

## RESEARCH PAPER

# Constraints of the vegetable farmers affecting their entrepreneurial behaviour in Kerala

■ James Mohan Devadas and K.N. Ushadevi

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**ABSTRACT**

A study on the constraints faced by the vegetable farmers on their entrepreneurial behaviour (EB) in Kerala was conducted confining to the three district of Kerala viz., Palakkad, Thrissur and Ernakulam which representing the central zone. 450 commercial vegetable farmers were selected purposively from five agro ecological zones of central Kerala for the study. From each agro ecological zone one block which had maximum area under vegetable cultivation was selected proportionately. Out of the 450 sample size fifty percentage of farmers represent VFPCCK farmers and other fifty percentage represent ordinary farmers. To analyse the constraints which affect the entrepreneurial behaviour of vegetable farmers following variables were selected i.e., production constraints, constraints in technology factor, organisational support constraints, economic constraints, financial constraints, social constraints and marketing constraints. Among the seven listed constraints marketing constraints affect them the most followed by production constraints, economic constraints and constraints in technology factor. Organisational support constraints were least bothered as far as Kerala is concerned because most of the farmers were aware about the services provided from various institutions and most of the institutions try to keep in touch with farmers too. Even though VFPCCK famers were more relaxed with respect to the marketing channels, both the category of farmers considered marketing constraints as more serious than any other constraints. Both categories of farmers felt all constraints in the same order of intensity.

**KEY WORDS :** Constraints, Vegetable farmers, Entrepreneurial behaviour, Production constraints, Constraints in technology factor, Organisational support constraints, Economic constraints, Financial constraints, Social constraints, Marketing constraints

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Vegetables and fruits are vital components of our daily food. Efforts are being made from various angles to encourage farmers to increase the area under these important food crops. Mainly 12 major varieties of vegetables and 6 minor varieties of fruits are cultivated in Kerala (GOK, 2012). Even Kerala is highly deficient in its requirement for vegetables. According to estimates, around Rs. 1,000 crore worth of vegetables are imported into Kerala yearly (Hindu

daily, 2010). Even with these imports, an average Malayali consumes less vegetable than what is recommended by the Indian Council of Medical Research (NHM, 2006). Approximately 50 per cent of the total available vegetable is accounted by the neighbouring states. Now we became a dependant state from a self sufficient one. Kerala is heavily dependent on other states especially Tamil Nadu for meeting the daily requirement of vegetables. The Central and State Governments have come out in a big way with a number of promotional programmes for agri-business entrepreneurs, to motivate and train them through organised programmes by different agencies and institutions like District Industries Centre, Krishi Bhavans, HortiCorp, Horticulture Mission, Vegetable and Fruit Promotion Council of Kerala, Kudumbashree Mission, etc. However, the efforts made by promotional agencies are yet to bring about the desired impact among the farmers in increasing vegetable production. There are many constraints faced by the farming community in different aspects and stages of production and marketing. Even though the farmers overcome many of the constraints, still there are constraints which cannot be overcome by them and those constraints should, with the help of proper institutional and organizational support, be rectified so as to enhance the vegetable production and improve the marketing ecosystem. This study is made with an objective to measure the severity of the constraints which affect entrepreneurial behaviour of vegetable farmers in Kerala.

## METHODOLOGY

### The study area :

The study was confined to three districts of Kerala viz., Palakkad, Thrissur and Ernakulam. Five agro ecological zones (Zone 1-Coastal sandy, Zone 2-Palakkadan planes, Zone 3 -Chittoor black soil, Zone 4 -Malayoram and Zone 5 -Central midlands) from these three districts were selected and from each zone one block which had maximum area under vegetable cultivation was selected purposively. Total sample size was 450 in which fifty percentage of the farmers were VFPC (Vegetable Fruit Promotion Council of Kerala) farmers and the remaining fifty percentage were ordinary farmers. Farmers were selected purposively to ensure that they are intensively involved in vegetable cultivation.

### Data collection and analysis :

Data collection was made during the year November 2017- January 2018. Data was collected using pretested structured interview schedule. Descriptive statistics was used as tool for analysis.

## ANALYSIS AND DISCUSSION

Those constraints which affect the entrepreneurial behaviour of vegetable farmers (both VFPC and ordinary farmers) in Kerala were categorised into mainly seven. They are production constraints, constraints in technology factor, organisational constraints, financial constraints, economic constraints, social constraints and marketing constraints.

Analysis was done by means of percentages, indices ANOVA tables Spearman's rank correlation coefficient and t-test.

According to the data collected farmers (both VFPC and ordinary) stated that marketing constraints were the primary constraint affecting them badly. For the VFPC farmers, the VFPC provides a platform to market their products and thereby reduces the marketing constraints upto a limit that we can clearly see from the Table 1. As per the data collected conventional farmers suffer more constraints in the marketing aspects than the VFPC farmers. Short shelf life of vegetables, lack of demand in the market after generating, frequent price fluctuations were the much-concerned variables under the marketing constraints by both the group of respondents which is followed by low prices of output than they anticipated and varying demand of each vegetable from season to season. Because of this seasonal demand, they could not able to produce more for the next season while looking at the current seasonal demand of a particular vegetable. Since most of the respondents cultivate vegetables commercially they are aware of the fluctuations in vegetable market and the recent trends. Hence, they are least bothered about the variable – 'market orientation' under the marketing constraint.

Based on the response production constraints come in the second position in which change in weather/climate disturbs them the most. Due to the climate change and untimely weather issues for the past 2-3 years affected the quantity of production thereby the income expected lowered very much. Those who were doing two to three seasons in a year restricted or limited their cultivation

<b>Table 1 : Constraints affecting entrepreneurial behaviour of farmers</b>						<b>(n=450)</b>
Sr. No.	Statements	VFPCCK farmers		Ordinary farmers		Rank
		Index	Overall index	Index	Overall index	
<b>Production constraints</b>						2
1.	Unavailability of good quality of seeds	45.33	70.84	43.64	70.01	
2.	Unreasonable seed price	84.80		81.96		
3.	Unavailability of seeds in a proximal distance	44.89		42.58		
4.	Pest and diseases	99.47		99.82		
5.	Unavailability of good quality fertilizers and pesticides	46.93		50.13		
6.	Quantity of fertilizers and pesticides getting in a subsidized rate is low	63.64		62.58		
7.	Unavailability of fertilizer and pesticides in a proximal distance	49.96		46.93		
8.	Water scarcity	52.36		43.11		
9.	Seasonal nature of vegetables	98.76		98.84		
10.	Unavailability of equipments for plant protection	43.02		39.64		
11.	High labour charge	95.82		97.96		
12.	Labour management	79.11		79.91		
13.	Unavailability of quality labour/ Absenteeism	86.76		88.44		
14.	Problems of transport	72.09		74.58		
15.	Change in weather/ Climate	99.64		100.00		
<b>Constraints in technology factor</b>						4
1.	Lack of technology	38.84	57.50	36.44	57.30	
2.	Lack of follow up services	35.47		36.18		
3.	Lack of knowledge about technology	37.60		37.07		
4.	Lack of training in adopting the technology	33.33		33.69		
5.	Lack of location specific recommendations	70.40		68.89		
6.	Inadequacy of capital	94.40		94.67		
7.	High expense to adopt technology	86.84		86.49		
8.	Non-availability of skilled workmen	88.62		91.38		
9.	Non- availability of mass media sources of information	44.18		43.91		
10.	Lack of information about post harvest technology	33.87		32.89		
11.	Use of obsolete technologies	62.67		61.24		
12.	Lack of land consolidation	63.82		64.80		
<b>Organisational support constraints</b>						7
1.	Lack of proper training	31.91	47.76	32.09	48.05	
2.	Lack of co-ordination and co-operation among grass root extension workers	51.73		52.09		
3.	Incredibility of extension workers.	53.07		52.62		
4.	Lack of technical guidance and untimely advice	33.16		32.89		
5.	Red-tapism in government agencies	64.53		65.51		
6.	Lack of financial assistance from government agencies	62.49		63.73		
7.	Indifferent behaviour from Krishibhavan/ KVK/ KAU	37.42		37.42		
<b>Economic constraints</b>						3
1.	Uneconomic holding size	54.04	68.48	49.42	67.56	
2.	High cost of technology	87.91		88.00		
3.	Poor socio-economic status	44.44		44.89		
4.	Low risk bearing capacity	58.04		56.98		
5.	Low income	73.42		70.49		
6.	Irregular income	73.87		72.71		
7.	High labour cost	87.64		90.40		

Table 1 contd...

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<b>Financial constraints</b>					5
1.	Unavailability of credit	100.00	57.39	100.00	57.28
2.	Insufficient quantum of credit	44.62		44.36	
3.	High interest rate of credit	45.16		44.44	
4.	Inconvenient repayment schedule	47.38		47.64	
5.	Untimely availability of fund/subsidies from the government organizations	49.78		49.96	
<b>Social constraints</b>					6
1.	Lack of education	49.78	48.74	49.24	48.39
2.	Traditional beliefs and norms	26.93		26.58	
3.	Nuclear family set up	51.38		50.84	
4.	Reluctance of youth towards agriculture	96.27		97.33	
5.	Social status	40.71		41.24	
6.	Socio-political interference	53.69		50.84	
7.	Lack of co-operation and co-ordination among farmers	22.40		22.67	
<b>Marketing constraints</b>					1
1.	Lack of market orientation	41.33	77.95	43.11	78.79
2.	Deficiency of marketing ecosystem	76.00		78.40	
3.	Low price for output	96.44		96.80	
4.	Frequent fluctuation in price	97.16		97.24	
5.	Problems of transport (marketing cost)	69.87		71.02	
6.	Problems of middleman (marketing cost)	41.51		41.96	
7.	Seasonal demand	96.00		96.09	
8.	Lack of demand	97.16		97.51	
9.	Absence of grading and standardisation	71.56		71.82	
10.	Short shelf-life of vegetables	97.16		98.13	
11.	Packaging	73.24		74.58	

Source: Primary data

\*Constraints were selected for the survey by referring the studies of Ravi and Kattappa (2000); Sindhu and Geethakutty (2003) and Thenamudha, 1996)

into one to two season due to the climate or weather change. Pest and diseases attacking vegetables were other complications in the vegetable production.

Seasonal nature of vegetables was their provoking concern in the production process because every vegetable had a particular season in which it gives maximum yield. High labour charge, unavailability of quality labour and absent of labours were their next concerns in production. Because of the labour complication in many places, native labours were replaced by Bengali labours and the farmers were forced to increase the family labour. This might not be applicable for farmers who have nuclear family setup. Respondents also faced problems under social constraints along with the reluctance of younger generation to engage in agriculture. The qualities of labour in native labourers were far better than the Bengali labourers but the labour-management was a easier task when engaging the Bengali labourers. Farmers could not able to force up on

native labourers about the agricultural practices and timing which made the respondents to state that the socio-political interferences as a major problem under social constraints. As far as VFPCCK farmers were concerned they are free from the exploitation of the middlemen upto an extent because he/she now gets authority (not in every time) to fix product price negotiation with the middlemen. So VFPCCK farmers were free from the transportation cost of produce from field to market while selling it through VFPCCK market because it was provided by the middlemen. But under the production constraints both the respondents faced the problems in transportation of inputs where they should arrange vehicles from their source to their fields. There is no difference in opinion among the respondents about the number of fertilizers/pesticides which are not enough to cover one season's production and its untimely availability from the government organizations red tapes was the most bothering factor under the financial

constraints and organizational support constraints.

VFPCCK farmers were more concerned about water scarcity than ordinary farmers whereas the ordinary farmers were more bothered about the unavailability of good quality fertilizers and pesticides. VFPCCK farmers had much exposure and proximity in receiving the best information in all area and aspects. Both of them seriously considered that the seed rate is unreasonable because hybrid seeds are highly used for high production.

The high cost of technology and high labour cost were the most serious problem under the economic constraints in which high cost of technology ranked much serious than high labour cost among the VFPCCK farmers wherein the ordinary farmers as *vice versa*. That might be because VFPCCK farmers were much more curious and adoptive about new technologies than ordinary farmers hence, the VFPCCK farmers rated high for constraints in technology factor. Inadequacies of the capital to purchase the wanted technology, unavailability of skilled workmen at the desirable time for operating the purchased technology and the high expense to adopt and run the technology were the major problems under the constraints in technology factor by both the respondents. Also, technologies might be location specific because a particular technology which is suitable and highly recommended to ease the vegetable production in places like Palakkadan planes may not be suitable to adopt in malayoram or in coastal sandy. Fragmented agricultural land of a farmer (he/she may not be able to consolidate his/her agricultural activities within an area based on the nature of the land he/she possess) and lack of technology up gradation (due to the unawareness or due to the additional expense incurred to adopt new technology) were also found as concerning issues under technology factor and these factors should be in the mind of an expert before he/she suggest a new technology to the farmers.

There is no argument about the income from agriculture activities which was irregular and not a fixed one. These were the two serious problems (irregular income and low income) under the economic constraints which were the sole reason why the farmers were bothered about the high labour cost, input cost, technology cost (their income remains same or fluctuating while all other costs increasing)

According to the ratings of the respondents, social constraints and organizational support constraints were the least bothering constraints among the others. Respondents were most seriously concerned about the unavailability of credit under the financial constraint. Also, they were bothered about the untimely disbursement of fund or subsidies from the government organizations.

Based on overall index, constraints were ranked as follows.

It is well clear that VFPCCK farmers and ordinary farmers felt marketing constraints as more serious than any other constraints. Both categories of farmers ranked organisational constraints to be least worried about. Both categories of farmers felt all constraints in the same order of intensity.

Hence, the Spearman’s rank correlation co-efficient was found to be 1 which indicated that there is a perfect agreement between VFPCCK farmers and ordinary farmers with respect to constraints that affect their entrepreneurial behaviour.

The summation of scores of each constraint was obtained in order to obtain an overall score of constraints separately for VFPCCK farmers as well as ordinary farmers.

**Hypothesis tested :**

To test the significance of difference between mean scores of constraints felt by VFPCCK farmers and ordinary farmers, two sample t-test was carried out with

Sr. No.	Constraints	VFPCCK farmers		Ordinary farmers	
		Index	Rank	Index	Rank
1.	Production constraints	70.84	2	70.01	2
2.	Constraints in technology factor	57.50	4	57.30	4
3.	Organisational constraints	47.76	7	48.05	7
4.	Economic constraints	68.53	3	67.56	3
5.	Financial constraints	57.39	5	57.28	5
6.	Social constraints	48.74	6	48.39	6
7.	Marketing constraints	77.95	1	78.79	1

the following hypotheses.

$H_0$ : there is no significant difference between mean scores of constraints felt by VFPCCK farmers and ordinary farmers.

$H_1$ : there is significant difference between mean scores of constraints felt by VFPCCK farmers and ordinary farmers.

Since the calculated value of test statistic ( $t=0.25$ ) is less than the critical value (1.97),  $H_0$  is accepted at 5 per cent level. It is concluded that there is no significant difference between mean scores of constraints felt by VFPCCK farmers and ordinary farmers.

	Constraints of VFPCCK	Constraints of ordinary
Mean	61.24	61.05
Variance	68.32	57.83
t Stat		0.25
P ( $T \leq t$ ) two-tail		0.80
t Critical two-tail		1.97

### Conclusion :

Marketing constraints and production constraints were the most serious constraints pointed out by both the category of vegetable farmers in central Kerala followed by economic constraints, constraints in technological factor, financial constraints and social constraints. If quality seeds are made available in the market at reasonable price through Krishibhavans or through the VFPCCK and also if the control measures for pest and diseases are made more effective, extensive and at an affordable price, we can check the production constraints up to an extent. Financial and economic constraints can be reduced by providing regular and quality labour supply to the fields at affordable rates. The labour pool concept like existing Green Army initiative

by Kerala should be made much strong and wide which in turn will reduce the labour shortage and its high cost. The marketing constraints can be reduced by arranging proper marketing channels for the produces. The VFPCCK now acts as a promotion platform for the produces but not much as a marketing channel. If the VFPCCK is restructured as a producer company with marketing outlook by enhancing its functions to procuring, processing with value addition and marketing facilities, the problem for marketing the produces can be tackled.

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