

SCOPE AND ECONOMICS OF BAMBOO CULTIVATION IN PAKISTAN

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Bamboo is an ever-green plant which can grow in hot and humid climate from sea level to the high hills. It belongs to the family of grasses and is one of the most fast growing plants. It has 1250 kinds ranging from the small-sized bamboo to the very thick one generally being used for shuttering in the multi-storeyed buildings. Its quick growth, lightness in weight and flexibility are the few prominent characteristics that make the bamboo sticks unique in their nature.

Before 1971, almost all the requirement of bamboo was being met from the then East Pakistan. There are vast forests of bamboos in that tract. All the news print paper, packing paper and other types of papers were being manufactured from bamboos at Karnafli News Print Mills. Since we were getting adequate quantity of bamboo for our use in the West Wing, the necessity of raising bamboo in Pakistan was never felt before the dismemberment of the East Wing. Immediately after 1971 war, acute shortage of bamboo was felt. Consequently the prices of the good manufactured from bamboos went very high. The need for cultivation of bamboo was felt henceafter.

As mentioned above, bamboo needs high temperature and high humidity. In Pakistan these climatic conditions prevail only during monsoon season. These too do not correspond with the requirements of bamboos. On account of fast growth, bamboo needs lot of water. It can be made available either in the form of heavy rains or artificial irrigation. Fortunately in Punjab there is an extensive system of canal irrigation which can compensate for lack of natural precipitation. In Margalla Hills near Rawalpindi some varieties of bamboos are found growing naturally, obviously due to high rainfall and comparatively higher temperature. On account of quick growth unlike other forest species the bamboos are ready for harvest in 4 to 5 years time. Against this the pines take 120 to 200 years to mature and the broad-leave species being grown in the plains take 20 to 60 years to mature for harvesting. This advantage alone provides a greater attraction for the farming community to raise bamboo at their farms.

Progressive farmers in Sargodha district have already taken up cultivation of good quality bamboo at their farms. The experiments to standardize various operations required to get maximum growth of good quality bamboo have been laid at Chakian near Sargodha, Daphar Plantation in Gujrat district, Changa manga in Kasur district and Chichawatni in Sahiwal district. It is expected to get the results in five years time after which we will give definite recommendations to the farmers regarding raising of nurseries, pattern of planting, plant to plant

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spading, weeding, manuring, tending operations, inter-cropping and the rotation for harvesting the plants. In the mean time some of the progressive farmers are already growing bamboos at their farms at a spacing of 3 to 5 metres from plant to plant and from row to row. Some of them are using farmyard manure and chemical fertilizers at arbitrary rates. They have not yet been confronted with any serious disease. The planting is, mostly, carried out in March and August and the plants are ready for harvest at the first instance in the 5th year and later on in every 3rd year. Some of the farmers have been able to fetch as high as one lac rupees for an acre after five years.

Propagation of Bamboos. The cultivation of bamboo in the nursery is carried out in different manners, which are:

- (i) from seeds
- (ii) from shoot cuttings.
- (iii) from rhizomes.
- (iv) by layering.
- (v) by separating the small plants growing on the root system or mother plants.
- (vi) by separating the established cluster into different plants.

It is correct that bamboo needs tremendous amount of water. But this does not mean that it can grow in water-logged conditions. Bamboo needs a rich loamy well-drained soil. The manuring before planting of bamboo with the farmyard manure is expected to give best results. The soil should be worked to a depth of 2 ft. to 3 ft. with repeated ploughing so that the growth of grasses and other unwanted weeds can be checked up. Some of the farmers are using DAP before planting bamboo in the nursery as well as in the field. Soil has to be well. During the first year after planting in the field, inter-cropping with the agricultural crops is possible, but later on the bamboo plants would spread in such a manner that any such cultivation will not be possible. During the first couple of years the bamboo establishes its root system and produces maximum foliage for this purpose. Normally in the 3rd year the sticks shoot up and complete their growth in girth and height within 40 to 60 days. For the rest two to three years the bamboo sticks are retained so that they are mature for producing good quality bamboo sticks.

The propagation from seed is a difficult method. A bamboo plant seeds only once in its life time and after producing seed it dies. Procurement of seed is, therefore, not easy. The most common method of propagation of bamboo is from the shoot cuttings and the rhizomes. The shoot cuttings are planted in well prepared and manured soil exactly in the manner in which we cultivate sugarcane. The best time is February/March when the frost season ends. These plants are ready for transplanting into the field after one year. The rhizomes are obtained from the bigger plants and are planted in the field as such. It is not essential to

prepare plants from them in the nursery. On the other hand the plant from which these rhizomes are obtained becomes weak. It takes a long time to produce bamboo sticks because it has to develop its root system again before producing bamboo sticks. Other methods of propagation are not common. Only experimentation would help us to arrive at certain conclusions for the best method of propagation of bamboos.

Cost of cultivating bamboos in an acre comes to Rs. 9500/- for first five years and Rs. 175/- year for the next 3 years. This includes preparation of the area, cost of fertilizers, planting, weeding, irrigation etc. Against that a 4 x 4 m plantation is expected to yield Rs. 16000/- per acre/annum after 5 years at the double of that rate subsequently.

In Agri. Sector sugarcane is one of the most paying cash crop. It fetches a net annual income of Rs. 5000/- per acre.

In case of Citrus gardens the income may be at the most Rs. 10,000/- per acre per annum.

Obviously Bamboo is much more paying than any of the agricultural and fruit crops. If introduced on scientific lines it is expected to boost up the economy or farmers to a great extent. It is especially recommended for the small farmers having subsistant holdings to grow bamboo at their farms.