

# Adoption gap in coconut cultivation

Mahadik R.P.<sup>1</sup>, Desai A.N.<sup>2</sup> and Nirban A.J.<sup>3</sup>

**The adoption of recommended coconut cultivation practices in Konkan region was low, especially in the areas of fertilizer application and crop protection. The main reasons attributed by the coconut growers for this phenomenon were lack of knowledge, shortage of labourers and high cost as well as non availability of inputs. This implies that extension agency should execute comprehensive extension education programme, including technological and service support to the coconut growers.**

In Konkan region, the plantation of coconut has been increasing day by day due to favorable policies of Government, financial institutions and Coconut Development Board. However, the average productivity of coconut is found to be low as compared to potential yield. This might be because of the gap in adoption of recommended practices at farmer's field. With a view to understand the adoption gap and the reasons therefore, the present study was conducted with the following specific objectives.

1. To ascertain the adoption gap in coconut cultivation.
2. To find out the reasons for adoption gap in coconut cultivation.

100 coconut growers were selected for the purpose of study. Data were collected by personally interviewing the respondents with the help of structured schedule. Data were analyzed by using suitable statistical tools and tests.

In the present study, adoption was conceptualized as the continuous use of recommended coconut production technology by the coconut growers in their field. For this, the technologies recommended by Dr. B.S. Konkan Krishi Vidyapeeth, Dapoli were taken into consideration. The adoption gap was calculated by working out an index.

$$\text{Adoption gap index} = \frac{\text{Recommended technology score} - \text{Adopted technology score}}{\text{Recommended technology score}} \times 100$$

## Methodology

The study was conducted in two tahsils of Ratnagiri district having maximum area under coconut cultivation. Five coconut growing villages were selected randomly from each tahsil, making a sample of 10 villages. From each village, ten coconut growers were randomly selected. Thus, a total of

## Results and Discussion

The results are presented under the following heads.

### 1. Adoption gap in coconut cultivation

The data regarding overall adoption gap and practice wise adoption of coconut growers about coconut cultivation are presented in Table 1 and 2, respectively.

<sup>1</sup> Junior Research Assistant <sup>2</sup> Associate Professor

<sup>3</sup> Head, Department of Extension Education, College of Agriculture, Dapoli.  
Dr. B.S.K.K.V., Dapoli

Table 1. Adoption gap in coconut cultivation

Adoption gap (per cent)	Respondents (n =100)	
	Frequency	Percentage
Low (upto 52)	20	20
Medium ( 53 to 76)	49	49
High ( 77 & above)	31	31
Average index score 69.82	Total	100

It is seen from Table 1 that less than half (49 per cent) of the respondents had 'medium' adoption gap, while 20 per cent and 31 per cent of the respondents had 'low' and 'high' adoption gap, respectively. The average adoption gap was 69.82. The findings are similar to the findings of Shriram (2000) who found 43.39 per cent adoption gap at overall level.

Table 2. Practice wise adoption of recommended coconut cultivation practices by the growers

Recommended Practice	Adopter's Percentage(N=100)
<b>A. Recommended / released varieties</b>	
Banavali	100
Pratap	-
T x D	21
Lakshadweep ordinary	-
Phillippines ordinary	-
<b>B. Spacing</b>	
7.5 x 7.5 m (175 trees / ha.)	42
<b>C. Planting</b>	
Pit size : 1 x 1 x 1 m	58
Apply of 10 kg compost / cow dung. and 2 kg. SSP per pit	16
<b>Fertilizers</b>	
Application of 5 ghamelis cow dung, 2.250 kg urea , 3 kg SSP and 2kg MOP from 5 years onward.	130
Application of compost and SSP in one dose in June, while dose of N and MOP in three split doses in June , September and February.	12
<b>E. Water management</b>	
For first three years, irrigate the palms at 6- 7 days' interval in winter and 3 -4 days' interval in summer.	40
Irrigate full grown palm at 5- 10 days' interval	37
Use dry grass and black plastic for mulching	12
<b>F. Inter and mix cropping</b>	
During first three years pineapple, papaya and banana, elephant yam, sweet potato and vegetables , spider lily, tuberose, marigold, gilardia be taken as intercrop.	71
In well-developed orchard, tree spices be grown.	39
Additional fertilizers and water for inter and mix crops	12
<b>G. Plant Protection</b>	
<b>Rhinoceros beetle</b>	
Pour water soluble Carbaryl powder in cow dung pit once in two months	14
Remove beetles out by using hook from the tip sprout of infected coconut tree and mixture of 10 % Carbaryl powder 25 gm or 4 % Endosulphan powder or Methyl parathion powder 2 gm. + the same amount of sand used for filling infected part.	16

More than two fifth (42 per cent) farmers planted the coconut at 7.5 x 7.5 m. The pit size of 1mx1mx1m was reported by 58 per cent farmers. In fertilizer management adoption was very low i.e. 12 and 13 per cent in both recommended practices.

In water management, 40 per cent and 37 per cent farmers reported the adoption of recommended practices like 'irrigating the palm at 6-7 days interval in winter and 3-4 days interval in summer for first three years, and 'irrigating full grown palm at 5-10 days interval', respectively. In the case of inter and mix cropping, 71 per cent farmers adopted the recommended practices i.e. during first three years, pineapple, papaya, banana, elephant yam, sweet potato, vegetable, spider lily, tuberose, marigold, gylardia were planted as intercrop and 39 per cent adopted the recommended practices like in well developed orchard tree spices be grown.

The adoption was very low in the use of recommended plant protection practices. In control of red palm weevil, the practices like sealing the hole with 10 % Carbaryl powder and sand' (26 per cent) and fixing the aluminium sheet of 40 cm width at 2 m. height from the ground level (30 per cent) for control of rat were adopted by more than one fourth of the farmers.

The recommended harvesting practices like as per requirement, harvest the coconut 7-12 months after fruit set (97 per cent) and 'for eating and other purpose, harvest the coconut after 10-12 months and tender nuts after 7 months (67 per cent) were adopted by the farmers.

**Red palm weevil**

Holes be sealed with 10 % Carbaryl powder and sand	26
Remove the caterpillar from trunk by sickle	6
Rat	
Fix the aluminum sheet of 40 cm width at 2 m height from the ground level.	30
Keep the poison bait prepared out of one part of Zink Phosphide and 50 part of wheat flour in the crown.	15
Black headed caterpillar	
Spray 20 gm of Carbaryl (50 %) or 16 ml Dimethoate (30 %) mixed in 10 lit. of water.	7
Eriophyide mite	
Apply of 5 % Nimazol (7.5 ml) or Econeem plus (10 ml) mixed with same quantity of water through roots, three times during April-May, October – November and January - February.	3
Apply of 50 kg compost, 10 kg neem cake and micro-nutrients zinc, boron, molybdenum and copper 200 gm/ palm /yr.	5
Spray 1 % Nimazol (10000 ppm Azadiractin) mixed with 4 lit. of water and remove infected fruits from the tree.	21
Diseases	
Root rot , fruit drop and blight	
Application of 1 % Bordeaux mixture as per need	21
Remove the infested part and apply the Bordeaux paste on the same	22
<b>H. Harvesting</b>	
As per requirement, harvest the coconut 7 –12 months after fruit set	97
For eating and other purpose, harvest the coconut after 10 –12 months and tender nuts after 7 months.	67

The findings are similar with the findings of Anonymous (1993) in which pit size, planting time, planting method and watering were fully adopted by maximum number of coconut growers.

## 2. Reasons for adoption gap in coconut cultivation

The reasons for adoption gap in coconut cultivation as perceived by the respondents are presented in Table 3.

From Table 3, it is seen that main reason was lack of knowledge (55 per cent) for non adoption of university varieties, while labourers are habituated to follow local practices (64 and 62 per cent) was the reasons for non adoption of recommendations related to planting

and spacing. Skilled labourers shortage (86 per cent), lack of knowledge (66 per cent), non availability of chemical fertilizers in time (61 per cent) and organic and chemical fertilizers are costly (56 per cent) were the reasons for non adoption of fertilizer recommendations. Water scarcity in summer (59 per cent) was the constraint in water management, while non-availability of seedlings / grafts of spices (52 per cent), lack of knowledge (55 per cent) and shortage of skilled labourers (49 per cent) were the major reasons for not adopting the recommendations about inter and mix cropping, plant protection, and harvesting, respectively. The findings are similar with finding of Anonymous (1993).

### Implication

The study made it clear that the adoption of recommended coconut cultivation practices was low,

Table 3. Reasons for adoption gap in coconut cultivation as perceived by the respondents

Practice wise Reasons	Respondents (n=100)	
	Frequency	Percentage
<b>A. University Recommended / released coconut varieties</b>		
Lack of knowledge	55	55
Non availability of technical information from extension agency	34	34
<b>B. Spacing</b>		
Labourers are habituated to follow local practices	64	64
Lack of knowledge	50	50
<b>C. Planting method</b>		
Labours are habituated to follow local practices	62	62
Non availability of technical information from extension agency	42	42
<b>D. Fertilizers</b>		
Skilled labourers shortage	86	86
Lack of knowledge	66	66
Non availability of chemical fertilizers in time	61	61
Organic and chemical fertilizers are costly	56	56
Wages are higher	42	42
Uneven rainfall distribution make's it difficult to carry out fertilizer application in time	36	36



**E. Water management**

Water scarcity in summer	59	59
Labourers are habituated to follow local practices	36	36

**F. Inter and mix cropping**

Unavailability of seedlings / grafts of spices	52	52
Shortage of skilled labourers	43	43
Wages are higher	32	32

**G. Plant protection**

Lack of knowledge	55	55
Insecticides and pesticides are costly	46	46
Shortage of skilled labourers	45	45

**H. Harvesting**

Shortage of skilled labourers	49	49
Wages are higher	47	47

especially in the areas of fertilizer application and crop protection. The main reasons attributed by the coconut growers for this phenomenon were lack of knowledge, shortage of labourers

and high cost as well as non availability of inputs. This implies that extension agency should execute comprehensive extension education programme, including technological and service support to the coconut growers.

**Reference**

1. **Anonymous (1992)** 'Analysis of constraints in cultivation of coconut' A report of the Department of Extension Education, Konkan Krishi Vidyapeeth, Dapoli.
2. **Shriram and M.S. Chauhan (2000)** 'Adoption gap in improved practices of wheat cultivation among tribal and non tribal farmers' *MJEE* 19 : 121 -129.

**Treat Eczema with Coconut Oil**

Eczema is a dermatological term for extra dry or inflamed skin. Its also known as: atopic eczema, atopic dermatitis and infantile eczema. Eczema is a chronic skin disorder characterized by itching rashes, which may be red, scaly, dry, or leathery. Eczema is usually a persistent, itchy skin condition consisting of skin dryness and inflammation (manifested by redness of the skin, crusting and thickening of the skin). Eczema is an inflammation of the skin and may be associated with an allergic reaction, although the cause is often unknown. Eczema is a commonly inherited condition; it often affects people with a family history of allergies, such as allergic rhinitis and asthma. Research into the cause of eczema is still in the beginning stages. However, eczema is actually dermatitis that is in advanced, more serious stages.

The use of coconut oil is found beneficial for healing eczema or dermatitis. Unprocessed organic virgin coconut oil soothes immediately and goes to work on healing eczema, dermatitis or just about any skin condition. Coconut oil is composed predominantly of medium-chain fatty acids (MCFA), also known as medium-chain triglycerides (MCT). It is the MCFA that give coconut oil its healing benefits. The majority of fats and oils in our diets, whether they are saturated or unsaturated or come from animals or plants, are composed of long-chain fatty acids (LCFA). About 98 to 100% of all the fatty acids consumed are LCFA. The MCFA help restore damaged skin, by penetrating into the cell structures of the connective tissues. Hence, it is excellent as a natural eczema treatment, for other skin disorders as well as for anti-ageing purposes. It also helps prevent the skin from developing liver spots, by destroying free radical formation. MCFA in coconut oil help to prevent fungal and bacterial infections in the skin. At least one type of bacterium feeds on the sebum of our skin, breaking down the tryglycerides of the coconut oil into free fatty acids. When they are broken apart into free fatty acids, they become powerful antimicrobials, killing disease-causing bacteria, viruses, and fungi. The combination of the slightly acid pH of the skin and the MCFA provides a protective chemical layer on the skin that prevents infection from disease-causing organisms. When you bathe or shower, ordinary soap tends to wash off the acid mantle of your skin. Applying coconut oil helps to restore the protective layer of your skin. It helps to reduce any inflammation and is healing to wounds, blood blisters and rashes.