

# An Impact Analysis of Front Line Demonstrations on Castor Growers

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## Abstract

*Castor is an important oilseed crop which occupies an important place in the country's vegetable oil economy. In order to increase the production and productivity of castor crop, introduction of castor varieties and improved technologies are essential. For these Front Line Demonstration (FLD) is a useful extension tool. In order to have an in depth analysis of FLD and its impact on castor growers, a study was undertaken on impact of Front Line Demonstration on castor growers.*

*Results reveal increased yield, decreased cost of cultivation and increased income as reported by a majority of the farmers under direct impact. Indirect impact, includes increase in confidence, decision making power, participation in training, investment and consultation by fellow farmers. The study concludes that popularization of hybrid castor technologies through various extension methods will be useful to increase area, production and productivity of castor in Tamil Nadu.*

## Introduction

Castor is one of the important oilseed crops which occupies an important place in the country's vegetable oil economy. Today castor oil finds application in the manufacture of a wide range of ever expanding industrial products such as nylon fibers, jet engine lubricants, hydraulic fluids and hosts of others.

In Tamil Nadu, castor grows in an area of 40,000 ha, largely in Salem, Namakkal, Erode and Dharmapuri districts under rainfed situation, intercropped with groundnut, red gram and black gram.

Previously farmers raised castor crop in boundaries in small quantities, that too for the own use of lubricants for bullock carts and medicinal purposes. While

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sowing the rainfed groundnut they mixed the castor seeds with groundnut seed and broadcast it. The seed is the only input used for castor crop. Plant protection, weeding and fertilizer application are taken up only for the main crop i.e. groundnut. The castor yield realized was very low. The reasons behind the low yield were use of local types, high shattering, more maleness, very few spikes and few capsules per spikes, no fertilization, heavy pest incidence etc.

In order to increase the production and productivity of castor crop, introduction of castor varieties/ hybrids and improved technologies are essential. TMVCH1 hybrid castor which was released by TNAU during 1998 recorded an average yield of 1000 kg/ac under rainfed condition as sole crop and 1500kg/ac under irrigated condition. This was followed by YRCH-1 developed by Tapioca and Castor Research Station. Awareness about the crop's resilience in terms of varietal cafeteria, production agronomy, pest management strategies, quality appraisal and seed production activities is necessary to further push up its production and export. For these Front Line Demonstration (FLD) is one of the highly useful extension tools. Anonymous (2006) reported that the front line demonstrations on oilseeds are the prime source of technology diffusion through farmer participatory mode under real farm situations. In order to show the productivity potential and profitability of the improved castor production technologies under farmers' field conditions, demonstrations were conducted. Demonstrations on improved varieties/ hybrids under rainfed conditions showed yield increase ranging from 18 to 116% with additional net returns varying from Rs. 1612 to 7273/ha.

After the implementation of FLD and AICORPO programme, a steep increase in the area and production of castor crop was observed. Recently, more than 1000 acres of area was tried with castor as the sole crop under irrigated situation. In order to have an in depth analysis of FLD and its impact on castor growers a "Study on Impact of Front Line Demonstration on castor growers." was undertaken.

## **Methodology**

The Tapioca and Castor Research Station, Yethapur in co-ordination with the Directorate of Oilseeds Research (DOR) is conducting FLD on castor technologies since 1998 for the benefit of the farming community in and around Salem and Namakkal districts. So far, 220 FLD Hybrid castor programmes have been conducted in the farmer's field in Salem and Namakkal Districts. From the list of FLD beneficiaries, 60 beneficiaries were selected randomly. An interview schedule

was constructed, pre tested and finalized and used for collecting data from the beneficiaries. Relevant data pertaining to the study was collected, analyzed, interpreted and meaningful conclusions were drawn.

## Results and Discussion

The data collected pertinent to Direct impact and Indirect impact are presented in the following tables.

### Direct impact

**Table 1. Distribution of Respondents according to Direct Impact**

Sl. No.	Direct impact	No change		Increased		Decreased	
		No.	%	No.	%	No.	%
1.	Yield	9	15.00	47	78.33	4	6.66
2.	Cost of cultivation	38	63.33	6	4.00	16	26.66
3.	Income	11	18.33	45	75.00	4	6.66

Under Direct impact, Table1 indicates that there was an increasing trend in the yield of FLD hybrid castor YRCH-1 reported by a majority of the farmers (78.33 per cent) followed by no changes in yield noticed by 15.00 per cent of the farmers. Only 6.66 per cent of the farmers experienced decreased yield due to non adoption of certain package of practices.

Regarding the cost of cultivation, 63.33 per cent of the FLD farmers expressed that due to the adoption of these technologies, the cost of cultivation has somewhat reduced. Around 26.66 per cent of the farmers stated that there was no change in cost of cultivation followed by increased cost of cultivation.

With regard to income level, 75.00 per cent of the farmers reported that due to the adoption of hybrid castor package of practices, they got more yield. This automatically increased their income.

The farmers in the study area had initially grown local varieties and due to the introduction of FLD hybrid castor programmes there may be some initial stagnation in their yield before it got stabilized. This might be the reason for no change in yield. Only 6.66 percent of the farmers had decreased income due to uncertain reasons.

## Indirect impact

**Table 2. Distribution of Respondents according to Indirect impact**

Sl. No.	Indirect impact	No change		Increased		Decreased	
		No.	%	No.	%	No.	%
<b>A.</b>	<b>Personal Impact</b>						
1.	Confidence in hybrid castor cultivation	-	-	60	100	-	-
2.	Opportunity to know about development activities	19	31.66	41	68.33	-	-
3.	Consultation by fellow farmers	17	28.33	43	71.66	-	-
4.	Decision making power	9	15.00	51	85.00	-	-
<b>B.</b>	<b>Social impact</b>						
5.	Social organizations	10	16.66	50	83.33	-	-
6.	Training / Field day etc.,	7	11.66	53	88.33	-	-
<b>C.</b>	<b>Economic impact</b>						
7.	Investment in savings	7	11.66	49	81.66	4	6.66
8.	Purchase of agricultural implements milch animals etc.,	46	76.66	14	23.33	-	-

In table 2, it is observed that under personal impact cent percent of the farmers had increased their confidence in hybrid castor cultivation. The slow but visible impacts like yield and income by using hybrid castor might be the probable reason.

About 70 percent of the farmers expressed that it had increased the opportunity to know about the developmental activities followed by no change (31.66 per cent). The field day conducted and meetings and demonstrations at their place facilitated the farmers to share information like developmental activities with each other.

Participation in FLD programmes, field day and other meetings by the farmers made other farmers in the village resource persons for seeking advisory services. This might be the reason for increased level (71.66 per cent) of consultation by fellow farmers followed by no change (28.33 per cent)

Increased self confidence might be the reason for increase in decision making power (85.00 per cent). About 15.00 per cent had expressed no change in decision making power.

Under social impact, involvement in FLD programmes paved the way for increased participation in social organizations and training / field day ranging from 83.00 to 88.00 per cent.

With respect to economic impact due to adoption of FLD technologies, increased impact (81.66 per cent) was observed regarding investment in savings and but there was no change (76.66 per cent) in the purchase of agricultural Implements, milch animals etc.

### **Summary and Conclusions**

Under direct impact, increased yield, decreased cost of cultivation and increased income was reported by a majority of the farmers. Under indirect impact, a majority of the farmers felt that these FLD programmes increased their confidence, decision making power, participation in training, social organizations, investment and consultation by fellow farmers. Hence, popularization of hybrid castor technologies through various extension methods will be very useful to increase the area, production and productivity of castor in Tamil Nadu.

### **References**

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