

RESEARCH NOTE

Effectiveness of Green House Technology in Siachen Sector of Ladakh

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ABSTRACT

The aim of the study is to analyse effectiveness of green house technology for army troops and tribal groups of Siachen sector of Ladakh in two tribal dominated areas namely Turtuk and Sumoor district of Leh, Ladakh. A multistage stratified random sampling design was used to the district, block, villages and sampling household. A sample of 100 household was selected for present investigation. Data were collected personally through well structured and pre-tested interview schedule. From the study it was found that majority of households (76%) were having economic motivation towards green house technology, but 56% respondents showed low level of scientific orientation, it means that they were not fully aware about new scientific agricultural technologies. They have high level of risk adoption due to adverse climatic condition with regards to crop cultivation. The technological variables like utilization of production inputs, adoption of crop production and resource conservation technologies were found significant and positive relationship with vegetable productivity. 56 % of the respondents have medium level of extension participation and use of mass media was found to be positive reflection with productivity of vegetable crops.

Key words : *Effectiveness; Green house technology; Army troops; Tribal groups;*

Ladakh is a highly cold desert region of India. Ladakh region is a high altitude area (9500 feet's above mean sea levels) and situated in Himalayan belt of Siachen sector where temperature varied from -40 to +30 centigrade. Green house technology is very effective for the control condition production especially in winter season in Ladakh. It fulfils about 40% requirement of households by growing of different type of vegetables in greenhouses and after sale it earned money is helpful for socio-economic development of local tribal people. There were 24 FRP greenhouses, 4 poly tunnels and 6 trenches created in different army units as well as in villages of Nubra valley of Siachen sector. Green house technology is the best technology for cold desert area of Ladakh, has resulted in improvement of socio-economic status of farmers and provided employment to villages as well as army troops after superannuation. Most of the areas in our country suffer almost every year from one or other forms of natural calamities like cloud burst, flood, unseasonable

heavy rains or drought. In view of the above facts there is strong need felt to diversify agriculture and in order to ensure an all round development of farming families. Farming should be considered as a system in which crop and other enterprises that are compatible and complimentary are combined together. It should include all components of land such as soil, water, crop, livestock, labour and other resources. In view of above point taken into consideration the investigation has been carried out to identify the "effectiveness of green house technology for army troops and tribal groups of Siachen sector of Ladakh" for judging its impact on the farmers.

METHODOLOGY

The study was conducted in two tribal dominated areas namely Turtuk and Sumoor district of Leh, Ladakh. A multistage stratified random sampling design was used to the district, block, villages and sampling household. From each village, 25 respondents were

selected by using equal allocation sampling technique. A sample of 100 household was selected to assess the effectiveness of green house technologies especial reference to army troops and tribal group of farmers of Siachen sector of Ladakh. Data were collected personally through well structured and pre-tested interview schedule. The data thus collected were compiled, tabulated and analysed.

RESULTS AND DISCUSSION

An in- depth study of existing agricultural technologies like green house technology and its effectiveness in the present situation would help not only in getting a comprehensive account level of development of agriculture practices in the locale, but also in planning and taking up research and development activities. The results are discussed under the following subheads.

Socio-personal profile of farmers : As perusal of data presented in Table 1 clearly indicated that 48 percent of farmers belonged from 31-50 year age group, 30 per cents were illiterate, 38 per cent up to middle standard only, 64 per cents of respondents belonged to marginal farmers category. The main occupation of the majority of the farmers is the combination of agriculture and animal husbandry followed by only agriculture. This finding is supported by *Subramainum & Manoharan (2002)*. The majority of respondents (56%) came into medium income category while rest were divided into low (20%) and high income group (24%). 58 per cents of the total respondents showed low level of extension participation. Majority of the respondents 56% had low level of scientific orientation, 40% had high risk preference attitude followed by medium (36%) and low (24%) respectively. This clearly indicates that most of the farmers have medium socio-economic condition it means that they have the knowledge about green house technology.

Effectiveness of green house : To know the utility and effectiveness of green house structure, correlation coefficient was worked out and try to establish relationship between the various technological, personal, motivational, situational and extension variables of vegetable crops growers and productivity of vegetable crops.

It could be inferred from the Table 2 that the technological variables, viz., utilization of inputs, adoption of recommended crop production technologies and adoption of recommended resource conserving technologies were found to have significant positive

Table 1 Socio- personal characteristic of the respondents

Factors	Distribution	No.	%
Age	Young (upto30 yrs.)	14	14
	Middle (31–50 yrs.)	48	48
	Old (above 50 yrs.)	38	38
Education	Illiterate	30	30
	Up to Primary	12	12
	Up to Middle	38	38
	High and Above	20	20
Farm equipments	Low	54	54
	Medium	32	32
	High	14	14
Land holdings	Marginal farmers	64	64
	Small farmers	16	16
	Medium farmers	12	12
	Big farmers	8	8
Occupation	Agriculture	34	34
	Agri.+Animal hus.	42	42
	Agri. + Labour	24	24
Monthly income	Low	20	20
	Medium	56	56
Extension contact	High	24	24
	Low	58	58
	Medium	22	22
	High	20	20
Source of communication	Low	48	48
	Medium	34	34
	High	18	18
Economic motivation	Low	24	24
	Medium	46	46
	High	30	30
Scientific orientation	Low	56	56
	Medium	28	28
	High	16	16
Risk bearing ability	Low	24	24
	Medium	36	36
	High	40	40

relationship at 5 per cent level with productivity of vegetable crops. It means that technological variables directly affect the productivity of vegetable crops.

Among the four personal variables, only the farming experience was found to have significant positive relationship at 5 per cent level with productivity of vegetable crops. Regarding extension variables, only mass media use was found to have significant positive relationship at 5 per cent level with productivity of vegetable crops. The data shows that the socio-personal attributes like age, land holding and economic motivation had positive and significant correlation with intensity of problems faced so that it may be concluded that the farmers of older age, big land holding and higher

Table 2. Correlation between the different variables and productivity of vegetable crops

Variables	Components	'r' Value
Technological	Utilization of inputs	0.425**
	Adoption of crop production tech.	0.538**
	Adoption of resource conserving technologies	0.631**
Personal	Education	0.205
	Farming experience	0.471**
	Innovation proneness	0.293
Motivational	Risk orientation	0.362
	Scientific orientation	0.243
Situational	Management orientation	0.217
	Farm size	-0.018
Extension	Extension orientation	0.388
	Mass media exposure	0.479**

* Significant at 1 per cent level,

** Significant at 5 per cent level

economic motivation categories suffered from these problems in more severe intensity. The negative but significant correlation was observed in case of attributes like education, scientific orientation and risk taking ability. It means that the inverse effect was produced by these attributes. As they move towards higher category the intensity of problems come down towards lower side respectively. The attributes like occupation, income, extension participation, use of communication sources and farm power showed no significant correlation with intensity of constraints faced. The similar correlation was observed in his study by *Arirwar et. al. (2005)* and *Gowda & Lakshminarayan (2000)*.

The utilization of inputs, adoption of recommended crop production technologies and adoption of recommended resource conserving technologies had significant positive relationship with productivity of vegetable crops. It is a well known fact that vegetable

crops grown in Ladakh are very important and respond well to each one of the critical inputs viz. high yielding variety seeds, application of fertilizers and other management practices. In addition to utilization of inputs and adoption of recommended crop production technologies, water is the limiting scarce resource in cold desert farming area. The adoption of recommended resource conserving technologies helps to maintain soil fertility and to conserve water. The variables such as farming experience and mass media use had the significant positive relationship with productivity of vegetable crops in Ladakh.

CONCLUSION

Green house technology is beneficial for both Army Troops and local farmers for fresh availability of vegetables and fruits in Ladakh. From study it is fact that vegetable crops grown in Ladakh are very important and respond well to each one of the critical inputs viz. high yielding variety seeds, application of fertilizers and other management practices. In addition to utilization of inputs and adoption of recommended crop production technologies, still water is the limiting scarce resource in cold desert area. The scientists should endeavour to develop intermediate, low-cost, location specific and need-based, cost-effective package of practices in addition to the indigenous knowledge and existing technology to improve crop productivity. For achieving sustainability in agricultural production, each and every aspect of crop production nutrient and water management, soil and water conservation, pest and disease management etc, help in a number of crops cultivation in this cold desert region of Siachen sector of Ladakh.

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REFERENCES

Ahirwar R.F.,Saxena K.K. and Meshram V. (2005). Profitability and constraints of soyabean in Malwaplateau of M.P. *Ind. Res. J. Ext. Edu.* **6** : (1&2).
 Gowda G. and Lakshminarayn (2000). Problems faced by groundnut farmers in adoption of dry land farming practices. *J. Ext. Edu.* **11** (4): 2977-2978.
 Subramainum R. & Manoharan S. (2002). Constraints analysis and identification for mango growers. *J. Ext. Edu.* **13** (4): 3422-3426.

