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Current status and prospects of adoption of organic practices by the traditional basmati rice growers of R.S. Pura sector of Jammu district

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Introduction

Ranbir Singh Pura is located at 32.63°N 74.73°E. It has an average elevation of 270 meters (886 feet). Ranbir Singh Pura is one of the most progressive Tehsil of Jammu District. The main economic activity of R S Pura is agriculture and dairy farming. Rice (*Basmati*) and wheat are major crops while mustard, berseem and vegetables are also grown. R.S. Pura is known for the production of best *Basmati* Rice in the world. '*Bas*' in Hindi language means "aroma" and *'mati*' means "full of" hence the word *Basmati* i.e. full of aroma. R. S. Pura is famous for producing excellent quality of *Basmati* for last many decades. According to 'Note of Information 2014-15' by Department of Agriculture, Jammu, about one lakh hectares of the net cultivated area of Jammu is under paddy, of which about forty thousand (40,000) hectares is under *Basmati* rice cultivation alone. *Basmati* is grown in Areas of Jammu, Kathua, and Samba Districts of Jammu Division but *Basmati* grown in R.S. Pura Sector of Jammu District is of the superior quality. Most areas in and around the R.S. Pura belts are extremely fertile and best suited for *Basmati* cultivation, it is because of the fact that the area is irrigated by Ranbir Canal, a distributary of Chenab River and bringing melted ice waters from the Himalayas to the fields of R.S. Pura and imparting rich aroma to the *Basmati* grown in the belt. Further, this area has special characteristics of ideal temperature, humidity level and unique combination of warm short days and cool long nights during developing stage of grains (September and early October) for producing best quality of *Basmati* rice.

Production Statistics

According to Report Volume - 6 submitted by AgriNet Solutions to APEDA (2016), it highlights that in Jammu & Kashmir, the total *Basmati* area has been 62,250 ha. Out of which, Pusa *Basmati*-1121 has been 8,400 ha and *Basmati*-370 has been 53,600 ha. The estimated production of Pusa *Basmati*-1121 and *Basmati*-370 are likely 25,710 metric tons and 1,03,300 metric tons respectively. Pusa *Basmati*-1509 has been grown in 250 ha only this year and the production is likely 1,100 Metric tons. Non-*Basmati* long Grain variety *Sharbati* is grown in 9,950 ha. with a likely production 35,550 metric tons. In Jammu, the farmers still prefer traditional *Basmati* variety *Basmati*-370 as its straw has a good demand as fodder having more carbohydrate and is liked by the cattle.

Need for adoption of organic practices

Basmati rice is best known for the splendid aroma they emanate after cooking. Thousands of *Basmati* rice cultivators of R.S. Pura belt are cultivating *Basmati* by the use of fertilizers and other agrochemicals since generations, which have led to increase in the level of environmental contaminants. Out of all the contaminants, the major one is increase in the level of urea and other nitrogenous compounds in the ground water table of R.S. Pura. Further, the soil is becoming deficient in certain minerals due to the use of chemicals and fertilizers for crop production. Although the use of fertilizers have increased the crop production, but on the other hand it has degraded the fertility of the soil. The continuous use of chemicals for *Basmati* production have degraded the quality of *Basmati* rice too which ultimately led to the rejection of exports by various countries due to the presence of increased level of chemical entities in it. This led to

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the decreased remuneration of the produce thereby leading to economic losses to *Basmati* cultivators.

A Noble Initiative: Suchetgarh Organic Basmati Rice Cluster Project

Keeping in mind all the losses promulgated by the use of agrochemicals in *Basmati* production, the Department of Agriculture of Jammu Division, Government of Jammu & Kashmir, has promulgated the concept of producing 'Organic *Basmati*' in 2012 under the project named "Suchetgarh Organic Basmati Rice Cluster (SOBRC) Project". As we all know that the world markets are now flooding with the organic produce and keeping the public health status in mind, medicos and dieticians are advocating the use of organic products to their clients for reducing the ill effects of antibiotics and other chemicals used in food production cycle. Analyzing the present scenario, the Department of Agriculture of Jammu Division for producing organic *Basmati* has made a cluster of three villages namely *Suchetgarh, Korotana Khurd* and *Bidipur Jattan* headquartered at *Suchetgarh* and the cluster is named as "Suchetgarh Organic *Basmati* Rice Cluster". The cluster comprises of 700 organic *Basmati* producing families in all the three villages cultivating around 200 hectares of land. The specialty of the cluster is the location of the cluster as it is located right at the much tensed India-Pakistan International Border. Inspite of the location, the farmers are very enthusiastic and had accepted the protocols of organic farming. Till date, the farming is in conversion period from non-organic to organic and by early 2019; the produce will be labeled as organic.

Field Snapshot

While interacting with the key person (*Sarpanch* of Suchetgarh), Mr. Swaran Lal Bhagat, we came to know about the essential and innovative role played by the Department of Agriculture in starting up the organic *Basmati* farming. He told us that the Department provided them with the trainings and field visits required for the organic farming. The demonstrations were also carried by the technical staff of the department which enabled them to prepare their field beds according to the conversion protocols from non-organic to organic, before transplantation of *Basmati* saplings for organic production. At this point of time, conversion period is on the way and the farmers are only using certain mineral supplements like Zinc in the soil for maintain the viability of the soil for *Basmati* production. The farmers have completely stopped the use of fertilizers and other agrochemicals

Image showing the spatial location of Suchetgarh Basmati Rice Cluster of R. S. Pura Sector of J&K State

Actual Image of the SOBRC at Indo-Pak Border in R.S. Pura (Source: DNA India)

like weedicides, insecticides and pesticides, etc. in their organic fields. The weeds are though flourishing in the organic beds and these weeds are manually removed by the farmers. When asked about the constraints they are facing, he told us that as the cluster of villages is located on the border belt, the irrigation is the major constraint they are facing. The major canal for irrigation supplies to whole R.S. Pura belt is Ranbir Canal and its distributaries are not extended upto Suchetgarh area thereby leading to severe water crisis for irrigation. Although the government had established pumping stations at different locations in the area for irrigation but those pumping stations are not supplying optimum water for meeting the needs for irrigation. Few well settled and large farmers have dug their own bore wells but majority are marginal or small farmers which don't possess enough capital for establishing their own bore wells. He demanded that the department should come up with some schemes which will have mandate of providing ample subsidy for establishing bore wells for individual farmers and pumping stations for the whole cluster.

When we inquired about the certification of the produce, he told that the certification process has been initiated and Regional Centre of National Centre of Organic Farming (NCOF) situated at Panchkula is undertaking the registration process for the farmers. The registration is being done under Participatory Guarantee System (PGS) for India, A Decentralized Organic Farming Certification System initiated by Department of Agriculture & Cooperation, Ministry of Agriculture and Farmers Welfare, Government of India. All the farmers of the cluster have registered with the PGS and have been provided with 'Green Certificate' (symbolizing conversion period) which will be valid for next one and a half year. In 2019, they will be provided with 'Organic Certificate' symbolizing the official organic certification of their produce. As far as the marketing of the produce is considered, he told us that department will open its own procurement centers for organic *Basmati*. Further few individuals are interested in selling their produce to big giants of the market and they are in constant touch with them. These big players of the market are too interested in opening their procurement centers near the cluster. Few local rice mills have also approached the farmers for procuring their produce. Further, the department is also motivating farmers to open their own retail outlets for selling their organic *Basmati*. Also, some of the large rice processing mills like *Sarveshwar, Zamindara,* etc are in constant touch with the farmers for contract organic *Basmati* production. We as veterinarians, on our part are in constant touch with the farmers to initiate organic livestock farming in the area as the by-products obtained from the organic *Basmati* can be used as the feed resource for rearing the organic livestock.

Organic Farming Benefitting Agro-Ecology

The whole scenario seems to be very beneficial both for the farmer in quantitative terms and for the ecology in qualitative terms. The Department of Agriculture is acting as a stakeholder and maintaining a perfect balance between both the farmers and ecology. The farmers are going to earn good amount of money after the sale of their produce and the environment of the particular cluster will get freed of the agrochemicals which have been used since ages in the area. This is a small beginning by department in the area for creation of healthy farmers and healthy soils. The department is proposing some more clusters for organic production nearby to the existing cluster. Today, the Department of Agriculture is taking care of both the backward and the forward linkages of organic *Basmati* producing cluster and providing the farmers with incentives and opportunities to grow more and more. The organic agriculture is very important in the area in one more aspect. Nearer to the cluster, Gharana village is located which receives migratory birds every year in the month of January from Serbia. The migratory birds are centre of attraction to various birdwatchers and tourists in the area and are serving as an integral part of ecology of the area. The chemical free agriculture will not only replenish the health of the soil but also the health of the birds as for 2-3 months, the birds dwell on the same soil and water. Organic agriculture initiated by Department of Agriculture will not only boon the economy of the farmers but also help to preserve healthy soils, healthy migratory birds, and healthy individuals of the area, thereby having an overall prospective prosperous agro-ecology.

The Way Ahead

One of the officials of the State Department stated that organic *Basmati* rice fetches 25 percent more for farmers than the normal variety, which sells for about Rs.28,000 to Rs.29,000 per quintal. R.S. Pura produces 550,000 quintals of *Basmati* rice. By introducing organic farming on commercial, scientific and organized lines the farmers can harvest rich dividends here and farming can become sustainable. Jammu's main competitors in *Basmati* rice exports are

Image (d)

Image (e)

Image (d): Plantation of *Basmati* Rice under conversion period, Image (e): Mr. Swaran Lal Bhagat in his fields

Punjab, Haryana and Uttarakhand. Their rice is slightly longer in size but the aroma and flavor of Jammu *Basmati* is much richer. After Jammu and Kashmir lifted the ban on export of *Basmati* in 2010, about 630 quintals of the rice was exported from the Jammu region during 2010-11 to the US and Middle East, which increased to 1,350 quintals in 2011-12. The exports are going to increase manifold once the organic *Basmati* of Jammu hits national and international Markets. The manures which can be used to increase the productivity are Vermicompost, bio-dynamic compost, microbe-mediated compost, besides slush of bio-gas units. The agriculture department is providing assistance for production of such manures. Cow urine is one of the best pesticides which are substituting the chemical pesticides in other organic farming systems and can be used here also. Further, the by-products of the organic *Basmati* like straw, husk, etc. can be fed to dairy animals and thereby organic milk production can be started by motivating the farmers, providing them with need-based training and opening new marketing channels for them.

Suggested Readings

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