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Minimising Vegetable Production Constraints in Hills: Boon to Attain Sustainable Vegetable Farming System

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ABSTRACT

In Himachal Pradesh Vegetable cultivation is done on steep hilly farms and has some inherent constraints which differentiate hill farming to that of plains. Present study was conducted in hilly state Himachal Pradesh to compare vegetable production constraints as perceived by self help group member and non-member farmers in case of SHG members, constraint of high cost of inputs, monkey menaces & stray animals and more distance from market, lack of irrigation sources, whereas, poor knowledge about enterprise, lack of entrepreneurship development oriented training and more distance from market were major constraints for non-members. Non-members farmers perceived significantly higher constraints than SHG member farmers. Cognitive and extension activities constraints were well addressed by SHG approach and there is need to bring maximum vegetable growers under the preamble of SHG to achieve sustainability. Also sufficient village road connectivity, modern storage facilities, community irrigation facilities, quality input sale centres, protection from wild animals and mechanization of small farms required to be done in vegetable growing areas to make vegetable farming sustainable.

Keywords: Constraints, Farming, Minimising, Production, Sustainable, Vegetable

INTRODUCTION

Agricultural sustainability is the concept of preserving present resources to fulfil needs of future generation while gratifying the present needs. Vegetable farming is a complex system which requires specialized knowledge and skills and a farmer will continue with vegetable farming as an enterprise only if it is economical, socially viable and is in consonance with future needs. While practising vegetable farming as an entrepreneur, farmers face huge number of constraints and these constraints need to be eliminated or minimized to achieve goals towards sustainability of vegetable farms. The ultimate goal of vegetable grower is to get maximum profit from limited resources and therefore economic dimensions are of utmost importance in sustainability of vegetable farms (Singh and Hansra, 2017). Vegetable cultivation has also become highly commercialized now days. But still there is gap between current production and potential production. So efforts have to be made by the researchers, policy makers and extension workers together to overcome these constraints (George and Singh, 2006). When talking about hills the problem become more severe as hill agriculture has some inherent constraints of remoteness and inaccessibility, marginality and fragility in terms of moisture stress and the poor soil conditions and a short growing season. Added to these are socio-economic constraints such as small holdings, poor productivity, poor production management, labour shortages, poor post-production management, poor marketing and networks lack of market development and lack of entrepreneurship. All these have led to under-

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utilisation of resource bases in the hills and limited generation of surpluses (Pratap, 2011).

The way to sustain vegetable farming in hills is to minimize constraints covering all dimensions of sustainability. When the agricultural policies and measures consider only economic values, they are not sustainable and future generations may suffer access to resource base. Therefore, the policies favouring direct and indirect support to maintain hill farming are necessitated by both ecological and economic considerations (Gim, 1998).

Keeping in view the importance of sustainable vegetable farming in hills the study focused to identify and compare various constraints as perceived by SHG members and Non-members in sustainable vegetable farming in Himachal Pradesh.

METHODOLOGY

The study was conducted during 2014-2017 in the state of Himachal Pradesh covering two districts from each division. Six districts viz Kangra, Chamba, Mandi, Kullu, Solan and Shimla were randomly selected from three divisions of the state. In each district 5 vegetable farming based Self Help Groups (SHG) were selected covering a total 30 SHGs in six districts. From each randomly selected SHG, five vegetable growing farmers were interviewed with a structured schedule developed by Yadav (2013) thereby making a total of 150 farmers from SHGs. To make a comparison of constraints 150 non-SHG member vegetable farmers were selected from adjoining villages of SHGs. Thus a total of 300 farmers were interviewed and the obtained data was compiled, tabulated, analysed and interpreted with statistical means and standard deviation.

RESULTS AND DISCUSSION

Since, vegetable farmers perceived several constraints as barrier in running their enterprise and removing or minimizing such constraints could maximize the profit with increased efficiency of farms to achieve sustainability goals. Constraints perceived by SHG members and non-member vegetable grower were studied under six sub heads i.e. cognitive, credit, input, extension services, marketing and miscellaneous. Data depicted in Table 1 reveals that constraints perceived by SHG members vary in degree and priority than non-members. In case of SHG members, high cost of inputs (80.67%) ranked I followed by monkey menaces and stray animals (78.67%), more distance from market (78.67%), Lack of irrigation sources, low price and lack of storage facilities with percentage of 76.67, 75.33 and 71.33 per cent, respectively. Lack of requisite support from concerned department (12.67%) and Lack of family support (14.67%) were found to be ranked at bottom. High cost of inputs was also reported first constraint in a study conducted by Singla and Singh (2016).

In case of non-members poor knowledge about enterprise (88.00%), lack of entrepreneurship development oriented training (83.33%) and more distance from market (82.00%) were major constraints. Lack of storage facilities (81.33%) and lack of irrigation sources (80.67%) followed. Lack of family support (30.00%) and lack of local demand (33.33%) were the least faced constraints faced by non-members. The results obtained are more or less in line with various results reported by various researchers like Nath (2011);Suman (2011); Yadav (2013); Sharma (2013); Gupta *et al.* (2013); Sahu *et al.* (2014); Singh *et al.* (2014).

Significant difference was found in constraints faced by SHG members and non-members. Results revealed that only 12.67 per cent SHG member perceived higher extent of constraints. Maximum number of SHG member (59.33%) perceived low level of constraints. Maximum number of non-member farmers were found to be in medium constraint facing category (Table 2). The explanation to this phenomenon might be significantly higher exposure of SHG members to trainings, extension contacts, and financial help from SHG in contrary to non-members. It has been revealed that vegetable farmers who are members of SHGs perceived fewer constraints as compare to non-member vegetable growers. Though all constraints could not be even addressed by SHG approach but group dynamics has proved to tackle cognitive and extension constraints. Lack of knowledge and extension services which was major constraints for non-member farmers were well addressed with SHG approach. Therefore, policies to bring more vegetable grower in SHG approach can be measure to address these constraints. High cost of inputs revealed as major

Table 1: Constraints perceived by self help group members and non-members in vegetable farming

S.No.	Constraint	Members (n=150)			Non-members (n=150)		
		F	Percentage	Rank	F	Percentage	Rank
A: Cognitive							
1.	Poor knowledge about enterprise	80	53.33	X	132	88.00	I
2.	Lack of knowledge about financial institutions	90	60.00	VIII	88	58.67	XIII
3.	Lack of knowledge about training institutions	71	47.33	XI	87	58.00	XIV
4.	Lack of knowledge about marketing linkage	63	42.00	XIV	109	72.67	IX
5.	Lack of knowledge about schemes of various department related to enterprise	38	25.33	XVIII	103	68.67	XI
B: Credit							
6.	Difficulty in getting loan	25	16.67	IXX	55	36.67	IXX
7.	Lack of financial institutions in the rural areas	65	43.33	XII	70	46.67	XVI
C: Input							
8.	Non availability of fertilizers and other inputs in time	61	40.67	XV	68	45.33	XVII
9.	Lack of quality input material	64	42.67	XIII	84	56.00	XV
10.	High cost of inputs	121	80.67	I	125	83.33	II
11.	Untimely supply of inputs	98	65.33	VI	105	70.00	X
D: Extension services							
12.	Lack of entrepreneurship development oriented training	59	39.33	XVI	125	83.33	II
13.	Lack of requisite support from concerned department	19	12.67	XXI	56	37.33	XVIII
E: Marketing							
14.	Lack of demand in local market	45	30.00	XVII	50	33.33	XX
15.	More distance from market	118	78.67	II	123	82.00	III
16.	Lack of marketing Centers	83	55.33	IX	93	62.00	XII
17.	Low price	113	75.33	IV	118	78.67	VI
F: Miscellaneous							
18.	Lack of irrigation sources	115	76.67	III	121	80.67	V
19.	Lack of storage facilities	107	71.33	V	122	81.33	IV
20.	Non availability of labour	97	64.67	VII	114	76.00	VIII
21.	Lack of family support	22	14.67	XX	45	30.00	XXI
22.	Monkey menace and stray animals	118	78.67	II	115	76.67	VII

Table 2: Extent of constraints perceived by SHG members and Non-members

Respondents	Category			Mean	SD	Member vs. Non-member (Z Stat)
	Low (22.73-51.64)	Medium (51.64-64.72)	High (72.89-100)			
Members (N=150)	89(59.33)	42(28.00)	19(12.67)	76.00	32.15	-2.209**
Non-members (n=150)	19(12.67)	103(68.66)	28(18.67)	95.82	27.16	

*** Significant at 1 per cent level of significance, Figures in parenthesis is percent*

constraints by both group of farmers. Here policy intervention in the shape of guiding farmers to produce seeds at village level, minimising fertilizer use by adopting vermin-compost and biodynamic farming with available rural resources can help to make to achieve sustainability of vegetable production in hills. Besides this making available quality seeds at village level by extension agencies will be helpful for the farmers to continue their enterprise. Lack of irrigation, more distance from market, marketing centres, lack of storage were the constraints which were found perceived by both member and non-member farmers. These constraints were also not addressed by SHG approach and were beyond the reach of SHG for which measure required to be adopted for attaining sustainability towards vegetable farms. Monkey and stray animals menace has been source of major damage to vegetable production in the state. Vegetable grower feels helpless in solving this perennial problem and thinks it better to quit their venture. Appropriate mechanism to check population of these animals in vegetable production areas, solar fencing and field protection at community level are suitable measures.

CONCLUSION

The comparison in both categories of farmers was made to suggest possible remedies towards sustainable vegetable farming in hills. It was observed that SHG approach can address most of the cognitive and extension services constraints where as infrastructural constraints needs special attention of the policy makers to make vegetable farming a futuristic approach. Results revealed that SHG members perceived fewer constraints in comparison to non-members. SHG approach helps in minimizing perceived constraints and in combination with rural infrastructural development can play salutary role in sustainability of vegetable farming in small hilly farms. Bringing non-members vegetable farmers under SHG approach can serve as a way towards sustainability of vegetable farming but policy makes has to concentrate on some areas like development of infrastructure for storage and marketing, irrigation, rural transportation, mechanisation etc. which cannot be addresses through SHG approach but special policy intervention is required.

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