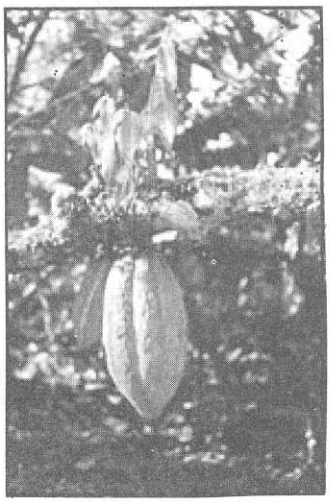
COCOA CULTIVATION - ECONOMICS & FUTURE PROSPECTS

K.U.K. Nampoothiri & C.V. Sairam



Introduction

Cocoa (Theobroma cacoa L.) is an important beverage crop grown as mixed crop in the coconut and arecanut gardens of south western and north eastern India. At present, the crop is grown in 14,618 ha with an annual production of 7,837 tonnes. Kerala accounts for 71 percent of the area and 80 percent of the production followed by Karnataka. The area and production targets for 2002 are 24,000 ha and 20,000 tonnes respectively. The requirement of cocoa for the domestic industry is expected to be about 16,000 to 20,000 tonnes as against the present grinding capacity of 9,250 tonnes, Cocoa being a perennial crop with a fair level of investment during the establishment phase, farmers are reluctant to take up an extensive cultivation of this crop. The price crash during early eighties was a bitter experience to cocoa growers in Kerala and Karnataka and unless an assured market with a reasonable profit exists, the future prospects of cocoa seems to be bleak. This article highlights the economics of cocoa cultivation and the future prospects of the crop in the above background.

Economics

Cocoa as a mixed crop

The humid tropics of India, predominated with spices and plantation crops like tea, coffee, rubber, coconut, arecanut, cashew, pepper etc. provide a thick vegetative cover to Kerala and coastal Karnataka. The land use pattern provides only very limited scope for expanding area under newer crops like cocoa in a phased manner. However research results have confirmed that cocoa is a compatible mixed crop in the inter spaces of coconut and areacanut.

Mixed cropping of coconut and arecanut gardens with cocoa would ensure better production and income stability to the farmers. Moreover cultivation of cocoa as a mixed crop provides highest biomass into the farming systems, which would increase the use of organic manure and provide an ecological advantage to the system.

Agronomic field experiments conducted at Central Plantations Crops Research Institute, Regional Station at Vittal in Karnataka have proved that cocoa is a compatible mixed crop in arecanut gardens. Cocoa plants can be profitably grown at 2.7 x 5.4m in arecanut planted at 2.7 x 2.7m spacing. The economics of cocoa as a mixed crop under north Malabar and Coastal situations is furnished in Table 1.

The cost of cultivation of cocoa as a mixed crop in coconut and arecanut gardens ranges from Rs.19200 during the first year to Rs.16000 from the fourth year onwards. The yield starts from the

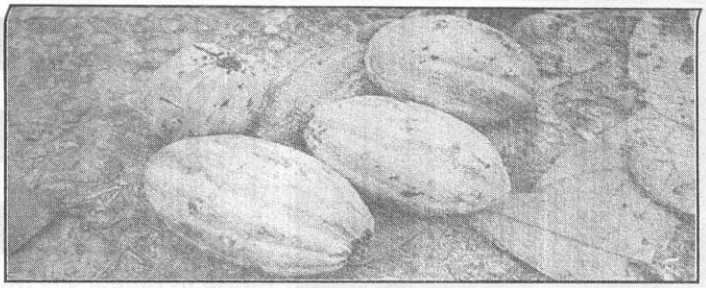
Cocoa as a mixed crop in the coconut and arecanut gardens at present is a profitable enterprise.

Central Plantation Crops Research Institute, Kasaragod 671124

Table 1. Economics of Cocoa cultivation (Rs./ha)*

Years	Total Cost	Total Returns	Gross margin
1	19200	-	-19200
2	6700	-	-6700
3	4900	-	-4900
4	16000	16000	Break Even
5	16000	26000	10000
6 onwards	16000	36000	20000

* as a mixed crop in coconut/arecanut gardens.



fourth year and attains its stablilized phase from sixth year onwards. On an average a gross margin of Rs.20000/ha could be realized from cocoa as a mixed crop. In addition the crop could give about 3750 kg/ha of biomass per year which could be recycled into the system. Under the present market scenatio the unit price of beans should be minimum of Rs.40/kg which would sustain the interest of farmers for cocoa cultivation.

Cultivation of cocoa as a mixed crop in coconut/arecanut gardens improves the gross farm income and thereby reduces the price risks for the main crop (Table 2).

At micro level, the coconut and arecanut farmers are reluctant to undertake cocoa, as mixed crop since the market price of beans is not stable. The average market price of dry cocoa beans was Rs.19.93/kg in 1981-82 had increased to Rs.31.74/kg in 1984-85 and then declined to Rs.22.10/kg in 1989-90. During early months of 2000, the price of dry beans was Rs.65/Kg and the same at present came down to Rs.45/kg. In order to overcome this crisis, buy back arrangements with triparite agreement between growers, respective state governments and processing industries are imperative to gurantee remunerative prices. Otherwise, the production of dry cocoa beans may become scarce and consequent widening of gap between the demand and supply.

Challenges ahead

In the present era of economic liberalization, the market growth rate for cocoa is estimated to be between 15-20 percent. The stagnant production of 6900 tonnes leaves a gap of 7000 tonnes as on today. The estimated demand for 2002 is as high as 20,000 tonnes and even under the present situations more than 50 percent of the domestic requirments is met through imports. Hence it is very much essential to lay out specific strategies for improving the productivity of cocoa cultivation in India.

Cultivation of high yielding varieties (NC.42/94, NC55, Na33XICS89, ICS6XSCa6 etc.) released from CPCRI, Regional Station at Vittal and State Agricultural Universities can substantially increase the yields. Since the domestic demand for dry beans are far higher than that of supply, the probability of prices risks for cocoa cultivation is very less. Hence the farmers can make need based investments for improving the productivity of cocoa in their gardens and realize higher profit in the coming years.

Establishment of common facilities on cooperative basis for fermenting cocoa beans and procurement through agencies like Central Arecanut and Cocoa processing and Marketing Co-operatives (CAMPCO) is the best way to curtail the rols of middlemen in the marketing channel.

Possibility of exploring cocoa as a mixed crop in oil palm may be attempted in India since it has been proved as a very efficient system in Malaysia. Area expansion of cocoa especially as a mixed crop in non-traditional areas like Andhra Pradesh, parts of Tamil Nadu etc. needs to be undertaken with caution after assuring market demand and marketing mechanism for the dry beans.

Conclusion

Cocoa as a mixed crop in the coconut and arecanut gardens at present is a profitable enterprise. Cultivation of cocoa as a mixed cop would provide adequate biomass, which could be recycled within the farming system. Increasing the productivity is the major solution for narrowing the demand and supply gap of cocoa in India. In the case of area expansion for cocoa, in the newer areas, farmers need to assure the market demand and proper marketing mechanism for the end product.

Table 2 Net returns realized from coconut + cocoa and arecanut + cocoa mixed cropping (Rs/ha)

S.No.	Systems	Gross Cost	Gross return	Net Return	Net Returns over monocrop
1	Coconut Monocrop	25000	52500	27500	-
2	Arecanut Monocrop	70000	195000	125000	-
3	Coconut + Cocoa	41000	88500	47500	20000
4	Arecanut + Cocoa	86000	231000	145000	20000

*** Based on 1999-2000 price in North Kerala**