

Gender Participation in Vegetable Cultivation in Kashmir Valley

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ABSTRACT

An attempt was made in this paper to examine the growth of vegetable sector in Kashmir valley and impact of Technology Mission, and the pattern of gender participation in different activities and decisions involved in vegetable cultivation. The results revealed that R&D efforts under Mini Mission-II encompassing various vegetable development programmes have significantly improved area and production of vegetables in the valley. It was observed that although women dominated in some operations of vegetable cultivation but in totality male participation was found more important. As far as various decisions relating to vegetable cultivation are concerned, the role of women in majority of the cases was supportive in nature while the dominative role in most of the cases was performed by men. On the basis of the findings, it is suggested that education and extension facilities to female should be provided to broaden their out ward horizon that can ultimately enhance their participation in decision-making.

People are the most precious resource of any nation especially the women folk. Development of women in rural areas is the major thrust area of many rural development programmes implemented by the governments as they not only constitute nearly half of its population, but also influence growth of the remaining half of the population. Despite, women are poorer than men mostly because they are deprived of equal rights and opportunities, denied of the access to the financial/economic resources and the status in the society. Moreover, women are illiterate and have little time to know about the latest advances in farm production.

Women since the time immemorial have formed an organic component of the working force. The women are generally engaged in multiple occupations ranging from unpaid family labour to self-employed in their home or village or outside to generate income for themselves. However, women in rural areas have affinity towards

farming and as high as 75 per cent of the rural women are found participating in different farm and allied works (Sadangi, *et al.*, 1996). In Jammu & Kashmir (J&K) women constitute nearly half (47.15%) of the total population that forms about 29 per cent of total labour force (Census of India, 2001). Out of the total of 10.74 lakhs female workers, 15.45 per cent are engaged in agricultural sector either as cultivators or agricultural labourers.

Women do more field work than men, is a matter of common knowledge particularly in the state of J&K. They along with the male members not only participate in all sorts of household activities but also attend to the various field operations, yet their participation in the decision making is very poor. The decisions vary in importance and affect the farm family in one way or the other. It is generally observed in the rural areas of J&K that both husband and wife are jointly responsible for

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making decisions on matters like family obligation, purchase of household articles, etc. However, generally the women are left out when farm planning is discussed, although their contribution towards total labour is significant.

Thus, an attempt has been made in this paper to examine: (i) The growth of vegetable sector in Kashmir valley and impact of Technology Mission, (ii) The pattern of gender participation in different activities and decisions involved in vegetable cultivation, and (iii) The association between women participation and various socio-economic variables.

METHODOLOGY

The study is based on both primary and secondary data. The secondary data pertaining to the economic importance of vegetables were obtained from various published and unpublished records of Department of Agriculture and Cooperation, Government of Jammu & Kashmir. The primary data were collected from 80 sample households from six selected villages from district Srinagar and Budgam (three from each) by employing multi-stage random sampling. Responses were obtained on well-structured interview schedule from one male and one female respondents of each household separately. Responses of male and female respondents of each farm household were ultimately pooled for further analysis. Simple tabular and Pearson's correlation coefficient analysis was used to analyse the data.

RESULTS AND DISCUSSION

Growth of vegetable sector and impact of Technology Mission (Mini Mission-II)

State agriculture is gradually diversifying in favour of labour intensive and high value horticultural crops including variety of vegetable crops. During the past three decades, Kashmir valley has made a commendable progress in vegetable production from about two lakh tones in 1980-81 to over five lakh tones in 2005-06. In

the same period, area under vegetables has shown significant increase of about 137 per cent from 10 to 24 thousand hectares. This scenario signifies that vegetable cultivation in Kashmir has a vast potential of improving the economic status of farming community. Technology Mission (TM) for integrated development of horticulture sector in the state was extended to Jammu & Kashmir during 10th plan period. Since the inception of this scheme, eight major research projects have so far been sanctioned by ICAR for improvement of vegetables at SKUAST-K, Shalimar. TM (Mini Mission-II) has a positive impact on the success of vegetable sector in Kashmir province (Table 1). The funds utilized under this scheme culminated into the expansion of area under vegetables and improvement in productivity. More than 1214 hectares of land have been brought under vegetable cultivation that produces about 63115 Mts of different vegetables under this scheme. Increasing production enabled the valley to generate handsome revenue through export of vegetables to adjacent regions. Currently Kashmir is earning about Rs 100 crores as export earning from vegetable sector. Higher funds allocated under this mission are expected to bring yet more area under vegetable cultivation in years to come. Higher investment need to be directed for R&D effort to evolve innovations for better productivity and quality improvement.

Cropping systems

The spatial distribution of various crops grown in the study area (Table 2) revealed that vegetable alone occupied 88.62 per cent of the total cropped area. The higher proportion of cropped area under vegetables was due to assured irrigation facilities and favourable agro-climatic conditions. Moreover, per rupee return from vegetables was higher compared to non-vegetable crops (Wani, 2007). The cropping intensity of the study area was about 258 per cent indicating thereby that the farmers are taking up more than two crops a year. This was mainly due to multiple cropping of vegetable crops under irrigated conditions (Panday and Gaglani, 1992, Baba, 2007).

Table 1: Impact of technology mission (TM-MM-II) on vegetable sector

Particulars	2003-04	2004-05	2005-06	2006-07	2007-08 target
Gross area (000ha)	22.00	23.00	24.50	26.70	28.00
Production (000mt)	390.00	420.00	525.00	560.00	700.00
Productivity (q/ha)	177.00	182.00	214.00	210.00	241.00
Total increase in production (000mt)	100.00	30.00	105.00	35.00	140.00
Exports (000 mt)	30.70	41.00	75.00	100.00	125.00

Revenue generated (Rs Cr)	31.00	41.00	75.00	100.00	125.00
Funds utilized under TM (Rs in Lakhs)	5.00	93.00	305.68	215.93	36.51*
Area expansion due to TM (ha)	38.50	374.00	402.00	400.00	400.00
Increase in production under TM (mt)	681.50	7508.00	17430.00	37495.00	40363.00

*indicates actual utilization of funds.

Source: Department of Agriculture, Government of Jammu & Kashmir.

Table 2: Cropping system of vegetable

Particulars	Area (ha)	% of TCA
Non- vegetable crops	0.16	11.38
Vegetable crops	1.25	88.86
Cropped area (TCA)	1.41	100
Average size of operation holding	0.55	-
Cropping intensity (%)	257.79	-

Source: Field survey, 2006-07

Gender participation in vegetable cultivation

Activity participation

The magnitude of gender participation in different activities relating to vegetable cultivation varied from one activity to the other. While some activities are predominantly performed by male others by female yet some activities are performed jointly by both male and female partners of the family (Table 3). The data indicated that seven operations in vegetables cultivation are performed predominantly by men (Table 3). Among male dominated operation, application of chemicals was reported to be exclusively performed by male with out

any sharing on part of female members owing to the lack of knowledge among women, and complex procedure that make women unable to participate significantly in this area.

Five operations (intercultural operations, carrying head loads, supervision of farm operations, picking/harvesting and on-farm sale of vegetables) were performed predominantly by women. Uprooting/transplanting of seedlings and preparation of produce for sale were two operation performed almost equally by both men and women. The data further revealed that major pre-occupation of women labour is carrying head load (98.75 %).

Table 3: Gender participation in various activities of vegetable cultivation

Activity	Male		Female	
	Frequency	Percentage	Frequency	Percentage
A. Male dominated operations				
Field preparation	71	88.75	9	11.25
Sowing/raising of nursery	76	95.00	4	5.00
Irrigating fields	71	88.75	9	11.25
Spade work during irrigation	77	96.25	3	3.75
Manuring and fertilization	73	91.25	7	8.75
Chemical application	80	100.00	0	0.00
Market sale	72	90.00	8	10.00
B. Joint operations				
Uprooting and transplanting of seedlings	36	45.00	44	55.00
Preparation of produce for sale	34	42.50	46	58.00

C. Female dominated operations				
Intercultural operations	16	20.00	64	80.00
Carrying head load	1	1.25	79	98.75
Supervision of farm operations	25	31.25	55	68.75
Picking/harvesting	16	20.00	64	80.00
On-farm sale of produce	23	28.75	57	71.25
Total sample	80	100.00	80	100.00

Decision making

In vegetable cultivation, decision making always remained associated with the female labour utilization relating to various aspects in the study area, yet their involvement in this process has not been recognized. It is evident from the Table 4 that in the process of decision making relating to various aspects of vegetable cultivation, the joint decisions by male and female partners of the household are important. The joint decisions varied from one activity to the other with the maximum response (72 %) for the decision regarding on farm sale of vegetables followed by custom hiring in and out of capital stock (70%) and investment on farm capital (67%). While about 18 per cent of the women reported monopolizing role in the decision making related to choice of vegetable crops to be grown, which is comparatively higher among all decisions taken by females. The dominant role of male members was reported by greater number of respondents as compared to that of female members regarding all aspects of vegetable cultivation. It was found maximum for adoption of fertilizer technology (85%), followed by adoption of HYV seeds (83%) and comparatively less in case of choice of vegetable crops to be grown (25%). It is interesting to note that male head of the family consult

their female counterpart while making decisions that are either associated with risks or involve huge investment. None of the respondents reported independent decision in vegetable cultivation.

The study revealed that the role of women was mainly of supportive nature while the dominant role was performed by men. The low level of female participation in the decision making could be attributed to their illiteracy, ignorance and less participation in extension programmes.

Correlates of female participation

The participation of women as labour and decision maker in vegetable cultivation varies with socio-economic factors and pursuant to this, an attempt was made to analyze the association between them. It was observed that educated families took more joint decisions. The estimates of correlation (0.412) established a close relationship between educational level of the farm women and their participation in joint decision-making (Table 5). The estimates of correlation revealed that the farm-women having some education were being consulted by their male counterpart in decision-making process in different spheres.

Table 4: Gender participation in decisions related with vegetable cultivation (Per cent)

Particulars	Male	Female	Joint
Choice of vegetable crops to be grown	25	18	37
Arrangements of inputs	59	0	41
Adoption of HYVs	83	3	14
Adoption of fertilizers	85	0	15
Purchase or sale farm implements/machinery	63	9	28
Purchasing or sale of cultivable land	43	7	50
Leasing in and out of farm land	40	16	44
Custom hiring in and out of capital stock	20	10	70
Sale of vegetable produce	25	3	72
Investment on farm capital	28	5	67
Investment on household goods	10	15	75

The joint decision was found positively associated with the size of the farm probably because resource poor farmers needed very careful decisions by the mutual understanding of both the male and female members for the efficient utilization of scarce resources. However, the farm size bears negative association with individual decisions by women. Farm size is also positively correlated with participation of women in work force as the demand for the services of hired and as well as family labour increases with the increase in size of farm.

The age of farm women is an important determinant of their participation in farm activities and decision making as well. It has been observed that the higher participation of females in decision-making was reported by the women in the age-group of 40-60 years in all the spheres of the decision-making (Bala *et al.*, 1993). The age of the farm

women was found to have positive significant correlation with joint decision making involved in vegetable cultivation in the study area.

The work force participation of women turned out negatively correlated with farm income. It was observed that higher the farm income, higher the demand for skilled casual labours in the study area.

Participation in extension programmes is also considered an important factor affecting the role of women in decision making. The relationship of participation in extension programmes on women's joint decision-making turned positive, though statistically insignificant. It is due to the fact that the access of women to any kind of training was very less as social and religious taboos dominate the other favourable factors in the study areas.

Table 5: Estimates of correlation between women participation and various socio-economic variables

Variable	Participation		
	Work force Individual	Decision-making Joint	
Education	0.021	0.113	0.412*
Farm size	0.490*	-0.315*	0.483*
Age	-0.117	-0.091	0.536*
Participation in extension programmes	0.029	0.071	0.102
Farm income	-0.311*	-0.114	0.049

* denotes significance at 10 per cent or better level

Training needs assessment

Information regarding training needs in various areas of vegetable cultivation as perceived by male and female respondents is documented in Table 6. Since plant protection measures in vegetable cultivation are more technical and require higher technical know how, about 49 per cent of sample male respondents revealed training need in application of chemicals. The estimates further revealed that women demand higher training need in advanced methods of picking or harvesting and

intercultural operation. Quality of seed is one of the critical inputs in any crop, therefore, male farmers perceived a need for regular training to know about the availability of improved seeds and its performance under different field conditions. It is interesting to note that female did not felt any need of training in case of manuring & fertilization, chemical application and market sale of vegetables, indicating that they were not willing to part in these activities because of cumbersome and complex procedures of these activities.

Table 6: Training needs assessment of gender in vegetable cultivation

Particulars	Male		Female	
	Frequency	%	Frequency	%
Field preparation	7	8.75	1	1.25
Choice of vegetable seed	38	47.50	42	52.50
Raising of nursery	37	46.25	20	25.00
Irrigating fields	23	28.75	2	2.50
Manuring and fertilization	21	26.25	-	0.00

Chemical application	39	48.75	-	0.00
Market sale	23	28.75	-	0.00
Uprooting and transplanting of seedlings	4	5.00	7	8.75
Interculture operations	20	25.00	37	46.25
Preparation of produce for sale	2	2.50	26	32.50
Picking/harvesting	12	15.00	39	48.75
On farm sale of produce	4	5.00	7	8.75
Sample	80	100.00	80	100.00

CONCLUSION

The results of the study revealed that the Mini Mission-II, which encompasses vegetable development programmes including macro management, water shed management, crop production, soil health, vermin composting, subsidies, etc. have significantly improved area and production of vegetables in the valley. It was observed that although women dominated in some operations of vegetable cultivation but in totality male participation was found more important. As far as various decisions relating to vegetable cultivation is concerned, the role of women in majority of the cases was supportive in nature while the dominative role in most of the cases was performed by men.

It is suggested that education facilities to female may be provided on priority basis in order to broaden their out ward horizon that can ultimately enhance their participation in decision-making. Adequate extension facilities preferably by female workers should be streamlined to rural women to acquaint them with latest innovation in vegetable development. Their participation in such programmes is likely to bring forward the real and practical problems, which need immediate attention of the policy makers.

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