

ECONOMIC LIFE-SPAN OF COCONUT HYBRIDS

by

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INTRODUCTION

One of the doubts a coconut farmer often expresses is about the shorter economic life-span of hybrid coconut in comparison with the Tall cultivars. During the discussion at various Kisan Melas this doubt is raised time and again. Since dwarf parent of the hybrid has a life-span of about 45 years, it is quite reasonable that a farmer who commits his land for coconut cultivation raises this pertinent question. It is believed that the economic bearing period of a Tall cultivar is around sixty years and that of the dwarf is forty years. However, there are tall trees which give economic yield even up to 80 years or more.

HISTORY OF HYBRID COCONUT

The first coconut hybrid in the world was produced in India in the year 1932 by Dr. J.S. Patel at the erstwhile Coconut Farm, Kasaragod (now the headquarters of CPCRI). The West Coast Tall was used as the female parent and green dwarf palm as the male parent. The first field planting of these hybrids was undertaken in 1934 at the Nileshwar farm now under the control of the Kerala Agricultural University. These palms of over 50 years age are even now bearing at Nileshwar.

PERFORMANCE OF HYBRIDS

The first coconut hybrid was a combination of the West Coast Tall as the female parent and the

Chowghat Green Dwarf as the male parent. The objective of undertaking the cross was to transfer the early bearing character of the Green Dwarf to the Tall. Under



Fig. 1. West Coast Tall

Lakpee' (Manipuri Rugby) is an indigenous game played since the days of the kings. It is still played in the ground of Bijay Gobindaji Temple, situated within the campus of the King Ananta Shayee's Palace. There are seven players on each side acting as 'Gods and Demons' on 'Pichkari' (Holi—festival of colours) day. The game starts by throwing a heavily ointed coconut at one side of the field. Players attempt to carry the coconut into the box and cross the goal line against defending opponents. 'Ningthou' (The king in earlier days and judges at present) conduct the game sitting just behind the box. Some scholars traced the origin of the game to the mythical story of the 'Samudra Manthan' i. e. the Gods tactfully depriving the Demons of 'Amrita Kumbha' (pot of nectar) during the churning of the great sea.

AGRO-CLIMATIC SITUATION

The land and the soil

Out of the total geographical area of 22,327 sq km the land utilization pattern of Manipur (see Table 1) indicates that about 65% of the land is under forest, and about 24% of land is not available for cultivation. Pasture, groves, waste and fallow land amounts to about 1.4% and different crops are sown in about 10% of the land.

The soil is mainly acidic in the valley with pH 5.0 to 5.5. The acidity increases with altitude and rainfall intensity. Soil is sandy loam to clayey loam in character and in general low in phosphorus,

medium to high in potash and high in organic carbon.

The Crops

Rice and maize are the main field crops of Manipur. Pulses and oil seeds are also grown there. Sugarcane, potato, ginger and chillies are other important crops. Pineapple, citrus and banana are the common fruit crops. As per the North Eastern Council's report (1978) there are about 140 ha. of land under plantation of coffee and 100 ha of land under rubber in Manipur. Now after one decade, according to the departmental officials, the coffee plantation is almost stagnating at the same level but rubber has gained popularity and expanded to about 20,000 ha of land. Jhum cultivation is still quite common in hill areas. The consumption of plant nutrients per unit of gross cropped area is 18 kg per ha which is almost half of the national average.

The Climate

The climate is typically subtropical in Manipur. The average annual rainfall is 1785 mm but it varies much in different parts of the State. In high hills the annual rainfall goes beyond 3000 mm in some years, in mid hills ranges around 2000 mm and in Imphal valley rainfall is as low as 1300 mm. Pre-monsoon rain starts from April and the proper monsoon comes from the South-West in June and continues up to September. The average maximum temperature is 35° C and minimum is 4° C. But there are wide

ranges of variations like in the high hills during winter, temperature dropping to 0° C or even to subzero once in a while, whereas summer temperature in South Western corner going up even to 43° C. The average humidity ranges from maximum 99% to minimum 46% in Manipur (see Table 2).

Suitability of Coconut Cultivation

The main problem that limits the commercial plantation of coconut in Manipur is its climatic condition. Coconut which is essentially a tropical plant, requires about 1500 mm to 2200 mm of well distributed rainfall throughout the year. The optimum mean annual temperature for the best growth and maximum yield of coconut is 27° C with a diurnal variation of 6° C to 7° C. It grows well in warm and humid climate with humidity rarely falling below 70%.

Though coconut is a highly adaptable plant to various types of environments, the subtropical agro-climatic situation prevailing in Manipur is not found to be suitable for growing coconut all over the State. It can be grown in some low altitude pockets in the valleys of south-east and south-west of Manipur.

THE PRESENT COCONUT SITUATION IN THE STATE

The farmers of Jiribam area in Manipur were found to be very much interested in coconut cultivation and on their own initiative started growing the crop systematically about 15 years ago.

Even then coconut has not crossed the boundaries of the homestead garden with the result that still there is no large commercial coconut farm in Manipur.

Area and Production

At present there is no area under coconut plantation in Manipur according to the official statistics. But there is about a little over 30 ha of area under coconut in Jiribam and Moreh regions (see Fig-1). Out of this about 10 ha area is in bearing stage. The average yield is quite low, in the range of 20 to 30 nuts per palm per year. The total production of coconut in Manipur do not exceed 50,000 nuts per year. The Coconut Development Board has introduced the scheme for expansion of Area Under Coconut in Manipur from 1988-89 and fully achieved the allotted target of 5 ha in the first year of the scheme. In 1989-90 it is expected to exceed the target and achieve about 10 ha of expansion under the scheme.

Market for Coconut & Its Products in Imphal

Preliminary market survey conducted in Imphal town during December 1989 indicates that the size of market for coconut and its products in Imphal is about Rs. 165 lakh only. Out of this market for coconut itself is 91% and for coconut products only 0.9%. It was reported by the traders that the market is expanding at the rate of about 7% or more every year. Item-wise market analysis is presented below.

Coconut

There are 5 or 6 wholesalers dealing with coconut in Imphal

and each wholesaler further supplies 3 or 4 middlemen. These middlemen purchase nuts from the wholesalers on 100 nut basis, repack 25 nuts in each gunny bag and supply to roadside retailers. Each middleman deals with about 5-6 retailers and extends them 3-5 days credit. Total arrival in the market is about 300 trucks per year amounting to 25 lakh nuts. At the wholesale rate prevailing in Imphal, the volume of coconut trade amounts to about Rs. 150 lakh per year. The entire bulk of Imphal requirement is reported to be procured from Nalbari, Baihata and Nagaon areas of Assam at the rate of Rs. 2,500 to Rs. 3,000 per thousand nuts and transported by trucks.

Each truck carries about 8000 nuts and charges between Rs. 4000 and Rs. 5000 depending upon the distance between the place of procurement in Assam and Imphal. In general wholesalers keep a margin of about Rs. 1.50 to Rs. 2.00 per nut.

There are about 100 retailers in Imphal and each of them on an average sells 50 nuts per day. But during festivals, consumption increases many folds. In normal days retail price of coconut ranges between Rs. 6 and Rs. 10 but during festivals it shoots upto Rs. 12 to Rs. 15 per nut and even higher. Retailers offer three variations of fresh nuts to the customers at three different price levels.

- 1) Unhusked — nuts:-price ranging from Rs. 6 to Rs. 8 per nut,
- 2) Husked — nuts:-price ranging from Rs. 7 to Rs. 9 per nut.
- 3) Kernel ball with water after re-

moving the shell:-price ranging from Rs. 8 to 10 per nut

Edible Ball Copra

In Imphal five wholesalers deal in edible ball copra and each one of them supplies 8 to 10 retailers. Copra is procured from Guwahati by the wholesalers and Guwahati market mostly obtains it from Tiptur in Karnataka and some times from Calicut in Kerala. Imphal market absorbs only about 15,000 kg of copra per year and the average price at present is about Rs. 45 per kg. Edible copra is almost exclusively used in small pieces in pan (betel leaf) making.

Desiccated Coconut

The market for desiccated coconut in Imphal is very small amounting to only about 6,000 kg per year. The major consumers are the bakeries and confectionaries. During religious and social functions, DC is used in the household for making laddus and other similar sweets. There is only 3 or 4 wholesalers in Imphal who purchase their requirements from Guwahati. The present wholesale price is reported to be within the range of Rs. 28 to Rs. 32 per kg. The retailers buy 15 boxes from the wholesaler, repack the contents in 250g plastic bags and sell at Rs. 10 to Rs. 12 per packet.

Coconut Oil

The market for Indian coconut oil is also very limited at present. Only about 8.0 tonnes of oil are sold per year. In urban areas consumers prefer small packets of recognised brands like KM TATA, Shalimar, Parachute etc. But in rural areas retail price

coconut oil was found to be Rs. 15 per 200 gm tin and loose oil of 15 kg tin was sold at the rate of Rs. 6 per 100 gm. Usually oil is sold loose at 15 kg tins. Small packages are usually procured from Calcutta in cartons of 4 or 5 dozens each and the 15 kg tins are normally obtained from Guwahati market.

Approximately 15 tonnes i. e. almost double the amount of Indian coconut oil, is reported to be smuggled from Burma and sold openly in Imphal market. Consumers prefer the smuggled oil because of its better quality, good flavour and lower price.

The smuggled oil comes in 4 kg tins and costs around Rs. 100 per tin in Imphal and Rs. 80 in Moreh (India-Burma border). The retail price of this oil ranges between Rs. 4 and Rs. 5 per 100 gm.

POTENTIALITY FOR EXPANSION OF AREA UNDER COCONUT

An attempt has been made to assess the potentiality of area expansion under coconut in Manipur. During the study, lack of statistical data was found to be the main constraint for analysis and proper interpretation. However, the credibility gap was minimised by having field level

discussions with the State Govt. officials attached to different departments. Based on the agro-climatic data (see Table 2) eight sub-divisions in four districts were identified, where coconut might possibly be grown. It was found that in Jiribum and Moreh, where coconut plantations already exist, cultivation can be extended further. In the valleys and foot hills of Nongba, Phelon and Tamenglong, especially in Nongba-Thanolong area, coconut plantation might prove to be quite successful. It might also thrive well in Chandel, Tipaimukh and Konkanthana area (see Fig. 1 and Table-4).

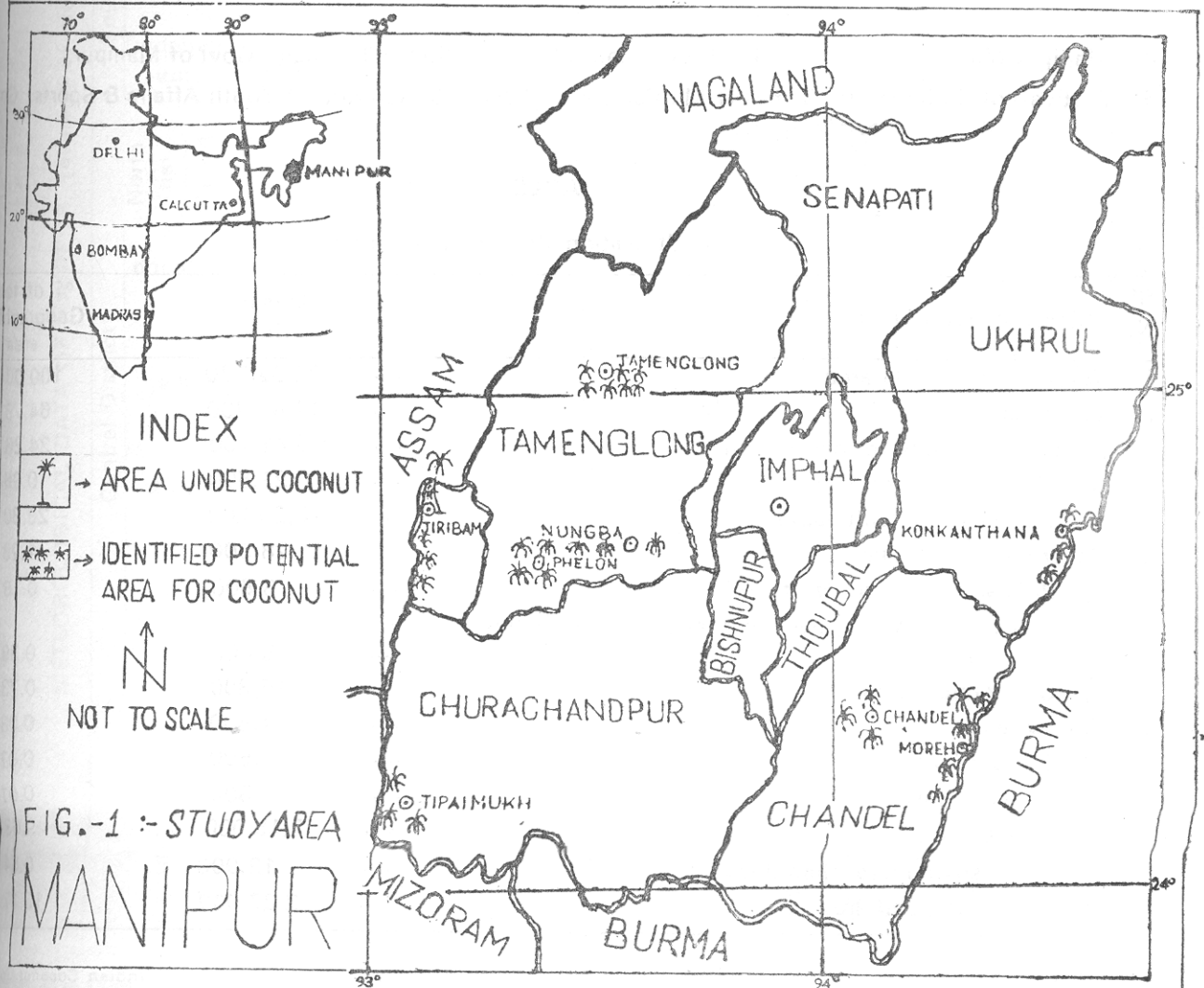


FIG.-1 :- STUDY AREA
MANIPUR

Considering the land utilization pattern of these sub-divisions, it was estimated that initially coconut may possibly be introduced in 500 ha of land. If the growth and establishment of coconut is found to be satisfactory, the area might further be extended in stages, upto 1,500 ha (see Table 4). Considering the local average rate of production it could be

estimated that from 1,500 ha, an additional yield of about 9 million nuts per year could be obtained, the cost equivalent of which, at the present market rate, could be expected to be about Rs. 54 million per year.

CONCLUSION

In this eastern most State of India, coconut is an essential part

of everyday life. Both in cultivation and trade, coconut is still a crop of minor importance in Manipur. But there is positive scope for expanding the area under coconut upto 1500 ha. Steps could be initiated today, about next 15 to 20 years, this aim could be achieved and Manipur could emerge as an important coconut growing state of India.

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TABLE 1

Land Utilisation Pattern in Manipur

Sl. No.	Classification of land	Area in ha	% of total Geographical area
1)	Total Geographical area	22,32,700	100.00
2)	Forest area	14,45,700	64.75
3)	Area not available for cultivation	5,41,700	24.26
	a) Non-agricultural use	21,500	0.96
	b) Barren and uncultivable	5,20,200	23.30
4)	Other cultivable land	28,500	1.28
	a) Permanent pasture & others	3,600	0.16
	b) Misc. tree crops, groves, etc. not included in net area sown	8,600	0.39
	c) Cultivable waste	16,300	0.73
5)	Fallow land	1,800	0.08
	a) Current land	1,500	0.07
	b) Other fallow	300	0.01
6.	Net area sown	2,15,000	9.63
	a) Area sown more than once	12,000	0.54
	b) Total cropped area	2,27,000	10.17

TABLE 2

METEOROLOGICAL DATA OF MANIPUR (average of eleven years from 1972 to 1982)

Particulars	Central District			South District			Tengnoupal District		Manipur Average			
	Wangbal	Jiribam	Imphal	Kangchup	North Dist. Maram	Chandpur	Thanlon	Tinsong		East Dist. Ukru	Tengnoupal	Chakpi-Karag
Rainfall (mm)	1162	2851	1280	1529	1283	1331	2539	2684	1492	2410	1070	1785
Temp. (°C) Maximum	35.0	39.1	NA	NA	34.3	32.6	32.6	30.9	32.9	30.0	43.4	34.7
Minimum	1.2	5.6	NA	NA	3.1	0.4	7.0	7.4	3.7	5.2	4.7	4.3
Relative Humidity (%)												
Maximum	97.8	97.7	NA	NA	99.6	100.0	100.0	99.1	100.0	99.1	98.4	99.1
Minimum	50.4	55.4	NA	NA	46.8	43.2	67.5	41.2	46.9	34.4	31.3	46.3

NA—Not available

TABLE 3

COCONUT AND ITS PRODUCTS IN IMPHAL MARKET IN DECEMBER 1989

Items	No. of whole-salers	No. of retailers	Source of procurement	Current average price		Annual volume of trade	Size of market at current wholesale price	
				Rs Retail	Rs Wholesale		Amount (Rs. in lakh)	Percentage
Coconut	5	100	Nalbari, Baihata, Nagaon (Assam)	8.00 per nut	6.00 per nut	25 lakh nuts	150.00	91.27
Edible Copra	4	50	Guwahati (Assam)	5.00 per 100 gm	36.00 per kg	15,000 kg	4.20	2.55
Desiccated Coconut	3	20	Guwahati (Assam)	11.00 per 250 gm	30.00 per kg	6,000 kg	1.80	1.10
Coconut Oil small package	3	24	Calcutta (W Bengal)	15.00 per 200 gm tin	650.00 per carton (4 doz)	4,800 kg	3.25	1.98
15 kg tin	2	10	Guwahati (Assam)	6.00 per 100 gm	675.00 per 15 kg tin	3,000 kg	1.35	0.82
4 kg tin (Burma)	—	50	Burma via Moreh on Indo-Burma border	5.00 per 100 gm	100.00 per 4 kg tin	15,000 kg	3.75	2.28
						Total	164.35	100.00

TABLE 4

ESTIMATE OF AREA FOR INTRODUCING COCONUT IN MANIPUR

Districts	Sub-Divisions	Area for initial introduction (ha)	Area for further expansion (ha)	Total area (ha)
South	a) Tipaimukh	30	60	90
	b) Tamenglong	60	100	160
	c) Phelon	60	100	160
	d) Nungba	80	200	280
Central	a) Jiribam	100	200	300
Tengnoupal	a) Mureh	100	200	300
	b) Chandel	40	80	120
East	a) Konkantana	30	60	90
Total		500	1,000	1,500

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