Upliftment of coconut farm women through dissemination of improved technologies

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Abstract

Efforts were made to study the ability of coconut farm women in increasing whole farm productivity in different villages of Salem district during 2006-2008. Fertilizer management and forage based intercropping system were introduced in coconut cultivation through front line demonstration (FLD). Farmers were selected randomly and demonstrations were made in their field itself. Critical inputs were distributed to the farmers. The study revealed that the women farmer could earn Rs. 91470/ - as net income per year from one hectare of coconut garden. Additional income was also generated by the introduction of forage based intercropping system in coconut cultivation and the number of animals have increased from 2-5/ family, the milk production increased from 50 litres to 270 litres/ day/village and also the weed population was reduced in the coconut garden. Self confidence among the farm women have increased and the socio economic status of their family enhanced.

Women have equal contribution along with men in the economic development of our country. In Tamil Nadu especially in Salem district, most of the women population are involved in farm activities. 89.5 per cent of total female labours are employed in agriculture and allied industrial sector. In the case of working population, the participation of rural female is 27.2 per cent.

Introduction

Women are the lifeblood in developing countries. The contribution of women in agricultural production has been considerable and significant. Coconut is extensively grown in 80 countries of the world with a total production of 49 billion nuts. Coconut oil is one among the 17 oils and fats traded internationally and is in the sixth position in production among the major vegetable oils. India is the largest coconut producing country in the world with a production of 15.84 billion nuts and has the highest productivity of 8165 coconuts/ha annually (Thomas and Srinivasa Reddy, 2009). Recently yield potential of the coconut varieties has reached plateau owing to several constraints. Among them nutrient deficiencies were noticed mostly through the length and breadth of the state. Introduction of forage based intercropping system in coconut cultivation will provide additional source of income. It enables the farmer to rejuvenate their economy. Demonstrating the new technologies through women folk in the remote areas and further modifying them to suit their requirement will lead to adaptation of agricultural tools for increasing land productivity and their economic status.

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Women have equal contribution along with men in the economic development of our country. In Tamil Nadu especially in Salem district, most of the women population are involved in farm activities. 89.5% of total female labours are employed in agriculture and allied industrial sector. In the case of working population, the participation of rural female is 27.2%. Indian rural women carry a heavy burden of participation in different farm operation and activities. The crucial roles of the women in agriculture and allied occupation have been under estimated and under valued (Kakade and Ambrose Toppo, 2009). Keeping the above points in mind field study was carried out with the objective of improving the socio-economic empowerment of coconut farm women.

Methodology

Initially, preliminary visit was made to the villages and observed that 90 % of women farmers were involved in the farm work, but their percentage of participation in the trainings or in any community role is very less (5-10 %). Discussions were made with State agricultural department officials and coconut commodity group (CCG) of Salem district for conducting awareness programmes.

Awareness campaigns were conducted for the following interventions and 787 women were benefited.

1. Fertilizer management technologies in coconut cultivation
2. Introduction of forage based intercropping system in coconut

Selection of coconut farm women

The information emerged in the awareness meetings attracted women groups and they were motivated about these improved technologies in coconut cultivation. Those who were interested and willing to take up this venture have submitted their application for the trainings. Based on the location, holding of coconut farm, literacy level (semi literate at least 50% of the group members) and level of interest, 25 farm women involved in coconut farming were selected in each village. Five Self help groups were formed in each village with five numbers in each group among the selected coconut farm women. 75 farm women were selected for the training programmes in total.

Training programmes organized

Totally 12 trainings were organized in three villages (4 per village). The training programmes were conducted in their own farm itself. 25 farm women were included in each training. Men farmers also attended the training programmes. Out of six awareness programmes conducted, 12 training programmes were organised with 75 master trainers with the following technologies.

Fertilizer management technologies

- Application of farm yard manure and Neem cake
- Application of inorganic fertilizers viz., Urea, super phosphate, muriate of potash and boric acid
- Root feeding of TNAU coconut tonic

Importance of the above technologies was clearly taught to the farm women. Method, time of application and quantity of fertilizers were explained and demonstrated. Farm women were well trained through participatory approach on each and every step to be followed in the above technological intervention. Critical inputs viz., Urea, Super phosphate, muriate of potash and boric acid were distributed to the farmers.

Introduction of forage based intercropping system in coconut cultivation

- Guinea grass,
- Lucerne
- Hedge lucerne cultivation

Important practices viz., planting of guinea grass slips, sowing of lucerne and hedge lucerne seeds were demonstrated repeatedly 3 to 4 times in selected villages. During the demonstration, quantity of seeds, method of sowing, time of cutting, quality of forage crop and the usage of fodder to animals were explained by the subject matter specialist.

Subjects were explained well through different audio-visual system and folders on technological intervention were distributed to the trainees for future reference.

Initiated FLD with 50 trees/ farm women. Totally 75 FLDs conducted and inputs viz., fertilizers including borax, TNAU coconut tonic and forage crop seed materials were distributed to all the selected women. Periodical visits were made by the scientists. Farmer's doubts were clarified in the field itself. During the harvesting time, field day

was conducted in each village. Almost 60-70% of farmers in the villages participated.

Exhibitions were also organized in the training site on root feeding technologies of coconut tonic, forage based intercropping system, different type of fodder for increasing milk productivity through posters and charts and colour photographs and live specimens. Successful farmer's quality coconuts were displayed in the exhibition.

also majority of the women farmers used their fodder for their own animals. But overall increase in animal numbers in that 25 families increased from 2 to 5/ family and milk production also from 50 lit to 250,300 and 270 lit /day/ village in Mookkanoor K.N.Pudhur and Denishpet respectively. Totally a women farmer can earn Rs. 151470/ year (Rs. 60000 from milk and Rs. 91470 from coconut) instead of Rs 80000 year/ha of coconut garden.

Table 2. Results of FLD (Average value of in each village) - Data from coconut tree

Particulars	After adoption of split application of fertilizer and coconut tonic		
	Mookkanoor	K.N.Pudhur	Denishpet
Yield.(Nuts/ ha)	22032	24575	23275
% increased over control	26.4	37.6	33.0
Gross Income (Rs/ ha)	110162	122875	116375
Net Income (Rs/ ha)	85162	97875	91375

Table 3. Data from forage crop (Guinea grass, Lucerne and hedge Lucerne)

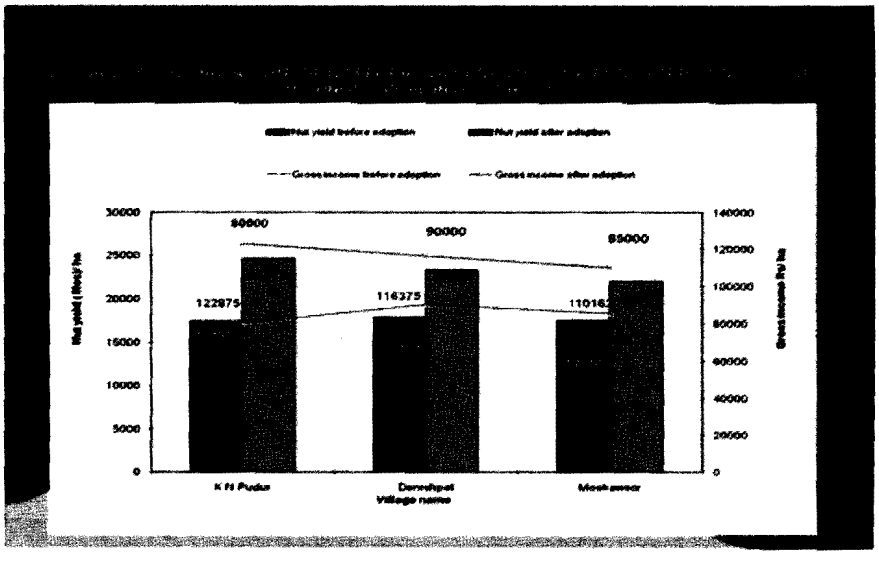
Particulars	Average value /village (25 families)		
	Mookkanoor	K.N.Pudhur	Denishpet
Forage crop yield (t)	1500	1750	1600
Increased animal Nos	57	64	55
Milk production increased	250 lit/ day	300 lit/day	270 lit/ day
Gross Income (Rs/month)	131250	157500	141750
Net Income (Rs/month)	75000	90000	81000

Results and Discussion

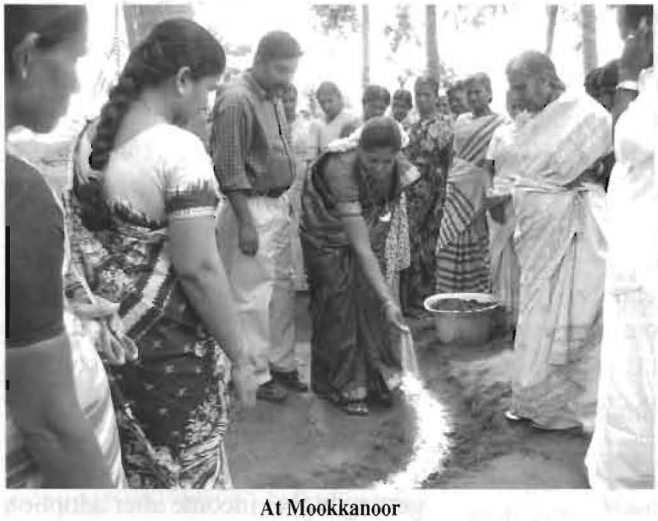
The study was conducted with 75 front line demonstration for disseminating the technologies through farm women to improve the coconut productivity in the two years duration period. Now the women farmers are earning Rs. 85162 in Mookkanoor, Rs. 97875 in K.N.Pudhur and Rs. 91375 in Denishpet villages as net income / year from the one hectare of coconut trees by the split application of fertilizers and root feeding of coconut tonic. From the forage crops

From the graph it is observed that gross income of K.N. Pudhur village is higher than Denishpet followed by Mookkanoor after the adoption of technologies. Initial data showed that gross income is higher in Denishpet than Mookkanoor followed by K. N. Pudhur. In K.N.Pudhur farm women involvement and following of technologies are more even though their soil is less fertile compared to Denishpet and Mookanoor. So this high involvement nature of the farm women might be the reason for getting higher income after adoption of technologies compared to other villages. This high participation of women in farm work is the main reason for increased income. Similar findings are reported by Goyal et al. (2003) and Amtulwaris (2008).

One of the trained women farmers ***Rani w/o Rajendran*** living in K.N.Pudhur village is having 5 acre of coconut garden land. Forage crop seed materials viz., guinea grass, desmanthus and lucerne were supplied for 2000 sq.feet of land. After getting proper trainings and guidance on the forage crop



Training cum demonstration on fertilizer management technologies in coconut



At Mookkanoor

At K. N. Pudhur

At Denishpet

production, she multiplied the seed materials and utilized for her own use as fodder and also supplied the seed materials and sold fodders daily to other farmers in and around the village. After increasing the area on fodder cultivation, she purchased animals and now she is having 2 buffaloes and 6 cows and supply 40 lit of milk / day and is earning Rs 13000 / month as net income from milk, Rs. 2500 from supply of seed materials and fodders and Rs. 1,95,744 from coconut trees. Totally she is earning around Rs. 3,81,744 / year/ha instead of Rs. 1,60,000/ year/ha.Due to small strategy development, she could earn an extra amount Rs. 2,21,744. This has created more awareness and has developed the confidence among the trained women. Now they became the followers of Mrs. Rani and expecting the additional income in the forth coming years.

Conclusion

Women farmers participation and contribution in coconut cultivation in Kadayampatty block of Salem district is immense. Based on the findings of the study, it can be concluded that they are involved in all activities. The extension personnel may therefore concentrate on technology transfer to this women group for quick dissemination and wide spread adoption of improved technologies. Looking at the extensive role of women in agricultural operations and extension system it is found that it can improve the women's ability to participate effectively in the management of the farm enterprise by improving their knowledge and skills.

Training on forage crops

Follow up visit and discussion about quality milk production

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