Indian vegetarian meals/snacks and wore khadi which, for a good part of his life, was cheap and the poor man's cloth. He ate not much. Torn and colour-faded clothes were not uncommon on his body. There was no place for comfort and luxury items in his basket. His lifestyle thus put little pressure on demand, restraining demand-pull inflation. His advocacy of high interest rates may have been propelled by the financial insecurity he thought he might face during his retirement. His austere living led to a large proportion of saving from his income relative to others in comparable income-groups but living more comfortably. Inflation would reduce the real worth of his saving, whereas high interest rates could protect saving and provide finanacial security. On population control, he stood on the extreme. He was a bachelor. He carefully avoided crossing the *Lakshman-Rekha,* keeping on just nodding terms with members of the other gender, be they his students, colleagues or acquaintances. There was of course no question of Brahmananda having a friend from that fraternity.

By virtue of the concern for the well-being of the poor in his thoughts and his simple living, one could well call Brahmannada endearingly a poor man's economist.

Brahmanands's steady and devoted work throughout his professional life had earned for him a number of prestigious awards and honours. He was a UGC National Lecturer, a UGC National Fellow, an ICSSR National Fellow, an awardee of the Economist of the Year of *The Financial Express* a best teacher awardee of the government of Maharashtra, a conference president of the Indian Economic Association and an honorary president of the International Economic Association.

In the history of Indian economic thought of the last 50 years, Brahmananda will have a secure place. Also, his colleagues, students and readers will remember him for long for what he has taught them, for the help he has given them professionally and in other ways and, in general, for the warmth and friendliness in his relations with them. EPW

Arecanut after Gutkha Ban

Options and Alternatives

The collapse of arecanut prices after the ban on gutkha imposed by some states has plunged farmers into a crisis and lack of export avenues has further exacerbated the situation. Along with an MSP policy for arecanut to assist the beleaguered farmers, intercropping with remunerative crops can also be considered as a safeguard against income uncertainty.

M T Rajashekharappa, Rakhi Goel, K B Umesh

Arecanut (Areca catechu L), popular as betel nut or 'supari', is used for chewing with betel leaves and/or gutkha, and is cultivated in India, Bangladesh, Malaysia, Sri Lanka, Indonesia, the Philippines and some Pacific islands. Its commercial importance is justified by the fact that it brings in considerable earnings to the state and central governments in the form of sales tax, customs duty and agricultural income tax. Karnataka is India's major arecanut producing state, where it is cultivated on 1.25 lakh hectares (ha) with an annual production of 1.5 lakh tonnes involving over 20 lakh farmer families [Krishnaswamy 1997]. Arecanut provides a decent living for more than three million people and assured employment of one crore mandays annually.

Arecanut is predominantly consumed in the northern states most of the produce goes to this region for processing and to design the final packets. The emergence of value added arecanut products gave a boost to the arecanut economy in the country. When the era of 'value addition' through large-scale industrial processing of arecanut began, diversified products in attractive packets and labels such as gutkha, supari, pan masala and other scented supari flooded the retail market. This shifted the demand for arecanut, especially in northern states, resulting in a sudden surge in arecanut prices to Rs 12,000 per quintal in year 2000 from Rs 2,500-3,000 per quintal in the 1980s.

Remunerative agricultural prices are imperative to sustain the production process; the arecanut market is sensitive to any talk of a gutkha ban and has experienced a severe fluctuation in market prices. The decision of the Maharashtra, Tamil Nadu, Goa, Andhra Pradesh and Gujarat governments to impose a ban on production and marketing of value added products such as gutkha and pan masala have further worsened the situation. Arecanut prices have crashed, threatening the arecanut economy in Karnataka. The price of 'chali' (white supari), produced in Dakshina Kannada, plummeted to less than Rs 6,000 per quintal in 2001 (Figure 1). Arecanut prices reached a record low of Rs 5,000 per quintal, equal to the cost of production of Rs 5,000 per quintal [Rajashekharappa 2001].

Realising the gravity of the situation, the central government along with the state government's market intervention scheme (MIS) announced a minimum support price (MSP) of Rs 6,000 per quintal for chali in 2002.

Since arecanut is a crop of recent importance, there has been no substantial attempt by Committee for Agricultural Costs and Prices (CACP) to work out the cost and returns of for it does field crops and other plantation crops. Hence, data regarding cost and returns were collected personally in the Dakshina Kannada district of Karnataka, as arecanut is one of the important plantation crops and here the agricultural economy is heavily dependent on arecanut cultivation. Moreover, the (variety chali) is predominantly grown in this region and farmers are faced by the growing menace of pests and diseases and price fluctuation. A random sample of 30 farmers each from Belthangadi, Buntwal, Mangalore, Puttur and Sulya talukas of

Table 1: Area, Production and Yield of Arecanut in Dakshina Kannada

Regions	Area (ac)	Production (tonnes)	Yield (qtl/ac)
Belthangadi	16200.00	14956.40	9.23
Buntwal	11727.00	8962.10	7.64
Mangalore	3437.50	2869.10	8.34
Puttur	10615.00	8841.70	8.32
Sulya	15987.00	11864.20	7.42
Total	57966.50	47493.50	8.19

Source: Horticulture department, Government of Karnataka, 1999.

Figure 1: Average Model Price of Chali (white supari) in Mangalore

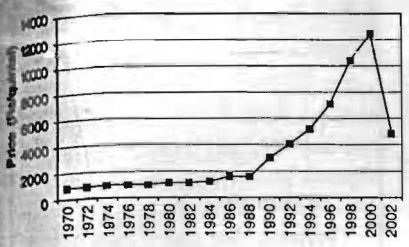
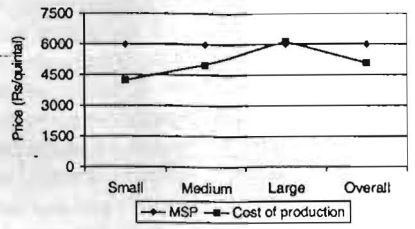


Figure 2: MSP and Cost of Production of Arecanut in Dakshina Kannada



Dakshina Kannada was taken for interviews using a pre-tested schedule for the cost, returns and prices and other information for the production year 2001-02.

Further, sample farmers were post-stratified into small (<1/74 ac), medium (1.75 to 4.49 ac) and large (>4.5 ac) farms based on the size of arecanut area [Mruthyunjaya 1975]. The average model price that prevailed during October-December, 2002 was considered to evaluate the arecanut profitability in the aftermath of the gutkha ban.

Arecanut, a plantation crop, has a gestation period of seven years. The establishment cost (first to seven years) and the annual maintenance cost (eighth year onwards) are worked out separately. The cost of production is compared with the minimum support price to evaluate the sustainability of arecanut production in Dakshina Kannada at current prices.

Arecanut being a perennial crop requires huge initial investment for establishment. On average, the total establishment costs (including cost on planting material and labour charges on banana, as banana is grown as an intercrop during the initial period of establishment to protect the areca seedlings from sun scorch) was found to be Rs 1,40,094 with a fixed cost sharing of 55.26 per cent and variable cost of 44.74 per cent (Table.2). The total establishment cost per acre was fairly high on large farms compared with medium and small farms. The higher investment on large farms was mainly due to higher expenditure on human and machine labour and relatively higher investment on manure. Similarly, the net establishment cost was the highest on large farms due to a higher establishment cost than on small and medium farms.

Cost of Production and MSP

Among the multiple factors that go into the formulation of support price policy, the cost of production is perhaps the most significant. From the point of view of economic consideration, its implications for sustainable farming operations are direct. Thus, for-making support price policy functionally meaningful, the minimum guaranteed prices ought to cover at least the reasonable cost of production.

Arecanut being a labour-intensive crop involves huge annual expenditure during the maintenance period. The per acre annual maintenance cost of arecanut for various size groups is presented in Table 3. As shown in the table, maintenance cost increases with farm size. The maintenance cost varied from Rs 33,075.00 on small farms to Rs 41,434.00 on large farms with an average of Rs 36, 915.00 for the entire sample.

The operational cost irrespective of farms size during maintenance period was found to be higher than the fixed costs. This is largely attributed to higher expenditure on labour for harvesting and processing. Return from arecanut is concerned at current price level (after gutkha ban); the farmers are realising negative net returns for the sample as a whole, while returns before the gutkha ban were substantial (Rs 49,335). Considering the entire sample, the ratio of MSP to cost of production is greater than unity, implying the arecanut farmers are realising Rs 1.18 for every rupee, a gain of 18 paise for every rupee incurred in producing arecanut. However, even at the MSP of Rs 6,000 per quintal, large farmers are losing 3 paise for every rupee incurred in producing arecanut, short of recovering the total maintenance cost (Figure 2).

This is due to higher maintenance costs (Rs 41,434) and lower yields levels (6.74 qtl/acre). So, the MSP of Rs 6,000 per quintal offered by the government in consultation with the state government for white supari offers normal profits with a modest margin to arecanut farmers.

Given the lack of export avenues for arecanut, the option to overcome fluctuations in market prices is through growing intercrops in arecanut gardens. Studies have revealed that areca uses only 35 per cent of the space (recommended spacing for arecanut cultivation is 9" x 9") and the remaining area can be used to raise

Table 2: Establishment Cost of Arecanut in Dakshina Kannada
(Rs per acre)

Particulars	Category of Farms			
	Small	Medium	Large	Overall
Variable costs	55449.16	61818.15	70787.26	62684.86
Fixed cost	80654.28	74205.96	77367.96	77409.40
Total cost	136103.44	136024.11	148155.22	140094.26
Returns(Arecanut+banana)	51364.87	46342.19	43947.64	47218.23
Net establishment cost	84738.57	89681.92	104207.58	92876.03

Note: * the total of seven years' establishment cost.

Table 3: Maintenance Cost of Arecanut in Dakshina Kannada
(Rs per acre)

Particulars	Category of Farms			
	Small	Medium	Large	Overall
Variable cost	18178.87	21964.76	27303.44	22482.35
Fixed cost	14896.69	14271.52	14131.54	14433.25
Total cost	33075.56	36236.28	41434.98	36915.61
Output (qtl)	7.83	7.24	6.74	7.27
Gross returns (Rs)[1]	92895.12	85895.36	79963.36	86251.28
Gross returns (Rs)[2]	38241.72	35360.16	32918.16	35506.68
Net returns (Rs)[1]	59819	49659.08	38528.38	49335.67
Net returns (Rs)[2]	5166.16	-876.12	-8516.82	-1408.93
Cost of production (Rs/qtl)[2]	4224.20	5005.01	6147.62	5077.80
MSP to cost of production	1.42	1.19	0.97	1.18

Notes: 1 before gutkha ban.
2 after gutkha ban.
(a) Market price before gutkha ban – Rs 11,864 /qtl .
(b) Market price after gutkha ban – Rs 4,884 /qtl.
(c) Minimum support price of arecanut (white supari or chali) – Rs 6,000/ qtl.

intercrops. Intercropping also leads to recycling of organic matter. Some of the recommended intercrops are banana, cocoa, pepper and betelvine [Rajgopal and Balasimha 2002]. Since the majority of farmers have small to medium holdings, the introduction of multiple crops will tide over the adverse market situations. The economics of some of popular intercrops in Dakshina Kannada-based on survey data are presented in Table.4.

Bhat (1974), based on the field experiment conducted at CPCRI, South Kanara, reported that the additional profitability of growing intercrops like banana and pineapple was Rs 1,500 to Rs 1,800 and Rs 3,000 to Rs 3,500 per acre, respectively. Further, it was suggested that if the intention of the grower was to get additional income in view of the fall in the price of arecanut, a mixed crop like cardamom and pepper could be chosen based on agro climatic conditions, which would fetch an additional income of Rs 8,000 to Rs 10,000 per acre. However, it was indicated that inter or mixed cropping with a perennial crop like arecanut was to be considered primarily as a safeguard against the uncertainties of income from the main crop due to reasons beyond the control of farmers.

Apart from gutkha, arecanut can also be used for other purposes. The commercially exploitable ones are throwaway cups, plates and packing cases. Research is underway to identify the main constituent of arecanut. A by-product from processing of immature nuts finds use in dyeing clothes, tanning leather, as a food colour and as a mordant in producing a variety of shades with metallic salts. Arecanut also has significant medicinal importance.

Conclusion and Future Strategies

The decision of Maharashtra, Tamil Nadu, Goa, Andhra Pradesh and Gujarat to impose a ban on two value added arecanut products, pan masala and gutkha, has resulted in a sudden crash in arecanut prices to all-time lows in recent years, rendering arecanut cultivation almost unprofitable. The question, that needs immediate answer is whether a unilateral ban on a product of mass choice is permissible under the ethos of liberalisation and market-driven economic order. Under the global trade regime, what is feasible is only market-based tariff action, that is, taxing heavily products that have a negative impact on society and environment. But arecanut consumption along with betel leaves is said to have vermicidal property and an essential role purifying blood. In this regard, it seems that the government made no distinction between the harmful gutkha products and scented and harmless pan masala products, treating both products alike and banning them totally.

So, given this volatile situation, the future expansion of the crop is untenable. There is little potential for export in the present form. Hence, price stability has to be maintained by imposing heavy customs duty on possible arecanut import from neighbouring countries as permissible under world trade agreements. Softening and rationalisation of sales tax should accompany this more. There should be crop insurance by fixing a scientifically calculated minimum price for arecanut. Cooperative institutions like Campco (Central Arecanut and Cocoa Marketing and Processing Cooperative), should take the initiative in procuring arecanut at MSP. Intercropping should be considered an alternative option to ensure economic returns during price fluctuation in the main crop. Ornamental, aromatic and medicinal plants have greater potential to be grown in arecanut gardens. Research and development should look into these possibilities. Such a move would encourage arecanut farmers to continue production and providing livelihood to millions who are dependent on arecanut cultivation. EPW

Table 4: Cost and Returns of Intercrops in Arecanut Garden
(Rs per acre)

Crop	Cost	Gross Returns
Banana	8329.84	22639.14
Pepper	11943.17	31844.83

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