Indian Journal of Extension Education
Vol. 57, No. 1 (January-March), 2021, (32-37)

ISSN 0537-1996 (Print)
ISSN 2454-552X (Online)

Constraints Experienced by Homestead Vegetable Growers in Kollam District

Vani Chandran[1]* and Bindu Podikunju[2]

ABSTRACT

Homestead or home gardens represent a promising land use system and are common in Kerala, where the average size of farm households is small. The present investigation was carried out in the homesteads of selected panchayaths of Kollam district during 2017-18 with an objective to measure the constraints perceived by the homestead vegetable growers in vegetable cultivation. Twenty homesteads were selected randomly from each identified panchayat, thus making the total sample size 120 homesteads. To measure the constraints faced by the respondents in vegetable production, a suitable schedule was developed and the constraints were ranked accordingly based on the total score obtained by summing up the total score for each constraint. Based on the obtained score, scarcity of water resources, prevalence of pest and diseases, price fluctuation, high labour charges, high cost of cultivation, labour scarcity, non availability of inputs in time, non assurance of premium price for organic products, were the major constraints reported by the homestead vegetable growers.

Keyword: Constraints, Crop management constraints, Economic constraints, Homestead vegetable growers, Suggestions

INTRODUCTION

Kerala has witnessed major changes in its land use pattern over the years. The agricultural sector in Kerala has undergone significant changes in the form of decline in share of Gross State Domestic Product indicating a shift from the agrarian economy (SPBK, 2017). Vegetables are integral component of a healthy human diet and are important for almost every household. Kerala is a consumer state for vegetables and the major portion is produced in the neighbouring states. Attaining self-sufficiency in vegetable production has become a challenge to the state much more now than before as the vegetables importing from the neighbouring states are found to be affecting the health of the people due to the over usage of chemicals for production (Balakrishnan, 2015). In order to increase the production of vegetables by all possible means in Kerala, considering peculiar situation of limited cultivable area can be achieved through promotion of homestead farming. Homestead food production has been shown to be an important way to improve the intake of safe and micro nutrient rich foods, particularly for households. By realizing this fact, a number of programmes have been introduced in Kerala by various formal institutions to increase the agricultural production and income of the homestead growers. Even though many programmes have been implemented to improve the productivity from the homesteads, still there exist a gap. For accelerating the development process of homestead cultivation, on the

[1]Ph.D. Scholar, Dairy Extension Division, ICAR-NDRI, Karnal, Haryana
[2]Subject Matter Specialist, Agricultural Extension, Krishi Vigyan Kendra, Kerala Agricultural University, Sadanandapuram, Kollam, Kerala
*Corresponding author email id: vaniagri93@gmail.com

basis of the importance and increased demand for safe to eat vegetables, it is very essential to identify the problems faced by the farmers and also necessary actions should be taken to solve those problems, if any. A constant feedback is necessary to strengthen the existing programmes and to provide more benefits to the homestead growers. For that, constraint analysis is an appropriate method in order to get an idea about the issues faced by the growers and their perceived needs. Keeping this in view, the present study was conducted to identify the constraints perceived by homestead vegetable growers in Kollam district. Elucidation of problems and solutions given by the homestead vegetable growers will help the policy makers and authorities for improving the existing policies as well as the planning and designing of new programmes.

METHODOLOGY

The study was conducted in Kollam District of Kerala. Kollam district is classified into 5 Agro Ecological Units, of this AEU 9 (South Central Laterites) and AEU 12 (Southern and Central Foot Hills) were purposively selected for the study because it has the largest vegetable cultivation among the five AEUs. A comprehensive list of all the panchayats from the selected AEUs along with their vegetable cultivation details was prepared in consultation with the Krishi bhavan and Krishi Vigyan Kendra personnels and secondary information sources. As such three panchayats with maximum vegetable cultivation were selected from each AEUs for the present investigation. The panchayats were namely: Nedumpana, Veliyam and Ummannoor panchayath from AEU 9 (South Central Laterites) and Kadakkal, Chithara and Piravanthur panchayat from AEU 12 (Southern and Central Foot Hills). A comprehensive list of homestead vegetable growers having an area of 0.1-0.5 ha in each selected panchayats was prepared separately. On the basis of the lists, 20 homesteads were selected randomly from each identified panchayats. Thus a total sample size of 120 homesteads.

To measure the constraints faced by the respondents in vegetable production, a suitable schedule was developed by way of enlisting all the possible constraints based on the discussion with farmers and also through data from relevant review of literature. To measure the intensity of constraints intervening in the homestead vegetable cultivation, a four point continuum scale was used namely most important, important, least important and not important, comprising of scores as 4, 3, 2 and 1 respectively. The recorded responses were summed up and worked out the total score for each constraint. The constraints were ranked according to the total score obtained.

RESULT AND DISCUSSION

To get an overall view of the constraints experienced, with respect to vegetable cultivation in homesteads and suggestions perceived by the vegetable growers in order to mitigate the constraints, the analysis was conducted under three major headings as follows:

Constraints faced by the respondents in vegetable production

An attempt was made to identify the major constraints experienced by the homestead vegetable growers. The respondents were asked to give score for the constraints they faced and based on the score the problems were ranked in order of their importance, which has been presented under two headings viz crop management constraints and economic constraints.

From the data presented in Table 1, it is evident that the major constraint faced by the homestead farmers is scarcity of water resources. Moreover, homestead growers also face some unique problems of prevalence of pest and diseases, price fluctuation, high labour charges, high cost of cultivation, labour scarcity, non availability of inputs in time and non assurance of premium price for organic products even if it is the home garden produce.

In case of constraints related to crop management, scarcity of water resources, prevalence of pest and diseases, labour scarcity, non availability of inputs in time, non assurance of premium price for organic products and high perishability were the primary constraints which needed immediate attention. Similar results were reported by Augustin *et al.* (2013), who conducted a

Table 1: Constraints faced by the respondents in homestead vegetable cultivation (N=120)

S. No.	Constraints	Total obtained score	Rank over class	Rank over total
A.	**Crop management constraints**			
1.	Prevalence of pest and diseases	410	2	2
2.	Labour scarcity	358	3	6
3.	Non availability of good quality seeds	293	7	10
4.	Non availability of inputs in time	312	4	7
5.	Lack of awareness and knowledge about high yielding varieties	289	8	12
6.	Inadequate extension support	247	12	16
7.	Inadequacy of capital	272	9	14
8.	Lack of knowledge about post harvest handling	244	13	19
9.	Lack of time for home garden activities	267	11	15
10.	High perishability	300	6	9
11.	Lack of storage facilities	260	12	18
12.	Crop damage due to animal attack	197	14	21
13.	Non assurance of premium price for organic products	303	5	8
14.	Scarcity of water resources	440	1	1
B.	**Economic constraints**			
1.	High cost of cultivation	362	3	5
2.	Price fluctuation	398	1	3
3.	High labour charges	371	2	4
4.	Lack of marketing facilities	238	7	20
5.	High transportation cost	256	6	17
6.	Non availability of credit	292	4	11
7.	Inadequate facilities for value addition	277	5	13

study among the rice farmers in Southern Province of Republic of Rwanda in order to identify the constraints perceived by them in the adoption of rice production practices. The results of their study concluded that majority of the rice farmers were facing constraints related to pest and disease attack (90%) as the major constraints while misuse of farm yard manure (70%), lack of irrigation water (62.50%), lower yield (37.50%), inadequate availability of inputs on time (23.75%), labour shortage (15%) and lack of agricultural machinery (7%) were the other constraints perceived by the farmers in study area.

The scarcity of water was also a constraint as water distribution from Sasthamkotta Lake affected the study area because the pumping was limited to alternate days. The acute water shortage in selected area is apparently due to cessation of local water sources. The problems of pest and diseases may be due to the low adoption rate of plant protection practices, change in climatic conditions, non-adoption of crop rotation (growing same crop in same field subsequently), season variations (not sown in recommended season) and continuous use of same chemicals to control the particular disease and pest.

The reasons for unavailability of quality seeds could be attributed to a number of factors. One important reason is the high price of HYV seeds. The state Agriculture Department was the important source from which most of the farmers obtained HYV seeds free of cost under different programmes and area

enhancement schemes. But these schemes are not a regular occurrence which forces the farmers to procure seeds from other sources. Moreover, seeds that were available to the farmers through these programmes were sometimes of low quality (low germination percentage). Besides these, some progressive farmers have purchased seeds from other seed sources like KVK and Regional Agricultural Research Stations etc. However, distance was a major problem for the farmers for collecting seeds from these sources. Their cosmopolitans, better economic status and knowledge enabled them to go for alternative sources. Therefore, seed unavailability is a major problem and good quality seeds should be provided to farmers at right time.

The central and state governments have been playing an important role in providing inputs and support services to farmers through the State Departments of Agriculture and other specialized organizations. However, over time, the effectiveness of these institutions has been seriously eroded for a variety of reasons including inadequate staff, lack of funds and absence of motivation among service providers. Moreover, most of the benefits of agricultural support system are cornered by large and medium farmers, and small and marginal farmers remain largely neglected. Poor quality and adulteration of fertilizer were also reported by few respondents.

High literacy rates, better education and lack of professional and skilled jobs had prompted Keralite to look for higher wages and skilled labour outside India. This trend has led to a decline in the availability of workforce in Kerala especially in agricultural sector. Withdrawal of young people from agriculture was found to be main reason for shortage of labour. Agricultural activities involve physical labour and youth especially those having school education do not consider the agriculture work as a job opportunity. Employment opportunities in non-agriculture sector, chances for migration of labour to other parts of the country and abroad also can be considered as the reason for labour shortage.

Constraints which were given less faced by the growers were crops damage due to animal attack, lack of knowledge about post harvest handling, lack of storage facilities, inadequate extension support.

When it comes to economic constraints price fluctuation was perceived as most important constraints by the respondents and was ranked first in problem hierarchy. Similar result was reported in a study conducted in Vidharbha Region of Maharashtra among the orange farmers by Gedam and Singh (2012). In their view, price fluctuation may be due to the factors like rainfall, demand, lack of cold storage industries and processing units. The second ranked constraint was high labour charges. As adequate numbers of labourers were not available in the locality, the existing labours demanded higher wages.

The third and fourth most important problems were high cost of cultivation and non availability of credit. The high cost of manures, pesticides, high wage rate and high cost of agricultural equipment were the reason behind high cost of cultivation. Loans from the normal banking system require collateral or counter guarantee, economically backward cannot offer and therefore cannot get loan in appropriate time. A similar result was reported by Haneef *et al.* (2019), who found that more than half of the total respondents in his study area were facing many difficulties due to the inadequate availability of credit. Lack of marketing facilities, high transportation cost, inadequate facilities for value addition were ranked lowest in the constraints hierarchy. The results were in line that of Patil *et al.* (2014).

Suggestion for overcoming the constraints as perceived by farmers

The suggestions put forward by farmers for overcoming the constraints identified were given in Table 2. The elicited suggestions by the respondents to overcome their constraints are presented in Table 2. Majority of the respondents suggested the introduction of MGNREGS workers to agricultural sectors will reduce the constraints of labour scarcity and high wage rate (75%), more than fifty per cent of farmers (63%) pointed out that the arrangements for supply of inputs, loan and other needed information in time. Fifty eight percent suggested the need for intervention by the

Table 2: Suggestion for overcoming the constraints as perceived by respondents (N=120)

S.No.	Suggestions	Percentage
1.	Fixation of minimum support price for organic produce	58
2.	Establishment of separate market facility for sale of organic produce	36
3.	Arrangement for certification of produce for getting better price	40
4.	Arrangements for supply of inputs, loans in time	63
5.	Promotion of value addition technologies and facilities	52
6.	Participation of NREGS to agricultural sector	75
7.	Inclusion of accessible and low cost technologies	43

Government for fixing minimum support price for organic produce. Promotion of value addition technologies and facilities (52%), inclusion of accessible and low cost technologies (43%), arrangement for certification of produce for getting better price (40%) were the other expressed suggestions. Around 36 per cent respondents suggested establishment of separate market facility for the sale of organic produce.

Strategy to mitigate the constraints

Irrigation is the most important factor for cultivation of vegetable. To solve the acute water shortage especially during the summer seasons, make use of rain water harvesting systems in the homesteads. This is one of the simplest and cost effective water preservation systems. As per the government order of local self government department, all new buildings should have either rainwater harvesting tanks or rain water percolation pits. A project named 'Varsha' (rain water harvesting scheme) was launched by under the aegis of KWA (Kerala Water Authority) envisaging construction of ferro cement rain water harvesting systems in the districts of Ernakulam, Alleppy, Kottayam, Trivandrum and Pathanamthitta. This clearly calls for necessary implementation of government order in Kollam district also which will not undermine the traditional wisdom of Keralites to conserve the rain water at their homesteads. They may have allowed to collect and make use of rainwater thereby can reduce the water scarcity maximum as possible.

In case of labour shortage, necessary amendments may be made in government orders to deploy MGNREGS workers in agricultural sector also. In many Krishibhavans, they have formed group named 'Karmasena', with the main objective of solving labour shortage. These types of initiatives can be taken up by all Krishibhavans by which the problem of labour scarcity and high wage rate can be addressed. Along with these, ensuring maximum participation by the family members also help to reduce the dependency of hired labours.

Adequate advance planning is required to ensure that all the critical inputs like fertilisers, good quality seed and credit are made available in time and in adequate quantity. There is a clear need of revamping these programmes and the delivery systems at the grass root level so that the problems faced by the farmers are effectively dealt with. It is not merely a matter of allocating more funds and appointing staff, the whole approach to the delivery system has to change focussing on the end-user that is the farmer.

Special attention should be given by the extension personnel to increase the rate of adoption of plant protection practices. Most of the homestead vegetable growers preferred organic farming so that they were not adopting any chemicals for plant protection. Some farmers use pesticides which were recommended by dealers without even the knowledge of name of the pesticide. Hence, an integrated pest and disease management approach by the concerned research institutes, development departments, and government agencies play a vital role for encouraging the farmers to accept the KAU plant protection practices. It is recommended that improving access to credit by strengthening local micro-finance institutions and lowering down payments to enhance participation of homestead production.

CONCLUSION

The homesteads can be best utilized for various agricultural activities as they are known to give higher yields per unit area and it assumes great importance for conservation as well as cultivation. But in reality, farmers are facing many constraints while go for farming. From this study, it can be summarised that the major constraints faced by the homestead vegetable growers were scarcity of water resources, prevalence of pest and diseases, price fluctuation, labour related constraints, high cost of cultivation, non-availability of quality planting materials and non-assurance of premium price for organic products. To solve the acute water shortage, rain water harvesting systems in the homesteads should be encouraged. In case of labour shortage, necessary amendments, be made to bring the MGNREGS workers to the agricultural sector. Integrated pest and disease management approaches should also be improved to reduce the problems of pest and disease attack. The result obtained through this study is of immense utility for the policy makers for modifying the existing plans and developing need based action plans. Necessary measures should be implemented as early as possible for reducing the constraints experienced by the vegetable growers, thereby making homestead farming more remunerative and attractive.

Paper received on : December 05, 2020
Accepted on : December 17, 2020

REFERENCES

Augustin, N., Nataraju, M.S. and Gowda, G.V. (2013). Constraints Perceived by Rice Farmers in the Adoption of Rice Production Practices in Southern Province of Republic of Rwanda, *Indian Journal of Extension Education*, **49**(1&2), 60-61.

Balakrishnan, T.R. (2015). Homestead farming in focus. Farming-in-focus [On-line] Available: www.the hindu.com/ news/national/Kerala/homestead [8 December, 2020].

Gedam, P. and Singh, B. (2012). Constraints in Production of Orange (*Citrus reticulata Blanco*) in Vidharbha Region of Maharashtra, *Indian Journal of Extension Education*, **48**(3), 90-92.

Haneef, R., Sharma, G. and Ahmad, T. (2019). constraints faced by farmers practicing organic farming in hill region of Uttarakhand, India, *International Journal of Current Microbiology and Applied Sciences*, **8**(5), 1149-1157.

Patil, M., Bheemappa, A., Angadi, J.G. and Guledgudda, S.S. (2014). A critical analysis on economics and constraints in adoption of organic vegetable cultivation in Belgaum district. *Karnataka Journal of Agricultural Sciences*, **27**(4): 539-541.

SPBK [State Planning Board Kerala] (2017). Approach Paper (Thirteenth Five-Year Plan 2017-2022). Kerala State Planning Board, Thiruvananthapuram, Kerala,77p.