RESULTS AND DISCUSSION

CHAPTER IV

RESULTS AND DISCUSSION

The concern of this Chapter is to present the findings of the study, which have been discussed in terms of the variables selected within the conceptual framework designed for the study (vide Methodology). The findings have broadly been presented in three sections discussed below;

4.1 Section I focusses on describing the selected personal and household characteristics of the household sub-system which directly / indirectly influence household's acquisition of different technology within the home and farm, accessibility and extent of use. Following this, situational and environmental variables which flow from macro environment into the household, sub-system have been elaborated and discussed. All the above variables conceptualized as "Resource Inflow" in the household sub-system, have been discussed under the following heads;

Personal variables of the Homemaker.

a. Age, Age at Marriage and Married Life Span

b. Literacy level

c. Work status

Household Variables

a. Age, Literacy level and Occupation of the spouse

b. Type, Size and Composition of the family

c. Caste

d. Income of the family and Per Capita Income

e. Size of the landholding

f. Ownership of livestock

g. Existing Housing and Kitchen Conditions/ Facilities

Situational and Environmental Variables External To The Household Sub-system

Possession and / Approach of Technology :

a. Household

b. Farm/Agricultural

c. Health

d. Communication

[The above mentioned variables are linked with the two regions, vide Conceptual Framework.]

Section II deals with reporting the findings relating to the "process" stage of the model describing the intra and inter region differentials between interaction of above mentioned variables in terms of accessibility, extent of use and adoption level of different types of technology. Findings on these aspects are based not only on survey data but also on qualitative data based on participatory observation.

4.3 Section III attempts to bring out the precise outcome, in concrete measurable terms, of different types of technology inputs on the major dependent variable of the study i.e. Family Resource Development. The outflow have been presented under the following sub-heads.

I. Status of Rural Women

a. Productivity/Efficiency status

b. Health status

c. Economic status

d. Cognitive status

II. Other Indicators

a. Time devoted to child care

b. Quality of consumption through consumption expenditure pattern profile

c. Perception of homemakers towards cost and benefit of technology

d. Attitude of homemakers towards technology

Section - I

4.1 Resource Inflow

4.1.1 THE HOUSEHOLD SUB-SYSTEM : PERSONAL AND HOUSEHOLD CHARACTERISTICS

The selected personal and household characteristics within the household sub-system that have been considered relevant for the study are as follows :

4.1.1.1 Age of the Homemaker : Maximum number of respondents (46 per cent) were in expanding stage of the family life cycle, when demands on homemaker's time and energy would be maximum (Gilbreth et al., 1959; Grossand Crandall 1963 and Nickel and Dorsey, 1970). One-third (35.33 per cent) of the respondents were in age group of 36-45 years (Table i, Appendix viii). Only a small percentage (18.67) of the respondents were above 45 years of age. Mean age of the total sample was found to be 38.42 years with a deviation of 9.14 (Table 4.1). Though not much variation was found in mean age of the respondents both between and within regions, however, respondents of large farming households of advanced region had higher mean age of 42.62 years as compared to rest of the categories.

Age structure of the spouses revealed that 38 per cent of them were in age group of 36-45 years whereas 32.33 per cent were beyond 45 years. Hence majority of the spouses were in middle age group with a mean age of 42.12 years.

Once again not much intra and inter regional variation was observed with regard to this variable. Incidentally, from women's status point of view, wherever higher mean age of males has been found, submissive position of wives has been reported (Sultana, 1984 and UNESCAP, 1989).

4.1.1.2 Age at Marriage : It is an important determinant of fertility behaviour of women (Gopal Rao, 1947; Balakrishna and Iyer, 1968; Pareek and Venkateshwar Rao, 1974; Barnabas, 1977; Srinivasan et al, 1978 and Sharma and Mishra, 1981). Early marriage is both a cause and effect of women's low status, low literacy levels and employment. This inevitably leads to early child bearing which is detrimental to their health status. At this stage adoption of health technology can bring in striking variation.

In the present sample, almost all respondents had got married when they were very young. The mean age at marriage of the homemakers was found to be 16.55 years which was less than the legal minimum age at marriage (18 years) fixed for the girls. This trend of getting married when one is very young finds its roots in the cultural practices still being followed by the rural people where it is preferred to marry-off the girls at a young age (Srinivasan, 1959). Incidentally, Indian women have one of the lowest mean age at marriage in the World i.e., 18.3 years (Census of India, 1981) with lower average has a mean age at marriage of 17.3 years for rural women which subjects them to early child bearing and the consequences associated with it.

Table 4.1 : Personal and household characteristics

Attributes		Advanced Region N = 150				Background Region N = 150				
		Large Farmers n=50	Medium Farmers n=50	Small Farmers n=50	Total N=150	Large Farmers n=50	Medium Farmers n=50	Small Farmers n=50	Total n=150	Grand Total N=300
1	2	3	4	5	6	7	8	9	10	11
Personal and Household Characteristics										
Age of the homemaker (in years)	Mean	42.62	34.82	37.28	38.24	39.48	39.6	36.7	38.6	38.42
	Sd	8.82	7.11	10.12	8.68	10.44	9.41	8.94	9.6	9.14
Age of the spouse (in years)	Mean	46.7	38.46	40.98	42.04	43.2	43.26	40.16	42.20	42.12
	Sd	9.39	7.60	10.60	9.20	11.15	10.04	9.40	10.19	9.69
Age at marriage of the homemaker (in years)	Mean	15.16	17.3	16.4	16.29	16.84	16.82	16.82	16.82	16.55
	Sd	1.84	0.83	1.37	1.34	1.25	1.24	0.99	1.16	1.25
Age at marriage of the spouse (in years)	Mean	19.32	20.94	20.06	20.10	20.56	20.48	20.28	20.44	20.27
	Sd	2.13	1.22	1.43	1.59	1.28	1.48	1.32	1.36	1.47
Married life Span	Mean	27.4	17.62	20.8	21.94	22.4	22.78	20.16	21.78	21.86
	Sd	10.16	7.66	10.9	9.58	11.20	10.22	9.42	10.28	9.93

1	2	3	4	5	6	7	8	9	10	11
Educational level of the homemaker (in percentage)	Illiterate	84	72	84	80	76	78	86	80	80
	Literate	16	28	16	20	24	22	14	20	20
	Total	100	100	100	100	100	100	100	100	100
Educational level of the spouse (in percentage)	Illiterate	20	52	28	33.33	52	58	80	63.33	48.33
	Primary	34	28	22	28	38	30	18	28.67	28.33
	Middle	20	16	24	20	4	4	2	3.33	11.67
	Secondary	26	4	26	18.67	6	8	-	4.67	11.67
	Total	100	100	100	100	100	100	100	100	100
Work status of the homemaker (in percentage)	Housewife	72	34	22	42.67	34	22	6	20.67	31.67
	Unpaid family worker	28	66	76	56.67	66	78	58	67.33	62
	Paid worker	-	-	2	0.66	-	-	36	12	6.33
	Total	100	100	100	100	100	100	100	100	100
Occupation the spouse (in percentage)	Cultivator	100	92	78	90	98	92	98	96	93
	Agricultural	-	-	4	1.33	-	-	-	-	0.67
	Caste/ Independent Profession	-	6	6	4	-	-	-	-	2
	Employees	-	2	12	4.67	2	8	2	4	4.33
	Total	100	100	100	100	100	100	100	100	100

1	2	3	4	5	6	7	8	9	10	11
Caste (in percentage)	Prestigious Caste	34	12	12	19.33	-	-	2	0.67	10
	Dominant Caste	66	80	68	71.33	88	98	42	76	73.67
	Others	-	8	12	6.67	12	2	34	16	11.33
	Schedule Caste	-	-	8	2.67	-	-	22	7.33	5
	Total	100	100	100	100	100	100	100	100	100
Family Type (in percentage)	Nuclear	58	64	80	67.33	58	44	66	56	61.67
	Joint	42	36	20	32.67	42	56	34	44	38.33
	Total	100	100	100	100	100	100	100	100	100
Family Size	Mean	6.56	5.88	5.38	5.94	6.86	6.7	6.62	6.72	6.33
	Sd	1.63	1.66	1.23	1.51	1.99	1.62	1.62	1.74	1.62
Presence of female relatives (in percentage)	No	18	36	56	36.67	40	38	34	37.33	37
	Yes	82	64	44	63.33	60	62	66	62.67	63
	Total	100	100	100	100	100	100	100	100	100
Monthly family income (in Rupees)	Mean	9906	6741	4438.2	7028.4	7696	5854	2143	5231	6129.7
	Sd	2254.63	1333.27	1748.61	1778.84	1531.79	1275.33	1029.95	1279.02	1525.93

1	2	3	4	5	6	7	8	9	10	11
Monthly per capita income (in Rupees)	Mean	1510.06	1146.42	824.94	1160.47	1121.86	873.73	323.71	773.1	966.78
	Sd	569.50	334.20	374.99	426.23	400.32	258.56	178.79	279.22	352.72
Ownership of livestock	Mean	4.42	4.3	2.86	3.86	5.02	4.7	2.72	4.14	4.00
	Sd	1.18	1.06	1.34	1.19	1.34	1.5	1.76	1.53	1.36
Ownership of milch animals	Mean	3	1.8	1.26	2.02	3.02	2.6	1.98	2.53	2.27
	Sd	0.93	0.72	0.65	0.77	1.17	1.13	1.34	1.21	0.99
Ownership of draught animals	Mean	1.4	2.5	1.69	1.87	2	2.1	0.72	1.60	1.73
	Sd	1.31	0.89	0.91	1.03	0.93	0.7	0.74	0.79	0.91

Unlike the females, males got married around 20 years of age. Mean age at marriage for the spouse was found to be 20.20 years which is quite near the minimum legal age for marriage fixed for males i.e., 21 years. This could again be attributed to the cultural norm prevalent in the country where it is preferred that husband should be elder to wife by atleast 5-6 years.

4.1.1.3 Married Life Span : As respondents had got married when they were quite young hence their married life span, on an average, spread to 21.86 years (Sd=9.33). Large farmers of advanced region (region A) had longest married life span i.e., 27.4 years and the medium farmers of the same region had the shortest married life span of 17.62 years.

4.1.1.4 Literacy Level : Literacy level, whose importance as a factor influencing the status of rural women and their access to and utilization of technology, has been documented by several empirical studies (O'Kelly, 1973; Loose, 1979; Whitehead, 1981; Agarwal, 1985; Vidyarthi, 1985; Kaur, 1986 and Varma, 1992) was found to be abysmally lacking in the present sample. Eighty per cent of the respondents were illiterate in both the regions. Even among the 20 per cent literates, the level of literacy was not found to be more than primary level. In view of the evidence that literacy status and human resource development are positive correlates, low levels of literacy of the current sample respondents indeed have disturbing implications.

A persual of data about spouse's education level revealed that slightly more than half of them were literate whereas 48 per cent were found to be illiterates. These figures are inclusive of both the regions. Existing variations in availability of educational facilities, which is a situational variable, was evident as literacy was found to be more prevalent in advanced region (66.67 per cent) as compared to backward region (36.67 per cent). This may be because of the fact that there was better awareness about importance of literacy in the region along with the availability of educational facilities. A further analysis showed that among the 66.67 per cent literates in region A, 28 per cent had education uptill primary level, 20 per cent had upto middle level whereas 18.67 per cent had education upto secondary level. None of them were found to be graduate or in possession of technical diploma. As compared to this, figures of backward region showed that 28.67 per cent were educated till primary level whereas 11.67 per cent had it upto middle level and an equal percentage was educated uptill secondary level. In both the regions, literacy was more prevalent in large farming households as compared to medium and small farming households.

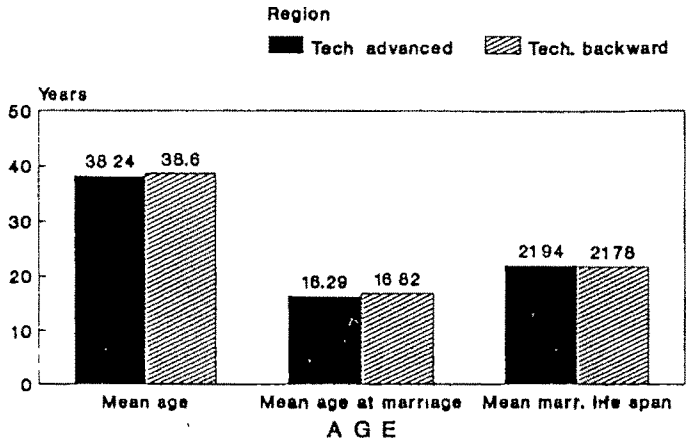
Overall, picture on level of literacy was not very encouraging but then the state figures of Haryana also show only half of the population as literates (55.3 per cent, Census of India, 1991) and the female literacy rate is reported as only 40.9 per cent.

4.1.1.5 Caste : Caste system in India is a binding force and is also basic to the understanding of status of women in the society (Desai, 1957; Kapadia, 1958; Dube, 1963; Hate, 1969 and Kapoor, 1972). Interaction between women and technology will also be influenced by the caste as it could affect their access to and utilization of technological items and could also yield influence on homemaker's opinions towards the progressive issues.

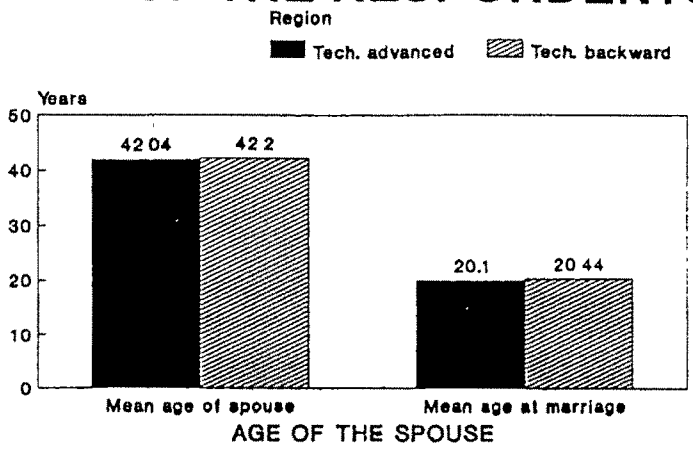
Majority of the respondents (73.67 per cent) belonged to dominant caste which in this case constituted of Jats (agricultural caste). Ten per cent of the sample belonged to the prestigious caste mainly consisting of Brahmins (region A=19.37 per cent and region B=0.67 per cent). Other castes, mainly consisting of Punjabi Khatries, constituted 11.33 per cent of the entire sample. Scheduled castes, which formed five per cent of the sample, belonged to the small farming category in both the regions (region A=8 per cent and region B=22 per cent).

4.1.1.6 Family Type : Surprisingly, joint family system was still found to be prevalent in the sample villages as 38.33 per cent of the respondents had joint families and 61.67 per cent of them had nuclear families. Interestingly, the data presented in Table 4.1, reveal that nuclear families were more in technologically advanced village (67.33 per cent) as compared to the backward village (56 per cent). However, it was striking to note that within the regions, more number of small farmers (region A=80 per cent and region B=66 per cent)

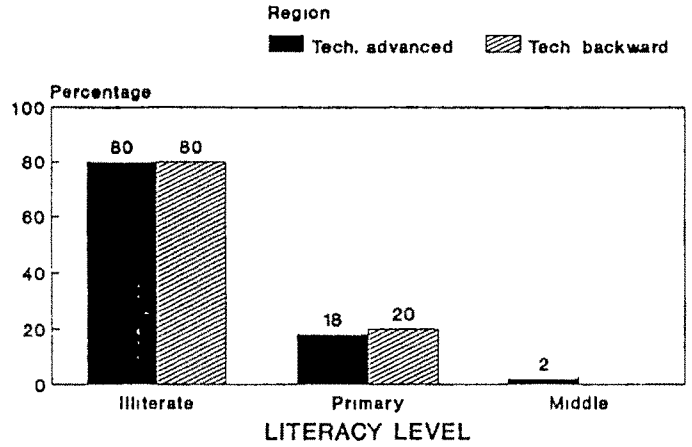
Fig 4.1. INTER-REGIONAL VARIATIONS IN THE PERSONAL AND HOUSEHOLD VARIABLES OF THE RESPONDENTS



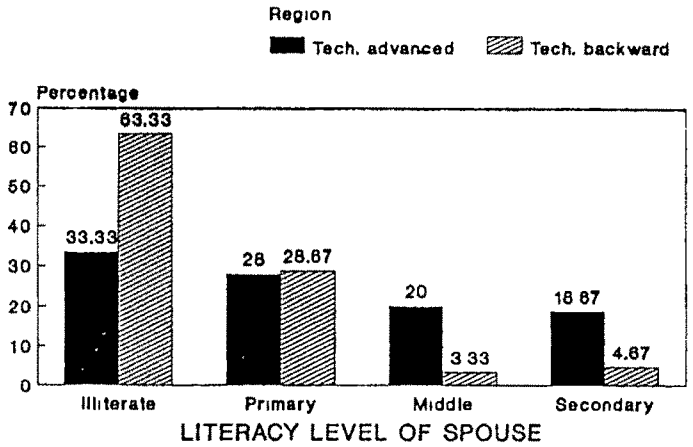
A G E



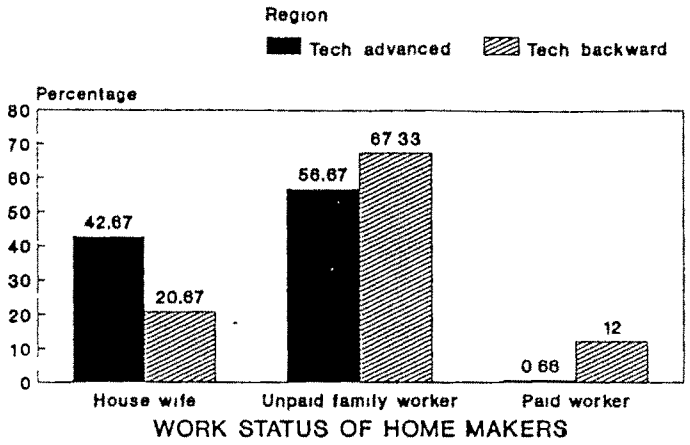
AGE OF THE SPOUSE



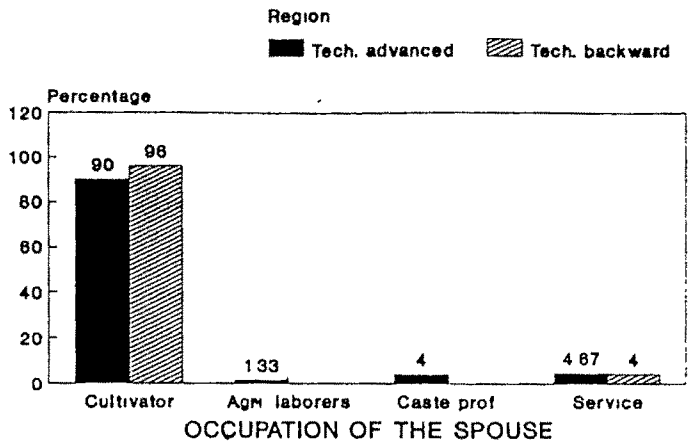
LITERACY LEVEL



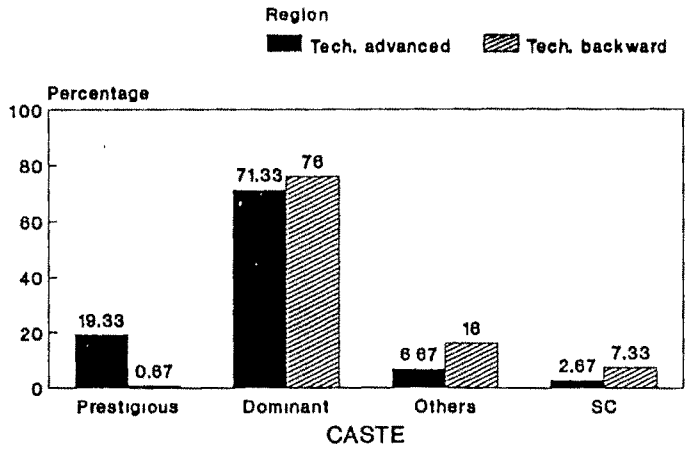
LITERACY LEVEL OF SPOUSE



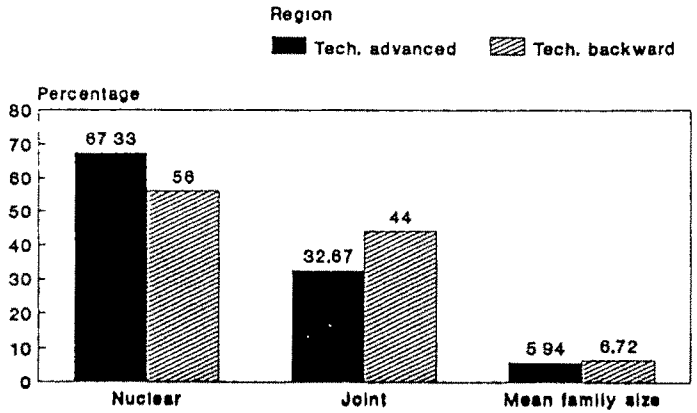
WORK STATUS OF HOME MAKERS



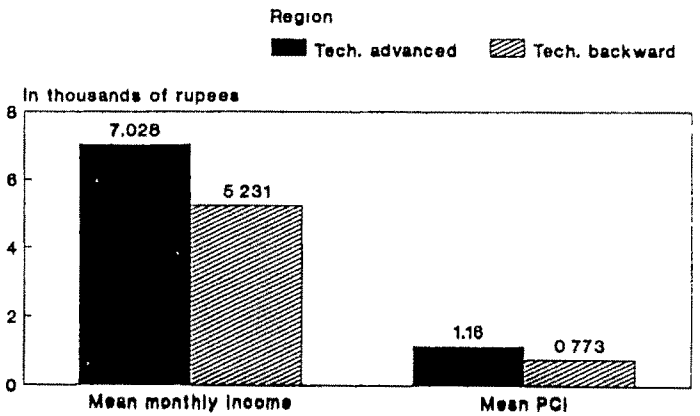
OCCUPATION OF THE SPOUSE



CASTE



FAMILY TYPE AND MEAN FAMILY SIZE



MEAN MONTHLY INCOME & PER CAPITA INCOME

were having nuclear families as compared to medium and large farmers. This could be attributed to the fact that large size of landholding requires more human power for management and hence the joint families.

4.1.1.7 Family Size : From the perspective of current study, family size can give an interesting insight to whether health technology is associated with size of the family or not. Moreover, use of household technology, keeping family size as constant can bring variations in time conservation in execution of household and farm related activities. It is revealing to find that the mean size of the family was higher (6.33 members) in the backward region as compared to 5.99 members in the advanced region. Maximum number of respondents (region A=80 per cent and region B=75.34 per cent) had family size ranging from 5.8 members whereas 10.33 per cent (region A=13.33 per cent and region B=7.33 per cent) had small family consisting of 1-4 members and 6.67 per cent of the respondents of advanced region and 17.33 per cent belonging to backward region had large families consisting of 9-12 members (Table 1, Appendix viii).

4.1.1.8 Presence of Female Relatives in the Family (Above 10 years of Age) : Several researches have shown that presence of daughter-in-law or daughter in the family resulted in shifting of household chores to her. This was reported to have a significant effect not only on the activity pattern and time and energy expenditure pattern of

the homemaker but also on the time devoted to child care which ultimately leads to human resource development (Kumari, 1963; Mukherjee, 1963; Vijayanthimala, 1968; Kamalamma, 1981; Kaur, 1986 and Singal, 1989).

In the present sample, more than sixty per cent (63 per cent) of the total households had other female members in form of either daughter, daughter-in-law or mother-in-law. Not much inter and intra regional variation was observed with respect to this particular variable.

4.1.1.9 Occupation of the Homemaker and the Spouse : Empirical studies done by several researchers have substantiated that with advancement in technology, rural women are displaced from their traditional employment. The socio-economic status and female labour participation rate have also been found as negative correlates (Boserup, 1970; Deere and deLeal, 1982; Stevans and Date Bah, 1984; Agarwal, 1985 and Sharma and Dak, 1989). The above results uphold the fact that in the Indian cultural context, especially in the rural households, it is economic compulsion that forces women to take up labour work.

In the current sample, region and size of landholding accounted for inter and intra regional differentials in the work status of the homemakers. In technologically advanced region, 42.67 per cent of the respondents were housewives, 56.67 per cent were working on their own farms as unpaid workers and a meagre 0.66 per cent were paid workers.

However, in the backward region, 20.67 per cent were housewives, 67.33 per cent were unpaid workers and 12 per cent were paid workers.

Within the regions, an inverse relationship existed between size of the landholding and work status of the women. Maximum number of housewives were found in large farming households (region A=72 per cent and region B=34 per cent). The paid workers were found to be associated with small farmer category of both the regions (region A=2 per cent and region B=36 per cent). In the backward village, paid workers were working as agricultural labourers (28 per cent) whereas 8 per cent were self-employed mainly engaged in stitching clothes for others. Further, probing revealed that main reason for their participation in economically 'visible' work was because returns from the land were not enough for the upkeep of the family. The unpaid category worker were found in each category but more so in medium and small farming households. The above data show that even today it is only economic compulsion that forces rural women to enter the labour market.

The Table further reveals that in 93 per cent of the families (region A=90 per cent and region B=96 per cent) the heads of the households were engaged in farming. Two per cent of them (4 per cent in region A) were practising their caste occupation or had independent profession in the farm of carpentary, black smithing, shopkeeping, masonary or dairying.

A very small percentage (4.33) of them were employed in nearby towns as class III or IV employees (region A=4.67 per cent, region B=4 per cent). Though they were employed, agriculture remained their secondary occupation. In the entire sample, a negligible 0.67 per cent respondents, belonging to advanced region were working as agricultural labourers. It was observed from the data that those engaged in occupations other than farming belonged to small farmer category and in some cases to medium category farmers.

4.1.1.10 Family Income and Per Capita Income : Before interpreting the income of the different groups, it is worth mentioning here that data were recorded on recall basis and is based on the money income received by the households per month excluding taxes. These figures exclude real income. The mean monthly income from all sources was found to be Rs. 7028.4 (Sd=1778.84) for region A and Rs. 5231 (Sd=1279.02) for region B. This indirectly reflects the impact of Green Revolution, which is an outcome of technology, especially in the advanced region (a macro variable).

The mean monthly income was found to vary significantly at 0.05 level (df = 5,294) reflecting its direct association with the region and size of the landholding. The large farmers of region A had mean monthly income of Rs. 9906 (Sd=2254.63) whereas those belonging to region B had mean income of Rs. 7606 (Sd=1531.79). Variations were also observed in mean monthly income of medium farmers (region A=Rs. 6741, Sd=1333.27 and region B=Rs.5854, Sd=1275.33) and

small category farmers (region A=Rs. 4438.2, Sd=1748.61 and region B=Rs.2143, Sd=1029.95).

Mean monthly per capita income of region A was Rs. 1160.47 whereas it was found to be Rs. 773.10 for region B.

4.1.1.11 Ownership of Livestock : Livestock is not only an integral component of rural life in India but is also reported to consume almost one-third of the homemaker's time (Dey, 1981; Varma and Malik, 1984; Munjal, 1984; Dhiman and Khirwar, 1986 and Sarkar, 1987). The data revealed that on an average the respondents owned 4 animals out of which 2.27 were milch animals and 1.73 were draught animals. Only 8 per cent of the households did not have any animals and these were mainly service class people.

Large and medium farmers of both the regions were having higher number of milch animals whereas ownership of draught animals was more in medium farmers. Reasons for less number of draught animals in small farming households of backward region could be due to economic constraints whereas possession of tractors by large farmers, especially of advanced region could be responsible for less number of draught animals owned by the large farmers.

4.1.2 HOUSING AND KITCHEN CONDITIONS/FACILITIES

Housing and space designing, keeping in mind the ergonomic aspect alongwith aesthetic and functional dimensions will go a long way in increasing efficiency in the work performance of the homemaker in terms of conservation of energy and time resource aspect. Available housing, kitchen, storage and cattle shed facilities which are important components of housing technology will affect the kind of efforts exerted by the worker viz; visual, muscular, torsal and pedal. Much of the information pertaining to work place was obtained through qualitative technique i.e. participant observation.

4.1.2.1 Type of House : Data on housing conditions showed a positive association between technological advancement, size of landholding and type of house possessed by the respondents (Table 4.2). Hundred per cent of the large farmers of advanced region had pucca, big houses whereas 70 per cent of the large farmers in backward region had pucca houses. In the region B, more number of farmers were having semi-pucca (54.67 per cent) and even kutcha houses (6.67 per cent) as compared to the advanced region (semi-pucca = 44.67 per cent and kutcha=1.33 per cent).

Even within the region, as the size of the landholding decreased, change in the type of house from pucca* to semi-

* Pucca House : House is termed Pucca when it is made of bricks, tiles or concrete. It may or may not be plastered with cement.

pucca** and finally kutcha*** was observed. In both the regions, kutcha houses were found to be associated only with small farmer category (region A = 1.33 per cent, region B=6.67 per cent). More number of medium farmers were having semi-pucca houses (region A=56 per cent and region B=66 per cent) and pucca houses belonged to the large farmers in both the regions.

General construction features observed of the rural houses showed that every house was having a guest room in the front, followed by an open courtyard and then other rooms. Most of the houses were found to be under-ventilated and under-lighted which apart from its adverse effect on various efforts can also invite germs and reptiles, which could be detrimental to the health of the respondents and other family members.

4.1.2.2 Type of Building Materials Used : A few studies have reported that type of building materials used in construction of the house will have an effect on human cost of work mainly in terms of time spent and effort (visual, muscular and torsal) required to accomplish the task of cleaning and maintenance of the house (Steidl and Bratton, 1968; Deshpande, 1971). Apart from the cost of work, building materials will also have an effect on sanitary conditions

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** Semi-pucca : House having both Kutcha and Pucca construction.

*** Kutcha House : House is termed Kutcha when the building materials used for their construction are mud, clay, thatch, leaves or reeds etc.

inside the house which have direct bearing on the health status of rural population.

Data pertaining to types of building materials used mainly for roof, walls and floors are presented below :

FOR ROOF : In the present sample, a growing tendency was observed towards the use of technically superior material for roof as against traditional materials like mud, bamboo, thatch, reeds, timber, stone etc. As many as 58.67 per cent of the respondents were using R.C.C. for roofs, which is a permanent and durable building material. One-third of the respondents had used asbestos sheets, corrugated tin etc. for the roof. Only 6.66 per cent respondents belonging to small farmer category were having thatched roof. Incidentally, intra-region differentials in use of building materials for roof, were more prominant than the inter-regional ones.

FOR WALLS : Regional variation was observed with regard to type of materials used for construction of walls. In region A, 56.67 per cent of the respondents had used a combination of bricks and cement whereas 42 per cent had made use of semi-pucca (combination of mud and bricks) materials and only 1.33 per cent had kutcha walls for their houses. As compared to this, in region B, 50 per cent had pucca walls, 37.33 per cent had semi-pucca walls and 12.67 per cent of the respondents had mud-plastered kutcha walls.

The data revealed a tendency of positive association between size of the landholding and the type of materials used for walls. Maximum number of large farmers (region A=100 per cent and region B=80 per cent) had used pucca materials followed by medium farmers (region A=52 per cent and region B=46 per cent) and lastly the small farmers (region A=18 per cent and region B=24 per cent). It is worth mentioning here that 10 per cent of the respondents belonging to large farmer category of advanced region had also got their walls distempered.

FOR FLOORS : Type of materials used for floors can have a decisive effect on the temporal component of the worker (Steidl and Bratton, 1963). Pucca floor will require less muscular and torsal effort as compared to semi-pucca and kutcha floorings which in turn will account for differentials in energy expenditure of the respondents. In 46 per cent of the households (Region A=62.67 per cent and region B=29.33 per cent), the floor was cemented (Pucca), in 36.67 per cent of the households (region A=35.33 per cent and region B=38 per cent) it was semi-pucca whereas in 17.33 per cent of the households (region A=2 per cent and region B=32.67 per cent) the floor was plastered with mud or kutcha in nature.

It was striking to note that in large farmer category of advanced region, 14 per cent of the households had floor made up of cement and chips which are products of technological development.

4.1.2.3 Number of Rooms : Room density is an important variable that can be associated with the health aspect of homemakers. Maximum number of respondents (54.33 per cent) were having 5-8 rooms in their houses. Eleven per cent of the respondents had 9-12 rooms whereas 34.67 per cent had only 1-4 rooms. A regional break-up showed that in advanced region 15.33 per cent of the respondents were having 9-12 rooms in their houses whereas 57.33 per cent of them were having 5-8 rooms and 27.34 per cent of them were having 1-4 rooms. As compared to this, in the backward region only 6.67 per cent of the respondents had large houses having 9-12 rooms whereas maximum number of them i.e., 51.33 per cent had 5-8 rooms and 42 per cent had only 1-4 rooms. From the above observations, it can be concluded that houses in advanced region had more number of large houses as compared to the backward region.

A further probe revealed that the rooms were being used not only for living but also for storage of grains, dry fodder (toori), clothing, bedding, utensils and household, farm and communication technological items like electric milk churners, electric grain grinders, threshers, televisions, tape recorders etc. All the households had an open area (yard) in or outside the house which was found to be an important place of performing most of the household tasks like cooking, dishwashing, washing of clothes, family gatherings etc. and parking of tractors, scooters, motorcycles etc.

Table 4.2 : Existing housing and kitchen conditions/facilities (in percentages)

Housing and Kitchen Conditions		Advanced Region N=150				Backward Region N=150				Grand Total N=300
		Large Farmers n=50	Medium Farmers n=50	Small Farmers n=50	Total N=150	Large Farmers n=50	Medium Farmers n=50	Small Farmers n=50	Total N=150	
1	2	3	4	5	6	7	8	9	10	11
Type of house	Kutcha	-	-	4	1.33	-	-	20	6.67	4
	Semi-Pucca	-	56	78	44.67	30	66	68	54.67	49.67
	Pucca	100	44	18	54	70	34	12	38.66	46.33
	Total	100	100	100	100	100	100	100	100	100
Type of material used for roof	Thatched	-	-	8	2.67	-	-	32	10.67	6.67
	Corrugated Tin/Asbestos	-	56	74	43.33	16	58	44	39.33	41.33
	R.C.C.	100	44	18	54	84	42	24	50	52
	Total	100	100	100	100	100	100	100	100	100
Type of material used for walls	Kutcha	-	-	4	1.33	-	-	38	12.67	7
	Semi-Pucca	-	48	78	42	20	54	38	37.33	39.67
	Pucca	100	52	18	56.67	80	46	24	50	53.33
	Total	100	100	100	100	100	100	100	100	100
Type of material used for floor	Kutcha	-	-	6	2	2	66	30	32.67	17.33
	Semi-Pucca	-	38	68	35.33	28	32	54	38	36.67
	Pucca	100	62	26	62.67	70	2	16	29.33	46
	Total	100	100	100	100	100	100	100	100	100

1	2	3	4	5	6	7	8	9	10	11
Number of rooms	1-4	-	34	48	27.34	14	24	88	42	34.6
	5-8	54	66	52	57.33	70	72	12	51.33	54.33
	9-12	46	-	-	15.33	16	4	-	6.67	11
	Total	100	100	100	100	100	100	100	100	100
Type of kitchen	Corner of the room	-	2	12	4.67	-	-	-	-	2.33
	Outside/shifting	2	58	60	40	44	66	92	67.33	53.6
	Separate	98	40	28	55.33	56	34	8	32.67	44
	Total	100	100	100	100	100	100	100	100	100
Other facilities in the kitchen	Door	78	6	4	29.33	40	8	-	16	22.6
	Ventilator	12	-	2	4.67	22	4	-	8.67	6.6
	Smoke outlet	6	-	-	2	14	4	-	6	4
	Storage Space	26	-	-	8.67	12	4	-	5.33	7
	Preparation Centre	4	-	-	1.33	-	-	-	-	0.6
	Cooking Centre	2	-	-	0.67	2	-	-	0.67	0.6
	Sink Centre	2	-	-	0.67	-	-	-	-	0.33
Electricity	In the House	100	100	100	100	100	100	66	88.67	94.33
	In the Kitchen	100	46	44	63.33	60	32	8	33.33	48.33
Water Connection	In the House	76	40	28	48	36	6	-	14	31

1	2	3	4	5	6	7	8	9	10	11
Sanitary facilities	Toilet Inside the house	76	40	28	48	36	6	-	14	31
	Provision for waste water Disposal	58	-	-	19.33	6	2	-	2.67	11
	Provision for Garbage Disposal	28	-	-	9.33	6	2	-	2.67	6
Cattle Shed	Separate	52	74	68	64.67	76	76	12	54.66	59.67
	Open Space	48	26	24	32.67	24	24	84	44	38.33

4.1.2.4 Kitchen Conditions / Facilities : Kitchen design lacked centre concept (Indian version) which could account for higher cost of work as food production activities consume maximum time of the homemakers (Sandhu, 1972; Puri, 1974; Grewal, 1980; Kaur, 1982; Ahuja et al., 1984; Saxena and Bhatnagar, 1985 and Varma, 1992). This can also lead to physical and mental fatigue which may have a deterimental effect on the health status of the rural women.

4.1.2.4.1 Type of Kitchen : In the entire sample, 44 per cent of the respondents were having separate kitchen, 53.67 per cent were cooking in the courtyard and only 2.33 per cent were using corner of the room as kitchen. Region and the type of farmer both showed a tendency of emerging as variables accounting for differences in type of kitchen of the sampled households. More number of separate kitchens (55.33 per cent) were found in advanced region, particularly so in large farming households (98 per cent). Number of respondents using courtyard as kitchen was more in backward region (67.33 per cent) and that too in medium (66 per cent) and small farmer (92 per cent) category.

Only few respondents had other basic facilities at the place of work/kitchen, like door to kitchen (22 per cent), storage space (7 per cent), ventilator in the kitchen (6.67 per cent), smoke outlet (4 per cent), cooking centre (0.67 per cent) and sink centre (0.33 per cent). As is evident from the Table, conditions were better in advanced region especially in large farmer category households as compared to

the backward region and medium and small farming category households which were lacking in most of these kitchen facilities.

Nearly 2/3rd of the respondents especially, from the backward region were dissatisfied with their cooking area/kitchen. Respondents not having the above mentioned facilities, particularly separate kitchen, door to kitchen, storage space etc. expressed their need for the same. These findings are also substantiated by Kalra (1972); Verma (1972) and Singal (1989) who reported that rural people want improvement in their kitchen conditions/facilities. This can serve as an important policy bearing feedback for organizations engaged in the improvement of rural housing.

4.1.2.5 Electricity in the House and Kitchen : Haryana has the distinction of achieving hundred per cent rural electrification. This important input from macro environment is associated with proper illumination of the work place, reduction in visual effort and prevention of accidents, fall etc. inside the house (Gladstone, 1956; Peet and Sater 1955 and Nickell and Dorsey, 1970). Electricity also influences the use of labour saving devices (electrical gadgets) for performing household activities. It is gratifying to note that almost 100 per cent respondents had electricity connections for their homes. But in contrast to this, only 48.33 per cent of the respondents had electricity in the kitchen or cooking area, the percentage being highest for

large farmers (region A=100 per cent and region B=60 per cent) followed by medium farmers (46 per cent and 32 per cent) and small farmers (44 per cent and 8 per cent respectively). This reveals underutilization of a very important resource which can contribute immensely in reducing household drudgery of work as well as human cost of work. But due to the traditional outlook, women do not realize the cost-effectiveness of using electricity for reduction of drudgery of work. This has implications for family resource management specialists of agricultural institutions.

4.1.2.6 Water Connection in the House : Several empirical studies have repeated that village women walk over three-quarter of a kilometre to fetch water, carrying a total of ten earthenpots during the day (Chakravorty, 1975; UNECA, 1975; Kabede, 1978 and USAID, 1980). Hence, provision of water connection inside the house can go a long way in reducing the drudgery of work involved in this economically extended work. The data revealed that in technologically advanced village, 100 per cent respondents were having handpumps inside their house i.e., in the courtyard. But marked variations were observed in the backward region where majority of the homemakers (62.67 per cent) were bringing water either from community water taps or from the community well. Only 37.33 per cent, that too mainly belonging to large farming households had water connection inside the house in terms of handpumps. This could lead to increase in

human cost of work which would have a negative impact on their time conservation.

4.1.2.7 Sanitary Facilities : About 80 per cent sickness and diseases, says a World Health Organisation study, are water and sanitation related. In India, especially in the rural areas, poor sanitation facilities and absence of facilities for disposal of excreta and household waste severely undermines the health status of rural population (UNICEF, 1992). Considering the importance of sanitary facilities in relation to health technology, information regarding availability of sanitary facilities was solicited from the sample households, the findings of which are as under :

4.1.2.7.1 Toilet in the House : In the entire sample, a disappointing 31 per cent of the respondents were having toilets inside their houses whereas majority i.e., 69 per cent were using fields for the purpose of defecation. Even in advanced region, less that fifty per cent of the respondents had bore-hole type of toilets inside their houses. The number was found to be more in the large farming households (76 per cent) as compared to the medium (40 per cent) and small farming households (28 per cent). In contrast to this, in the backward region, 36 per cent of the large farmers and a negligible 6 per cent of the medium farmers had toilets in the houses. Incidentally, not a single house had facility of toilet in small farmer category of backward region.

This lack of most basic amenity in the rural area should invite attention of organizations involved in sanitation drive in rural areas and installation of Sulabh type community toilets can be undertaken by them. From the women's health status perspective it could be stated that in addition to their heavy work loads due to various household responsibilities and their participation in farm related activities, they also have to spend more time in personal care activity. Moreover, few researches have reported that as rural women have to go for defecation in open fields hence they are constantly exposed to a psychological discomfort which adversely affects their health status.

4.1.2.7.2 Disposal of Waste : Absence of proper drainage for effective disposal of waste water was found in the present sample. Lack of environmental consciousness was prominant, as it was observed that water was being thrown out in the courtyard which got collected in either front of the house or in the lanes. This has also been reported by studies conducted by Verma and Gupta (1981); Sardana (1987) and Singal (1989).

The data also revealed that only 6 per cent of the households had provision in their house/kitchen for temporary disposal of garbage. Rest of the households were throwing garbage as soon as it was collected, outside the house. This lead to formation of refuge heaps locally called Kurri. It was however, very surprising that while the woman folks ensured the cleanliness within the four walls of their homes,

what happened beyond was of no concern. This shows that women were not at all 'environment conscious' but also that they are exposed more to such unsanitary conditions and become susceptible to diseases. The findings emphasize the need for sensitizing rural women in keeping the surroundings hygienic.

4.1.2.8 Cattle Shed : Animals have always been an integral part of rural life and in Haryana they have been found to be living in close proximity with human beings which from health point of view is not conducive. Overall 59.33 per cent respondents were having separate cattle shed facility (although most of the times it was found kutcha in nature), the incident being more in medium farmers of both the regions. Only 52 per cent of large farmers of advanced region were having separate cattle shed. This could be attributed to the fact that due to high adoption level of farm technology, their dependence on animal power had reduced and they were owning less number of animals as compared to other categories. Hence, their need of separate cattle shed had decreased.

4.1.2.2 Housing Index Score Of Sample Households : To put the households in various categories, on the basis of their housing and kitchen conditions, a scoring technique (vide Methodology) was used. The data revealed that 51.67 per cent of the respondents had average housing conditions (Table 4.3) 45 per cent of them were having good housing conditions

Table 4.3 : Percentage distribution of the respondents according to their housing and kitchen conditions/facilities.

Housing and Kitchen Conditions/ facilities	Advanced Region N=150				Backward Region N=150				Grand Total N=300
	Large Farmers n=50	Medium Farmers n=50	Small Farmers n=50	Total N=150	Large Farmers n=50	Medium Farmers n=50	Small Farmers n=50	Total N=150	
Poor (< 8)	-	-	-	-	-	-	20	6.66	3.33
Average (8-21)	-	56	78	44.67	44	60	72	58.67	51.67
Good (> 21)	100	44	22	55.33	56	40	8	34.67	45
Total	100	100	100	100	100	100	100	100	100

and only a negligible percentage (3.33) of the respondents had poor housing and kitchen conditions / facilities.

Striking variations were observed in housing conditions between two regions as 55.33 per cent respondents of advanced region had good housing conditions whereas in the backward region only 34.67 per cent of them were having good housing and kitchen conditions. In the backward region, as many as 58.67 per cent had average conditions and 6.67 per cent had poor housing conditions. As compared to this, in the technologically advanced region, 44.67 per cent of the respondents had average housing conditions and none of them had poor housing conditions. It was further observed that scores of type of house, building materials used and number of rooms etc. did not show any marked variations both between and within the regions. However, prominent differences were observed (inter and intra region) in scores related to kitchen and kitchen conditions/facilities and also sanitary conditions which led to overall differentials in housing conditions in advanced and backward region.

Statistical analysis showed that housing conditions varied with type of landholding and family income (Table 4.4). It did not show any significant relationship with other household variables like education level of the spouse, family type and family size.

Table 4.4 : Difference in housing conditions due to household variables

Household variables	Mean Housing Scores						F value	Difference Between Means
	Region A			Region B				
	1a	2a	3a	1b	2b	3b		
Type of landholding	30.72	20.76	18.18	24.30	9.20	13.22	62.300 (5,294)	2b and 1a*, 2a,3a,1b* 3b and 1a*, 2a,1b* 3a and 1a*, 1b*,2a and 1a* 1b and 1a*
Family Income	46.82	38.46	40.98	43.20	42.66	40.16	4.25 (5,294)	2a and 1a* 3b and 1a* 3a and 1a*

Figures in parentheses indicate df (between and within groups.

* Significant at 0.05 level

Difference between groups were computed by Scheffe's procedure.

The table indicates that housing conditions varied significantly with the type of landholding as F-value calculated (F=62.300) was found to be significant at 0.01 level (df=5, 294). Scheffe's procedure applied further showed significant difference between means of medium farmers of backward region and all farming categories of region A and large farmers of region B. Scheffe's value was found significant at 0.05 level for large farmers category of region A and B and also for medium farmer of region B. Difference between means of 3 categories region A was also found to be significant at 0.05 level.

Family income also exerted influence on types of housing conditions as F value computed (4.25) was also found significant at 0.05 level (df=5,294). Scheffe's value was found significant at 0.05 level for large farmers of both the regions, for large and small farmers of region A and B respectively and for large and small farmers of region A.

4.1.3 SITUATIONAL / ENVIRONMENTAL VARIABLES : POSSESSION OF TECHNOLOGY

As the major objective of the study was to assess the impact of technology on Status of Rural Women and Family Resource Development, it was a prerequisite to determine the possession of different technology under study by the sample households. This also helped in ascertaining the level of adoption of technology by the households in general and rural women in particular. An attempt has been made here to present a picture on possession of different items of household, farm, health and communication technology by the rural households of both the regions.

4.1.3.1 Household Technology : Conservation of time and energy, that is human cost of work and availability of household technology can directly affect the health status of women by releasing more time for leisure, which is a qualitative index of human resource development.

A detailed analysis of different i.e. traditional, semi-modern and modern technology available in both the regions revealed that amongst the most popular household items were

Table 4.5 Percentage distribution of the respondents according to the household technological items possessed by them.

Activity	Technology	Advanced Region N=150				Backward Region N=150				Grand Total N=300
		Large Farmers n=50	Medium Farmers n=50	Small Farmers n=50	Total N=150	Large Farmers n=50	Medium Farmers n=50	Small Farmers n=50	Total N=150	
1	2	3	4	5	6	7	8	9	10	11
For Cooking	Wood Stove	90	100	100	96.67	94	100	100	98	97.33
	Pressure Stove	76	66	74	72	50	52	12	38	55
	Smokeless Chulah	12	12	10	11.33	8	-	-	2.67	7
	Biogas Chulah	4	2	2	2.67	6	-	-	2	2.33
	LPG Stove	44	12	10	22	32	18	2	17.33	19.67
	Heater	12	28	10	16.67	26	8	6	13.33	15
For Grain Grinding	Manual Grain Grinder	-	-	26	8.67	2	28	42	24	16.33
	Electric Grain Grinder	90	44	28	54	76	28	12	38.67	46.33
	Community Chakki	10	56	46	37.33	22	44	46	37.33	37.34
For Fetching of Water	Community well	-	-	-	-	-	2	6	2.66	1.33
	Handpump inside the house	100	100	100	100	64	38	8	36.66	68.33
	Community water taps	-	-	18	6	40	66	92	66	36.33
For care of Animals	Manual Fodder cutter	48	84	84	72	76	90	34	66.66	69.33
	Electric Fodder Cutter	52	16	8	25.33	24	10	-	11.33	18.33
	Machette (Darati)	-	-	-	-	-	-	62	20.66	10.33
For Milk Processing	Manual Milk Churner	-	44	54	32.66	30	58	62	50	41.33
	Electric Milk Churner	100	56	38	64.67	70	42	16	42.67	30.87

wood stove (region A=96.67 per cent and region B=98 per cent), manual fodder cutter (72 per cent, 66.6 per cent), handpump for drawing water (100 per cent, 36.66 per cent), pressure stove (72 per cent, 38 per cent), electric grain grinder (54 per cent, 38.67 per cent), manual milk churner (32.66 per cent, 50 per cent) and electric milk churner (64.67 per cent, 42.67 per cent respectively) (Table 4.5).

The Table, reveals that labour saving devices were more popular in both the regions than the fuel saving ones. However, in the advanced region, besides time and labour saving devices, fuel efficient devices were also popular to a certain extent. Sample households were found to be in possession of items like LPG stove (22 per cent), heater (16.67 per cent), smokeless chulah (11.33 per cent) and biogas chulah (2.67 per cent) in the advanced region. The possession of such technological items was limited to only few households of the backward region, and associated positively with land holdings. It is noteworthy that use of community water taps was more in backward region as 66 per cent of the respondents were filling water from the taps as compared to region A where only 6 per cent of the respondents were making use of it. This could be attributed to the fact that in the advanced region, 100 per cent of the respondents had provision for handpump inside the house for drawing water.

PLATE NO. 1 : TRADITIONAL CHULAH

PLATE NO. 2 : FUEL-EFFICIENT BIOGAS CHULAH

It is obvious from the Table that possession of traditional household items like woodstove, machette (darati), manual grain grinder, manual milk churner etc. was more in the backward region as compared to region A where more of modern and semi-modern items were popular.

Intra regional differentials with regard to possession of household technological items was also observed. Size of the land holding showed a tendency of being the determining factor in possession of modern technological items like smokeless chulahs, biogas chulahs, LPG stoves, heaters, electric grain grinders, electric fodder cutters and electric milk churners. In both the regions, more number of large farming households were found to be possessing the time and labour saving devices. As the size of the landholding decreased, a marked dependence on semi-modern and traditional items was noticed. Medium farmers of both the regions were found to be having more of semi-modern household items like pressure stove (region A=66 per cent and region B=52 per cent), manual fodder cutter (84 per cent, 90 per cent), manual milk churner (44 per cent, 58 per cent) and use of commuity chakki (56 per cent, 44 per cent respectively) apart from having modern items too. Reliance on traditional household items was found to be more in case of small farming households of both the regions. They were found to be possessing items like wood stove (100 per cent in both the regions i.e. A and B), manual grain grinder (26 per cent, 42 per cent) and machette (62 per cent in region B only). On an

PLATE NO. 3 : MANUAL MILK CHURNER

PLATE NO. 4 : HUMAN COST EFFECTIVE ELECTRIC MILK CHURNER

average, rural households were in possession of modern technology since last 5-6 years.

4.1.3.2 Agricultural Technology : Plenty of research evidence is there to show an inverse relationship between farm mechanization and rural women's employment in agriculture (UNO, 1963; Ladejinsky, 1969; Boserup, 1970; Bartsch, 1977; Palmer, 1978; Whyte et al., 1982; Agarwal, 1983; Bhatia 1985; Sharma and Dak, 1989 and Varma, 1992). In order to analyse the effect of farm technology in terms of costs and benefits on status of women, it is important to know how much mechanization of agriculture has taken place and what type of farm technology is being possessed by them. Hence, information on possession of agricultural technology by the sample households was collected and on the basis of that adoption level of agricultural technology was also determined.

Data on type of technology possessed by the households revealed that among the modern farm technological items, most popular were tube wells (region A=54.67 per cent, region B=24.67 per cent), tractors (30 per cent, 10.67 per cent), mechanical thresher (16 per cent, 13..33 per cent), tractor operated harvestor (14.67 per cent, 6 per cent), winnower (13.33 per cent, 6.67 per cent) and disc harrow (12 per cent, 6 per cent respectively) (Table 4.6). Other traditional agricultural implements being possessed by households were hand tools like kasola and khurpi (100 per cent in both A and B regions), ordinary sickle (96.67 per cent, 100 per cent),

Table 4.6 : Percentage distribution of the respondents according to the farm technology possessed by them

Activity	Technology	Advanced Region N = 150				Backward Region N = 150				
		Large Farmers n = 50	Medium Farmers n = 50	Small Farmers n = 50	Total Farmers N = 100	Large Farmers n = 50	Medium Farmers n = 50	Small Farmers n = 50	Total N = 150	Total N = 300
1	2	3	4	5	6	7	8	9	10	11
For Land Prepa- ration	Wooden Plough	48	90	84	74	88	96	50	78	76
	Tractor	76	14	-	30	26	4	2	10.67	20.33
	Disc-Harrow	28	8	-	12	14	4	-	6	9
	Cultivator	10	-	-	3.33	2	-	-	0.67	2
	Leveller	14	-	-	4.67	4	-	-	1.33	3
	Spade	-	-	-	-	-	-	52	17.33	8.67
For Sowing	Manual	90	100	100	96.6	100	100	100	100	98.33
	Seed Driller	10	-	-	3.3	-	-	-	-	1.66
For Trans- planting	Manual	100	100	100	100	N.A	N.A	N.A	N.A	50
For Irri- gation	Tubewell	90	42	32	54.67	46	20	8	24.67	39.67
	Canal	10	58	68	45.33	54	80	60	64.67	55
For Weeding	Local HandTools (Kasola, Khurpi)	100	100	100	100	100	100	100	100	100
	Herbicides	64	46	16	42	40	18	12	23.33	32.66
For Harves- ting	Ordinary Sickle	92	100	98	96.67	100	100	100	100	98.33
	Improved Serrated Sickle	8	-	2	3.33	-	-	-	-	1.67
	Tractor operated Mechanical Harvestor	40	4	-	14.67	14	4	-	6	10.33

1	2	3	4	5	6	7	8	9	10	11
For Threshing	Manual	64	88	100	87	76	84	100	86.67	85.33
	Mechanical Thresher	36	12	-	16	24	16	-	13.33	14.66
For Winnowing	Manual	74	86	100	86.67	82	98	100	93.33	90
	Winnower	26	14	-	13.33	18	2	-	6.67	10
For Transpo-rtation	Carrying load on head	-	-	-	-	-	-	70	23.33	11.66
	Bullock Cart	32	90	100	74	74	92	30	65.33	69.66
	Tractor Trolley	72	12	-	28	26	4	-	10	19
For Storage	Mud containers	60	86	100	82	72	100	100	90.66	86.33
	Gunny Bags	100	100	88	96	100	98	56	84.66	90.33
	Metal Bins	96	100	24	73.33	98	62	6	55.33	64.33

wooden plough (74 per cent and 78 per cent) and spade (17.33 per cent in region B only). Sowing was being done manually in 96.67 per cent of households in region A and 100 per cent of households in region B. Transplanting, which was mainly concentrated in advanced region, was also being done manually in 100 per cent of the households. Canal water was the main source of irrigation in 45.33 per cent of the households in region A and 64.67 per cent of the households in region B. For transportation of produce from farm to either home or the grain market, 28 per cent of the households in advanced region were having tractor trolley whereas in the backward region, only 10 per cent of the household had the trolley. Three-fourth of the sample households in region A had bullock cart for the purpose of transportation as compared to 65.33 per cent in the backward region. In 23.33 per cent households of the backward region, the produce was being carried on head also.

Sample households were found to be possessing various items for storage of grains. In both the regions, respondents had mud containers of various sizes and shapes (region A=82 per cent and region B=90.66 per cent), gunny bags (96 per cent, 84.66 per cent) and metal bins (73.33 per cent, 55.33 per cent respectively).

Intra region data showed a tendency that as the size of the landholding decreased, so did the level of farm mechanization. More number of modern farm implements were

found in large farmer category of both the regions as compared to medium and small farmers category.

Data presented in Table reveal that in both the regions, large farmers were found to be possessing maximum number of farm technology such as tractors (region A=76 per cent and region B=26 per cent), disc harrows (28 per cent, 14 per cent), cultivators (10 per cent, 2 per cent), levellers (14 per cent, 4 per cent); tubewells (90 per cent, 46 per cent), tractor operated mechanical harvestors (40 per cent, 14 per cent), mechanical threshers (36 per cent, 24 per cent) and winnowers (26 per cent, 18 per cent respectively). However, some of the medium farming households belonging to both advance and backward regions were also found to be in possession of these items, particularly tractors (region A=14 per cent and region B=4 per cent), disc harrows (8 per cent, 4 per cent), tractor operated mechanical harvestors (4 per cent in both the regions), mechanical threshers (12 per cent, 16 per cent) and winnowers (14 per cent and 2 per cent) alongwith other semi-modern and traditional items. Reliance on traditional items like wooden plough, spade, ordinary sickle was found to be more in small farming households of both the regions. Threshing and winnowing was also being done manually in advanced and backward regions.

Though the data pertaining to technology possessed by the sample households regarding sowing, transplanting and storage of grains did not reveal much of inter region variations but variations were found within the regions with

regard to mode of transportation of produce. Large and medium farmers of both the regions relied mainly on tractor trolleys and bullock carts for the purpose of transportation. In case of small farmer category of advanced region, 100 per cent of the households were relying on the bullock carts as compared to 30 per cent of the households belonging to backward region. In the remaining 70 per cent of the households of the same category, respondents were found to be carrying load on head for the purpose of transportation of the produce.

4.1.3.3 Health Technology : Health is an important area where technological intervention has brought about considerable changes having a direct bearing on the quality of life of the people. Though the technology related to birth control is not limited to women alone but still it is of special significance to them. Some researches have pointed out that these technologies have a great liberating influence for women that have direct effect on their health status (Kaur, 1986 and Shram Shakti, 1987). Hence, in order to assess the linkage between health technology and different aspects of women's status, the study focussed on the acceptance/adoption level of family planning techniques by the respondents.

It was revealing to note that overall permanent methods of family planning were more popular (23 per cent) than the natural (12.33 per cent) and semi-permanent methods of family

Table 4.7 : Percentage distribution of the respondents according to the type of health technology adopted by them

Type of Health Technology	Advanced Region				Backward Region				Grand Total N = 300
	Large Farmers n = 50	Medium Farmers n = 50	Small Farmers n = 50	Total Farmers N = 100	Large Farmers n = 50	Medium Farmers n = 50	Small Farmers n = 50	Total N = 150	
For Females									
Natural Methods	8	10	14	10.67	18	14	10	14	12.33
Copper-T	10	10	4	8	4	4	-	2.67	5.33
Tubectomy	46	38	28	37.33	14	10	2	8.67	23
For Males									
Condom	6	4	4	4.67	4	-	-	1.33	3

planning (5.33 per cent). Striking variations between the regions were observed with regard to acceptability of health technology. The data (Table 4.7) reveals that in the advanced region, 37.37 per cent of the homemakers had gone under tubectomy whereas 8 per cent of the respondents had adopted Copper-T. In this region, 10.67 per cent of the respondents were following the natural methods like rhythm. In contrast to region A, in the backward region maximum number of respondents (14 per cent) were found to be following natural methods of family planning, followed by tubectomy (8.67 per cent) and Copper-T (2.67 per cent).

The incidence of adoption of family planning techniques in males was found to be very low. Out of the total 3 per cent spouses, who were using condoms, 4.67 per cent of them belonged to the advaced region whereas only 1.33 per cent were from the backward region. It is worth mentioning here that not a single case of vasectomy was reported in the entire sample. The negative feature of this was that the major brunt of family planning was being borne by the females as ratio of adoption of family planning techniques between males and females was found to be 9:122 respectively.

Data pertaining to within the regions revealed a linkage between size of landholding and type of family planning technique being accepted by the respondents. Large farmers in both the regions were found to be going in for scientific technology (region A=46 per cent and region B=14 per cent) alongwith semi-modern (10 per cent, 4 per cent) and

traditional methods of family planning (8 per cent and 18 per cent). In the advanced region, maximum number of respondents (38 per cent) had adopted tubectomy followed by an equal number of respondents going in for Copper-T and natural methods (10 per cent). But in the backward region, maximum number of respondents were practising rhythm method (14 per cent) followed by tubectomy (10 per cent) and Copper-T (4 per cent). Natural methods were more popular in the backward region as 14 per cent of the respondents of the backward region and 10.67 per cent of the respondents of the advanced region were following it. However, it is noteworthy that as many as 28 per cent of the respondents had undergone tubectomy in small farmer category of advanced region whereas in the backward region only 2 per cent of them had undergone tubectomy.

4.1.3.4 Communication Technology : Adoption level of communication technology, which can play an important role in breaking the mental isolation of rural population, by making them aware of technological advancement occuring in macro and micro environment, was measured in terms of contact of respondents with agents of change like extension personnel and with channels of information like mass media (vide Methodology).

A detailed analysis revealed that channels of mass-media were more popular as compared to the extension personnel in the rural areas. Radio occupied top most

position with 89.33 per cent of the respondents possessing it (Table 4.8). It was followed by television (67.67 per cent). Popularity of radio and television in the rural areas had also been highlighted in empirical studies done by Knight and Singh, 1974; Bains, 1979; Pandey and Khanna, 1970; Davis, 1983; Roy and Khanna, 1985 and Bhagat, 1992. The advent of television sets in rural households was recent i.e. since 1987, whereas radio had been popular in the rural areas since last 10 to 12 years.

It was found that 41 per cent of the respondents had contact with village health workers, 30.67 per cent had contact with Block Development Officer, 28.33 per cent had interaction with aganwadi workers 24.33 per cent with gram sevikas, 17 per cent with Agricultural Development Officers and only 10.67 per cent of them were having contact with agents of KRIBHCO/IFFCO.

Inter region comparison revealed that a narrow gap existed between the two regions with regard to contact of the respondents with channels of mass media as 99.33 per cent of the respondents in region A and 80.66 per cent of the respondents in region B had radio. Television was being possessed by 78.67 per cent of the respondents in advanced region as compared to 56.67 per cent in the backward region. The gap between the regions widened considerably as far as contact of households with extension personnel was concerned. Striking variations were observed with regard to respondent's contact with gram sevikas (region A=47.33 per cent and

Table 4.8 : Percentage distribution of the respondents according to the communication technology adopted by them

Type of Communication Technology	Advanced Region				Backward Region				
	Large farmers n = 50	Medium farmers n = 50	Small farmers n = 50	Total farmers N = 150	Large farmers n = 50	Medium farmers n = 50	Small farmers n = 50	Total N = 150	Grand Total N = 300
Mass Media									
Radio	100	100	98	98.33	98	90	54	80.66	89.99
Television	100	86	50	78.67	86	56	28	56.67	67.67
Extention Personnel									
Gram Sevika	98	30	14	47.33	4	-	-	1.33	24.33
Aganwadi Worker	98	22	4	41.33	30	16	-	15.33	28.33
Agricultural Development Officer	48	26	-	24.67	22	6	-	9.33	17
Agricultural Extension Worker	32	2	-	11.34	-	-	-	-	5.67
Block Development Officer	76	22	4	34	60	22	-	27.34	30.67
Agents of KRIBHCO /IFFCO	46	10	-	18.67	8	-	-	2.67	10.67
Kisan Mela	20	2	-	7.34	-	-	-	-	3.67
Village Health Workers	64	60	52	58.64	38	20	12	23.33	41

region B=1.33 per cent), aganwadi workers (41.33 per cent, 15.33 per cent), Agricultural Development Officers (24.67 per cent, 9.33 per cent), Block Development Officers (34 per cent, 27.34 per cent),agents of KRIBHCO/IFFCO (18.67 per cent, 2.67 per cent) and village health workers (58.64 per cent, 23.33 per cent respectively). However, households of only advanced region were having contact with Agricultural Extension Specialists (11.34 per cent) and Kisan Mela (7.34 per cent).

Size of the landholding accounted for intra-regional variations with regard to possession of communication technology Data presented in Table reveals a positive association between adoption level of communication technology and the size of the landholding. The Table clearly reveals that maximum number of large farmers were either having contact with or possessing communication technological items in both the regions, which was followed by the medium farming households. Small farmers of both the regions were found to be having abysmally low or no contact with extension personnels especially with gram sevikas (region A=14 per cent and region B=nil), aganwadi workers (4 per cent, nil), Agricultural Development Officers (nil), Agricultural Extension workers (nil), Block Development Officers (region A=4 per cent, nil), agents of KRIBHCO/IFFCO (nil) and kisan mela (nil). Only in case of village level health workers, 52 per cent of the households in advanced region and 12 per cent households in region B were having contact with them.

Section II

4.2. The Process Of Utilization Of Technology

So far findings pertaining to household and personal characteristics of the homemakers of the sample households in both the regions as well as possession / acquisition / availability status of four types of technology were discussed. Conceptually, this part will relate to the process of utilization of the resource input component. Here the focus will be to measure homemaker's access to the possessed items or to the technological items being made available by the community. An attempt has been made to bring out gender dimension with regard to usage of household, health, farm and communication technology within the household sub-system. Extent of utilization has been discussed with regard to frequency of use of items possessed/made available in community by various members of the sample households. On the basis of possession/ made available in community and frequency of use of technological items, the level of adoption of selected technology by the sample households has been determined and discussed in the present section.

4.2.1 ACCESS TO AND EXTENT OF USE OF HOUSEHOLD TECHNOLOGY

It was gratifying to note that in both the regions, homemakers had an access to household technological items being possessed by them. The data (Table ii, Appendix ix) does not reveal any significant intra and inter region differentials with regard to rural homemaker's accessibility

PLATE NO. 5 : MANUAL GRAIN GRINDER

PLATE NO. 6 : TIME AND ENERGY CONSERVING ELECTRIC GRAIN GRINDER

to various traditional, semi-modern and modern household technological items. In both the regions, items related to cooking like wood stove (region A = 96.66 per cent and region B = 98 per cent), pressure stove (72 per cent, 37.33 per cent), smokeless chulah (11.33 per cent, 2.66 per cent), biogas chulah (2.66 per cent, 2.66 per cent), LPG stove (22 per cent, 17.33 per cent) and heater (16.66 per cent, 12.66 per cent respectively) were being used exclusively by the homemakers. Similar trends were noticed with regard to use of other items like manual grain grinders (region A=2 per cent and region B = 17.33 per cent), electric grain grinders (50 per cent, 49.33 per cent), handpumps for drawing water (100 per cent, 36.66 per cent), manual milk churners (32.66 per cent, 34 per cent) and electric milk churners (64.66 per cent and 58.66 per cent respectively) by the homemakers of advanced and backward region.

However, gender bias was observed in case of use of community chakki and electric fodder cutter. Though homemakers were mainly responsible for grinding of grains inside the home but it was invariably males (spouse, son, father-in-law or brother-in-law) who were frequenting the community chakki (region A = 48 per cent and region B = 33.33 per cent). This could be attributed to the orthodox nature of rural community where external movement of women is restricted. However, inside their homes homemakers were operating the electric grain grinders. But they seldom had access to electric fodder cutter (region A=2 per cent and

PLATE NO. 7 : HUMAN ENERGY INTENSIVE MANUAL FODDER CUTTER

PLATE NO. 8 : WOMAN'S SELDOM ACCESS TO ELECTRIC FODDER CUTTER

region B=1.33 per cent) which was mainly being operated by males in majority of the households having it (region A = 22.66 per cent and region B = 16 per cent). Females were found to be making use of either manual fodder cutter or machette both of which require more physical and muscular effort.

Data pertaining to frequency of use of technological items (Table iii, Appendix X) revealed that most of the items possessed were being utilized almost daily. Frequency of use of items related to cooking, fetching of water, care of animals and milk processing was found to be higher as compared to the items used for grain grinding in both the regions. In the advanced as well as backward region, respondents were making use of electric grain grinder or community chakki either once a month or once a week depending upon their requirements and type and size of the family. In most of the households electric milk churner was being used daily to process the milk but in some households, especially the one's having less number of milch animals, it was being used once or twice a week as there was less quantity of milk to be processed.

Variations in use were observed in the items related to cooking. In the households possessing both traditional (wood stove) and modern (LPG stove, biogas chulah etc.) technological items, the modern items were more frequently used as compared to the traditional items whose use was

PLATE NO. 9 : COMMUNITY WATER TAP-A SAVER OF TIME AND ENERGY

PLATE NO. 10 : HANDPUMP INSIDE THE HOUSE

restricted to once a while. Respondents having both wood stove and pressure stove were using wood stove for cooking purpose and the pressure stove was being used for making tea or boiling milk etc, It was disappointing to note that the smokeless chulah with its advantages of fuel-efficiency and as well its being environment friendly, was not very popular with the respondents. Out of the total 7 per cent respondents who possessed it, only 1 per cent were using it daily whereas remaining 6 per cent were making use of it rarely as they were either not satisfied with its working or were ignorant of its advantages. This should be a cause of concern for agencies promoting the use of smokeless chulah. They should probe more vigorously into the whys of its non-acceptance by majority of the rural households.

4.2.1.1 Adoption Level Of Household Technology : On the basis of the possession of modern, semi-modern and traditional items, the level of adoption of household technology of the sample households was determined. A scoring technique, already explained in methodology Chapter, was used to determine the high, medium and low level of adoption. The data (Table 4.9) reveals that in the entire sample, 38 per cent of the respondents were high adopters, 40 per cent were medium adopters and 29 per cent were low adopters of technology.

The table further reveals inter and intra-regional differentials in technology adoption. In the advanced region, 44 per cent of the households were having high adoption

Table 4.9 : Percentage distribution of the households according to their adoption level of household technology

Adoption Level of Household Technology	Advanced Region				Backward Region				Grand Total N=300
	Large Farmers n=50	Medium Farmers n=50	Small Farmers n=50	Total N=150	Large Farmers n=50	Medium Farmers n=50	Small Farmers n=50	Total N=150	
Low Adopters (21-40)	-	-	46	15.33	-	40	88	42.67	29
Medium Adopters (41-60)	18	60	44	40.67	66	42	10	39.33	40
High Adopters (61-80)	82	40	10	44.00	34	18	2	32.00	38
Total	100	100	100	100	100	100	100	100	100

level, 40.67 per cent were having medium and 15.33 per cent were having low level of technology adoption. Variations were observed in the backward region where only one-third of the households had high adoption level, 39.33 per cent had medium level and as many as 42.67 per cent had low adoption level of technology. The data further reveals that as the size of the landholding decreased so did the level of adoption of household technology. Incidentally, maximum number of high adopters (82 per cent) belonged to large farmer category of region A and maximum number of low adopters (88 per cent) belonged to small farmer category of the backward region.

4.2.2 ACCESS TO AND EXTENT OF USE OF AGRICULTURAL TECHNOLOGY

The utilization pattern of agricultural technology in both the regions disappointingly confirmed the already well substantiated findings that women farm workers are deprived of the benefits of agricultural technology due to gender phenomenon. It was observed (Table iv, Appendix xi) that wherever machines or improved agricultural technology were available, they were being used exclusively by males i.e. either the cultivators themselves or the male help hired by them. The fact that as soon as an agricultural operation is mechanized, it is taken over by males from the females has already been reported by several empirical studies conducted on the issue of impact of agricultural technology on rural women. (Boserup, 1970; Palmer, 1978; Agarwal, 1985; Srivastava, 1985 and Varma, 1992).

PLATE NO. 11 : TRADITIONAL PLOUGH

PLATE NO. 12 : TRACTOR BEING USED FOR LEVELLING THE FIELD

The findings revealed that in both the regions, homemakers did not have access to items like tractors, disc harrows, cultivators, levellers, tubewells, tractor operated mechanical harvestors, mechanical threshers, winnowers etc. However, they were found to be engaged in weeding operations which they were carrying out with the help of rudimentary tools like kasola and khurpi requiring more energy inputs. For harvesting also women were making use of ordinary sickles and only 4 per cent of them belonging to large farmer category were making use of improved serrated sickle. The post-harvest activities threshing and winnowing, which are either joint responsibilities of males and females were found to be taken over by males, with the introduction of winnowers and mechanical threshers. But in the absence of technology, women were found to be predominantly carrying out the activities. It is worth mentioning here that in the entire sample not a single household was found where tubewell was being operated by female members. Similarly involvement of women was found to be nil as far as driving of either bullock cart or the tractor trolley is concerned.

Some of the reasons for inaccessibility of agricultural technology to rural women were found to be that male members did not allow females to operate machines rural women were unaware of working of various farm machinery. Further, extension agents concentrated mainly on male farmers, information regarding agricultural technology rarely reached rural women. Thus, the findings clearly substantiated

PLATE NO. 13 : TUBEWELL : MODERN IRRIGATION SYSTEM

PLATE NO. 14 : SPRAYING OF PESTICIDE ON CROP

research findings that farm technology was gender - specific and was adverse to the economic status of the rural women (Boserup, 1970; Agarwal, 1985 and Sardamoni, 1988). Women's share in economic activities on the farm whenever it was made available was restricted to the manually operated, arduous, drudgerous, labour and time consuming activities and tasks.

4.2.2.1 Adoption Level of Agricultural Technology : On the basis of possession of agricultural technology by the sample households, their level of adoption of agricultural technology was determined by using the scoring technique (vide Methodology). The data revealed that majority of the respondents (71.33 per cent) were medium adopters of farm mechanization, 16 per cent of them were high adopters and 12.67 per cent were low adopters of farm technology (Table 4.10).

A regional analysis showed that in technologically advanced region, 21.33 per cent of the respondents had high adoption level, whereas 3/4th of them had medium adoption level and only 4 per cent had low adoption level of farm technology. In the backward region, 16 per cent of the respondents were high adopters, 71.33 per cent were medium adopters whereas 21.33 per cent of them had low adoption level of farm technololgy.

The size of the land holding accounted for variations in adoption level of agricultural technology, within the regions. In the large farmers category of advanced region,

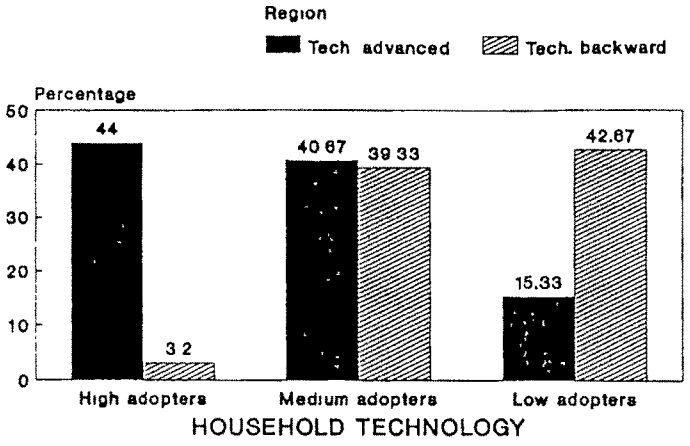
Table 4.10 : Percentage distribution of the households according to their adoption level of farm technology

Adoption Level of Farm Technology	Advanced Region				Backward Region				Grand Total N=300
	Large Farmers n=50	Medium Farmers n=50	Small Farmers n=50	Total N=150	Large Farmers n=50	Medium Farmers n=50	Small Farmers n=50	Total N=150	
Low Adopters ($\leq$ 20)	-	-	12	4	-	2	62	21.33	12.67
Medium Adopters (20-38)	50	86	88	74.67	82	86	36	68	71.33
High Adopters ($>$ 38)	50	14	-	21.33	18	12	2	10.67	16
Total	100	100	100	100	100	100	100	100	100

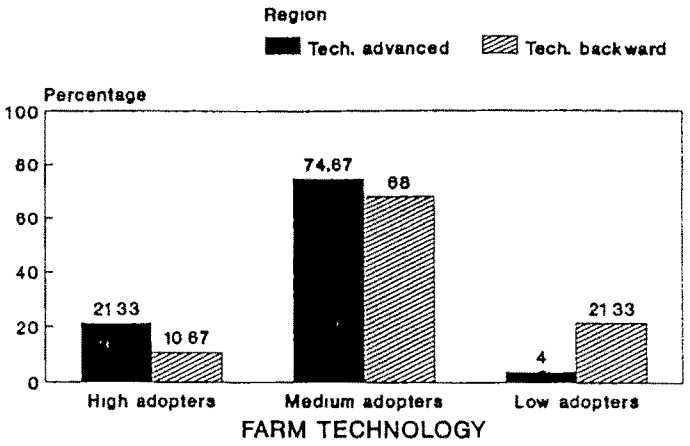
fifty per cent of the households were high adopters and the remaining were medium adopters of technology whereas in the medium farmers category, 14 per cent of the households had a high adoption level of technology as compared to 86 per cent households, who had medium adoption level. Eighty eight per cent of the respondents belonging to the small farmers category were medium adopters of agricultural technology and 12 per cent of the households had low adoption level of technology. In contrast to this, in the backward region 18 per cent of the large farming households were high adopters and 82 per cent were medium adopters of farm technology. In medium farming households, majority (86 per cent) had medium level of adoption, followed by high adoption level (12 per cent) and low level of adoption (2 per cent). The Table further reveals that maximum number (62 per cent) of the low adopters of farm technology belonged to the small farmer category of region B. In this category only 2 per cent of the households were found to be having high adoption level and the remaining 36 per cent had medium adoption level of farm technology.

The aforesaid findings both within and between the regions, clearly revealed the positive association of technology adoption level with landholding as well as regional development/advancement.

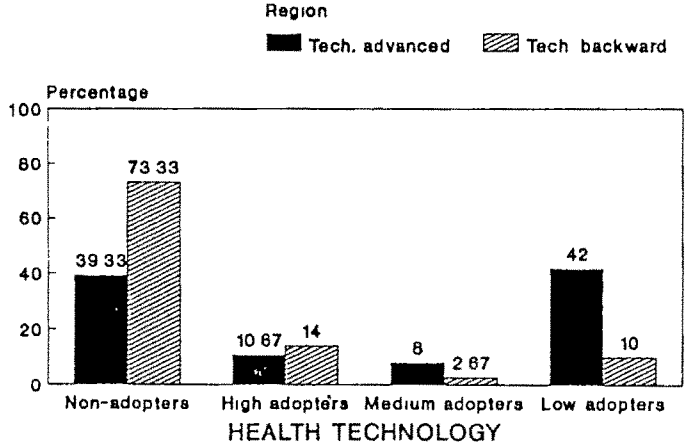
Fig 4.2. INTER-REGIONAL VARIATIONS IN ADOPTION LEVEL OF TECHNOLOGY



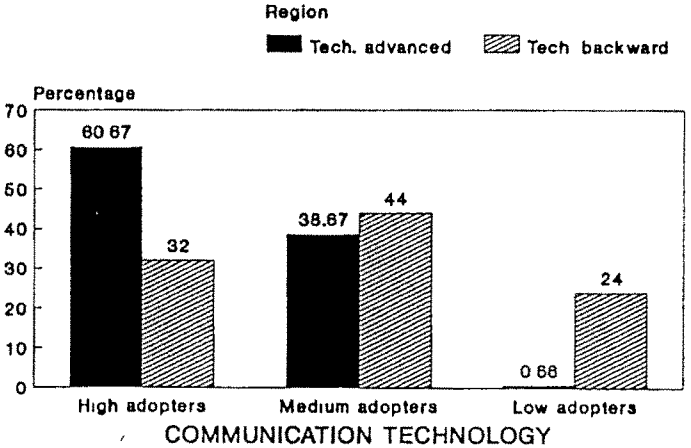
HOUSEHOLD TECHNOLOGY



FARM TECHNOLOGY



HEALTH TECHNOLOGY



COMMUNICATION TECHNOLOGY

4.2.3 ACCESS TO AND EXTENT OF USE OF HEALTH CARE SERVICES

Data pertaining to usage of available health care services existing in the micro environment showed some encouraging trends as reliance of sample households on modern health care facilities was also observed alongwith the traditional ones. Overall, almost three-fourth of the sample households were utilizing either home made remedies or were going to traditional vaids/hakims for treatment of minor health problems (Table v, Appendix xii). For treatment of complicated problems, 96.83 per cent of the respondents were going to R.M.P. (Registered Medical Practitioners) and three-fourth of the entire sample were consulting doctors at PHC (Primary Health Centre). However, reliance on modern health care facilities was found to be more in case of advanced region as compared to the backward region. In the advanced region, 100 per cent of the respondents were utilizing the services offered by the PHC located 2 kilometres away from the village and 99.33 per cent of them were going to R.M.Ps. In contrast to this, only 48.66 per cent of the respondents belonging to the backward region were visiting PHC located in their village and 94.33 per cent of the households had contact with the registered medical practitioners. It was striking to note that 100 per cent of the homemakers were consulting birth attendant/dai for matters concerning pre-natal, natal and post-natal care. Only very complicated delivery cases were being taken to PHC where they were being attended to by the lady doctor. It was however very

surprising to note that almost 100 per cent of the respondents (99.33 per cent) belonging to the advanced region were going to vaids/hakims as compared to the backward region where only 46.66 per cent of the respondents were utilizing the services of traditional medical practitioners. This differential in use could be attributed to the fact that there was no renowned vaid/hakim available in the vicinity of the backward village.

Though the data on health care facilities usage showed some encouraging trends in the present sample still gender specific usage of modern health care facilities could also be observed. The general trend was more number of female members were using traditional or semi-modern facilities whereas more number of male members were making use of modern health care facilities alongwith traditional or semi-modern facilities. Reasons for limited utilization of PHC or private nursing homes by females was inherent in socio-cultural factors where women's health care is not given much importance. Further, due to their limited mobility, they do not venture to go to hospital unless escorted. Moreover, mostly male doctors are available in PHC and due to traditional cultural values, rural women feel hesitant to consult them. Another reason for non-utilization/under-utilization of modern health care facilities by the rural women was that due to heavy workloads of both home and farm, they did not have the time to go to PHC. When they did have free time, it was late in the afternoons or evenings, by which time PHC are closed. All

PLATE NO. 15 : WOMEN LIMITED ACCESS TO MODERN HEALTH CARE SERVICES

these reasons for government functionaries as well as activists and development planners concerned with women's health status.

4.2.3.1 Immunization Of Children : Nowadays in order to reduce the incidence of under five mortality, the need for immunization of children is being stressed. An attempt was made here to find out the adoption of immunization by the rural households and also to assess the existing knowledge of respondents regarding immunization. The findings revealed (Table 4.11) that overall 38.67 per cent households had got their children immunized against Polio, T.B. and D.P.T. Of this, 25.67 per cent households were in advanced region whereas only 13 per cent of them were in the backward region.

A regional break-up further revealed that in advanced region, adoption of immunization was found to be highest i.e. 56 per cent,in medium farmers, followed by small farmers (52 per cent) and large farming households (46 per cent). However, in the backward region, maximum number of adopters (34 per cent) belonged to large farmer category, followed by medium farmers (28 per cent) and the small farming households were reported to have lowest incident of immunization as only 16 per cent of the respondents had got their children immunized against the killer diseases.

Gender bias was observed in immunization of children, as out of the 38.67 per cent who had adopted immunization only 13.33 per cent respondents had also got their daughters

Table 4.11 : Percentage distribution of the respondents on the basis of immunization of their children

Immunization	Advanced Region				Backward Region				Grand Total N=300
	Large Farmers n=50	Medium Farmers n=50	Small Farmers n=50	Total N=150	Large Farmers n=50	Medium Farmers n=50	Small Farmers n=50	Total N=150	
Not Immunized	54	44	48	48.67	66	72	84	74	61.33
Immunized	46	56	52	51.33	34	28	16	26	38.67
Total	100	100	100	100	100	100	100	100	100

Table 4.12 : Percentage distribution of the respondents according to their awareness regarding immunization

Awareness Regaarding Immunization	Advanced Region				Backward Region				Grand Total N=114
	Large Farmers n=23	Medium Farmers n=28	Small Farmers n=28	Total N=79	Large Farmers n=17	Medium Farmers n=10	Small Farmers n=8	Total N=35	
Not Aware	26.09	39.28	67.85	45.57	47.06	50	87.5	57.14	49.12
Partial Awareness	52.18	60.72	32.15	48.10	47.06	50	12.5	40	45.61
Full Awareness	21.73	-	-	6.33	5.88	-	-	2.86	5.27
Total	100	100	100	100	100	100	100	100	100

immunized along with the sons whereas in the remaining 25.34 per cent households only male children were immunized because they believed that female children did not require immunization.

Other reasons for non-immunization of children were ignorance (49.12 per cent), inconvenient or too busy with work (10 per cent), not interested (3 per cent) and don't want to subject small child to painful vaccination (2 per cent). These findings are in accordance with those reported by Bangoo et al., 1985 and Susheela et al., 1991.

4.2.3.2 Awareness Regarding Immunization : Data pertaining to level of awareness of respondents regarding immunization of children revealed that only 5.27 per cent of the respondents had full awareness regarding immunization whereas 45.61 per cent of them had partial awareness regarding it and as many as 49.12 per cent of the respondents were not at all aware of immunization, the number being more in the backward region (57.14 per cent) as compared to the advanced region (45.57 per cent) (Table 4.12). Incidentally in both the regions full awarenes was found in respondents belonging to large farming households only. Maximum number of respondents belonging to small farming households were not aware of immunization.

Once again, advertisements shown on television and friends and neighbours formed the major sources of information regarding immunization. In advanced region for

48.87 per cent of the respondents friends and neighbours were main sources of information whereas for 51.13 per cent, advertisements shown on television acted as source of information regarding immunization. In the backward region traditional sources of information i.e. friends and neighbours were more popular (72.99) than the channels of mass media (27.01 per cent).

Respondents who had got their children immunized had got them, immunized from a common source that is Primary Health Centre. Other sources like private doctors, nursing homes etc. were not popular with the respondents.

4.2.3.1 Adoption Level Of Health Technology : Data pertaining to adoption level of health technology gives a disturbing picture. More than 50 per cent (56.33 per cent) of the couples had not adopted any of the birth control methods. Remaining 43.67 per cent of the couples had adopted either traditional or modern methods of family planning.

Data presented in Table 4.13 strikingly exhibits the positive association between adoption level of family planning devices and size of the landholding. In the advanced region, maximum number of respondents (42 per cent) were high adopters of health technology (large farmer = 52 per cent, medium farmers = 42 per cent and small farmers = 32 per cent), eight per cent of the respondents belonged to the medium adopters category, 10.67 per cent were found to be low adopters and 39.33 per cent were non-adopters of family

Table 4.13 : Percentage distribution of the respondents according to their adoption level of health technology

Adoption Level of Health Technology	Advanced Region				Backward Region				Grand Total N=300
	Large Farmers n=50	Medium Farmers n=50	Small Farmers n=50	Total N=150	Large Farmers n=50	Medium Farmers n=50	Small Farmers n=50	Total N=150	
Non Adopters	30	38	50	39.33	60	72	88	73.33	56.33
Low Adopters ($\leq$ 3)	8	10	14	10.67	18	14	10	14	12.33
Medium Adopters (3-6)	10	10	4	8	4	4	-	2.67	5.34
High Adopters ($>$ 6)	52	42	32	42	18	10	2	10	26
Total	100	100	100	100	100	100	100	100	100

planning. However, in the backward region, three-fourth of the respondents were non-adopters of health technology (large farmers = 60 per cent, medium farmers = 72 per cent and small farmers = 88 per cent). Out of the remaining one-fourth, 14 per cent were low adopters and only 10 per cent of the respondents were high adopters of health technology.

The findings project that either the large family is still found to be a favourable choice or the significance and importance of planned parenthood for small family has not reached the rural folks or the family planning devices are not found acceptable. As planned parenthood is a positive correlate of women's health status as well as her overall status and there is research support to establish positive association between adoption of family planning and empowerment, the present findings are of great concern to development planners and policy implementors.

4.2.4 ACCESS AND EXTENT OF USE OF COMMUNICATION TECHNOLOGY

The utilization of communication technology by the rural households has been studied as a source of information regarding household, health and farm technology for the respondents. Mainly rural women's access to and extent of utilization to improve their cognitive status has been determined under this sub-section. The findings pertaining to this are presented under three further sub-heads which are as follows :

4.2.4.1 Communication Technology As A Source of Information of Household Technology

4.2.4.2 Communication Technology As A Source of Information of Agricultural Technology

4.2.4.3 Communication Technology As A Source of Information of Health Technology

On the basis of possession/contact with communication technology and its extent of use, adoption level of communication technology by the households has also been determined and presented in the present sub-section.

4.2.4.1 Communication Technology As A Source of Information of Household Technology : It was observed (Table vi, Appendix xiii) that overall traditional channels of communication constituting of friends and neighbours (78.16 per cent) and village shopkeepers (45 per cent) were more popular in both the regions. Only 28.33 per cent of the households came to know of technological items like smokeless chulahs and biogas plants from government sponsored advertisements on radio and television. In case of 24.33 per cent of households, extension personnel like gram sevikas and aganwadi workers brought about the information regarding advancement in household technology to rural households.

A region-wise analysis showed that in the advanced region, households had more contact with extension personnel and mass media as compared to the backward region. In the advanced region, as many as 52.67 per cent of them came to

know about the household technology through advertisements on radio and television whereas 42.67 per cent came to know about it through aganwadi workers and 40.67 per cent of them had contact with the gram sevika. However, in the backward region, more number of respondents relied upon traditional channels of communication (friends and neighbours = 72 per cent and village shopkeeper = 40 per cent) for getting information regarding household technology. Contact of households in this region with modern channels was found to be abysmally low as for 14.67 per cent of households aganwadi worker was a source of information, for 4 per cent of them advertisement acted as a source of information whereas for 1.33 per cent of households, gram sevika acted as a source of information regarding household technology.

Intra regional data revealed that in advanced region, large farming households were interacting more frequently with modern means of communication as compared to the medium and small farming households who interacted with them either sometimes or rarely. However, it was revealing to note that in the backward region none of the households had frequent contacts with either mass media or extension personnel. They were found to be rarely interacting with modern channels of communication barring aside few large farming category households whose interaction with agents of change was found to be slightly more as compared to other categories.

PLATE NO. 16 : TELEVISION SET IN RURAL HOUSEHOLD-MODERN COMMUNICATION TECHNOLOGY

PLATE NO. 17 : SCENE AT AN ANGANWADI CENTRE

4.2.4.1.1 Homemaker's Accessibility To Sources Of Information Of Household Technology : Data pertaining to access to sources of information regarding household technology revealed that in both the regions, tradition channel of communication like friends and neighbours remained accessible to both males and females (Table vii, Appendix xiv). However, the village shopkeeper was accessible only to males. This could be attributed to the conservative nature of the rural society where mobility of women is restricted. Data further revealed that extention agents like gram sevikas and aganwadi workers were mainly accessible to homemakers in both the regions. Only in case of medium farmer category of advanced region 2 per cent of the males were also having contact with gram sevikas. Aganwadi workers were accessible only to females. It was striking to note that in the advanced region, advertisements shown/broadcasted on television and radio respectively were accessible to both males and females especially in the large farming households (100 per cent). However, in the backward region, only 4 per cent of the households had access to mass media, which were limited only to large farming households (males = 4 per cent and both=8 per cent). It was disappointing to note that in region B not a single household belonging to medium or small farming category had contact with radio and television and getting information regarding household technology.

4.2.4.2 Communication Technology As A Source Of Information Of Agricultural Technology : The findings revealed that even in case of farm technology, friends and neighbours emerged as most common source of information (81.66 per cent) in both the regions (Table viii, Appendix xv). This was followed by programmes shown on television (57.67 per cent), block development officers (31.33 per cent), agricultural development officers (17.33 per cent), programmes on radio (12 per cent) and agencies like KRIBHCO/IFFCO (10.67 per cent). Merely 6 per cent of the households came to know of agricultural technology through extension workers (agricultural extension specialists and district extension specialists) and for only 3.67 per cent of them, Kisan mela acted as a source of information regarding agricultural technology.

A region-wise analysis revealed that in the advanced region, more number of households were using modern means of communication to get information about agricultural technology as comapred to the backward region. In the region A, 74 per cent of the households were getting information through Krishi darshan programme shown on Doordarshan whereas in the backward region, it emerged as a source of information for only 57.67 per cent of the households. This differential pattern in utilization of communication technology by the households was also observed with regard to other means such as block development officers (region A = 34 per cent and region B = 28.67 per cent) agricultural development officers

(25.33 per cent and 9.33 per cent), programmes on radio (23.33 per cent, 0.67 per cent), agencies like KRIBHCO/IFFCO (18.67 per cent, 2.67 per cent), extension workers (12 per cent, nil) and Kisan mela (7.33 per cent and nil respectively).

It is worth mentioning here that extent of use of modern communication technology decreased with decline in size of the landholding and advancement of region. The Table reveals that in the advanced region, households belonging mainly to large farming category were having frequent contacts with channels of mass media and extension personnel. Whereas their contact was found to be rare or occasional in case of medium and small farming households of the same region. In the backward region, households rearely had frequent contacts with agents of change. Moreover, most of these agents were conspicious by their absence in the backward region.

4.2.4.2.1 Homemaker's Accesssibility To Sources of Information of Agricultural Technology : It is very disappointing to note that in both the regions, communication technology as a source of information of agricultural technology remained accessible solely to males (Table ix, Appendix xvi). None of the homemakers were ever approached by extension agents and given any type of training related to field of agriculture though they were actively engaged in agricultural operations as unpaid family workers (especially in the backward region). The findings point out to a major

drawback in our extension system which tend to remain gender-specific in their approach. Data further revealed that none of the respondents had ever been to Kisan mela. When probed further on the issue, they revealed that no one had ever taken them to the mela as it was not thought important by the male members of the household.

It is striking to note that many households possessed televisions and radios in both the regions but respondents were not watching programmes related to agricultural as they were either busy in the household chores at that particular time or it was not appreciated by male members if they sat and watched programmes like Krishi darshan being shown on doordarshan. This reveals how much importance was given to rural women in the field of agriculture.

4.2.4.3 Communication Technology As A Source of Information of Health Technology : It was gratifying to note that respondents were aware of modern methods of family planning (Table x, Appendix xvii) even though their extent of knowledge was limited. Region wise awareness level of different methods of family planning in descending order was as follows : tubectomy (region A=86 per cent and region B=69.3 per cent), condom (83.33 per cent, 47.33 per cent), vasectomy (83.33 per cent, 36.67 per cent), oral pill (80.67 per cent, 49.33 per cent) and copper-T (70.66 per cent, 26 per cent). It is worth mentioning here that the respondents were having poor knowledge regarding natural methods of

family planning like rhythm (region A = 30 per cent and region B = 14 per cent). Data further reveals that homemakers were having either low or moderate knowledge about most of the family planning techniques. Only very few respondents that too belongingg to advanced region had full knowledge regarding oral pill (0.27 per cent), tubectomy (32.67 per cent), condom (2 per cent) and vasectomy (1.33 per cent). Whereas in the backward region only 1.33 per cent of the respondents that too belonging to large farmer category households were found to be having full knowlegde about tubectomy.

Television occupied the top position as a source of information for creating awareness and knowledge amongst respondents regarding family planning methods (Table 4.14). For majority (65.33 per cent) of the respondents, advertisements shown at prime time by doordarshan were main source of information regarding family planning followed by an equally high percentage getting information from friends, relatives and neighbours. Doctors at PHC as a source of information were reported by a disappointing 30.33 per cent and advertisements on radio served the purpose of only 20.33 per cent of the respondents.

A regional analysis revealed that respondents belonging to advanced region had more contact with the agents of change as compared to the backward region. In the advanced region, as many as 84.67 per cent of the respondents were getting information about health technology through advertisements

Table 4.14 : Percentage distribution of the respondents according to their source of information about methods of family planning

Sources of Information	Advanced Region				Backward Region				
	Large Farmers n=50	Medium Farmers n=50	Small Farmers n=50	Total N=150	Large Farmers n=50	Medium Farmers n=50	Small Farmers n=50	Total N=150	Grand Total N=300
Advertisements on Radio	20	10	56	28.67	8	6	2	12	20.33
Advertisements on Television	78	94	82	84.67	72	50	22	48	66.33
Friends Neighbours and Relatives	68	86	78	77.33	60	76	24	53.33	65.33
Doctors at PHC	60	54	34	49.33	18	14	2	11.33	30.33
Total	100	100	100	100	100	100	100	100	100

shown on television. This was followed by doctors at PHC (49.33 per cent) and advertisements on radio (28.67 per cent). However, in the backward region, advertisements on television acted as a source of information for 48 per cent of the respondents whereas 12 per cent got information regarding health technology from advertisements on radio and only 11.33 per cent of respondents got the information from doctors at PHC. Friends and neighbours also remained a popular source of information of health technology in both the regions (region A=77.33 per cent and region B=53.33 per cent).

4.2.4.4.Adoption Level Of Communication Technology : When the adoption level of communication technology was qualitatively analyzed in terms of high, medium and low adoption level, the findings revealed that overall 46.34 per cent of the households were high adopters of communication technology, 41.33 per cent were medium adopters and 12.33 per cent of them were low adopters of technology (Table 4.15). Data further reveals striking variations within two regions regarding level of adoption of communication technology. In the advanced region, 60.67 per cent of the respondents were high adopters, 38.67 per cent of them were medium adopters and a negligible 0.66 per cent fell in the low adopters category. As compared to this, in the backward region, 46.33 per cent were high adopters, 41.33 per cent were medium and 12.33 per cent were low adopters of communication technology.

Table 4.15 : Percentage distribution of the respondents according to their adoption level of communication technology

Adoption Level of Communication Technology	Advanced Region				Backward Region				Grand Total N=300
	Large Farmers n=50	Medium Farmers n=50	Small Farmers n=50	Total N=150	Large Farmers n=50	Medium Farmers n=50	Small Farmers n=50	Total N=150	
Low Adopters ($\angle$ 4)	-	-	2	0.66	-	10	62	24	12.33
Medium Adopters (4-9)	-	46	70	38.67	44	58	30	44	41.33
High Adopters ($>$ 9)	100	54	28	60.67	56	32	8	32	46.34
Total	100	100	100	100	100	100	100	100	100

An intra regional profile showed that in the advanced region, 100 per cent of the households belonging to large farming category were high adopters of communication technology whereas in the medium farming category 54 per cent of the households were high adopters and 46 per cent of them were medium adopters of technology. However, in the small farmer category maximum number of households (70 per cent) were medium adopters of communication technology followed by high (28 per cent) and low adopters of technology (2 per cent).

Overall, it can be said that findings pertaining to communication technology revealed that inspite of various programmes run by the government and heavy expenditure incurred by the same on transfer of technology from laboratory to rural households, the knowledge has not trickled down to grass root level as many of the respondents especially in the backward region remain ignorant of the existence of programmes as well as the extension agents. Even where extension personnel were available they were mainly concentrating on visiting the large farmers of the region. Moreover, they were found to be gender specific in their approach which hampered the cognitive status of the rural women. However, besides highlighting the ineffectiveness of the extension programmes the findings point out the potential of the Doordarshan as an important source of information of technology for rural folks. This has got an important policy implication for the development planners so that its potential can be optimally utilized in bringing about overall human resource development.

SECTION III

4.3 Resource Outflow

After presenting findings pertaining to the resource input and the process of utilization, the focus in the third section is to present findings on the resource outflow component which brings out in concrete measurable terms the impact of HHFC technology on the two dependent variables of the study i.e. Status of Rural Women and Family Resource Development, which are mutually interrelated. From an analytical perspective the findings have been discussed under the following heads :

I. Status of Rural Women :

- (a) Productivity / Efficiency Status
  - i) Technology as time conserver
  - ii) Balance between work, leisure and rest/sleep
- (b) Health Status
  - i) Time devoted to personal care
  - ii) Conservation of energy and anthropometric measurements.
  - iii) Control over fertility/planned parenthood
  - iv) Better utilization of health care services
- (c) Economic Status
  - i) Gainful employment
  - ii) Control over money resource
  - iii) Ownership of assets
  - iv) Decision making power

(d) Cognitive Status

i) Contact with channels of mass-media and extension personnel

ii) Participation in Community Activities

iii) Opinions towards progressive issues

II. Other Indicators :

i) Time devoted to child care

ii) Quality of consumption through consumption expenditure pattern of the households

iii) Perception of homemakers towards cost and benefit of technology

iv) Attitude towards technology

4.3.1 PRODUCTIVITY / EFFICIENCY STATUS

Productivity/efficiency status of women indicate their capacity to perform work. In the present study it was quantified mainly in terms of amount of time spent by rural home makers on various household, economically extended, livestock and farm related tasks. The intra and inter-regional differentials in division of time in work, leisure, rest and sleep would indicate how far technology has contributed in either increasing or diminishing the efficiency/productivity status of the sample respondents.

4.3.1.1 Technology As Time Conserver : In order to derive the benefits of household technology to rural homemakers, the investigator recorded their time expenditure pattern on typical daily activities on recall basis. For selected economically extended activities, such as fetching of water,

fuel etc., participatory observation method was also adopted. The importance of this was explained to the homemaker so that they were less conscious of the presence of investigator while performing the selected tasks. Such an exercise not only helped in studying the effect of technology use on time conserved but also gave an insight into factors other than technology causing variations in time expenditure, bearing policy implications.

4.3.1.1.1 Time Spent On Household Activities : The Table (4.16) persents the use of time resource by homemakers on the whole as well as region wise. The activity wise analysis revealed that the household work mainly comprising of cooking, dishwashing, grain grinding, care and maintenance of house and washing of clothes was consuming maximum amount of time i.e. 291.4 minutes (region A = 314.50 minutes and region B = 268.3 minutes) on an average. In the advanced region, maximum time was being spent on this activity by medium adopters of household technology (363.67 minutes) followed by low adopters (345 minutes). High adopters were spending less time on household work i.e. 234.84 minutes which could be attributed to the use of time and labour saving devices by them. As compared to region A, respondents of region B were spending less time on household activities. Within the region, striking variations could be observed as high adopters were spending 312.5 minutes on household activities whereas medium adopters were spending 234.07 minutes and low adopters were spending 268.3 minutes. Even

Table 4.16 : Average time spent by the respondents on various activities according to the adoption level of household technology (in minutes/normal day)

Activities	Advanced Region N=150				Backward Region N=150				Grand
	H.A. n=37	M.A. n=107	L.A. n=6	Total N-150	H.A. n=16	M.A. n=82	L.A. n=52	Total N=150	Total N=300
Personal care	74.72	67.34	49.17	63.74	70.76	68.54	41.21	60.17	61.95
Child care	122.94	57.67	30	70.20	64.4	52.38	19.03	45.2	57.73
Household work	234.84	363.67	345	314.50	312.5	234.07	258.33	268.3	291.4
Economically extended work	51.13	63.64	113.33	76.03	93.75	108.02	116.83	106.2	91.11
Livestock	145.66	178.21	133.33	152.4	170	207.9	154.72	177.54	165.02
Farm	94.15	153.24	335	194.14	160.59	254.24	395.77	270.2	232.16
Social	109.68	35.87	0	48.51	62.71	28.78	10	33.83	41.16
Leisure	62.56	39.74	9.17	37.17	39.71	28.79	14.71	27.73	32.44
Rest	60.81	36.4	0	32.40	17.34	13.48	0.98	10.6	21.5
Sleep	483.51	444.22	425	450.91	448.24	443.8	428.42	440.16	445.53
Total	1440	1440	1440	1440	1440	1440	1440	1440	1440

though the region lacked in technology, still time spent on household tasks was less because of their participation in the farm work as unpaid or paid workers. There is adequate research support to substantiate the hypothesis that as the participation of women increased in farm related operations, the time spent by them on household activities decreases or vice-versa (Khan et al., 1982; Kaur and Sharma, 1989 and Varma, 1992).

Data further revealed that in the backward region, respondents were spending more time in farm related activities (270.2 minutes) as compared to respondents belonging to region A (194.14 minutes). The maximum amount of time on farm related activities (395.77 minutes) was being spent by low adopters of backward region and the minimum amount of time (94.15 minutes) was being spent by high adopters of advanced region. This can be due to the fact that more farm mechanization in the technologically advanced region can lead to uprooting of women from participation in farm activities (Boserup, 1970; Palmer, 1977; Whyte et al., 1982; Agarwal, 1985 and Varma, 1992).

Economically extended work comprising of fetching of water and fetching of fuel wood consumed 91.11 minutes and was found to be more in region B (106.2 minutes) than region A (76.03 minutes). This showed a distinct effect of technology popular in region A like handpumps and fuel-efficient devices like LPG stoves, biogas stoves, Kerosene stoves etc. which considerably reduced the time spent on

economically extended work by the respondents of advanced region, particularly so of those belonging to medium adopters of technology category.

Under the livestock activities time spent by respondents on care of animals like preparing feed for them, giving feed and water to them, bathing the animals, cleaning of cattle shed, milking the cattle and making cow dung cakes were included. These activities were mainly being performed by the rural women and were consuming 165.02 minutes on an average per day. Homemakers belonging to backward region were spending more time (177.54 minutes) as compared to those belonging to advanced region (152.4 minutes) on this activity. Maximum amount of time (207.9 minutes) were being spent by medium adopters of technology belonging to region B. High adopters of region A were spending only 145.66 minutes on livestock activities. This inter-region variations could also be attributed to the fact that region B had more average number of cattle (4.14) than the region A (3.86).

4.3.1.2 Balance Between Work, Leisure, Rest and Sleep : In order to assess the impact of technology on time expenditure pattern of rural women, their time distribution between work, leisure and rest/sleep was assessed. Time spent by homemakers on personal care has been separately discussed whereas time spent on child care, which is a qualitative indicator of family resource development has been discussed under that sub-heading.

The findings (Table 4.17) revealed that the average working day for homemakers came out to be 13.00 hours, which reflects the miserable plight of the rural women. The leisure time accounted for only 1.23 hours whereas 7.79 hours were being spent on rest and sleep.

The Table further reveals that in the advanced region, respondents were spending 12.3 hours on work per day on an average as compared to the backward region where they were spending 13.70 hours on work. Intra region profile revealed that in both the regions, time spent on work increased with decline in level of adoption of household technology. High adopters of region A were spending 8.76 hours on work, which incidentally was minimum in the entire sample, whereas medium adopters were spending 12.64 hours and the low adopters of household technology were spending 15.44 hours per day. In region B, high adopters were found to be spending 12.28 hours, medium adopters were spending 13.40 hours and the low adopters were spending 15.43 hours daily on work.

An attempt was also made to measure the leisure time of the respondents. This was inclusive of the time spent by the homemakers on social activities like visiting friends, attending ceremonies etc. leisure time of rural women perse cannot be taken as a valid indicator of their personal development status because a woman from poor socio economic background marked by lack of facilities for living and employment and the one not bothered about cleanliness of house, children, clothes etc. may be having more leisure

Table 4.17 : Average time spent by the respondents on work, leisure, rest and sleep according to adoption level of household technology (in hours/day)

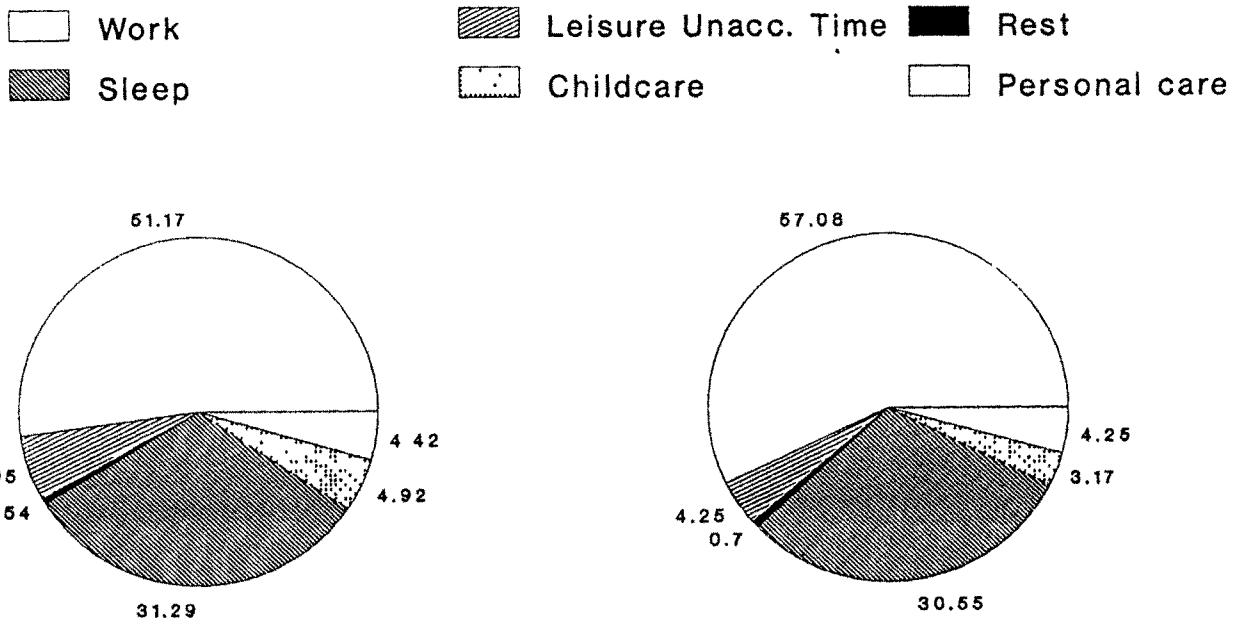
Activities	Advanced Region H.A. n=37	M.A. n=107	L.A. n=6	Total N=150	Backward Region H.A. n=16	M.A. n=82	L.A. n=52	Total N=150	Grand Total N=300
Work	8.76	12.64	15.44	12.3	12.28	13.40	15.43	13.70	13.00
Leisure	2.88	1.26	0.16	1.43	1.70	0.96	0.41	1.02	1.23
Rest	1.01	0.61	-	0.54	0.28	0.22	0.01	0.17	0.35
Sleep	8.05	7.40	7.09	7.51	7.47	7.39	7.41	7.33	7.42
Total	20.7	21.92	22.69	21.78	21.74	21.99	23	22.23	22.00

time. But from the perspective of technology vis-a-vis women's status, the investigator was interested to find the impact of technology on availability of leisure time of rural women (both intra and inter region wise) since whatever be the background of respondents, they were selected on random sampling basis and random errors are assumed to be normally distributed.

Leisure time of entire sample came out to be 1.23 hours (region A=1.43 hours and region B=1.02 hours). High adopters of region A were found to be having maximum amount of leisure time i.e. 2.88 hours whereas minimum amount of leisure time i.e. 0.16 hours was available to low adopters of household technology, of the same region. In the backward region also high adopters of technology were having maximum amount of leisure time (1.70 hours) and it kept on decreasing with decline in level of adoption of household technology (medium adopters=0.96 hours and low adopters=0.41 hours).

Further probing revealed that in majority of the cases, the leisure time was being spent in watching popular serials on television, especially the ones shown at 9 P.M. Respondents were also watching with interest, the Chitrahaar either at their own place or at the neighbour's place. Few of them were also spending this time in pursuit of their hobbies like embroidery, dari making or stitching of clothes. But all these things were done on a very small scale. Some of the leisure time of the respondents was being spent in

Fig 4.3. PERCENTAGE DISTRIBUTION OF TOTALTIME (24 HOURS) BY RURAL WOMEN



Technologically Advanced Region

Technologically Backward Region

chatting with friends and neighbours and sometimes they were attending ceremonies like marriage, mundan etc.

Time devoted by homemakers on rest and sleep, which is an important personal development indicator was found to be 7.79 hours (region A=8.07 hours and region B=7.51 hours). These figures are inclusive of both rest and sleep. Time spent on rest and sleep varied with adoption level of technology and development of region. High adopters of region A were found to be spending maximum time on rest and sleep (9.08) hours. Whereas medium adopters in advanced region were spending 8.02 hours and low adopters were spending 7.09 hours on rest and sleep. In the backward region, high adopters were spending 7.76 hours, medium adopters were spending 7.63 hours whereas low adopters were spending 7.16 hours daily on rest and sleep. Almost all of them were sleeping around 10 P.M. and getting up at the crack of dawn.

It can be thus concluded from the above observations that though use of technology had an impact on time use pattern but the difference was not substantial. This shows that though household technology has potential to reduce the time expenditure of rural women if it is used alongwith energy saving motions and functional work place.

4.3.2 HEALTH STATUS

Health status of women can greatly influence their productivity and efficiency and can have far reaching effects

on their well-being and ultimately quality of life. In the present study health status of rural women has been analyzed from following angles - (a) time spent on personal care, (b) conservation of human energy and anthropometric measurements of homemakers, (c) their control over fertility and (d) better health seeking behaviour. The findings pertaining to these indicators of women's health status are discussed under following sub-heads :

4.3.2.1 Time Allotted To Personal Care : Time spent on personal care, which has been taken as an indicator of health status of homemakers, included the time spent by them on bathing, toiletting, getting dressed and eating meals etc. It was, however, disappointing to note that in the present sample, personal care was being allotted only 61.95 minutes on an average per day though it was slightly higher in region A (63.74 minutes) as compared to region B (60.17 minutes Table 4.18). In the advanced region, high adopters were spending 74.72 minutes for personal care which was incidentally the maximum amount of time being spent in the entire sample on this activity. The medium adopters of the same region were spending 67.34 minutes and the low adopters were spending merely 49.17 minutes on personal care activity. In the backward region also the time spent on personal care decreased with decrease in level of adoption of technology. High adopters of household technology of region B were found to be spending 70.76 minutes, whereas the medium adopters were spending 68.54 minutes and the low adopters were found

Table 4.18 : Average time spent by homemakers on personal care per day according to the adoption level of technology (in minutes)

Personal care	Advanced Region				Backward Region				Grand Total
	H.A. n=27	M.A. n=96	L.A. n=27	T N=150	H.A. n=8	M.A. n=73	L.A. n=69	T N=150	N=300
Bathing and Dressing	19.72	13.34	10.00	14.35	20	18	7	15	14.67
Toilet	15	24	22.17	20.39	18.76	25	19.21	20.99	20.69
Eating meals	40	30	17	29	32	25.54	15	24.18	26.59
Total	74.72	67.34	49.17	63.74	70.76	68.54	41.21	60.17	61.95

to be spending only 41.21 minutes on the activity, which also constituted the lowest amount of time spent on personal care in the entire sample.

The above mentioned findings clearly reflect that in both the regions, respondents were so overburdened with household and farm work that they hardly got an hour or so for personal care.

An activity wise break-up (Table) revealed that on an average rural women were spending 14.67 minutes (region A = 14.35 minutes; region B = 15 minutes) on bathing and getting dressed. Eating of two meals (lunch and dinner) and breakfast was consuming about 26.59 minutes (region A = 29 minutes; region B = 24.18 minutes) which shows that meals were being hurriedly consumed by the respondents. Toilet activities was consuming about 20.69 minutes on an average. (region A = 20.39 minutes and region B = 20.99 minutes). It is clear from the Table that time spent on toilet was less in high adopters category of both the regions. This could be attributed to the fact that these households were having their own toilets hence women did not have to go to fields for defecation.

However, respondents belonging to medium and low adopters category households were spending about 20 to 25 minutes on this activity. It was observed that for defecation, they had to walk a long distance i.e. about 1/2 to 3/4th of a kilometre to reach fields and that too after the sun-set when visibility is poor. Moreover they had to

wait till the evening to go to toilet because at that time there are less chances that any one would see them. This could undermine their health status to a considerable extent and some of the respondents, on further probing, revealed that they experienced constant pain in lower abdomen region. Similar findings of physical and mental stress experienced by rural women while carrying out this activity has also been reported in Shram Shakti (1987).

The above findings have important policy implications for concerned authorities interested in improving health status of women, to install low-cost community latrines in rural areas. If this is implemented rural women's health status alongwith their productivity/efficiency will be enhanced considerably.

4.3.2.2 Energy Expenditure Ratio Of The Homemakers : This is a very important aspect which can yield a significant effect on homemaker's health as it would give a picture of how much energy is being spent by the homemakers while conducting various household tasks. Differentials in energy costs, required for carrying out various activities in the household, alongwith time expenditure pattern could be an important indicator of effect of technology on human cost of work and hence, the health status of the homemaker. The mean energy expenditure was calculated by using equation given by ICMR (1985) (Vide Methodology). The Table 4.19 reveals that on an average the energy expenditure of the respondents came

Table 4.19 : Mean energy expenditure of the respondents (in K.Cal./day) according to the adoption level of technology

Energy expenditure (in K. cal./day)	Advanced Region H.A. n=27	M.A. n=96	L.A. n=27	T N=150	Backward Region H.A. n=8	M.A. n=73	L.A. n=73	T N=150	Grand Total N=300
Mean Energy Expenditure	2581.82	2697.91	3285.12	2854.95	2801.41	2883.03	3049.65	2911.36	2883.15
S.D.	407.11	449.58	122.71	326.67	442.86	409.28	200.28	350.80	338.73

out to be 2883.15 K. Cal. per day. However, it varied both within and between regions. It was found to be less in advanced region (2854.95 K.Cal/day) as compared to the backward region (2911.36 K.Cal./day).

The Table further reveals that in the advanced region respondents belonging to high adopters of household technology, category had mean energy expenditure of 2581.82 K.Cal/day. Whereas medium adopters of the same region were spending 2697.91 K.Cal./day on various activities and low adopters of houdehold technology were spending highest amount of kilo calories daily i.e. 3285.12 (S.D. = 122.71) which was incidentally highest in the entire sample also.

As compared to the technologically advanced region, energy expenditure ratio was found to be higher in the backward region. Respondents belonging to high adopters category of region B were found to be spending 2801.41 K.Cal./day on household tasks. For the respondents belonging to the category of medium adopters of household technology the energy expenditure per day came out to be 2883 K.Cal. with a deviation of 409.28. In this region, the low adopters of technology were having highest energy expenditure ratio of 3049.65 K.Cal./day (S.D. = 200.28).

Thus, the data show a tendency that in both between and within regions, as the level of household technology declined the energy expended on various tasks increased.

4.3.2.3 Anthropometric Measurements : Body weights and heights of an individual reflect their state of health and also what can be attained by an individual with normal growth. In many developing countries, with widespread food inadequacy and malnutrition the weights and heights that prevail among the population are below normal which hinders attainment of their full genetic potential in growth and development. The expected body weights of adult men and women (20-50 years) corresponding to their heights of 163 cm and 151 cm respectively should be 60 Kg and 50 Kg. respectively (ICMR, 1990). Taking this as a reference, the anthropometric measurements of the respondents were analyzed whose findings are presented in the present sub-section.

The Table (4.20) reveals that in the present sample the average height of the respondents were found to be 157.65 cms. and their mean weight was 53.37 kgs., which is slightly below the normal.

In the technologically advanced region, not much variation was observed within the group regarding average heights and weights of the respondents. Homemakers belonging to this region had an average height of 157.69 cms and average weight of 54.92 kgs. which is just equal to the one recommended by the ICMR. However, in the backward region, respondents belonging to high adopters category were weighing 53.44 kgs. with an average height of 156.5 cms. Whereas average weight of respondents belonging to medium adopters of technology category was found to be 54.57 kgs. for a

Table 4.20 : Mean height and weight of the respondents according to the adoption level of technology

Mean Height and Weight	Advanced Region H.A. n=27	M.A. n=96	L.A. n=27	T N=150	Backward Region H.A. n=8	M.A. n=73	L.A. n=69	T N=150	Grand Total N=300
Height (in cms.)	158.51	156.79	157.77	157.69	156.5	153.78	162.55	157.6	157.65
Weight (in kgs.)	55.07	56.73	52.96	54.92	53.44	54.57	47.46	51.82	53.37

corresponding height of 153.78 cms. In the low adopters category of this region, respondents were found to be under weight as with an average height of 162.55 cms. they were weighing 47.46 kgs. only which is indeed far below the normal weight recommended for this height.

Overall, it can be said that anthropometric measurements of the respondents reflected that they had an average health status. This could be attributed to the general prosperity prevalent in Haryana State where diets of even average rural families are rich in milk and milk products, alongwith carbohydrates, fats and vitamins. However, it is worth to note here that no significant association could be established between adoption level of technology and anthropometric measurements of rural women.

4.3.2.4 Control Over Fertility : This variable taken as an indicator of health status of women was operationalized in terms of the actual practice of family planning by the respondents, the burden shared by the spouse and respondent's say in adoption of family planning method. Data revealed that, in the entire sample 54.33 per cent of the respondents (region A = 34 per cent and region B = 74.67 per cent) of the respondents had no control over fertility. Either they were not practising family planning or they had no say in matters concerning fertility control. It is evident from the Table (4.21) that more number of respondents (17.33 per cent) in the advanced region had full control over fertility as

Table 4.21 : Extent of control of respondents over fertility according to the adoption level of technology (in percentages)

Control over Fertility	Advanced Region H.A. n=27	M.A. n=96	L.A. n=27	T N=150	Backward Region H.A. n=8	M.A. n=73	L.A. n=69	T N=150	Grand Total N=300
No Control	29.63	32.29	44.45	34	75	64.39	85.50	74.67	54.33
Partial	44.44	51.04	44.44	48.67	12.5	28.76	10.15	19.33	34
Full	25.93	16.67	11.11	17.33	12.5	6.85	4.35	6	11.67
Total	100	100	100	100	100	100	100	100	100

compared to the backward region (6 per cent). However, overall only a small percentage of respondents i.e. 11.67 per cent had full control over fertility. Thirty four per cent of the respondents (44.44 per cent and 19.33 per cent) had partial control over fertility i.e. their opinion was sought regarding limiting the number of children born.

The Table further reveals that in the advanced region, 25.93 per cent of respondents belonging to high adopters category were having full control over fertility whereas 44.44 per cent of them had partial and 29.63 per cent had no control over fertility. In case of medium adopters of technology only 16.67 per cent of respondents were found to be having full control over fertility whereas 51.04 per cent had partial and 32.29 per cent of the respondents did not have any control over their bodies. In the same region, 11.11 per cent of the respondents belonging to the low adopters category were having full control over fertility whereas 44.44 per cent were having partial and 44.45 per cent were not having any control over fertility.

In the backward region, 12.5 per cent of the respondents belonging to high adopters category were having full control over fertility whereas a similar percentage was having partial and the remaining three-fourth of the respondents were not having any control on it. Whereas in the medium adopters category of the same region, only 6.85 per cent of the respondents were having full control over fertility whereas 28.76 per cent were exercising partial

control and as many as 64.39 per cent of the respondents had no control over it. Three-fourth of the respondents belonging to the low adopters category were found to be having no control over this important indicator of health status of women. Only 6 per cent of them were in full control of their fertility and 19.33 per cent were exercising partial control.

The aforesaid discussion pertaining to homemaker's control over fertility showed a tendency that as level of technology improved, homemaker's control over fertility also increased. This can be attributed to the fact that due to availability of communication technology in the advanced region, more number of homemakers were aware of health technology and its implication. However, it is worth mentioning here that this difference was not significant.

4.3.2.5 Better Utilization Of Health Care Services : Utilization of health care facilities by the sample respondents can affect their health status to a great extent. On the basis of modernity of the health care facilities being used by the homemakers and their extent of use in case of sickness, their level of utilization of health care facilities was categorized as poor, average and good taking mean $\pm$ Sd as a cut-off point.

The findings revealed (Table 4.22) that overall only 7.67 per cent of the respondents (region A = 10.67 and region B = 4.66 per cent) were having good level of utilization of health services whereas 45.33 per cent (52 per cent and 38.67

Table 4.22 : Level of utilization of health care services by the respondents accroding to the adoption level of technology (in percentages)

Level of utilization of Health Care Services	Advanced Region				Backward Region				Grand Total
	H.A. n=27	M.A. n=96	L.A. n=27	T N=150	H.A. n=8	M.A. n=73	L.A. n=69	T N=150	N=300
Poor	22.22	35.42	59.26	37.33	37.5	52.05	63.77	56.67	47
Average	59.26	54.17	37.04	52	50	42.47	33.34	38.67	45.33
Good	18.52	10.41	3.70	10.67	12.5	5.48	2.89	4.66	7.67
Total	100	100	100	100	100	100	100	100	100

per cent) had average and 47 per cent (37.33 per cent and 56.67 per cent respectively) had poor utilization level of available health care facilities.

The Table further reveals that maximum number of respondents (18.52 per cent) belonging to high adopters category of region A were having good utilization level of health services as compared to respondents belonging to medium (10.41 per cent) and low adopters category (3.70 per cent). In the same region 52 per cent of the respondents were moderately utilizing the available health care facilities (H.A. = 59.26 per cent, M. A. = 54.17 per cent and L.A. = 37.04 per cent). Poor Utilization of these services was reported by 37.33 per cent of the respondents (H.A. = 22.22 per cent, M.A.= 35.42 per cent and L.A. = 59.26 per cent) belonging to the advanced region. In the backward region, maximum number of respondents (12.5 per cent) belonging to high adopters of technology category were found to be making good use of health services and it declined with decrease in adoption level of technology (M.A. = 5.48 per cent and L.A. = 2.89 per cent). In region B, maximum number of respondents (63.77 per cent) belonging to low adopters of technology category were found to be making very less use of existing health care facilities in their region.

From the above findings it can thus, be concluded that data pertaining to usage of health care facilities by the homemakers showed a tendency to decline with decline in level of adoption of technology.

4.3.3. ECONOMIC STATUS

This sub-section deals with analysis pertaining to the impact of technology on economic status of rural women in the household sub-system measured in terms of their power structure within the family set-up exemplified through their gainful employment, their control over money resource, ownership of assets and their decision making power on important familial issues. Findings, pertaining to the above economic status indicators have been presented below :

4.3.3.1 Gainful Employment : Gainful employment, which is an internationally accepted indicator of status of women was derived from the work status of the rural women. Under this only paid workers and self-employed homemakers were considered. Unpaid workers i.e. those who were working on their own fields, were not considered as gainfully employed as they were not getting paid for it.

The findings revealed (Table 4.23) that in the entire sample, only 6.34 per cent of the respondents were gainfully employed (region A = 0.67 per cent and region B = 12 per cent). In the advanced region merely 3.70 per cent of the respondents belonging to low adopters of technology category were working as agricultural labourers on some one else's farms and were earning Rs. 35 per day. Whereas in the region B, 23.18 per cent of the homemakers belonging to low adopters category were working as agricultural labourers and 2.89 per

Table 4.23 : Gainful employment of the respondents according to adoption level of technology (in percentages)

Gainful Employment	Advanced Region				Backward Region				Grand Total N=300
	H.A. n=27	M.A. n=96	L.A. n=27	Total N=150	H.A. n=8	M.A. n=73	L.A. n=69	Total N=150	
Paid workers	-	-	3.70	0.67	-	-	23.18	10.67	5.67
Self-employed	-	-	-	-	-	-	2.89	1.33	0.67
Total	-	-	3.70	0.67	-	-	26.07	12	6.34

cent of the respondents were self-employed. They were engaged in stitching clothes for others and on an average were able to earn Rs. 200 to Rs. 250 per month.

It is clearly evident from the data that wherever technology has been introduced (inter and intra region) work status of women had been reduced to mere housewife or at the most to an unpaid family worker. These findings have been adequately substantiated by number of empirical studies (Boserup, 1970; Agarwal, 1985; Kaur, 1986; Sharma and Dak, 1989 and Varma, 1992).

4.3.3.2 Control Over Money Resource : Homemaker's access to and power to allocate money resource (Control over money resource) is invariably an important indicator of their status in the household. But it was disappointing to note that in the present sample, only 37.67 per cent of the homemakers had full control over money resource whereas 34 per cent had partial, 24.33 per cent had less and only 4 per cent had no control over money allocation (Table 4.24).

The Table reveals that homemakers belonging to the backward region had better control over money as 50 per cent of them had full control over money, 37.33 per cent had partial and 12.67 per cent had less control. Whereas in the advanced region, one-fourth of the sample had full, 30.67 per cent had partial, 36 per cent had less and 8 per cent had no control over money resource.

Table 4.24 : Extent of control of the respondents over money resource according to adoption level of technology (in percentages)

Control Over Money Resource	Advanced Region H.A. n=27	M.A. n=96	L.A. n=27	Total N=150	Backward Region H.A. n=8	M.A. n=73	L.A. n=69	Total N=150	Grand Total N=300
Nil	-	-	44.45	8	-	-	-	-	4
Less	59.26	36.45	11.11	36	37.5	17.81	4.34	12.67	24.33
Partial	14.82	34.38	33.33	30.67	12.5	23.28	55.08	37.33	34
Full	25.92	29.17	11.11	25.33	50	58.91	40.58	50	37.67
Total	100	100	100	100	100	100	100	100	100

Intra regional profile showed that in both the regions medium adopters of technology had more control over money as compared to the high and low adopters of technology. In the advanced region, 29.17 per cent of the medium adopters of technology were having full control over money resource whereas 34.38 per cent of the respondents had partial and only 36.45 per cent were having less control over money. In case of high adopters of the same region, 59.26 per cent of the respondents were having less control over money whereas 14.82 per cent had partial and one-fourth (25.92 per cent) of the respondents were having full control over this important non-human resource. Surprisingly, in the low adopters category of the advanced region as many as 44.45 per cent of the respondents were found to be having no control over money. This high percentage could be attributed to the fact that there were more number of joint families in this category. However, 11.11 per cent of the respondents were having less control over money, 33.33 per cent had partial and only 11.11 per cent of them were exercizing full control over money resource.

In the backward region, fifty per cent of the respondents belonging to high adopters category were having full control over money whereas 12.5 per cent of them were having partial and 37.5 per cent were having less control over it. In the region B, 17.81 per cent of the respondents were found to be exercising less control over money, 23.28 per cent were having partial and 58.91 per cent of them were

having full control over money resource. However, percentage of respondents having full control over money resource decreased in the low adopters category of region B as 40.58 per cent of the respondents were in full control. Whereas 55.08 per cent of them were having partial control over it and only 12.67 per cent of respondents were having less control over money.

The data presented above show a tendency that with decline in adoption level of technology (inter and intra region) homemaker's control over money resource increased thus establishing an inverse relationship between the two variables.

4.3.3.3 Ownership of Assets : Ownership of liquid, financial and physical assets like land, house, plots, saving deposits in banks or post-office etc., can go a long way in empowering the women within their households. But it was disappointing to note that irrespective of the technological advancenment and other personal and household variables, none of the rural homemakers in the entire sample was owning any of the above mentioned assets. Moreover, they did not have free access to their jewellery also as it was being controlled by the mother-in-law or by other male members of the family.

The data further revealed (Table 4.25) that assets like land, house, saving accounts in the bank etc., were either on

Table 4.25 : Ownership of assets according to the adoption level of technology

Person Owning the Assets	Advanced Region H.A. n=27	M.A. n=96	L.A. n=27	Total N=150	Backward Region H.A. n=8	M.A. n=73	L.A. n=69	Total N=150	Grand Total N=300
Spouse	55.55	84.37	18.51	67.33	37.5	60.28	85.50	70.67	69
Father-in-law	14.81	3.12	37.03	11.33	25	13.7	4.35	10	10.67
Other Male Members	11.12	7.31	22.23	10.67	12.5	6.84	2.9	5.33	8
Joint	18.52	5.21	22.23	10.67	25	19.18	7.25	14	12.33
Total	100	100	100	100	100	100	100	100	100

the name of the spouse or father-in-law or they were being jointly held by the male members of the family.

The Table reveals that in the entire sample in 69 per cent of the households (region A = 67.33 per cent and region B = 70.67 per cent) spouse was the sole owner of the assets as most of these were nuclear families. In 10.67 per cent (11.33 per cent and 10 per cent) of the households respondent's father-in-law was in control of all the familial assets whereas in 8 per cent (10.67 per cent and 5.33 per cent) of the households other male members were controlling the assets and only in 12.33 per cent (10.67 per cent and 14 per cent respectively) of the households the assets were being held jointly by the male members of the household. Not much intra-regional variation was observed with regard to this economic indicator of status.

4.3.3.4 Decision Making Power : Decision making power is considered as an important status indicator of women. Hence, in order to know the pattern of decision making in the rural families with special emphasis on the role of women, few areas were selected keeping in mind their importance, from the study's perspective viz., women, technology and family resource development. The area selected were household, farm, economic and health related decisions. The extent of participation of respondents in these areas was measured on a "process oriented" four point continuum scale viz; (1) whether respondents initiated the problem ; (2) whether she was consulted, (3) whether her suggestions were incorporated

and (4) whether she achieved satisfaction from the decisions so reached. Taking mean ± sd as a cut-off point the respondents participation rate was categorized as : low, medium and high Findings pertaining to this indicator are presented below :

4.3.3.4.1 Household Related Decisions : The household related decisions concerned with the education of the children, purchase of electrical gadgets and purchase of household items like television, radio, vehicle etc. The findings revealed that in the entire sample (Table 4.26) only 44.33 per cent had high extent of participation, 22.33 per cent had medium and 33.34 per cent had low extent of participation in decision making. Respondents belonging to advanced region had more say in household related matters as 54.67 per cent of them were having high participation rate and 23.33 per cent were having medium participation. Only 22 per cent of the respondents had low extent of participation.

Table 4.26 : Percentage distribution of the respondents according to their extent of participation in various decisions

Extent of Participation of Homemakers in Decision Making	Advanced Region N=150	Backward Region N=150	Total N=300
Household Related Decisions			
Low (< 11)	22	44.67	33.34
Medium (11-20)	23.33	21.33	22.33
High (> 20)	54.67	34	44.33
Total	100.00	100.00	100.00

1	2	3	4
Farm Related Decisions			
Low (< 9)	76	46.67	61.34
Medium (9-16)	22.67	10	31.33
High (> 16)	1.33	13.33	7.33
Total	100.00	100.00	100.00
Economic Decisions			
Low (< 7)	38.67	12.67	25.67
Medium (7-12)	36	38	37
High (> 12)	25.33	49.33	37.33
Total	100.00	100.00	100.00
Health Related Decisions			
Low (< 7)	28.28	46.80	37.55
Medium (7-12)	42.42	34.05	38.23
High (> 12)	29.3	19.15	24.22
Total	100.00	100.00	100.00

In the backward region, almost half (44.67 per cent) of the respondents were having low extent of participation in household related decisions thus implying that as progressiveness of the region decreased so did the participation of homemakers in household related decisions.

4.3.3.4.2 Farm Related Decisions : Analysis of the decision making pattern regarding farm matters revealed it to be more or less a male domain, as they were the initiators of the problem and final decision was also theirs. But women were also being consulted especially in the backward region and their suggestions were being incorporated partially. The Table reveals that in advanced region, majority of the homemakers (76 per cent) had little say in the matters concerning purchase of farm implements, purchase of tractors, purchase of land and purchase of animals. Merely 1.33 per cent of the respondents were having high rate of participation whereas remaining 22.67 per cent had medium level of participation in farm decisions. But as one moved from region A to region B, the situation improved. Forty per cent of the respondents were moderately participating in farm related decisions whereas 13.33 per cent were actively (high) participating in the same. Thus, as the progressiveness of the region decreased, participation of women in farm related decisions increased since women were also involved in agricultural work in the unpaid capacity. This has also been reported by a number of studies done earlier that there exists an inverse relationship between technological advancement and participation of women in farm related decisions (Rani and Bhave, 1981, Pandey et al., 1986 and Kaur, 1987).

4.3.3.4.3 Economic Decisions : Data pertaining to economic decisions (work, household expenditure, savings and decision to invest money), which is an important indicator of status, revealed that one-fourth of the respondents (25.67 per cent) had low rate of participation in economic decisions. It was found that respondent's extent of participation in economic decisions was higher in the backward region as compared to the advanced region. In the backward region almost half of the respondents (49.33 per cent) were having high level of participation in decisions concerning work, expenditure pattern, savings and investments. In this region, only 38 per cent of the respondents had medium level of participation whereas only 12.67 per cent of the respondents were having low level of participation in decisions pertaining to economic matters. Whereas in the advanced region, only one-fourth (25.33 per cent) of the respondents were found to be having high extent of participation in decision making. Thirty six per cent of the respondents had moderate say in the decisions whereas 38.67 per cent of the respondents were found to be having low extent of participation in economic decisions.

4.3.3.4.4 Health Related Decisions : Surprisingly rural women of both the regions had very little say in matters related to either their own body (family planning) or to their children (immunization). In the entire sample, only 24.22 per cent of the repondents had high participation in decisions related to family planning and immunization of children. Though there

was not much difference in their extent of participation still the Table reveals that respondents belonging to advanced region had a slight edge over their counterparts in region B. In region A, 42.42 per cent had medium participation level followed by 29.3 per cent of the respondents having high extent of participation in health related decisions. The situation was found to be very poor in the backward region where 46.80 per cent of the respondents had low extent of participation, 34.05 per cent had medium extent of participation and 19.15 per cent had high extent of participation in health related decisions.

4.3.4. COGNITIVE STATUS

Cognitive status can go a long way in breaking the mental isolation of rural women and enhance their status in the family and community. This status indicator was measured in terms of their participation in community activities and their opinions regarding certain progressive issues which have been discussed below :

4.3.4.1. Homemaker's Extent Of Contact With Agents Of Change : Channels of mass media like radio, television and development agents like extension workers, aganwadi workers, health workers etc., can have most liberating influences upon women especially rural women who are more isolated physically, mentally and socially. In order to assess their contact level, scores were assigned to homemakers on the basis of their access to these channels and agents of change,

frequency of use and the type of information received by them. On the basis of these criteria, the homemakers, were divided into three categories : those having nil contact, low contact and high contact taking mean ± Sd as cut-off point.

The Table (4.27) reveals that as compared to development agents, respondents had more contact with channels of mass-media (radio, television) as 24 per cent of the respondents (region A = 36.67 per cent and region B = 11.34 per cent) had high contact with them whereas 49.33 per cent (47.33 per cent and 51.33 per cent) had low contact and 26.67 per cent (16 per cent and 37.33 per cent respectively) had no contact with either radio or television. As compared to this only 4 per cent of the respondents (region A = 6 per cent and region B = 2 per cent) were having high contact with development agents, 52.6 per cent (52.66 per cent, 52.67 per cent) were having low contact and as many as 43.33 per cent of respondents (41.34 per cent and 45.33 per cent respectively) reported that they never had any contact with either extension personnel or aganwadi and health workers.

Intra regional profile showed that in both the regions, high adopters of technology were having higher extent of contact with mass-media and development agents as compared to medium and low adopters of technology. In the advanced region, 51.86 per cent of the respondents belonging to high adopters category were having high contact with channels of mass-media whereas in medium adopters category 40.63 per cent of the respondents were having high contact with them and in

Table 4.27 : Level of contact of respondents with agents of change according to adoption level of technology (in percentages)

Level of Contact	Advanced Region				Backward Region				Grand Total
	H.A. n=27	M.A. n=96	L.A. n=27	Total N=150	H.A. n=8	M.A. n=73	L.A. n=69	Total N=150	N=300
Mass Media Channels									
Nil	7.40	10.41	44.45	16	12.5	34.25	43.48	37.33	26.67
Low	40.74	48.96	48.15	47.33	50	52.06	50.73	51.33	49.33
High	51.86	40.63	7.40	36.67	37.5	13.69	5.79	11.34	24
Total	100	100	100	100	100	100	100	100	100
Development Agents									
Nil	22.22	40.63	62.97	41.34	37.5	41.09	50.73	45.33	43.33
Low	62.96	54.17	37.03	52.66	50	56.17	49.27	52.67	52.6
High	14.82	5.20	00	6	12.5	2.74	0	2	4
Total	100	100	100	100	100	100	100	100	100

the low adopters category only 7.40 per cent of the homemakers were having high contact with mass media. In the backward region also maximum number of respondents (37.5 per cent) belonging to high adopters category were having high contact with radio and television followed by medium (13.69 per cent) and low adopters of technology (5.79 per cent). Incidentally, in both the regions maximum number of respondents (region A = 44.45 per cent and region B = 43.48 per cent) belonging to low adopters category were found to be having no contact with mass-media channels.

A similar trend was observed with regards to homemaker's extent of contact with development agents, as in both the regions maximum number of respondents belonging to high adopters of technology category (region A = 14.82 per cent and region B = 12.5 per cent) were having high level of contact with those agents. Whereas maximum number of respondents belonging to low adopters category (region A = 62.97 per cent and region B = 50.73 per cent) reported that they had never had contact with agents of change.

The above findings reflect the poor awareness and knowledge status of rural women thereby highlighting their physical and mental isolation. This also projects a poor image of the extension personnels who virtually remain elusive to rural women folk. Are these agents not accountable to their nodal department/authority? Naturally this has a

policy implication for the concerned department functioning at the district and block levels.

4.3.4.2 Homemaker's Participation in Community Activities : Access to and participation of women in community activities indicate the extent of their mobility and their freedom from social restrictions. For the present investigation, homemaker's awareness regarding existence of community organizations such as the village panchayat, religious committee, co-operative society, Mahila Mandal etc., in their village and their access to (membership / participation) these organizations were assessed. The data revealed that mainly women were aware of village panchayat and Mahila Mandal functioning in their village. In the sample households, homemaker's did not have any contact with the village panchayat. Hence their only contact with the community was through Mahila Mandals, which acted as a source of information as discussed below :

4.3.4.2.1 Role of Mahila Mandals : In 1954-55 it was observed that women's lack of participation in community development programme was to a considerable extent responsible for the programme not making the necessary impact. In keeping with the approach of the programme i.e. ensuring people's participation in community development activities, co-operation of women was sought to be realized through institutes like Mahila Mandals. These were conceived as institutions for bringing new ideas and skills to village women. The agents of change are women workers known as "Gram

Sevikas" who work directly with the women at village level. They are supervised by other women known as "Mukhya Sevikas". They are expected to teach village women certain practical skills (crafts, sewing, knitting, kitchen gardening etc.). Their main objective is to assist village women to develop and understand their role and responsibilities as individuals, as members of a family and community.

4.3.4.2.1.1 Homemaker's Knowledge Regarding Mahila Mandal : Knowledge was measured in terms of : (i) their awareness about existence of Mahila Mandal, (ii) its objectives and (iii) the activities carried out by it.

The Table (4.28) reveals that overall 59.67 per cent (region A = 54.67 per cent and region B = 64.67 per cent) of the respondents were not even aware of the presence of Mahila Mandal in their village and in case of 11.33 per cent (8.67 per cent and 14 per cent) of the respondents, level of knowledge was low. There were 13.67 per cent (14 per cent and 13.33 per cent) of the respondents who had medium level of knowledge about it whereas only 15.33 per cent (22.66 per cent and 8 per cent respectively) of the respondents who were having high level of knowledge regarding Mahila Mandal.

Intra regional analysis showed that in both the regions, more number of respondents belonging to high adopters of technology category were having high level of knowledge regarding Mahila Mandal as compared to respondents belonging to medium and low adopters category. As many as

Table 4.28 : Level of knowledge of the respondents regarding Mahila Mandal according to adoption level of technology

Level of Knowledge	Advanced Region				Backward Region				Grand Total
	H.A. n=27	M.A. n=96	L.A. n=27	Total N=150	H.A. n=8	M.A. n=73	L.A. n=69	Total N=150	N=300
Nil	22.22	58.33	74.07	54.67	37.5	56.18	76.81	64.67	59.67
Low	-	7.29	22.23	8.67	12.5	12.32	15.95	14	11.33
Medium	29.63	12.5	3.70	14	12.5	19.18	7.24	13.33	13.67
High	48.15	21.88	-	22.66	37.5	12.32	-	8	15.33
Total	100	100	100	100	100	100	100	100	100

48.15 per cent of high adopters were having high level of knowledge whereas 29.63 per cent of the respondents had medium knowledge and 22.22 per cent of them reported to be having no knowledge regarding it in this category. In the medium adopters category of the same region, only 21.88 per cent of the respondents were found to be having high level of knowledge, 12.5 per cent of them had medium knowledge, 7.29 per cent had low and maximum number of respondents (58.33 per cent) were having no knowlede about the existence of Mahila Mandal in their village. In the same region, three-fourth of the respondents (74.07 per cent) of low adopters category were having no knowledge regarding Mahila Mandal whereas 22.33 per cent of them had low and only 3.70 per cent of the respondents had medium level of knowledgte. Surprisingly, not a single respondent was found to be having high level of knowledge regarding Mahila Mandal in this category of advanced region.

A similar trend was observed in the backward region too where maximum number of respondents (37.5 per cent) belonging to high adopters category were having high level of knowledge about Mahila Mandal as compared to the medium and low adopters category. Incidentally highest number of respondents (76.81 per cent) belonging to low adopters category had no knowledge about either the existence of Mahila Mandal or its objectives and activities.

From the aforesaid findings it can be concluded that the data pertaining to homemaker's knowledge regarding Mahila Mandal showed a tendency of inverse relationship with adoption level of technology because with decline in level of adoption of technology (inter and intra region) a corresponding decline in homemaker's knowledge regarding Mahila Mandal was observed.

4.3.4.2.1.2 Homemaker's Participation in Mahila Mandal : Participation of rural women in Mahila Mandal was studied with regard to their membership and attendance in meetings. It was found that out of those respondents who were aware of the existence of Mahila Mandal, only 62.80 per cent were the members of Mahila Mandal whereas the remaining 37.20 per cent of the respondents, though they were aware of its existence, were not members of the organization (Table 4.29)

Distribution of the respondents as per level of participation shows that 18.18 per cent (region A = 17.64 per cent and region B = 18.87 per cent) of the respondents were at low, 21.48 per cent (25 per cent and 16.98 per cent) of them were at medium and 23.14 per cent (32.36 per cent and 11.32 per cent respectively) of the respondents were at high level of participation in activities of Mahila Mandal. The Table further reveals that in the advanced region 52.39 per cent of the respondents belonging to high adopters category were at high level of participation. Whereas 23.80 per cent of the respondents of the same category were having medium and 14.28 per cent of them had low level of participation in

Table 4.29 : Level of participation of the respondents in Mahila Mandal according to adoption level of technology (in percentages)

Level of Participation	Advanced Region				Backward Region				Grand Total
	H.A. n=21	M.A. n=40	L.A. n=7	Total N=68	H.A. n=5	M.A. n=32	L.A. n=16	Total N=53	N=121
Nil	9.53	25	71.42	25	40	46.88	68.75	52.83	37.20
Low	14.28	17.5	28.58	17.64	-	18.75	25	18.87	18.18
Medium	23.80	30	-	25	60	15.62	6.25	16.98	21.48
High	52.39	27.5	-	32.36	-	18.75	-	11.32	23.14
Total	100	100	100	100	100	100	100	100	100

Mahila Mandal. In the medium adopters category only 27.5 per cent of the respondents had high rate of participation whereas 30 per cent of them had medium level of participation and the remaining 17.5 per cent had low participation rate. In the low adopters of technology category of the same region all 28.58 per cent of the respondents who were aware of Mahila Mandal and its activities were having low rate of participation in it.

In the backward region not a single respondent was having high level of participation in activities of Mahila Mandal. Sixty per cent of the respondents belonging to high adopters category had medium level of participation. In the medium adopters category 18.75 per cent of the respondents were having high participation rate whereas 15.62 per cent of them were having medium and 18.75 per cent of the respondents had low participation rate. One - fourth of the respondents (25 per cent) belonging to low adopters category of backward region had low level of participation in Mahila Mandal whereas only 6.25 per cent of them had medium level of participation. Incidentally not a single respondent belonging to this category had high level of participation.

It is worth mentioning here that among the members, majority of the respondents had just registered their names but were rarely attending meetings. Only a few of them were participating fully by taking part in discussion, decision making and follow-up action. This calls for a need of

motivating rural homemakers to actively participate in all the activities conducted by Mahila Mandal, which will go a long way in enhancing their cognitive status.

4.3.4.3 Homemakers Opinions Towards Progressive Issues : Opinions towards progressive issues has been considered as a qualitative indicator of measuring status of women. Here mainly their opinions towards progressive issues like introduction of technology in rural areas, popularization of family planning and immunization programmes, importance of communication technology etc., has been considered. The findings (Table 4.30) revealed that maximum number of respondents (55 per cent) were having negative opinions towards progressive issues whereas 45 per cent of the respondents appreciated modernization and held positive opinions towards these issues.

In the advanced region, 66.67 per cent of the respondents belonging to high adopters of technology category had positive opinions and 33.33 per cent of them had negative opinions towards progressive issues, whereas in the medium adopters category 52.08 per cent of the respondents were found to be holding positive opinions and 47.91 per cent held negative opinions about the selected issues. However in the low adopters category of the same region, more number of respondents (55.55 per cent) had negative opinions towards technology as compared to positive opinions (44.45 per cent) regarding progressive issues.

Table 4.30 : Opinions of the respondents towards progressive issues according to adoption level of technology (in percentages)

Opinions Towards Progressive Issues	Advanced Region H.A. n=27	M.A. n=96	L.A. n=27	Total N=150	Backward Region H.A. n=8	M.A. n=73	L.A. n=69	Total N=150	Grand Total N=300
Negative	33.33	47.91	55.55	46.67	37.5	54.80	75.37	63.33	55
Positive	66.61	52.08	44.45	53.33	62.5	45.20	24.63	36.67	45
Total	100	100	100	100	100	100	100	100	100

The Table further reveals that in the backward region, maximum number of respondents (62.5 per cent) belonging to high adoptors category had positive opinions towards progressive issues. Whereas three fourth of the respondents (75.37 per cent) belonging to low adopters of technology category were having negative opinions regarding progressive issues. In the medium adopters category of region B, 54.80 per cent had negative opinions as compared to 45.20 per cent of respondents who had positive opinions towards progressive issues.

Overall, the above findings showed that as the level of adoption of technology declined, both within and between regions, there was a marked increase in homemaker's negative opinions towards progressive issues.

4.3.2 OTHER INDICATORS OF FAMILY RESOURCE DEVELOPMENT

So far the discussion was revolving around the impact of technology on various dimensions of Status Of Rural Women, which is an important indicator of Family Resource Development. The focus of this section is to present findings pertaining to other indicators of FRD namely the time devoted to child care, consumption expenditure pattern to assess their quality of life and homemaker's perception towards benefits and costs of technology which have been further strengthened by measuring their attitude towards HHFC technology. Results pertaining to above mentioned indicators of FRD are presented under various sub-heads as follows :

4.3.2.1 Time Spent On Child Care : Time spent on the care of the children, who are the potential human resource of any country, was taken as an indicator to assess FRD in the present investigation. Time allotted to the child care activity, mainly comprising of bathing of children, feeding children and keeping/playing with children, was recorded only for children below 6 years of age. In the present sample, there were 158 children below 6 years of age (region A=63 and region B=95) with a mean age of 4.26 years (region A=4.52 years and region B=4.01 years) (Table 4.31). In the high adopters category of region A, children were having mean age of 5.29 years which was incidently highest in the entire sample. The mean age of children belonging to medium adopters category of this region was found to be 4.21 years and it came out to be 4.08 years for children belonging to low

adopters category. In the backward region, the mean age of children belonging to high adopters of technology category came out to be 4.55 years. Whereas children belonging to medium adopters category had a mean age of 3.98 years and children belonging to low adopters category were found to be 3.5 years of age, on an average.

Table 4.31 : Profile of the children and mean time spent by the homemakers on child care activity (minutes/day)

Profile of the Children and mean time spent on them	Advanced Region H.A. n=27	M.A. n=96	L.A. n=27	T N=150	Backward Region H.A. n=8	M.A. n=73	L.A. n=69	T N=150	Grand Total N=300
Total number of children (6 years)	8	40	15	63	3	57	35	95	158
Mean age of the children	5.29	4.21	4.08	4.52	4.55	3.98	3.5	4.01	4.26
Mean time spent by homemakers on child care	122.94	57.67	30.0	70.20	64.4	52.38	19.03	45.27	57.73

The Table further reveals that in the present sample children were not getting much attention as only 57.73 minutes on an average were being devoted to them daily by the mothers (region A=60.20 minutes and region B=45.27 minutes). In the advanced region, respondents belonging to high adopters category were devoting maximum time (122.94 minutes)

to child care activity as compared to all other categories both within and between regions. Respondents belonging to medium adopters of region A were found to be spending 57.67 minutes daily on this particular activity. It was striking to note that respondents belonging to low adopters category of the same region were spending only 30 minutes on care of children. A further probe revealed that as the homemakers belonging to these households were working on the fields hence their children were being looked after by other female members present in the households which in most of the cases were found to be mother-in-law.

In the backward region, respondents belonging to high adopters category were spending 64.4 minutes on an average per day on child care whereas it declined to 52.38 minutes in medium adopters category. In the low adopters category of the same region, homemakers were devoting 19.03 minutes to care of children. The data on time spent on child care shows an ironical picture especially if examined in the light of mean age of the children and time devoted to them. It can be observed from the Table that younger the child less was the time devoted to him/her by the mother.

However, the gravity of the situation was reduced by the fact that in the backward region too, respondents were getting help from other female members of the family like mother-in-law sister-in-law or daughter (above ten years of age). Findings of the present study confirm the findings

reported by Ahuja (1980), Kaur (1986) and Sethi (1988) that though homemakers were responsible for child care tasks (bathing and feeding), but they also received help from mothers-in-law, if present and also from daughters who looked after younger siblings. Another trend which was generally observed in the present sample was that in joint families small children were receiving more attention in terms of quantity of time devoted than in the nuclear families.

From the technological point of view it was observed that the data pertaining to mean time spent by the homemakers on child care activity, showed a tendency that as the level of adoption of technology declined both within and between the regions, time devoted to child care also decreased.

4.3.2.2 Consumption Expenditure Pattern of The Households : The ultimate goal of all production activities with or without the advancement in technology is for improving consumption level now and in the future. The consumption expenditure pattern of households can serve as an indicator of quality of consumption of goods and services by the households, which is essential for family resource development. The study was concerned to find out, as to how far technology adoption level explains for differentials in the quality of consumption of goods and services as exemplified through the consumption expenditure pattern of the households.

The consumption pattern of the sample has been discussed below, inter and intra region wise, on the basis of their expenditure on various food and non-food items. Expenditure for the purpose of present study was the mean expenditure on current living for the following items :

A. Food Items

1. Food and Beverages

B. Non-Food Items

1. Education
2. Fuel and Electricity
3. Medical/Health care
4. Recreation/Leisure
5. Maintenance of House
6. Clothing, Bedding and Footwear
7. Transport and Communication
8. Farm Related Expenditure
9. Miscellaneous
   a) Tobacco & Intoxicants
   b) Cosmetics and Toilet Articles
   c) Household Articles

Different reference periods were used for different items of expenditure. Expenditure on food, education, fuel and electricity etc. relate to the month preceding the date of inquiry while expenditure on clothing, medical, farm related expenditure, miscellaneous, maintenance of house etc. was for the preceding six or twelve months, whichever was applicable to the households. All the data were subsequently

converted to a common period of one month. The average expenditure per month gives only the partial picture of the total outflow of money from the family (Table 4.32). Data on consumption expenditure pattern of households according to their level of adoption of technology has been presented in Table. It was observed that the food expenditure in percentage showed a upward trend with the descending order of adoption level of technology both within and between region. In the advanced region it increased from 37.5 per cent for high adopters to 47.2 per cent for medium adopters to 56.6 per cent for low adopters category. A similar trend was also observed in region B (H.A = 50 per cent, M.A = 56 per cent and L.A = 59.49 per cent). The food items comprised of cereals, pulses, vegetables, beverages, edible oil and ghee, sugar and jaggery and milk and milk products. It is however to be noted that the cereals being the staple food in the sample households, were mostly grown in their own fields for consumption purposes, as well as for sale. Hence, no direct cash expenditure was incurred on this item in the majority of the hoseholds. Similarly milk was invariably a home product in the sample households. Moreover, some households had kitchen gardens in their homes to supplement the vegetables bought. However, for the purpose of estimation of consumption expenditure pattern of sample households market value of quantity of food products being consumed by them was calculated. Still it is to be noted here that the expenditre on food incurred by the families would have been more had it not been supplemented by household products.

Table 4.32 : Mean monthly consumption expenditure per household on different food and non-food items according to adoption level of technology

Items	Advanced Region						Backward Region					
	H.A.		M.A.		L.A.		H.A.		M.A.		L.A.	
	Mean	%	Mean	%	Mean	%	Mean	%	Mean	%	Mean	%
Food	3714.75	37.5	3181.75	47.2	2507.47	56.5	3514	50	3278.24	56	1274.8	59.49
Non-Food	5795.01	58.5	3316.57	49.2	1886.15	42.5	3373.4	48	2526.	43.15	868.12	40.51
Savings	396.24	4	242.67	3.6	55.47	1.25	140.5	2	49.75	0.85	-	-
Total	9906	100	6740.99	100	4449.09	100	7028	100	100	100	2142.99	100
Education	693.42	7	303.34	4.5	177.52	4	439.9	6.26	310.26	5.3	109.07	5.09
Fuel & Electricity	990.6	10	539.28	8	355.04	8	527.1	7.5	36.29	6.2	117.86	5.5
Health	396.24	4	303.34	4.5	133.14	3	421.68	6	462.46	7.9	139.29	6.5
Leisure	594.36	6	337.05	5	186.39	4.2	323.28	4.6	199.03	3.4	53.57	2.5
Housing	396.24	4	235.93	3.5	110.95	2.5	266.36	3.79	204.89	3.5	64.29	3
Clothing	693.42	7	438.16	6.5	277.37	6.25	379.51	5.4	283.91	4.85	67.50	3.15
Miscellaneous	990.6	10	606.69	9	452.67	10.2	513.04	7.3	444.90	7.6	186.44	8.7
Transport	495.3	5	350.53	5.2	106.51	2.4	256.52	3.65	169.76	2.9	98.79	4.61
Farm related expenditure	544.83	5.5	202.23	3.0	75.44	1.7	245.98	3.5	87.81	1.5	31.28	1.46

In case of non-food items, the expenditures increased with the increase in adoption level of technology in both the regions. In the advanced region, the percentage expenditures on total non-food items was 58.5 per cent for high adopters, 49.2 per cent for medium adoptrs and 42.5 per cent for low adopters of technology. In the backward region, respondents belonging to high adopters category were allocating 48 per cent of their income to non-food items whereas medium adopters were allocating 43.15 per cent of their income and low adopters were 40.51 per cent of their income to non-food items. An item-wise analysis of non-food items revealed that expenditures on clothing did not reveal much intra and inter household variations. The percentage expenditure on fuel and electricity in the advanced region was 10 per cent for high adopters of technology, 8 per cent for medium adopters of technology. Whereas in region B households belonging to high adopters category were allocating 7.5 per cent of their income to fuel and electricity, medium adopters were allocating 5.5 per cent of their income to this item. Such increase in expenditures in medium and high adopters group was due to frequent use of commercial fuels such as cooking gas and kerosene in these households as well as petrol/diesal for farm technology items like tractors. Also more number of houses in the medium and high adopters of technology category were electrified and electrical equipment items were being used by these households, hence an additional expenditure on electricity had to be incurred by those households. The Table further reveals that expenditure related to farm also

declined with decline in adoptioon level of technology as high adopters of technology were found to be allocating higher percentage of their income (region A = 5.5 per cent and region B = 3.5 per cent) to farm related items as compared to medium (3 per cent and 1.5 per cent) and low adopters of technology (1.7 per cent and 1.46 per cent respectively). The mean expenditure on transport and communication increased with increase in adoption level of technology.

The consumption expenditure pattern of different technological adoption groups showed that per household percentage of expenditures on food for these groups followed the Engel's Law of Consumption as it is evident from the data that the highest percentage of expenditures was spent on food by low adopters group who also had low mean monthly family income, followed by medium and high adopters of technology. The percentage expenditures on education, recreation and transportation increased with increase in adoption level of technology.

Apart from spending on food and non-food items, the sample households were found to be allocating some percentage of their income for savings, which is always meant for consumption purpose. The findings revealed that higher the adoption level of technology more was the percentage amount of income allocated for savings (region A - H.A. =4 per cent, M.A. = 3.6 per cent and L.A. = 1.25 per cent and region

B=H.A. = 2 per cent, M.A. = 0.85 per cent and L.A. = nil). This implies that high and medium adopters of technology were having surplus income hence they were able to save for the future consumption. Mostly they were keeping this surplus money at home only but some of the households, mainly belonging to high adopters category of advanced region, were keeping it in the bank or post-office. The saved money was being either invested by them in purchase of Kisan Vikas Patras or was being used in purchase of technological items.

Not much variation was observed with regard to percentage amount of money allocated to miscellaneous items. It was interesting to note that use of cosmetics and toilet articles like lipstick, talcum powder, face cream, toilet soap, tooth paste etc., was on an increase in the rural areas particularly so in high and medium adopters of technology categories. Detergents and washing soaps like Nirma and wheel were also popular with sample households. This could be due to the effect of advertisements shown on Doordarshan. It was disguieting to note that expenditure on tobacco and liquour was found to be high in the present study. Though respondents were reluctant to admit that they were spending on liquour but with indirect probing technique it was revealed that in some of the households 4 to 6 per cent of income was being allocated to this item only. Itr is worth mentioning here that not much intra and inter region differentials were found with regard to expenditure on this particular item.

4.3.2.2.1. Food Consumption Pattern of Households : An attempt was made to assess the quality of food intake of the sample households on the basis of adequacy of key nutrients like proteins, carbohydrates, vitamins etc. in their diet and the results are presented below :

Carbohydrates : Wheat, which was the staple food of the region, was the main source of carbohydrates in the diet of the sample respondents. It was being consumed daily in form of chappatis and paranthas, in all the households, wheat was grown on their own fields and was being stored for the whole season.

Proteins : Wheat, pulses, milk and milk products were the main sources of proteins in the diet of the sample households. Pulses were invariably a part of their daily diet. This was especially so in case of households having high and medium adoption level of technology in both the regions. Mean monthly consumption of pulses for high adopters of region A came out to be 4.57 kilograms whereas it was 3.25 kilograms for medium adopters and it came down to 1.68 kilograms for low adopters of technology. As compared to this, in the backward region, high adopters were consuming about 3.78 kilograms of pulses on an average per month, whereas medium adopters were consuming about 2.34 kilograms and low adopters were consuming 1.48 kilograms of pulses on an average per month. Mainly gram dal and moong dal were being consumed by majority of the households. People of the sample households were basically vegetarian. However,

consumption of milk products like curd, butter, butter milk was very high as milch animals were available in each households. The average per capita intake of milk per day came out to be 2.12 litres for high adopters, 1.65 litres for medium adopters and 1.20 litres for low adopters of technology, belonging to the advanced region. In the backward region, daily average per capita milk consumption was found to be 1.92 litres for high adopters, 1.38 litres for medium adopters and 0.75 litres for low adopters of technology.

Vitamins and Minerals : Apart from milk and milk products, green leafy vegetables (GLVs.) were a major source of vitamins and minerals. These vegetables were being consumed by majority of the households especially the high and medium adopters of region A. The availability of many varieties of leafy vegetables might have attributed to high consumption of GLVs. It is noteworthy here that most of these green leafy vegetables were being grown in the kitchen garden of the respondents.

Seasonal fruits were also being consumed by the high and medium adopters of technology, especially the ones belonging to the advanced region.

Fats and Oils : Ghee was used daily by the sample households as a medium of cocking and was usually a home made product. High adopters of advanced region were consuming 6 to 6.5 kilograms of ghee per month, on an average whereas medium adopters were consuming 5 kilograms and low adopters were

consuming 3.5 kilograms of ghee. In the backward region, high adopters were consuming 5 to 5.5 kilograms of ghee per month, medium adopters were consuming 4.25 kilograms of ghee whereas low adopters of technology were consuming 2 to 2.5 kilograms of ghee. In both the regions, households having low adoption level of technology were also using mustard oil for cooking alongwith ghee.

Sugar and Jaggery : Sugar was being consumed daily in preparing tea and with milk. Sometimes it was used in preparing sweets. Jaggery was being consumed with chappati and curd. On an average households were consuming 4.56 kilograms of sugar and 3.25 kilograms of jaggery per month.

Beverages : Tea was the most popular beverage and on an average it was being made 3 to 4 times in a day in each households, without much intra and inter region variations. Cold drinks like Limca, Thums Up, Gold Spot and Pepsi were also popular with the high and medium adopters of technology belonging to the advanced region.

Keeping in mind the Engle's law of consumption i.e. higher outgo on food, is an indicator of low level of living since only physiological needs are met, the quality of consumption of households was determined on the basis of following criteria :

(i)	Percentage allocation on food items	Less-2 More-1
(ii)	Percentage allocation on non-food items	Less-1 More-2
(iii)	Percentage allocation on tobacco and intoxicants	Less-1 More-2
(iv)	Percentage allocation on savings	No -1 Yes -2

Mean $\pm$ Sd was taken as a cut-off point to categorize quality of consumption as poor, average or good.

The Table (4.33) reveals that maximum number of households (52.34 per cent) had good quality of consumption whereas 42.33 per cent of them had average and only 5.33 per cent of the households had poor quality of consumption. In the advanced region, maximum number of respondents (92.6 per cent) belonging to high adopters category had good quality of consumption whereas in medium adopters category, 68.75 per cent of the households had good quality of consumption. In the low adopters category, 37.04 per cent of households had good, 31.25 per cent had average and 14.81 per cent had poor quality of consumption.

In the backward region, 62.5 per cent of the households, belonging to the high adopters of technology category were having good quality of consumption as compared to 43.83 per cent of the medium adopters 27.53 per cent of the low adopters who were also found to be having good quality of consumption. However, in the backward region, 17.4 per cent of the households belonging to low adopters category

Table 4.33 : Quality of consumption of households according to adoption level of technology (in percentages)

Quality of consumption	Advanced Region				Backward Region				GRAND TOTAL N=300
	H.A. n=27	M.A. n=96	L.A. n=27	TOTAL N=150	H.A. n=8	M.A. n=73	L.A. n=69	TOTAL N=150	
Poor	-	-	14.81	2.67	-	-	17.4	8	5.33
Average	7.40	31.25	48.15	30	37.5	56.17	55.07	54.67	42.33
Good	92.60	68.75	37.04	67.33	62.5	43.83	27.53	37.33	52.34
Total	100	100	100	100	100	100	100	100	100

were having poor quality of consumption. Overall, both inter and intra region household consumption expenditure pattern revealed that quality of consumption and adoption level of technology were positive correlates.

4.3.2.3 Perception of Homemakers Regarding Benefits and Costs of Technology : In this part of the resource outflow, the positive/negative perceptions of homemakers regarding different technology are presented based on their actual experience which have been measured in terms of cost/benefit and the net cost/benefit of the technology has been attempted by use of appropriate scoring technique and also statistically tested. Following this, findings pertaining to attitude of rural women vis-a-vis technology have been presented.

4.3.2.3.1.1 Perception Of Homemakers Regarding Benefits Of Household Technology : Homemakers using various technological items revealed that use of time and labour saving devices reduced the drudgery of work (region A = 66.67 per cent and region B = 62 per cent), saved time and energy (66.67 per cent and 31.33 per cent) and resulted in better quality of life (46 per cent and 2 per cent respectively) (Table 4.34). Other benefits perceived by the homemakers as a result of utilization of technological items were elimination of cooking in smokeful environment due to use of either smokeless chulah, biogas stove, LPG stove, heater or pressure stove (region A = 28 per cent and region B = 10.66 per cent), elimination of fetching of fuelwood (28 per cent and 10.66

Table 4.34 : Percentage distribution of the homemakers according to their perception regarding benefits of household technology

Perceived Benefits of Household Technology	Advanced Region				Backward Region				GRAND TOTAL N=300
	H.A. n=37	M.A. n=107	L.A. n=6	TOTAL N=150	H.A. n=16	M.A. n=80	L.A. n=54	TOTAL N=150	
Reduction in drudgery of household work	100	58.87	-	66.67	100	91.25	7.40	62	64.33
Saving of time and energy	100	58.87	-	66.67	100	36.25	3.70	31.33	49
Elimination of long distance walking to fetch water	100	70.67	83.33	98.67	100	95	25.92	70.67	84.67
Elimination of cooking in smokeful environment	62.16	17.75	-	28	43.75	11.25	-	10.66	19.33
Elimination of fetching of fuelwood	62.16	17.75	-	28	43.75	11.25	-	10.66	19.33
Better quality of life	70.27	40.18	-	46	18.75	-	-	2	24

per cent) and elimination of walking a long distance to fetch water (98.67 per cent and 70.67 per cent respectively).

The Table further reveals that in both the regions, hundred per cent of the respondents belonging to high adopters category reported that due to usage of household technological items there has been saving of time and energy and as a consequence drudgery of work has reduced. Moreover due to availability of handpumps inside their homes they no longer had to go to the community well to fetch water. In the advanced region 70.27 per cent of the high adopters thought that usage of household technology has resulted in better quality of life as compared to 18.75 per cent of the respondents belonging to the backward region. In the technologically advanced region 58.87 per cent of the respondents belonging to the medium adoters category thought that technology has reduced drudgery of work and resulted in saving of time and energy and hence has led to better quality of life (40.18 per cent). In the backward region, 91.25 per cent of the medium adoters reported that their drudgery of work has reduced and 36.25 per cent of them perceived that it saves time and energy. However none of the respondents in this category thought that it has improved their quality of life. Maximum number of respondents (95 per cent) belonging to this category reported that due to installations of handpumps and community water taps they no longer had to walk a long distance to fetch water. It is striking to note here that in both the regions, respondents belonging to low

adopters category could perceive very few benefits of household technology namely : elimination of long distance walking to fetch water (region A = 83.33 per cent and region B = 70.67 per cent), reduction in drudgery of work (region B = 7.40 per cent) and saving of time and energy (region B = 3.70 per cent). This could be due to the fact that as they had not gone through such experience since they could not afford to possess such technology at home, they could not perceive the positive impact.

4.3.2.3.1.2 Perception Of Homemakers Regarding Costs of Household Technology : Though the benefits perceived by homemakers on the basis of their actual experience were encouraging but disappointingly the costs of household technology in terms of money as well as other constraints in obtaining and care and maintenance of items out-shadowed the benefits (Table 4.35). Major problems reported by the respondents in the descending order of severity were increase in electricity bill (65 per cent region A = 68 per cent and region B = 62 per cent) frequent breakdowns and high costs of repairs (62.33 per cent, region A = 66 per cent and region B = 58.67 per cent), difficulty in operating items due to lack of proper knowledge of operations (60.66 per cent, region A = 65.33 per cent and region B = 56 per cent), more expenditure of time in filling water from community taps due to rush (28.33 per cent, region A = 2 per cent and region B = 55.33 per cent) and difficulty in getting the gas cylinder refilled (20.33 per cent, region A).

Table 4.35 : Percentage distribution of the respondents according to their perception regarding costs of household technology

Perceived Costs of-Household Technology	Advanced Region				Backward Region				GRAND TOTAL N=300
	H.A. n=37	M.A. n=107	L.A. n=6	TOTAL N=150	H.A. n=16	M.A. n=80	L.A. n=54	TOTAL N=150	
Increase in electricity bill	100	59.81	16.66	68	100	91.25	5	62	65
Difficulty in operating equipment due to lack of proper knowledge	91.89	57.94	33.33	65.33	100	82.5	3.70	56	60.67
More time is spent on care and maintenance of electrical equipment	89.18	56.04	33.33	63.33	100	86.25	3.70	58	60.67
Frequent breakdowns and high costs of repairs	91.89	58.87	33.33	66	100	85	7.40	58.67	62
Filling of water from community taps is more time consuming	-	-	50	2	6.25	35	100	55.33	28.67

A further analysis of respondent's problems revealed that in case of breakdown of an electrical equipment there was no facility of getting it repaired in the near vicinity. For this they had to go to nearby town which led to expenditure on transport alongwith the repair charges. As no instruction booklet was being provided with these equipment and also homemakers were not having proper knowledge regarding their care, operation and maintenance hence frequency of breakdowns was also more. It was also observed that as there was no gas agency in the sample villages hence those using LPG stoves were finding it difficult to get the gas cylinder refilled. Mainly they had to get it filled illegally and were paying exhorbitant prices for each refilling. Respondents who were making use of community water taps were of the view that it was more time and energy consuming. Further probing alongwith participatory observation revealed that due to heavy rush there was a long queue near these taps hence respondents had to spend more time in filling the pots. Sometimes a fight also broke out between rural women while filling the water which again led to more consumption of time, Many a times the water did not come at the stibulated time. All this led to undermining the benefits of community water taps installed in the rural areas.

4.3.2.3.1.3 : Net Cost and Benefit of Household Technology : The net benefit/cost of household technology was derived on the basis of scores assigned to benefits and costs perceived

Table 4.36 : Net cost and benefit of household technology as perceived by the respondents

Net Cost and Benefit of Household Technology	Advanced Region				Backward Region				GRAND TOTAL N=300
	H.A. n=37	M.A. n=107	L.A. n=6	TOTAL N=150	H.A. n=16	M.A. n=80	L.A. n=54	TOTAL N=150	
Mean scores of perceived costs	6.52	6.56	1.69	4.92	6.62	3.78	0.84	3.74	4.33
Sd.	3.01	2.14	1.02	2.05	2.44	1.99	0.98	1.80	1.92
Mean scores of perceived benefits	6	4.06	2.3	4.12	3.81	1.69	0.28	1.92	3.02
Sd.	2.92	1.43	1.11	1.82	3.99	2.13	1.29	2.30	2.06
t' Values				7.92**				10.86**	11.40**

** Significant at 0.01 level

by the homemakers regarding household technology. The Table (4.36) reveals that the mean net cost of household technology ($\bar{X}$ = 4.33, Sd = 1.92) was greater than its net benefit ($\bar{X}$ = 3.02, Sd = 2.06). This difference was also found to be statistically significant at 0.01 level as calculated value was found to be 11.40 (df = 298).

A region - wise analysis showed that in case of both medium and high adopters of technology (region A) the perceived mean cost was more than the perceived mean benefit, whereas in case of low adopters, the benefits of household technology ($\bar{X}$ = 2.3, Sd = 1.11) were found to be more than its costs ($\bar{X}$ = 1.69, Sd = 1.02), Statistically the difference between costs and benefits perceived by respondents belonging to region A was found to be significant at 0.01 level ('t' value = 7.92, df = 298). In region B also, whatever household technology was available, its perceived mean cost ($\bar{X}$ = 3.74, Sd = 1.80) was found to be more than the mean benefit ($\bar{X}$ = 1.92, Sd=2.30). This difference was also found to be significant at 0.01 level t' value = 10.86, df = 298).

Overall, it can be concluded that even though household technology was not without its benefits but when it came to costs, they overshadowed its benefits.

4.3.2.3.2.1 Perception of Homemakers Regarding Benefits Of Agricultural Technology : Benefits of agricultural technology were perceived more in technologically advanced region as compared to the backward region. Benefits that were

highlighted by homemakers of advanced region in descending order of importance were :

(a) Increase in production of crops due to use of H.Y.V. (82.67 per cent).

(b) Protection of crops by use of pesticides and insecticides (67.33 per cent).

(c) Increase in household earnings (65.33 per cent).

(d) Improved standard of living (40 per cent).

(e) Better consumption level (34 per cent).

Some of the other benefits of agricultural technology as perceived by the homemakers of advanced region were possibility of multiple cropping (10 per cent), decrease in work load of women on farm (3.33 per cent), less requirement of labour on the field due to mechanization of farming (1.33 per cent) and reduction in drudgery of agricultural work (0.66 per cent). However, even within the region it was noticed that benefits were mainly concentrated in the high adopters and medium adopters category of households whereas low adopters of technology could not perceive any benefits due to farm technology except protection of crops (50 per cent) and possibility of multiple cropping (33.33 per cent) (Table 4.37).

A distinct pattern could be observed from the data pertaining to backward region where perception of benefits of farm technology was limited to high and medium adopters of technology. Low adopters of backward region could not

Table 4.37 : Percentage distribution of the homemakers according to their perception regarding benefits of agricultural technology

Perceived Benefits of Agricultural Technology	Advanced Region				Backward Region				GRAND TOTAL N=300
	H.A. n=32	M.A. n=112	L.A. n=6	TOTAL N=150	H.A. n=15	M.A. n=103	L.A. n=32	TOTAL N=150	
HYV has increased production of crops	90.62	84.82	-	82.67	100	83.49	-	67.33	75
Increase in household earnings	90.62	61.60	-	65.33	100	45.63	-	41.33	53.33
Better consumption level	84.37	21.42	-	34	53.33	26.21	-	23.33	28.66
Improved standard of living	84.37	29.46	-	40	33.33	15.53	-	14	27
Decrease in women's workload	9.37	1.78	-	3.33	6.66	0.97	-	1.33	2.33
Drudgery of agricultural work has reduced	3.12	-	-	0.66	-	-	-	-	0.33
Less labour has to be employed	6.25	-	-	1.33	-	-	-	-	0.66
Protection of crops	62.5	69.64	50	67.33	53.33	40.77	-	33.33	50.33
Multiple cropping	25	4.46	33.33	10	2.66	1.94	-	4	7

perceive of any benefit due to agricultural technology. On the contrary with the introduction of technology in the field of agriculture they were facing lots of problems. For this category, the costs of technology out weighed the benefits.

4.3.2.3.2.2 Perception Of Homemakers Regarding Costs Of Agricultuarl Technology : As a consequence of introduction of agricultural technology, respondents were facing number of problems, which in descending order of severity are as follows :

(a) Lack of training facilities in agricultural field (region A = 94.67 per cent and region B = 93.33 per cent) (Table 4.38).

(b) Neglect of females by extension agents (81.33 per cent and 70.67 per cent).

(c) Women have to perform more time and energy consuming tasks on farms (33.33 per cent and 60.67 per cent).

(d) Lack of technical know-how to operate machines (40.67 per cent and 51.33 per cent).

(e) Lack of introduction of modern technology in female intensive areas (49.33 per cent and 31.33 per cent).

(f) More expenditure on electricity and diesal (48 per cent and 19.33 per cent).

(g) Non-availability of work in agriculture (41.33 per cent and 17.33 per cent).

It is noteworthy here that 62.5 per cent of low adopters of backward region reported that women labourers were last one to be hired and first one to be fired.

Table 4.38 : Percentage distribution of the homemakers according to their perception regarding costs of the agricultural technology

Perceived Costs of Agricultural Technology	Advanced Region H.A. n=32	M.A. n=112	L.A. n=6	TOTAL N=150	Backward Region H.A. n=15	M.A. n=103	L.A. n=32	TOTAL N=150	GRAND TOTAL N=300
Non-availability of work in agri.	28.12	49.64	50	41.33	46.67	6.79	37.5	17.33	29.33
Lack of technical know-how to operate machines	84.37	26.78	66.67	40.67	73.33	0.48	43.75	51.33	46
Lack of access of training facilities	87.5	98.21	66.67	94.67	100	3.20	90.62	93.33	94
Women have to perform more drudgerous tasks	6.25	42.85	-	33.33	46.67	58.25	75	60.67	47
Extension agencies neglect females	75	87.5	-	81.33	80	78.64	40.62	70.67	76
Non-availability of tech. in female intensive tasks	75	42.85	33.33	49.33	53.33	35.92	6.25	31.33	40.33
More expenditure on diesal and electricity	31.25	55.35	-	48	33.33	23.30	-	19.33	33.67
Women are last one to be hired and first one to be fired	-	-	50	2	-	-	62.5	13.33	7.67

4.3.2.3.2.3 Net Benefit and Cost Of Agricultural Technology : The cost of agricultural technology outweighed its benefits as the mean score of benefits ($\overline{X}$ = 2.34, Sd = 1.84) was found to be less than the mean scores of costs ($\overline{X}$ = 3.59, Sd = 2.60) (Table 4.39). Further a paired t' test applied to see the difference between the costs and benefits revealed significant differences between the two at 0.01 level (t = 4.82, df = 298).

In the backward region, though very less agricultural technology was available still the cost exceeded the benefit. In case of low adopters of this region, as they were not having any type of modern technology hence no benefit was reported. But in this category homemakers got affected by technology because they were also working as paid labourers. Here due to introduction of technology the female labour participation was considerably reduced and wherever they were gainfully employed they were relegated to more arduous and drudgerous tasks and hence naturally the costs of farm technology exceeded the benefits.

Though the Table reveals that net cost of agricultural technology was more than the benefit however, when the data pertaining to household was analyzed separately, it was found that farm technology had greatly benefitted them. The usage of high yielding varieties (H.Y.V.) was reported to have increased the yield of crops considerably which in turn had resulted in increased incomes for the households. This increase in income had also raised the standard of living

Table 4.39 : Net benefit and cost of agricultural technology as perceived by the respondents

Net Cost and Benefit of Agricultural technology	Advanced Region				Backward Region				GRAND TOTAL N=300
	H.A. N=37	M.A. N=107	L.A. N=6	TOTAL N=150	H.A. N=16	M.A. N=80	L.A. N=54	TOTAL N=150	
Mean Scores of perceived cost	4.87	4.25	1.66	3.59	4.8	1.64	4.36	3.6	3.59
Sd	3.21	2.89	2.25	2.78	3.01	2.11	2.18	2.43	2.60
Mean Scores of perceived benefits	4.78	3.54	0.66	2.99	3.8	1.32	-	1.70	2.34
Sd.	2.34	1.69	2.08	2.03	2.91	2.08	-	1.66	1.84
t' Values				2.16*				3.66**	4.82**

* Significant at 0.05 level
** Significant at 0.01 level

especially of the large farmers also raised the standard of living especially of the large farmers who also happened to be the high adopters of farm technology. Incidentally this also accounted for conspicuous consumption which was reflected in their consumption expenditure pattern. During the course of data collection the investigator had observed many large farming households were in possession of items like washing machines, stereo systems, desert coolers etc.. They had purchased the items to enhance their social prestige but were hardly using those items. However, when effect of farm technology on rural women was considered, the cost of technology outweighed the benefits. It can be concluded that households might have benefitted from farm technology but status of women within these households had declined with introduction of farm technology.

4.3.2.3.3.1 Perception Of Homemaker's Regarding Benefits Of Health Technology : Among the benefits perceived by the home makers of the health technology, control over fertility (region A = 88 per cent and region B = 100 per cent) came at the top position (Table 4.40). It was followed by better standard of living (85.33 per cent and 84.21 per cent), better health status of the homemaker (85.33 per cent and 47.36 per cent) and better health status of existing children (69.33 per cent and 57.89 per cent). Availability of time for self - development, was also reported as a benefit by 9.33 per cent of the respondents belonging to the advanced region. Benefits expressed above are with regard to high and medium

adopters of health technology only. The low adopters were mainly following natural methods and reported that there were no side - effects. But by looking at the high failure rate of the method, this could hardly be considered as the benefit.

Table 4.40 : Percentage distribution of the homemakers according to their perception regarding benefits of health technology

Perceived Benefit of Health Technology	Advanced Region			Backward Region			GRAND TOTAL N=94
	H.A. n=63	M.A. n =12	TOTAL N=75	H.A. n=15	M.A. n =4	TOTAL N=19	
Control over fertility	87.30	91.67	88	100	100	100	90.42
Better health status	87.30	75	85.33	33.33	100	47.36	77.65
Better standard of living	84.12	91.67	85.33	86.67	75	21	85.10
Better health status of existing children	96.82	91.67	96	53.33	75	57.89	76.96
Better education of children	66.67	83.33	69.33	60	50	57.89	67.02
Availability of time for self development	6.34	25	9.33	-	-	-	7.44

4.3.2.3.3.2 Perception of Homemakers Regarding Cost of Health Technology : Ironically, technology ostensibly developed to help rural women was not without its negative impacts. Apart from the fact that the whole burden of use of

family planning devices had to be over whelmingly borne by women, technology developed to reduce their fertility drudgery also resulted in negative health status as mentioned in the Table (4.41). As many as 92 per cent of the respondents suffered from weakness which was a direct consequence of excessive bleeding (85.10 per cent) and severe nausea/stomach problems (89.37 per cent). Dizziness or headache was reported by 62.76 per cent of the respondents whereas 30.85 per cent were unable to do heavy work after having undergone tubectomy and as many as 28.72 per cent of the homemakers complained of gain in weight as a result of adoption of health technology.

Table 4.41 : Percentage distribution of the homemakers according to their perception regarding costs of health technology

Perceived Costs of Health Technology	Advanced Region			Backward Region			GRAND TOTAL N=94
	H.A. n=63	M.A. n=12	TOTAL N=75	H.A. n=15	M.A. n=4	TOTAL N=19	
Severe Nausea/stomach problems	88.89	91.67	89.33	93.33	75	89.47	89.37
Excessive bleeding	82.53	83.33	82.67	100	75	94.73	85.10
Weakness	71.42	58.33	69.33	86.67	100	89.47	92
Dizziness or headache	52.38	75	56	86.67	100	89.41	62.76
Inability to do heavy work	28.57	41.67	30.67	26.67	50	31.57	30.85
Gain in weight	31.74	8.33	28	33.33	25	31.57	28.72

It is evident from the Table that not much inter and intra regional differentials existed with regard to homemaker's perception of costs of health technology.

4.3.2.3.3.3 Net Cost and Benefit of Health Technology : Net cost and benefit of technology was derived on the basis of positive or negative score values. It is very disturbing to note that even cost of health technology ($\overline{X}$ = 4.62, Sd = 2.46) outweighed the benefit ($\overline{X}$ = 3.63, Sd = 2.67). This difference was also found statistically significant at 0.01 level (t = 3.34, df = 298) (Table 4.42) A region wise analysis also revealed that in both the regions, cost of health technology (region A = 4.70 and region B = 4.54) was higher than the benefit (4.24 and 3.01 respectively). The intra region difference was also found to be statistically significant.

Table 4.42 : Net cost and benefit of health technology

Net Cost and Benefit of Health Technology	Advanced Region H.A. n=63	M.A. n=12	TOTAL N=75	Backward Region H.A. n=15	M.A. n=4	TOTAL N=19	GRAND TOTAL N=94
Mean scores of perceived costs	9.44	4.67	4.70	8.12	5.52	4.54	4.62
Sd	3.25	2.21	2.73	2.11	2.29	2.2	2.46
Mean scores of perceived benefits	9.06	3.67	4.24	5.05	4	3.01	3.63
Sd	1.87	1.29	1.58	3.01	2.54	2.77	2.67
t' values	-	1.85*	-			3.98**	3.34**

** Significant at 0.01 level
* Significant at 0.05 level

From the aforesaid discussion, it is clear that though positive features of health technology were there but when negative features were analyzed, that tilted the balance. This calls for acceleration of steps to minimize the negative effect of health technology so that its benefits could be maximized. It should be made more acceptable by further inventing methods of family planning with nil or negligible side - effects. There is also an urgent need to change the attitude of males towards adopting family planning. They should be encouraged and motivated to share the burden of fertility control and readlly become equal partners.

4.3.2.3.4 Perceived Benefits and Costs of Communication Technology : It is worth mentioning here that respondents were unable to perceive benefits or costs of communication technology as such. But on the basis of their earlier responses on communication technology, it could be inferred that 35.33 per cent of the respondents (region A = 51.33 per cent and region B = 19.33 per cent) perceived that channels of mass media and extension personnel acted as a source of information of various technology (Table 4.43). Channels of mass media (radio and television) were considered as a source of entertainment by 42.33 per cent of the respondents (region A = 45.33 per cent and region B = 39.33 per cent). More number of high adopters of technology in both the regions (region A = 66.67 per cent and region B = 62.5 per cent) were of the view that radio and television were an important source of entertainment.

Table 4.43 : Perceived benefits and costs of communication technology by the respondents

Perceived Benefits and Costs of Communication Technology	Advanced Region				Backward Region				GRAND TOTAL N=300
	H.A. N=27	M.A. N=96	L.A. N=27	TOTAL N=150	H.A. N=8	M.A. N=73	L.A. N=69	TOTAL N=150	
Benefits									
Source of information	59.25	54.16	33.33	51.33	37.5	23.28	13.04	19.33	35.33
Source of entertainment	66.67	41.67	37.03	45.33	62.5	39.72	36.23	39.33	42.33
Costs									
Extension agents ignore females	74.07	69.79	77.77	72	75	61.64	72.46	69.33	69.67
Inefficient functioning of available extension personnel	62.96	47.91	66.67	54	62.5	71.23	71.01	70.67	62.33

Respondents were unable to perceive any negative effect of mass media channels. However, 69.67 per cent of them (region A = 72 per cent and region B = 69.33 per cent) reported that extension agents remained inaccessible to them. Even when some of these agents especially gram sevikas, aganwadi workers and village level health workers were accessible to respondents they were not satisfied by their services. Respondents further reported that these functionaries were mainly concerned with fulfilling their targets and were not concerned about quality of the services provided by them to rural women.

As the response to perceived benefits and costs was limited hence, it was not possible to derive the net cost and benefit of communication technology.

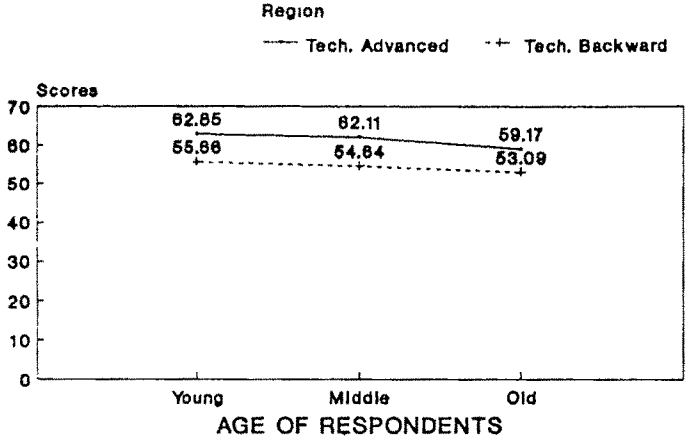
4.3.2.3.4 Attitude Of The Homemaker's Towards Technology : Attitude has been defined as the degree of positive or negative effect associated with some psychological object (Thurstone, 1946). For the purpose of the study, attitude refers to having favourable or unfavourable reactions towards adoption of technology. The scale developed to assess homemakers attitude towards technology constituted of statements which expressed feelings towards household, health, farm and communication technology.

4.3.2.3.4.1 Mean Scores of Attitude of Respondents Towards Technology : The scores ranged from a minimum of 22 to a maximum of 110. The mean attitude score for the total

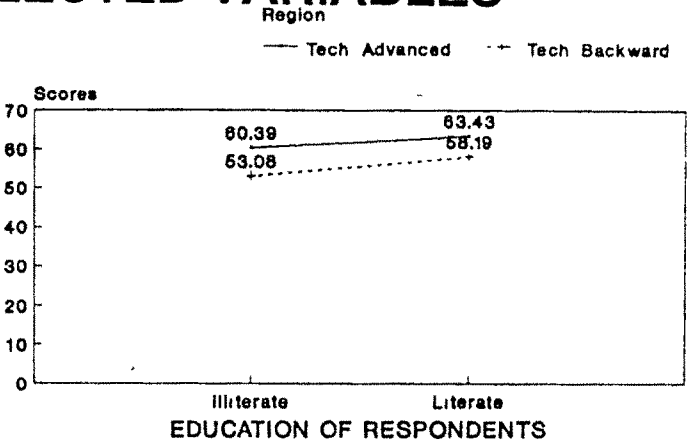
Table 4.44 : Mean scores and standard deviations of attitude of homemakers towards technology

	Advanced Region				Backward Region				
	H.A. n=27	M.A. n=96	L.A. n=27	TOTAL N=150	H.A. n=8	M.A. n=73	L.A. n=69	TOTAL N=150	GRAND TOTAL N=300
Mean Scores	70.87	58.91	51.75	60.51	63.67	57.54	44.83	55.34	57.92
S.D.	7.03	6.89	6.02	6.46	6.43	6.20	5.69	6.10	6.28

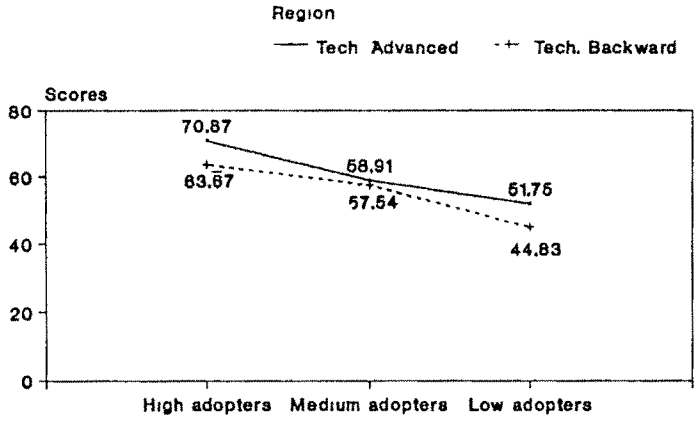
Fig 4.4. ATTITUDE SCORES OF RESPONDENTS ACCORDING TO SELECTED VARIABLES



AGE OF RESPONDENTS



EDUCATION OF RESPONDENTS



ADOPTION LEVEL OF TECHNOLOGY

sample was 57.92 (Table 4.44). The relatively high mean revealed that the home makers basically had positive indication towards use of technology.

The mean attitude score was comparatively low for low adopters. It was observed that higher the adoption level of technology, higher was the mean attitude score obtained by the respondents. Thus, it could be inferred that respondents belonging to high adopters category had favourable attitude towards technology. This may be attributed to the fact that high adopters of technology were economically better off and could afford to purchase technology, hence had developed favourable attitude.

The mean attitude scores of young respondents was higher than middle age and older homemakers, thus indicating younger the homemaker more favourable attitude they had toward technology (Fig. 4.4). The data clearly reveals that education played a role in developing favourable attitude towards innovation as mean attitude scores of literate homemakers were found to be higher than those of illiterate ones (Fig. 4.4).

4.3.2.3.4.2 Attitude of Respondents Towards Technology : To determine the degree of positive attitude of respondents a further statistical exercise was done. The total attitude score of each respondent was summed up and the mean and Sd were computed. Taking these two parameters as cut-off points, respondents were divided into 3 categories viz;

Table 4.45 : Frequency and percentage distribution of the respondents according to their attitude towards technology

Attitude	Advanced Region								Backward Region								GRAND TOTAL N=300	
	H.A. n=27		M.A. n=96		L.A. n=27		TOTAL N=150		H.A. n=8		M.A. n=73		L.A. n=69		TOTAL N=150			
	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%
Highly Favourable	18	66.67	20	20.83	-	-	38	25.33	1	12.5	4	5.47	-	-	5	3.33	43	14.33
Neutral	9	33.33	70	72.91	13	48.14	92	61.34	4	50	51	69.87	29	42.02	84	56	176	59.67
Unfavourable	-	-	6	6.26	14	51.85	20	13.33	3	37.5	18	24.66	40	57.98	61	40.67	81	27
Total	27	100	96	100	27	100	150	100	8	100	73	100	69	100	150	100	300	100

those having highly favourable attitude, those having neutral and those having unfavourable attitude towards technology.

Findings, which emerged from the data analysis of the attitude score substantiated the perception outcome. Overall, 27 per cent of the respondents were having negative attitude towards technology and only 14.33 per cent of them had positive attitude towards technology and the remaining 59.67 per cent of the respondents had neutral attitude toward technology (Table 4.45)

A region wise analysis showed that in the advanced region more number of respondents were having highly favourable attitude towards technology (25.33 per cent) and 61.34 per cent of them were having neutral attitude whereas 13.33 per cent of the respondents had negative attitude.

In contrast to this, in the backward region. Only 3.33 per cent of the respondents were having positive attitude towards technology whereas 56 per cent of them were having neutral attitude and 40.67 per cent of them had negative attitude.

It can further be observed from the Table that more number of high and medium adopters of technology were having either highly favourable or neutral attitude towards technology whereas more number of low adopters had negative attitude towards technology. In other words, it can be concluded that as adoption level of technology declines, respondent's favourableness towards technology also declined.

It is however, noteworthy that though data pertaining to perception of homemakers regarding cost and benefit of technology showed that cost outweighed the benefit still users of technology agreed that it is intended for their welfare and technology per se is gender neutral. It is only in the process of its implementation, access and extent of utilization that gender component adverse to females results viz; farm technology, family planning and communication technology.