

A SCIENTIFIC VISION IN THE TRADITIONAL ARECANUT CULTIVATIONS IN SIRSI TALUK, UTTARAKANNADA DISTRICT, KARNATAKA STATE

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ABSTRACT

Since centuries farmers of the area have adopted a unique method of arecanut cultivation. The adoption of water and soil conservation techniques, food supplement, and economic stability to marginal and small scale land holders of the taluk is exemplary to new cultivators. The techniques adopted in planning and the preparation of land for arecanut cultivation shows scientific vision involved in the process. The paper describes the traditional techniques used for arecanut cultivation and other multiple crops by the farmers of Sirsi taluk.

KEYWORDS : Arecanut Cultivation, Scientific Vision, Sirsi Taluk, Uttara Kannada District

The study area has a geographical extent of 1322 sq.km in which 78.11% is occupied by forest land and is located in the hilly regions of Uttara kannad district and lies between 14° 28' and 14°51' N latitude and 74° 34' and 75° 04' E longitude and at an elevation of above 650m above mean sea level. The population of the taluk as per 2011 census is 1, 75,550. The taluk has four administrative hoblies and 227 villages (Figure, 1).

The arecanut cultivation is carried mainly in deep moist valleys between hills covered with evergreen forests, wherein perennial source of water is available. These valleys in the downstream direction gradually widen out into flat areas which are generally used for cultivation of other crops like rice, sugarcane, vegetables etc.

As a shade to arecanut trees, plantain suckers are planted. Proper alignment is made in order to protect the trees from the southwest sun-shine. The pits are dug to 60cmX60cmX60cm dimension at a distance of 2.0-2.5m for pit to pit and the seedlings of about three years old are planted. About 400 to 500 plants are planted in an acre area which is considered as standard even for revenue assessment. The annual cultivation practices comprise of:

- a) Digging around the bed of the trees
- b) Application of manure
- c) Covering it with leafy twigs and
- d) Addition of fresh earth to cover the manure and leafy twigs

The leaves required are collected from the allotted Betta lands (Kamath, 1985). In the area, the traditional agriculture can be best understood in contrast to modernized agricultural system developed elsewhere, and

is referred to those simple farming systems adopted and continued in the area. They do not depend necessarily on the energy-intensive technologies of modern agriculture like mechanization, use of chemical fertilizers and pesticides, but the importance is mainly given for environmental sustainability, using indigenous/local knowledge of fauna and flora, soils, available natural resources etc. Importance also is given for conservation of water and soil by the farmers.

METHODOLOGY

Primary data like types of crops, method of cultivation, land holdings/economic status etc; have been collected through personal interview method during 2011-12 from the villages like Bairumbe, Gubbigadde, Niranhalli, Yedalli etc; which are located in different hoblies of Sirsi taluk. The details of growing area and yield per hectare etc; are collected from Governments Departments.

RESULTS AND DISCUSSION

Sirsi taluk is known for spices which are mainly grown in Arecanut gardens. Hegde (1994), by using IRS LISS II geocoded FCC data estimated the arecanut plantation area in the taluk at 3030.30 hectares(ha). Bhat(1999) mentioned that the arecanut garden area covers 3011ha. Table 1 shows the details of the the multiple crops grown in the area. It may be noted that there is marked enhancement in the total area of arecanut garden from 1999-2000 (3431ha) to that of 2008-09 (5115ha). Thus an increasing trend in the area of arecanut cultivation is noticed.

It is pertinent to note that after selection of the area,

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Figure 1 : Study Area

the alignment of the rows is an important aspect. Every care is taken in designing the rows alignment so that the trees are protected from direct western sun-shine/burns maintaining around 35 ° deviations from north. The suitable distance between the areca palms is 2.7 X 2.7 m and one acre consists of 528 trees. Once the rows are defined, the drainage and irrigation channels are constructed. Due prominence is given for the construction of main channel, cross channel, main drain and cross drain in the arecanut garden. These channels are scientifically planned and are used for irrigating the plants/trees and also to drain excess water. The main channel/drain is constructed in the top most part of the garden (at the elevated end), this is locally called as Talagaluve and is used for water supply. Perpendicular to the main channel there are number of sub-channels/drains which are constructed between the palm rows for the purpose of draining excess water. The traditional irrigation methods followed reveal that the arecanut plants/trees are irrigated once in every seven days

during November-December, every six days during January-February and every four days during March-May. This shows the emphasis given towards water conservation. The excess water which is allowed to flow further downstream is reused for paddy and other agricultural crops. This in turn helps in enhancing the groundwater level in the area.

In most of the traditional arecanut gardens horticulture crops like ananas, pepper, plantain, coco, cardamom, ginger, turmeric, vanilla, flowers, chille etc. are grown as multiple crops. In addition, all along the border, the shade giving trees like jackfruit, mango, coconut etc. are planted. These multiple crops generate an additional income to the farmers besides providing employment to the semi-skilled agricultural labourers.

The dry and green leaves that are collected from the adjacent Betta land (allotted by the government to the farmers) are used for manuring and mulching. The other benefits availed from these betta lands are fodder, firewood

Table 1 : Details of Multiple Crops (Area in Hectare, 2012-13)

Year	Hobli	Ananas	Paddy	Areca nut	Coco nut	Pepper	Mango	Planta in	Jack fruit	Coco	Carda mom	Ginger	Veni lla
1999-2000	Sirsi	-	45	744	41	15	16	28	2	4	42	-	-
	Banavasi	-	611	391	40	11	43	112	-	3	7	12	-
	Sampkand	-	67	944	70	7	4	40	1	-	41	-	-
	Hulekal	-	80	1352	62	16	4	64	1	1	95	-	-
	Total	-	803	3431	213	49	67	244	4	8	185	12	-
2008-2009	Sirsi	22	64	909	156	43	21	105	5	2	71	6	41
	Banavasi	315	209	1141	197	17	76	321	1	4	20	295	25
	Sampkand	1	21	1226	111	36	6	95	2	3	57	-	74
	Hulekal	1	15	1839	210	74	15	202	2	12	152	-	381
	Total	339	309	5115	674	170	118	723	10	21	300	301	581

Source: Horticulture department, Sirsi

and non-timber forest products (NTFPs) like soap nut, wild mango, jackfruits and other wild fruits etc.

The analysis of the field data collected (2012-13) revealed that the total cost of establishment of arecanut gardens for seven years is Rs. 6.38 lakh/ha in traditional arecanut growing regions and Rs.9.0 lakhs in non-traditional region. The traditional gardens are providing more yield/ha (1560 kg/ha) compare to modern gardens (1460 kg/ha). On an average, each acre of arecanut employs around 250 human days for cultivation and another 200 human days for processing annually. The arecanut and other associated products provide employment to around three lakh laborers round the year at the farm level, and for grading, marketing and preparation of value added products like canted supari etc. About 500 petty pan shops engaged in selling beeda and other value added arecanut products in different parts of the taluk are earning a good income.

On the basis of the foregoing account the following points emerge out as significant:

1. There is an increasing trend in the area of cultivation of arecanut, the traditional method of cultivation is still followed.
2. The arecanut cultivation techniques followed since the centuries clearly convey the emphasis given for protection of top soil from erosion, maintaining soil fertility and water conservation techniques adopted scientifically.
3. Multiple cropping systems adopted provide additional employment potential, social and financial security against natural calamities and market instability.

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