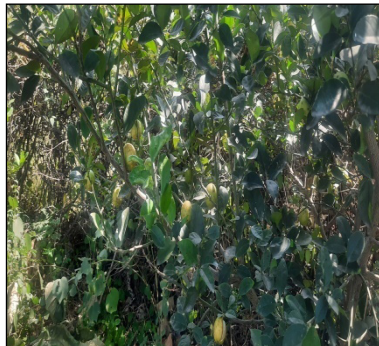


Fig. 1: Paras Ram in his Orchard, fruit bearing plants and harvested fruit (Lime)



Fig. 2: Paras Ram standing besides his pond and underground pipes laid for irrigation

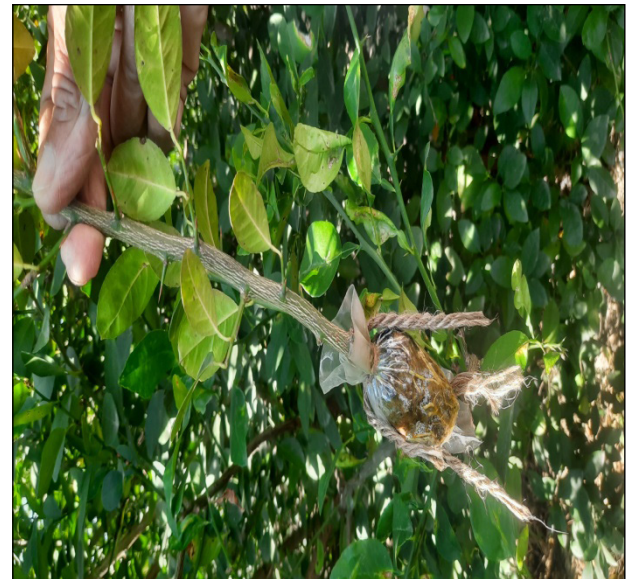


Fig. 3: Citrus plants being grafted by Paras Ram in his Orchard

certain diseases, to retain varietal characteristics, to adapt varieties to adverse soil or climatic conditions, to ensure pollination, to produce multi-fruited trees. Grafting helps and creates a physical hybrid between two plants by attaching the top (shoot) portion of one plant to the root system of another to get the best traits of both plants (Anonymous). Paras Ram also vegetatively propagates his fruit plants (Fig. 3). Through this process he continuously improves his plants and increase yield per plant.

Marketing of produce: For marketing of his produce, Paras Ram uses various channels. Now he has become a brand in his region known for producing one of finest quality and grade lime, local shopkeepers personally come to his orchard or home to take the fruits from him. When he does not gets remunerative price of his produce, he himself goes to the local Vijaypur *mandi* to sell his produce. Sometimes traders from adjoining Punjab state also come to purchase from him.

Yield and Income: Paras Ram does not allow his individual lime fruit to grow beyond 50-55 gm. According to him, the ideal size varies from 35-50 gm per lime. Any fruit weight over 50 gram looks like orange and does not fetches good price in the market. Each of his lime plant has a yield of 30-35 kilogram. In the year 2022, Paras Ram sold lime worth rupees 3.5 lakhs. From his 45 grafted Ber plants locally called as 'Peondi' Ber he earned ₹ 25,000 by sale of Ber. Besides Ber, the leaves and twigs of the plant are also sold by him. Mango and Guava plants in Orchard have started bearing fruits, but they are yet to give him a earning.

CONCLUSION

In the Union Territory of Jammu and Kashmir, the farms are small and fragmented and the farmers are resource poor and largely following wheat-maize or wheat- paddy cropping cycle. This has devoid the soil of its nutrients and thus the yields are lower as compared to national average which ultimately hits the income of the farming community. The horticulture sector in this region is the main contributor to its economy besides being a livelihood opportunity a vast majority of the populace of Kandi region. There are many other farmers in the region like Paras Ram which have shifted totally towards horticulture. Unfortunately, they are facing problems

like non availability of quality planting material, inappropriate marketing linkages, disease and insect pest infestation, maintenance of their farm ponds and many others. While fruit crops like Citrus species, Mango, Guava, Pear have the potential to revolutionize farming in this region, at the same time, it is necessary that different government agencies should come forward to provide necessary support to them including post harvest processing and value addition. Their value addition and processing into different products will make them unique to enable farming community to sell them at higher price.

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