

## EFFECT OF FoCT TRAINING ON ADOPTION OF COCONUT TREE CLIMBING DEVICE FOR HARVESTING COCONUTS

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### ABSTRACT

*Coconut (Cocos nucifera L.) is an important and versatile tree crop with diverse uses, supporting the livelihood of many farm families in the primary sector, grown in many states of India. Coconuts are known for their great versatility as evidenced by many traditional uses ranging from food to cosmetics. Assamese people prepare different types of edible items from coconut fruit in many festivals. Now, the majority of the coconut growers in Assam were facing the problems of shortage of skilled labour for nut harvesting. The traditional method of harvesting the nuts is quite risky and accident-prone. To overcome this problem, Krishi Vigyan Kendra, Barpeta, Assam conducted training for unemployed rural youths in collaboration with Coconut Development Board, Guwahati. The objectives of the FoCT training were to impart training to a group of unemployed youths in developing their technical skills for harvesting of coconuts, to mitigate the problem of non-availability of coconut tree climbers for coconut harvesting. The present study was conducted at KVK, Barpeta (Assam) with an attempt to know the effect of friends of coconut tree (FoCT) training on the adoption of coconut tree climbing devices. For the present study, 40 trainees were selected purposively. The majority 45% of the trainees use the coconut climbing device only for plucking of their own coconut tree followed by 35% who use the coconut climbing device as a source of income generation and 20% of trainees do not at all use the device. Among the two methods of climbing, the advanced method of coconut tree climber takes less time (3-5 minutes) to climb than the traditional method (7-10 minutes). On the other hand, among the two methods of climbing, the advanced method of coconut tree climber harvested a greater number of nuts and many numbers of harvesting trees over the traditional method.*

**Keywords:** farmers; tree, coconut, adoption and climber

### INTRODUCTION

Training is a significant aspect of entrepreneurship development and it is considered to be an integral part of the growth and development of an organization. Mostly, training is planned to help individuals to get insight and to bring the desired standard of efficiency, condition and behaviour (Sharma, 2013). Generally, Courses are based on the need analysis which is basically received through family and village surveys of the respective district. There is no specific qualification is needed to be a participant in the training programme. After conducting the training programmes by the scientists of Krishi Vigyan Kendra, a follow up programmes are organized to evaluate how many participants, in reality, converting their obtained skills into practice. While designing the training programmes, the concept of the farming system approach is always taken into account to make the enterprises economically viable.

Coconut (*Cocos nucifera L.*) is an important and versatile tree crop with diverse uses, supporting the livelihood

of many farm households in the primary sector, grown in many states of India. Coconuts are known for their great versatility as evidenced by many traditional uses ranging from food to cosmetics. They form a regular part of the diets of many people in the tropics and subtropics. Coconuts are distinct from other fruits for their large quantity of water (Juice) and harvested as tendered nuts for potable coconut water. When matured they can be used as seed nuts or processed to obtain oil from the Kernel, charcoal from the hard shell and coir from the fibrous husk. The oil and milk derived from it are commonly used in cooking and frying as well as in soaps and cosmetics. The coconut also has cultural and religious significance in Hindu rituals. Assamese people prepare different types of edible items from coconut fruit in Bihu and other festivals. The coconut palm has been successfully cultivated in coastal regions of South India as well as in West Bangle, Tripura and Assam. The world's annual production of coconut is 57.514 billion nuts or 10.52 million tons of copra from an area of 14.231 million hectares. More than 75 per cent of this is contributed by the four major players viz.,

India, Indonesia, Philippines and Sri Lanka. India ranks third on the world coconut map. Coconut is cultivated in 16 states and 4 UTs in the country and provides food and livelihood security to more than 12 million people (*Annual Report, 2016*). The area and average yield of coconut in Assam are 20340 Ha and 52 nos. nuts per bearing plant (*Statistical data for 2015-16*) respectively. The Av. Yield of coconut in Assam per bearing palm is slightly low in comparison to National Av. Yield (59 nos nuts per palm) due to poor management and cultural practices. According to a study carried out by the CDB, Assam's climatic conditions are quite favourable for coconut cultivation. Moreover, there is a lot of fallow and wasteland available in the state which can easily be used for coconut cultivation without disturbing any other crop (*Jose, 2012*). The CDB has already identified about two lakh hectares of land in Assam for taking up coconut plantation in the next five years.

Now, the majority of the coconut growers in Assam were facing the problems of shortage of skilled labour for nut harvesting as well as growers were also losing good quality nuts and prices in the market. The traditional method of harvesting the nuts i.e., physically climbing tall trees is quite risky and accident-prone. To overcome this problem, Krishi Vigyan Kendra, Barpeta, Assam conducted training programmes for unemployed rural youths in collaboration with Coconut Development Board, Guwahati. The objectives of the FoCT training were to impart training to a group of unemployed youths in developing their technical skills for harvesting of coconuts and to mitigate the problem of the non-availability of coconut tree climbers for coconut harvesting.

### OBJECTIVES

- (1) To study the effect of FoCT training on the adoption of coconut tree climbing devices
- (2) To know the perceived attributes of trainees involved in adopting coconut climbing devices

### METHODOLOGY

This study was conducted at Barpeta District of Assam. Two skill development trainings programmes on "Friends of coconut tree" (FoCT), were conducted at Krishi Vigyan Kendra, Barpeta during the year 2018-19 with the financial support of Coconut Development Board (CDB) to coconut farmers/Climbers to impart the knowledge and skill of using palm climbing device and management of coconut plantations for higher yields. These trainees got acquainted with the skill of using the device. The selection of unemployed rural youths was made in collaboration with department of agriculture, ATMA, Village head through media coverage by print and social media. From each training programme

20 trainees were attended. The knowledge of coconut palm management and interculture operations was also taught to the trainees. Total 40 coconut farmers were trained for safe climbing of coconut trees using coconut tree climber and improved coconut cultivation practices. The trainees were provided with a palm climbing device after successful competition of the training programme. On the other hand, free accidental insurance for one year and a certificate for attending the programme so as to enable him to take this as his profession. For the present study, all the 40 trainees were selected purposively. The information relating to tree climbers by traditional methods and advanced methods of coconut tree climbers was collected by using a well-structured interview schedule. Adoption was operationalized here as a decision to make full use of coconut climbing device for source of income generation. Farmers adopt them either partially i.e., for harvesting of their own coconuts or do not adopt at all. Score 3, 2 and 1 was given for full, partial and non-adoption respectively. In order to interpret collected data and to draw meaningful conclusions, data were analyzed by using simple statistical tools viz. frequency and percentage.

### RESULTS AND DISCUSSION

**Table1: Percent of adoption of Coconut climbing devices.**

(n=40)

Sr. No.	Particulars	Frequency	Percent
1	Use the coconut climbing device as a source of income generation	14	35
2	Use the coconut climbing device only for harvesting of their own coconut tree	18	45
3	Not at all use	8	20

A perusal of data presented in table 1 revealed that majority 45% of the trainees use the coconut climbing device only for harvesting of their own coconut tree followed by 35% use the coconut climbing device as a source of income generation and 20% of trainees not at all use the device. The majority of the trainees expressed their views that the device is time-saving, easy to handle and safe and reduced the harvesting cost. The results are in line with Tavethiya *et al.* (2021)

It was evident from Table 2 that among the two methods of climbing, the advanced method of coconut tree climber takes less time (3-5 minutes) to climb than the traditional method (7-10 minutes). On the other hand, among the two methods of climbing, the advanced method of

**Table 2 : Advantages of advanced method over traditional method**

(n=40)

With traditional method			With advanced method		
Av. Time taking to climb	Average plucking of nos. of nuts/tree	Average nos. Of tree climbing per day	Av. Time taking to climb	Average plucking of nos. of nuts/tree	Average nos. Of tree climbing per day
7-10 mins.	15-20	8-10 nos.	3-5 mins.	20-40	18-28 nos.

coconut tree climber harvested a greater number of nuts (20-40 nuts/tree) and a greater number of harvesting trees (18-28 trees/day) over traditional method i.e., physical tree climbing (15-20 nuts/ tree) and lesser number of harvesting trees (8-10 trees/day). The result of the present study conforms to the findings of Deepthi (2017). Regarding perceived attributes of trainees involved in adopting climbing 70% of trainees perceived the device is most advantageous, 60% of them think that the device involves average risk during use, 35% of them perceived that the use of this device is profitable, 80% of them perceived the device is highly compatible and 60% think that it is simple to understand and use. (Table.3).

**Table 3 : Perceived attributes involved in adopting climbing device** (n=40)

Sr. No.	Attributes	Frequency of Trainees	Percent
1	Most advantageous	28	70
2	Average risk during use.	24	60
3	Use of the device is profitable	14	35
4	Device is highly compatible	32	80
5	Simple to understand and use.	24	60

The trainees also mentioned a few problems which are faced during the use of the device. Out of which three major problems that they mentioned are 1. The Belt system of the toe plate is not comfortable 2. The safety belt is necessary during the plucking of coconuts 3. A suitable head cap is also essential during harvesting the nuts.

## CONCLUSION

The study has clearly revealed the scenario that the majority 80% of the trainees were adopted the coconut tree climbing device either for the source of income generation or for harvesting of their own trees. On the other hand, the majority of the trainees stated that the device is time saving, simple, safe and reduced the harvesting cost. The device was well designed to attract rural youth and non-traditional coconut climbers to take up coconut harvesting as a profitable vocation. The farmers having few numbers of coconut trees

or having coconut orchards were very pleased to harvest nuts on their own by using this simple device. As well as the trainees were also felt little bit modification of the device which may able to provide better services.

Awareness and training programme on Friend of coconut tree (FoCT) in handling of coconut climbing device as well as management of coconut tree helped in drudgery reduction, income generation and to mitigate the shortage of labours. It also provided an opportunity to strengthen the link between farmers and scientists of coconut development board to get regular advice and schemes related information to coconut farming which helped in technology dissemination and overall development of the weaker section. Hence, there is an urgent need to organize and conduct more nos. of FoCT training programmes covering nos. of district in the state which can enable to help the coconut farmers.

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## CONFLICT OF INTEREST

There is no conflict of interest among researcher.

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