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SEASONAL VARIATIONS IN THE WORKING PATTERN OF FEMALE FARMERS FROM HILLS OF PAURI GARHWAL

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ABSTRACT

In hill areas of Uttarakhand, females are solely responsible for all domestic functions including the agricultural farming as the males are mostly out for service or to earn money for the family. The persent paper deals with the observations on working pattern of female farmars in Garhwal hills and time devoted by them in different activities

Keywords: *Female Farmers, working pattern, Hill, Garhwal.*

In rural areas of theGarhwal region, women engaged in agriculture carry out a whole range of agricultural operations along with all the domestic work and have less time for themselves. The major problems in the mountains are poverty, unemployment, malnutrition and drudgery of farmer women. In rural areas technology deals with the tools and techniques for carrying out various agricultural activities but there is no modern technological development for female farmers in the hills.

As the family labours, women from the landed households. perform post harvest processing work, preservation of agricultural produce, animal husbandry, dairy, vegetable and fruit cultivation, traditional crafts, production such as thatching, whitewashing, repair work, mending clothes etc. They work without any support from male members. The fact that for most such activities there are no efficiency increasing or drudgery reducing technology support and the fact that the volume of such work in terms of number of hours of work, variety of activities, and volume of produce correspondingly increased with the growth of agriculture related activities, was indicative of the drudgery and work burden (Kumari,1998).

The villages in hill region are very small in population size and scattered in nature. Drinking water supply is one of the basic needs of the people. So far as water supply to the rural areas is concerned, it was found that 75.23 percent of the totai inhabited villages suffer from scarcity of water supply for domestic consumption in the hill region (Pande, 1996).

The present study was carried out to observe the working pattern of female farmers in various activities performed by them and the time devoted to each such

activity. The workload of hill women farmer in different seasons was also observed.

Objectives of the study

1. To assess the seasonal variation in the working pattern of female farmers.
2. To find out the socio-economic status of these women respondents.
3. To assess their health status in terms of anthropometric measurements.

METHODOLOGY

Total 300 non-pregnant, non-lactating women in the reproductive age group (18-35 years) engaged in agricultural activities were selected from seven blocks of district Pauri Garhwal. Information regarding their socio-economic status was collected through interview schedule. Indepth study regarding time spent on various activities was carried out on sub-sample of 50 women farmers in the summer, rainy and winter seasons. For analytical purpose, the activities performed by womenfolk were divided into three categories, viz, (i) agricultural and outdoor activities, (ii) household or indoor activities, and (iii) activities of leisurely and recreational type.

All women' were followed individually for one day by the investigator in each of three farm activity seasons. (July, November and May). Some observations were repeated in June and December. A diary was kept by the investigator of all the agricultural activities performed by each woman meal the morning m al to the time she returned home in the evening. The period of time spent by each woman in each activity was accurately recorded and each task performed by the womam, the tools used and the position of her body was described. The time spent by woman on each of the household task including livestock tending, fetching water and fodder was also accurately recorded.

RESULTS AND DISCUSSION

Demographic profile of the Respondents

Age of the Respondents

The age of the women respondents was between 18 to 35 years. The age wise distribution of the subjects revealed that maximum number were in the age group of 31-35 (35 percent) years, equal number (33 percent) of women were in the age groups of 18-25 years and 26-30 years.

Age and Education of the Respondents

Maximum number (90.7 percent) of women were literate and only 9.3 percent were illiterate. The age wise distribution of the subjects revealed that maximum number were in the age group of 31-35 (35 percent) years, equal mmlber (3 percent) of women

were in the age groups of 18-25 years and 26-30 years (Table- 1).

Income

Majority *of* the families (58.6 percent) and monthly income *of* Rs. 2001-6000 which indicated that most *of* the respondents were from lower income groups, These families were earning money mainly from farming, selling farm products and selling milk *to* market and other families. Very few families were getting income from goat rearing or poultry production. Only 15 per cent families had income more than Rs. 6000 per month (Table-2).

Type of fuel used

Poor families used only 'chulha' (25 per cent).because the LPG is very expensive and is not easily available in the villages especially which are very far from the road side. Because of unavailability of transportation, the women were forced to carry gas cylinders on their heads. Firewood too was collected by females only from the forests or from trees which grow in their fields.

Water Sources

The water sources were present in the form *of* common tap, personal tap, natural source or 'Dhara' and water from natural source collected in tanks. Maximum families (61.7 percent) used water from both sources - tap water and natural source 'Dhara (Table-2).

Anthropometric indices.

The mean values for BMI (Body mass index) was 20.31:1:2.41 which is considered to be normal for Indian women. About 82 percent respondents had BMI in the range *of* 18.5 - 20 (kg/ m^2), 12 percent in 17-18.5 (kg/m^2) and 4 percent had BMI *of* 17 to 18 (kg/ m^2). Six females were in the range *of* below 16 (kg/m^2). (Table -3).

Mean weight of farm women was 47.52 kg which is 95 percent *of* the weight suggested for a reference Indian woman and the mean height *of* women was 153 cm. When compared with height of NCHS (1997) 50th percentile, it was 93 percent *of* the standard and when compared to ICMR (1994) standard it was 101 percent that means height *of* women studied was normal. The Body Mass Index was calculate by using the formula given by Gordon, (1998). The mean value for BMI was 20.31:1:2.41 which is considered to be normal for Indian women. About 82 percent respondents had BMI in the range of 18.5 - 20 (kg/ m^2), 12 percent in 17-18.5 (kg/m^2) and 4 percent had BMI of 17 to 18 (kg/m^2). Six females were in the range of below 16 (kg/m^2). (Table-3). Twelve women were moderately malnourished as they had BMI values 16-17 and 6 women were severely malnourished as their BMI"was below 16. The normal BMI is 18.5 to 20

Table-1. Demographic Profile of the Respondents

No.	Characteristics	No	%
(i)	**Age of the respondents (Years)**		
	a) 18-25	97	32
	b) 26 - 30	99	33
	c) 31-35	104	35
(ii)	**Education of the respondents**		
	a) Illiterate	28	9.3
	b) Literate	272	90.7
(iii)	**Level of education**		
	a) Illiterate	28	9.3
	b) Primary	44	14.7
	c) Secondary	174	58
	d) Graduation and PG	54	18
(iv)	**Family system**		
	a) Nuclear	151	50.3
	b) Joint	149	49.7
(v)	**No. of family members**		
	a) Up to 4	86	28.6
	b) Up to 5 and more than 5	214	71.4

Table-2. Socio-Economic Status of the Respondent's Families

No.	Characteristics	No.	%
(i)	Monthly income (Rs.)		
	a) < 2000 - 2000	70	23.3
	b) 2001 - 6000	186	58.6
	c) 6001 and above	44	14.6
(ii)	Type of housing structure		
	a) Pucca	125	41.7
	b) Kuchha	130	43.3
	c) Both	45	15
(v)	Type of fuel used		
	a) LPG	54	18
	b) Fuel wood	75	25
	c) Both	171	57
(vi)	Water source		
	a) Tap water	41	13.7
	b) Natural source	74	24.6
	c) Both	185	61.7

Table-3. Body Mass Index of female farmers (n=300)

MI Range (Kg m²)	'Forms of Malnutrition	18-25 yrs.	26-30 yrs.	31-35 yrs.	Total Number	%
18.5-20	Normal	75	79	86	240	80
17.0-18.5	Mild	18	12	13	43	
14.33	16-17.0	Moderate	4	03	04	11
3.67	< 16.0	Severe	Nil.	5	01	6 2

Table- 4 Time spent on different activities by female farmers in different seasons

Activity	Rainy season (min)	Winter season (min)	Summer season (min)	Average (min)
Agricultural and other outdoor activities	381.0±100.91	417.80±115.167	399.60±106.396	399.4
Household activity	264.50±92.829	272.30±103.90	282.90±80.032	273.2
Leisure activities (including sleep and personal care)	794.50±93.285	749.50±97.944	757.50±87.919	767

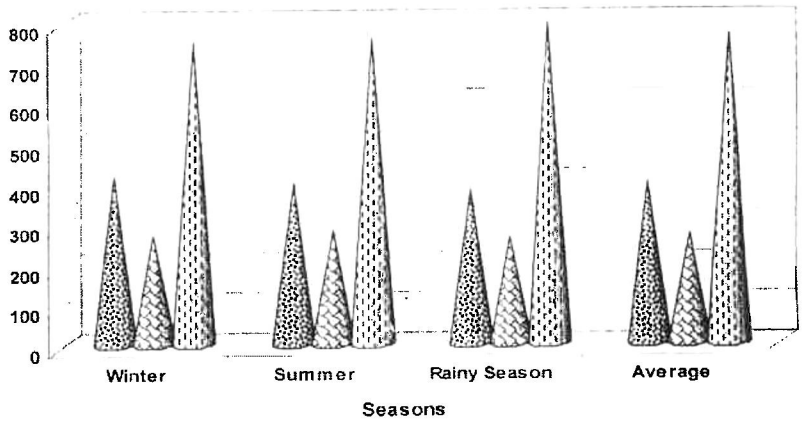
for the Indian women and the mean BMI of studied respondents was 20.3 which is apparantly similar to the normal levels and that is why they were considered under normal females.

Time spent on various activities

The average time spent by female farmers during three different seasons is given in Table-4. It is worth emphasizing that these figures are averages for a group, many of whom spent no time in some activities on the day of measurement. The results are therefore the time allocation of the population as a whole, and not of any individual. The average time allocation for these three groups of activities was 399 min (6.39 hr) for agricultural activities, 273 min (4.33 hr) for household activities and 767 min (12.47 hr) for leisure activities. They usually spent 9 hr, 8.5 hr and 7.8 hr on sleep in rainy, winter and summer season respectively. The highest time spent (6.95 hr) on agricultural activities was in winter season, on household activities was (4.71 hr) in summer season and on leisure activities (13.23 hr) in rainy season. From these figures it appears that there were slight differences in the activity patterns in different seasons.

Factors like family size, family composition, size of land holdings, number of animals, distance to the forest, level of education, number of children and aged persons and number of adult females in the family generally determined the hours of daily work of

Fig .1 Time- spent on Different acrtivities by female farmers in different seasons (min.)



women and work load on them in the rural households of the hill region (Pandey, 1996). Pandey (1996) conducted a study on hill farmer women of district Chamoli and Pithoragarh. The percentage ratio of work, according to outdoor, indoor and recreational activities was recorded to be 62.17 percent, 29.11 percent and 8.72 per cent respectively.

Season wise comparison of time spent on different activities by femalo farmers- There was no siginificant difference in the time spent on agricultural activities between rainly and summer, winter and summer season ($p>0.05$) But the difference was highly siginificant between time allocated for agricultural activities in rainy and winter season ($p<0.01$). When time spent on household activities was compared seasonally it was observed that there was no significant difference between rainy and winter, rainy and summer and winter and summer seasons ($P.>0.05$). In another study conducted by Gillespie and McNeill (1994) the time allocation for different activities by males and

Table- 5 Season wise comparison of time spent on agricultural activities by female farmers

Agricultural Activities				
Variables	**Mean (min)**	**S.D.**	**Z value**	**P**
Rainy season versus Winter season	381.0 417.80	100.91 115.167	-2.336	0.01
Rainy season versus Summer	381.0 399.60	100.91 106.396	-1.022	NS
Winter season versus Summer	417.80 399.60	115.167 106.396	-1.039	NS

Table- 6 **Season wise comparison of time spent on household activities by female farmers**

House Hold Activities				
Variables	**Mean (min)**	**S.D.**	**Z value**	**P**
Rainy season versus Winter	264.50 272.30	92.829 103.90	-0.569	NS
Rainy season versus Summer	264.50 282.90	92.829 80.032	-1.450	NS
Winter season versus Summer	272.30 282.90	101.152 80.032	-0.769	NS

Table- 7 **Season wise comparison of time spent on leisure activities by female farmers**

Leisure Activities				
Variables	**Mean (min)**	**S.D.**	**Z value**	**P**
Rainy season versus Winter	794.50 749.50	93.285 97.944	3.208	.01
Rainy season versus Summer	794.50 757.50	93.285 87.919	2.574	.01
Winter season versus Summer	749.50 757.50	96.96 87.919	-0.550	NS

females was studied. The males spent 358 min per day and females spent 226 min per day in agricultural activities. Leisure activities included rest, recreation, sleep and personal care by the female farmers. It was observed that difference in the time allocated to

leisure activities between rainy and winter, rainy and summer seasons was highly significant ($p<0.01$). There was no significant difference in the time allocation on leisure activities between winter and summer season ($p>0.05$).

Study carried out on Chinese subjects reported that age was inversely related to the energy expended for occupational activities, but was positively associated with energy expended in leisure activities (Liu *et al,* 2001). The female farmers in the present study spent 399 min (6.39 hr) per day in agricultural activity. The higher workload of farming on hill farmer women may be due to no help from males in the farming and no use of modem technology in the agricultural activities. All the outdoor activities including-agriculture, water fetching, fuel wood collection, fodder collection, animal care was performed by females. Only ploughing was carried out by males of the family or by hired labourers.

Suggestions

The workload of female farmers in the hill could be reduced to a great extent by using modern science and technology in the various agricultural activities. Here are some suggestions which can be included in the developmental plans for the female farmers from the Garhwal hills:

- Use of improved seeds for increased production.
- Building of tanks, canals and use of rain harvesting methods.
- Use of bio- fertilizers and natural weedicides.
- Use of implements and machinery which are especially designed for hill agriculture.
- To reduce food wastage during harvesting, storage and preparation.
- Proper and scientific guidance from agriculture, horticulture and veterinary departments. To grow crops which have higher nutritive value.

REFERENCES

1. Gillespie S, Mc Neill G. *Food, health and survival in India and developing countries.* New Delhi: Oxford University Press, 1994: 95-96.
2. Gordon M, and Wardlow A. contemporary nutrition issues and insights. 4th ed .Mc Graw Hill Higher Education, 1998:317-318.
3. Indian Council of Medical Research. Nutrient requirements and recommended dietary allowances for Indians, a report of the expert group of the ICMR, New Delhi, 1994.
4. Liu B, Woo J, Tang N, et al,. Assessment of total energy expenditure in a Chinese population by a physical activity examination of validity. International Journal of Food Science and Nutrition 2001; 52: 269-282.
5. NCHS. Growth survey for children birth to 18 years, data from the National Health Survey vital health statistics, U.S. Department of Health Education and Welfare, 1997:11(165): 28
6. Pande, P.N. *Drudgery of the hill women.* New Delhi: Indus publishing company, 1996: 22-38.
7. Kumari R. *Gender, work and power relations: a case study of Haryana.* India: Har-Anand Publication Pvt. Ltd., 1998: 214-215.