

Socio-Economic Factors for Cashew Production and Implicative Strategies : An Overview

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ABSTRACT

An ex-post facto research study was initiated by NRCC, Puttur during 2004-05 to assess the socio-economic impact of cashew cultivation in Kerala, Maharashtra, Andhra Pradesh and Tamil Nadu, with the aim of suggesting implicative strategies to improve the cashew cultivation scenario. The respondents of the study included two categories viz, farmers with gardens of seedling origin (FSG) and farmers with gardens of graft origin (FGG). In Kerala, Maharashtra and Tamil Nadu, each 30 FSG and FGG respondents were selected through multi-stage random sampling procedure, whereas in Andhra Pradesh each 60 FSG and FGG respondents were selected through accidental followed by snowball sampling technique. The knowledge, adoption level and technology gap of majority FSG and FGG were medium in nature in all four states. The average adoption gap of all the respondents was 54%, whereas it was 57, 60, 65 and 35% in Maharashtra, Kerala, Andhra Pradesh and Tamil Nadu, respectively. Damage due to major cashew pests was the first ranked constraint and training need in all four states. State-wise opportunities and threats for cashew development were assessed and an action model depicting implicative strategies for cashew production scenario was suggested.

Keywords: Action model; Adoption and technology gap; Constraints in cashew cultivation;

Cashew is an important horticultural crop, has gained status of commercial crop from that of a forest component through technological advancements with respect to propagation, production and management. This has been possible as a result of increasing demand for raw cashew nuts and enhanced interest for its commercialization. It is being cultivated by as many as 28 countries in Asia, Africa and Latin America. In India, it is cultivated in an area of 8.54 lakh ha with a production of 6.20 lakh tonnes and productivity of 820 kg/ha (2006-07). The cashew cultivation in the country mainly confines to the peninsular region. It is grown in Kerala, Karnataka, Maharashtra and Goa along the West Coast, whereas in Tamil Nadu, Andhra Pradesh, Orissa, West Bengal along the East Coast region. It is also grown in plains like Chhattisgarh, Gujarat, Bihar and Northeast Hill Regions like Meghalaya, Manipur and Tripura and also in Andaman and Nicobar Islands. There are 3650 cashew processing industries in the country (both organized and unorganized sector together), with an installed capacity for processing of 15 lakh tonnes, for which the contribution from the indigenous production

is only 38%. India earned Rs.2464 crores through export of processed cashew kernels and cashew nut shell liquid during 2006-07. But, to feed the complete capacity of the processing industries of the country, India imported raw cashew nuts worth of Rs.1812 crores (2006-07). These figures imply the need to step-up the cashew production in the country, so that the import cheque could be reduced and the net forex could be enhanced. To improve the cashew cultivation scenario of these cashew-growing regions, assessment of the socio-economic issues and factors that contribute cashew cultivation is very important, so that implicative measures could be suggested.

METHODOLOGY

A study was initiated by NRCC, Puttur during 2004-05 to assess the socio-economic impact of cashew cultivation in major cashew growing states, with the aim of suggesting implicative strategies to improve the cashew cultivation scenario. Survey was conducted in Kerala (Kannur district) and Maharashtra (Sindhudurg district) during 2005, whereas in Andhra Pradesh

(Srikakulam, Vishakapatnam, Vizianagaram, East Godavari, West Godavari, Khammam and Prakasam districts) and Tamil Nadu (Cuddalore district) during 2006. The respondents of the study included two categories *viz.*, farmers with gardens of seedling origin (FSG) and farmers with gardens of graft origin (FGG) to compare the improved technology with the farmers' practices. In Kerala, Maharashtra and Tamil Nadu, each 30 FSG and FGG respondents were selected through multistage random sampling, whereas in Andhra Pradesh each 60 FSG and FGG respondents were selected using accidental followed by snowball sampling techniques. The study was conducted, with help of Centres of AICRP on Cashew located in Kerala (Regional Agricultural Research Station (RARS), Pilicode), Maharashtra (Regional Fruit Research Station (RFRS), Vengurle) and Tamil Nadu (Regional Research Station (RRS), Vridhachalam). In Andhra Pradesh, it was conducted in collaboration with Department of Horticulture, Government of Andhra Pradesh.

Knowledge level of the respondents was measured by assigning different scores to knowing and unknowing behaviour of the respondents towards the selected technologies among the package of recommended cashew production technology. The technologies were selected based on their importance to the cashew cultivation. Similarly adoption level of the respondents was assessed after assigning different scores to 'recommended adoption', 'recommended adoption' and 'no adoption' behaviour of the respondents. The adoption gap of the respondents was assessed using the following formula:

$$\frac{\text{Total respondents} - \text{adoptees}}{\text{Total no. of respondents}} \times 100$$

Similarly, the technology gap of the respondents was assessed using the following formula:

$$\frac{\text{Total no. of technologies selected} - \text{no. of technologies adopted by the farmers}}{\text{Total no. of technologies selected}} \times 100$$

Training needs and constraints in cashew cultivation were also identified from the response of cashew growers. The suggestions to overcome the constraints in cashew cultivation were collected from extension personnel and researchers. The study was an ex-post-facto research. Standardized data collection tools were utilized to collect the data from farmers (interview schedule), key informants (interview schedule), officials of development departments (questionnaire) and

researchers (questionnaire). The key informants' data was utilized for triangulation of the collected data from other farmers and to assess the cost of commercial cashew cultivation. The response of the respondents were coded, tabulated and subjected to descriptive statistical analysis *viz.*, percentage, mean and standard deviation (SD) scores. 't' distribution was employed to find out the significance of difference between scores of FSG and FGG.

RESULTS AND DISCUSSION

Socio and agro-economic profile of the cashew growers : Majority of the respondents in Maharashtra, Andhra Pradesh and Tamil Nadu were middle aged, whereas that of Kerala was old aged. Majority of the respondents in Maharashtra and Andhra Pradesh had middle to high school level education, whereas that of Kerala and Tamil Nadu had middle and high school level education respectively. The farming experience of the respondents was 22 to 24, 23 to 24, 25 to 26 and 28 years in Maharashtra, Kerala, Andhra Pradesh and Tamil Nadu respectively. The average farm size of respondents was highest in Andhra Pradesh (10.6 ha) and lowest in Kerala (1.2 ha) (Table 1). The average farm size possessed by FSG was 2.5, 1.7 and 1.5 times that of FGG in Maharashtra, Kerala and Andhra Pradesh, respectively, except in Tamil Nadu. The average share of cashew to total area was highest in Tamil Nadu (77%) and lowest in Maharashtra (40%). Such share was lower in case of gardens possessed by FSG than that of FGG in Maharashtra, Kerala and Andhra Pradesh, except in Tamil Nadu, wherein it was reverse. The average plant density of gardens possessed by FSG was less than the normal density recommended for cashew cultivation (156/ha) in all states surveyed. The cost of cashew cultivation incurred in gardens possessed by FGG was 1.3, 1.9, 2.0 and 1.1 times than that of FSG in Maharashtra, Kerala, Andhra Pradesh and Tamil Nadu, respectively. But the cost invested influenced the yield of cashew obtained in gardens possessed by FGG, which was more than that of FSG by 1.7, 2.0 and 1.4 times in Maharashtra, Kerala and Andhra Pradesh, respectively. But it was less than that of FSG by 75 kg/ha in Tamil Nadu. The average raw nut price (1990-2007) was Rs.27/kg in Kerala, Andhra Pradesh and Tamil Nadu, whereas it was Rs.34/ha in Maharashtra.

Table 1. Socio and agro-economic profile of cashew growers

S. No.	Farm particulars	MH		KE		AP		TN	
		FSG	FGG	FSG	FGG	FSG	FGG	FSG	FGG
1.	Age (years)	Middle	Middle	Old	Old	Middle	Old	Middle	Middle
2.	Educational status	Middle to high		Middle	Middle to high		High school		
3.	Farming experience (years)	24	22	24	23	26	25	28	28
1.	Farm size (ha)	2.0	5.0	0.9	1.5	8.4	12.8	4.2	4.4
2.	Share of cashew to total area (%)	30	50	51	62	63	66	78	75
3.	Plant density (No./ha)	127	153	148	170	113	163	108	109
4.	Cost of cashew cultivation (Rs./ha)	13534	18800	12125	22668	6120	12275	12917	14750
5.	Yield obtained (kg/ha)	743	1278	473	960	648	898	880	805
6.	Average raw nut price (Rs./kg) (1990-2007)	33.5*		27.1	2	7.1	27.3		

MH=Maharashtra; KE=Kerala; AP=Andhra Pradesh; TN=Tamil Nadu; FSG=Farmers with gardens of seedling origin; FGG=Farmers with gardens of graft origin; *=Pertaining to Goa (Source of data pertaining to raw nut price: website of DCCD, Kochi).

Table 2. Adoption behaviour of cashew growers

Type of behaviour	Level of behaviour	MH		KE		AP		TN	
		FSG	FGG	FSG	FGG	FSG	FGG	FSG	FGG
Knowledge level (%)	Low	40	20	-	-	21	12	25	6
	Medium	50	63	80	73	58	66	62	73
	High	10	7	20	27	21	22	13	21
	't' value	5.360**		1.130 NS		6.790**		3.720**	
Adoption level (%)	Low	40	23	10	0	11	12	34	3
	Medium	53	60	77	87	66	67	44	73
	High	7	17	13	13	23	21	22	24
	't' value	5.430**		0.805 NS		7.69**		8.13**	

MH=Maharashtra; KE=Kerala; AP=Andhra Pradesh; TN=Tamil Nadu; FSG=Farmers with gardens of seedling origin; FGG=Farmers with gardens of graft origin; **-Significant at 0.01 level

Table 3. Technology-wise adoption gap (%) of cashew growers

S. No.	Farm particulars	MH		KE		AP		TN		Average		Overall Average
		FSG	FGG	FSG	FGG	FSG	FGG	FSG	FGG	FSG	FGG	
	Planting technique	63	47	70	60	63	33	55	0	63	35	49
	Soil and water conservation measures	83	60	73	60	73	74	40	64	67	65	66
	Application of manures	64	33	67	50	55	34	3	3	47	30	39
	Irrigation	84	63	80	73	94	66	61	42	80	61	71
	Initial training and pruning	78	34	80	40	98	93	85	27	85	49	67
	Control measures against TMB	57	27	53	30	50	40	3	3	41	25	33
	Control measures against CSRB	60	37	60	40	66	66	33	67	55	53	54
	Average	70	43	69	50	71	58	40	29	63	45	54
	Overall average	57		60		65		35				

MH=Maharashtra; KE=Kerala; AP=Andhra Pradesh; TN=Tamil Nadu; FSG=Farmers with gardens of seedling origin; FGG=Farmers with gardens of graft origin.

Table 4. Technology gap (%) of cashew growers

S. No.	Level of gap	MH		KE		AP		TN	
		FSG	FGG	FSG	FGG	FSG	FGG	FSG	FGG
1.	Low	-	-	13	10	27	10	22	24
2.	Medium	77	83	80	70	56	67	53	73
3.	High	23	7	7	20	17	23	25	3
4.	't' value	8.0713**		1.636 NS		8.0713**		3.130**	

MH=Maharashtra; KE=Kerala; AP=Andhra Pradesh; TN=Tamil Nadu; FSG=Farmers with gardens of seedling origin; FGG=Farmers with gardens of graft origin; **-Significant at 0.01 level.

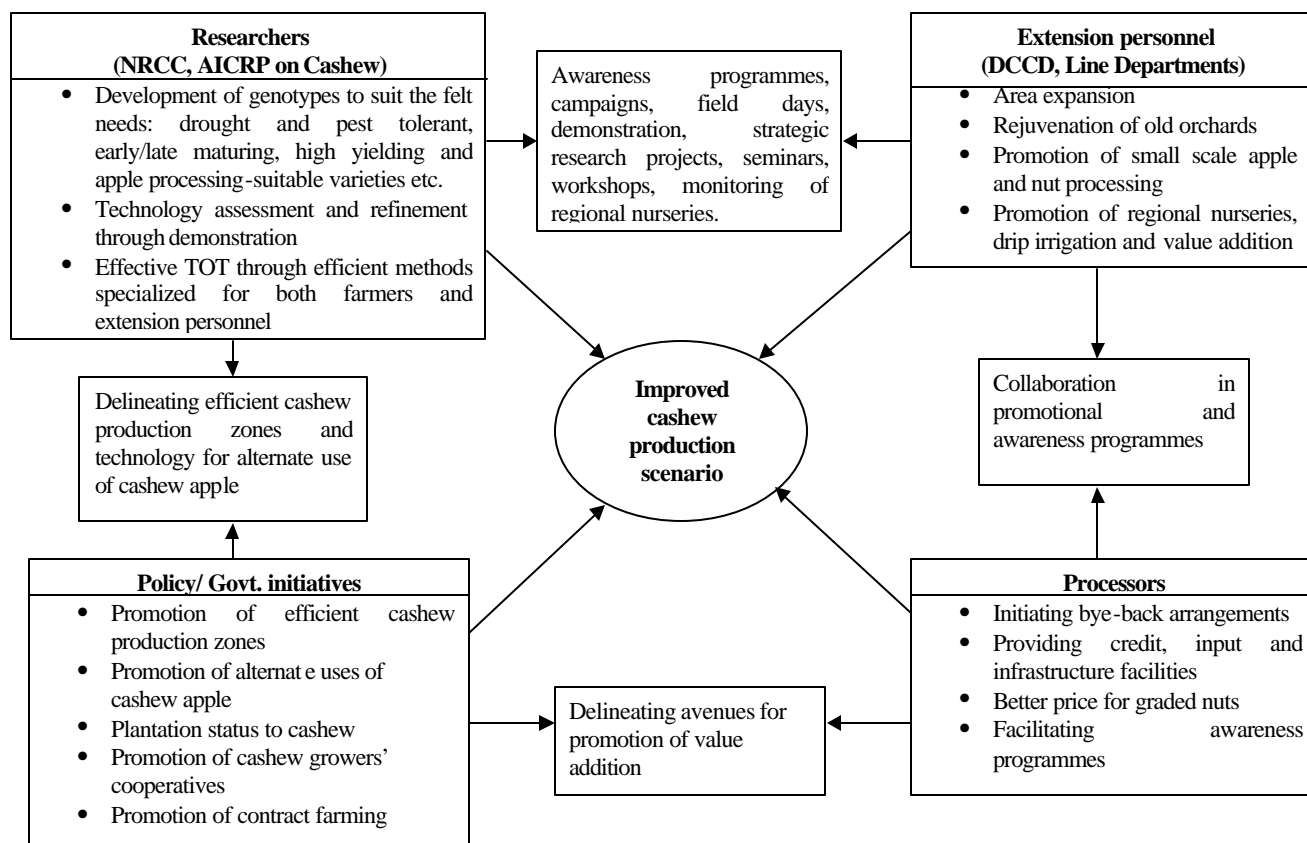


Fig. 1. Action model suggesting strategies for improving cashew production scenario

Table 5. Growth in production, processing and exim scenario of cashew

States	Change in					
	Production scenario (1999-2000 to 2006-07)			Processing scenario (1999-2000 to 2005-06)		
	Area ('000 ha)	Production ('000 t)	Productivity (kg/ha)	Units (no.)	Capacity ('000 t)	Indigenous Contribution (%)
MH (164)	+43 (197)	+72 (1500)	+30 (2200)	+2152* (20)	0 (100)	+70 (KE)
92	-28 (80)	+50 (72)	+34 (900)	+200 (432)	-29 (700)	- (10)
AP	+68 (171)	-1 (99)	-210 (890)	+72 (175)	+45 (95)	+41 (97)
TN	+38 (123)	+15 (60)	+130 (670)	+176 (417)	+245 (565)	+5 (52)
India	+168 (854)	+100 (620)	-80 (820)	+2552 (3650)	+500 (1500)	-5 (38)

Exim scenario (1999-2000 to 2006-07)		
Cashew kernel	CNSL export	Raw nut import
+26 (119)	+0.2 (0.9)	+392 (593)

MH=Maharashtra; KE=Kerala; AP=Andhra Pradesh; TN=Tamil Nadu; *-includes 1850 small scale/ cottage industries; CNSL= Cashew nut shell liquid; Figures in the parentheses indicate value pertaining to 2006-07 for production and exim scenario and 2005-06 for processing scenario (Source: Website of DCCD, Kochi and Sigh and Balasubramanian (2002)).

Factors that favoured cashew cultivation: Less labour intensive nature of the crop was the primary factor that contributed cashew cultivation in all states except Tamil Nadu, wherein it was fourth important factor. The profitable nature of the crop was quoted as second important factor in Maharashtra and Andhra Pradesh and as third important factor in Tamil Nadu. Cashew subsidy programmes motivated cashew cultivation being second and third important factors respectively in Kerala and Maharashtra. Better demand for raw cashew nut was fourth important factor that favoured cashew cultivation in Maharashtra, Kerala and Tamil Nadu. Suitability of the crop to low fertile soils was the second, third and fifth important factor favouring cashew cultivation in Tamil Nadu, Kerala and Maharashtra, respectively. Usually, fertile soils with irrigation facilities are allotted to arecanut and coconut in Kerala and Maharashtra, to mango in Andhra Pradesh and Maharashtra and pulse and vegetable crops in Tamil Nadu and Andhra Pradesh. Maharashtra cashew growers felt that comparatively low pest and disease problem in cashew favoured as sixth important factor for cashew cultivation. The pest problem in cashew is very low compared to that of mango, the competitor of cashew and there is no severe cashew disease in the country reported so far. Lack of irrigation facility favoured cashew in Tamil Nadu and Andhra Pradesh as first and third important factor respectively. Opportunity for growing intercrops under cashew gardens favoured cashew cultivation in Andhra Pradesh and Tamil Nadu as fifth important factor, wherein the plant density of gardens possessed by FSG was very low.

Adoption behaviour of cashew growers : The knowledge level of majority of both FSG and FGG was medium in nature in all four states (Table 2). However, there was significant difference between FSG and FGG with respect to knowledge level in all states except Kerala. Similarly, the adoption level of both FSG and FGG was also medium in nature in all four states except for FSG in Tamil Nadu, for whom it was low to medium. With respect to the difference between FSG and FGG on adoption level, the same trend of knowledge level prevailed. The non-significant difference between FSG and FGG in Kerala with respect to knowledge and adoption level may be attributed to the effective lateral spread of improved cashew cultivation practices in the state. It may be due to the narrow farm size possessed by the respondents (Table 1) and heavy demand for raw

cashew nuts posed by the processing industry with huge processing capacity (Table 5). It was also found that the respondents of the study area had medium to highly favorable opinion towards important recommended practices of cashew, which could have motivated the adoption level (Venkattakumar *et al*, 2005).

Adoption and technology gap of cashew growers: The average adoption gap of the FSG was 1.8, 1.0, 1.6, 1.3, 1.7, 1.6, 1.0 and 1.4 times more than that of FGG towards planting technique, soil and water conservation measures, application of manures, irrigation, initial training and pruning, control measures against tea mosquito bug (TMB) and control measures against cashew stem and root borer (CSRB). The average adoption gap of FSG was 1.4 times than that FGG. Similarly, the adoption gap of FSG was 1.6, 1.4, 1.2 and 1.4 times that of FSG in Maharashtra, Kerala, Andhra Pradesh and Tamil Nadu, respectively (Table 3). The average adoption gap of overall respondents was 54%, whereas it was 57, 60, 65 and 35% in Maharashtra, Kerala, Andhra Pradesh and Tamil Nadu, respectively. The adoption gap of both FSG and FGG was lowest in Tamil Nadu and highest in Andhra Pradesh. The technology-wise adoption gap was lowest for control measures against TMB in case of both FSG and FGG, whereas it was highest for irrigation and soil and water conservation measures respectively for FSG and FGG.

Majority of the FSG and FGG had medium level of technology gap in all four states (Table 4). However, there was significant difference between the FSG and FGG observed in all states except Kerala. This may be due to the non-significant adoption gap between these two categories in this state that has been already reported by Venkattakumar (2006).

Constraints faced by farmers in cashew cultivation: Damage due to TMB was first ranked constraint in Maharashtra, Andhra Pradesh and Tamil Nadu, whereas in Kerala it was ranked third. Similarly, the damage due to CSRB was ranked second in all states except Kerala, wherein it was ranked first. Non-availability and high cost of labour was ranked third, fifth and seventh in Maharashtra, Kerala and Andhra Pradesh, respectively. Lack of credit facilities was fourth ranked constraint in Maharashtra, whereas lack of sufficient extension programmes was fifth and seventh ranked problem in Maharashtra and Kerala, respectively. Damage due to pre-monsoon showers was felt as second and sixth constraint in Kerala and Tamil Nadu, respectively.

Timely non-availability of inputs was fifth and sixth ranked constraint in Andhra Pradesh and Kerala respectively. Similarly, non-availability of quality planting material was fifth and sixth ranked problem in Tamil Nadu and Andhra Pradesh, whereas it was ranked fourth in Kerala (*Venkattakumar et al 2004*). Absentee landlordism and flower drying due to high temperature were third and fourth ranked constraints respectively in Andhra Pradesh. Low price for raw nuts due to middlemen involvement was third and eighth ranked problem in Tamil Nadu and Andhra Pradesh respectively, whereas lack of irrigation facility and damage due to hailstorm were fourth and ninth ranked problems respectively in Tamil Nadu and Seethampeta tribal area of Andhra Pradesh.

Training needs of cashew growers: Plant protection measures against management of insect pests of cashew (TMB and CSRB) were the first ranked training need of the cashew growers in all states. Training on general management practices of cashew *viz.*, fertilizer application, irrigation management, soil and water conservation measures were second ranked need in Maharashtra and Tamil Nadu and third ranked need in Kerala and Andhra Pradesh. Recommended cashew varieties was second ranked training need in Kerala and Andhra Pradesh and fifth ranked in Tamil Nadu. Training on small scale cashew processing was third and fourth ranked need in Maharashtra and Tamil Nadu respectively, whereas training on cashew apple processing was third, fourth and fifth ranked need in Tamil Nadu, Maharashtra and Kerala respectively. These training programmes not only provide opportunity for diversification of the avenues of cashew growers, but also provide feedback about their felt needs towards processing of cashew apple products and their perceived constraints in doing so (*Venkattakumar et al 2004*). Grafting technique of cashew was ranked fourth important training need in Kerala, whereas canopy management aspects like initial training and pruning was ranked fourth in Andhra Pradesh. Intercropping in cashew was the fifth ranked felt need in Andhra Pradesh.

Opportunities and threats for cashew development:

Maharashtra: During the period from 1999-2000 to 2006-07, the area under cashew and its production in Maharashtra had positive growth (Table 5). This may be attributed to the increase in number of processing units and their installed processing capacity during the

same period. It is estimated that by 2015, employment will be available to 140161 persons through cashew nut processing industry and 18259 persons through cashew apple processing industry in Konkan region, which will be 12.82% more than the available work force (*Wadkar et al 1994*). Income generation and export earning through cashew nut production in Konkan region is expected to reach Rs.1584 and 144 crores respectively by 2010 A.D. (*Anonymous, 2004*). Considering the massive response from farmers who have taken cashew grafts as planting material, the Government has decided to undertake clonal cashew plantation under about 13,000 ha area every year since the Sindhudurg district (157100 ha) and Konkan region (297700 ha) have the highest potential for area expansion under cashew (*Haldanker et. al. 2004*).

Kerala: It could be noted in Kerala that the increase in number of processing units and their huge installed capacity had no influence on area under cashew and its production (Table 5). With narrow land holdings (1.2 ha) and expensive cost of cashew cultivation (Rs.17397/ha), the farmers could not get more profit from cashew than other plantation crops *viz.*, rubber, arecanut, coconut etc., and hence, they did not consider this crop as a commercial crop. Moreover, remunerative subsidy programmes of Rubber Board make these farmers to choose rubber to cashew when the importance matters. This resulted in drastic reduction (about 5,000 ha) in area under cashew and increase (about 25,000 ha) in area under Rubber as far as Kannur district is concerned during the period between 1992-93 and 2003-04 (*Venkattakumar, 2006*).

Tamil Nadu : The failure of air layers to perform in the field conditions, which were introduced by the Department of Horticulture as planting material for cashew during 1980s, resulted in negative attitude of the farmers towards cashew grafts as planting material also. Hence majority of cashew gardens were of seedling origin (*Jeeva et. al. 2006*) and even now many of the new cashew gardens are being established with seedlings only. The cashew processing units located in Cuddalore were functioning for an average of 140 days per year. The number of working days of these factories was directly depending upon the quantity of cashew nuts produced in Cuddalore district. The average annual kernel production from the factories located in this district was 834 Mt whereas that of CNSL was 20 Mt. The extent of employment generated by each cashew-

processing factory was ranging from 12,471 to 37,387 man days per year (Saravanan, 2000). During the period from 1999-2000 to 2006-07, the area under cashew and its production in Tamil Nadu had positive growth (Table 5). This may be attributed to the increase in number of processing units and their installed processing capacity during the same period.

Andhra Pradesh: Absentee landlordism in larger cashew plantations led to wastage of resources viz., labour, inputs and money. Neither the landowners nor the lease owners adopted recommended practices. Low yield in cashew and damage due to cashew pests have lead to replacement of cashew by *Casuarina* in Srikakulam, Vizianagaram and Vishakhapatnam districts and by oilpalm and *Eucalyptus* in East and West Godavari districts. Small and marginal cashew growers preferred seedlings to grafts due to lack of irrigation facility. Involvement of middlemen in procurement of raw nuts resulted in reduction in raw nut price to the tune of Rs. 100-150/bag. This finding is in conformity with that of Reddy (1998) and Hubballi (2002). The lack of coordination in pest management in larger cashew plantations that spread at stretches led to ineffective pest management. The quality of grafts produced in private nurseries was not up to the recommended standard. Intercrops viz., watermelon, tomato, bhendi, *Capsicum*, carrot, cabbage and cauliflower etc were grown prevalently as intercrops in cashew gardens. In Andhra Pradesh, the increase in number of processing units and their installed capacity had no influence on area under cashew and its production (Table 5).

As an overall result, during 1999-2000 to 2005-06, the influence made as a result of growth in number of processing units (+2552) and their processing capacity (+500000 t) on growth of area under cashew (+168000 ha) and its production (+100000 t) did not have any impact on the import of raw cashew nuts (+392000) to feed processing capacity of the country (Table 5). This may be due to decline in productivity of the crop during the period.

Perceived strategies to improve cashew cultivation scenario: Massive area expansion programme with quality cashew grafts as planting material has been suggested for improvement of cashew cultivations scenario of all four states. Rejuvenation of old orchards of seedling origin with quality cashew grafts was suggested in Maharashtra, Kerala and Andhra Pradesh.

Need for the mid and late maturing varieties of cashew, so that the flowering can be delayed after the peak summer was suggested in Andhra Pradesh conditions, whereas the need for early maturing varieties was suggested to escape pre-monsoon showers of the Kerala conditions. Need for conducting larger number of frontline demonstrations to prove the productivity potentials and profitability of improved cashew production technology viz., varieties, soil and water conservation measures, application of manures, plant protection measures and initial training and pruning measures was suggested in all the four states. Need for supply of quality planting material was suggested in Kerala, Andhra Pradesh and Tamil Nadu, whereas the need for subsidy programmes on drip irrigation was suggested in Tamil Nadu and Andhra Pradesh. Organizing intensive campaigns to popularize plant protection measures among the cashew growers was suggested in all the states, since this form of extension mode has been very effective under field conditions. Similarly, organizing general training programmes on soil and water conservation measures, application of manures and plant protection measures, irrigation and canopy management apart from field days to demonstrate and showcase the productivity potential of technologies was suggested in all states. Introduction of small scale processing was suggested in Andhra Pradesh and Tamil Nadu, whereas development of small scale processing industries through cluster area approach was suggested in Maharashtra.

CONCLUSION

Cashew occupied major farm area in Kerala, Maharashtra, Andhra Pradesh and Tamil Nadu. Hence, any promotional and developmental activity for cashew will definitely have impact on socio-economic status of the farmers. The knowledge and adoption level, adoption and technology gap of the respondents was medium and there was significant difference between FSG and FGJ on the above-mentioned variables, indicating the need for intensive transfer of technology efforts to promote lateral spread of improved cashew production technology. The technologies viz., soil and water conservation, initial training and pruning, management of CSRB and irrigation need better promotion, since the adoption gap towards them is wider. The drip irrigation subsidy may help promoting irrigation in cashew. Problems due to major pests of cashew (TMP and CSRB) and the supply of quality planting material

require attentions of researchers and development departments. Massive area expansion programme and rejuvenation of old cashew orchards of seedling origin, coupled with supply of quality planting material may have the potential to alter the cashew production, processing and exim scenario of not only these four

states but also the country. The policy initiatives towards promotion of cashew growers' cooperatives (for procurement of raw nuts, supply of inputs, credit and infrastructure, small scale processing, value addition and marketing), and cashew apple processing will definitely widen the perspective of cashew growers.

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