SUMMARY AND CONCLUSIONS

CHAPTER VI

SUMMARY AND CONCLUSIONS

Women and technology as a dimension in the development process remained an ignored and unexplored territory till only recently when the subject became important as an item of social research. There has been virtually a global explosion of studies documenting the range and importance of women's work on farm and inside the home. Although the advent and use of technology in the spheres of household, health, farm and communication has been empirically substantiated, still a composite picture on impact of these technology on SORW and FRD, in terms of cost and benefit, has failed to emerge. Many queries, such as has introduction of farm technology uprooted economic independence of women, are the power structure and status of women in the technologically backward area better-off than that in the advanced area, has introduction of household technology led to the reduction in human cost of work, has development in communication and health technology led to better health seeking behaviour of rural population etc., remain unanswered, which is naturally an area of research concern to family resource management specialists. This served as an adequate rationale for the present study which was undertaken in two districts of Haryana, one agriculturally advanced and the other backward, with following objectives in mind.

i. To study the demographic and socio-economic profile of the sample households.

ii. To take an inventory of household, health, farm and communication technological items acquired by the sample households.

iii. To determine the access to and extent of use of technology acquired by the sample respondents/provided by the community and identify the explanatory variables.

iv. To determine the cost and benefit of different types of technology as perceived by rural women on different dimensions of Status of Rural Women and Family Resource Development and identify the determinants.

v. To study homemaker's attitude towards impact of technology vis-a-vis women's status and family resource development.

vi. To find out the correlation between perception of homemakers towards impact of technology and their attitude towards the same.

vii. To derive the necessary feedback bearing policy implications to different organizations concerned with the issue of women and technology.

METHODOLOGY

Research Design : The theoretical model used for the present study was based on the Household Ecosystem Model of Paolucci (1976) and Home Management's Conceptualization of Deacon and Firebaugh (1988). The study was based on a descriptive

design alongwith causal-comparative component for clear-cut derivation of cost and benefit of technology.

Sampling Design : A multi-stage sampling design was adopted, treating purposive selection of blocks as first stage, purposive selection of villages as second stage and stratified random selection of households as third and final stage. Size of the landholding owned served as basis for stratification of sample households as large, medium and small farmers. Census survey of selected villages preceded the selection of stratified random sample of households for the study. The total sample constituted of 300 households, 50 each from each strata and from each village of Haryana State. The study was also supplemented with qualitative component through case studies using anthropological method of data collection i.e., participant observation for the ergonomic component.

Tool Construction : A pre-coded, pretested, structured interview schedule comprising of three main sections served as data gathering instrument. Section I contained pertinent questions corresponding to the 'Resource Inflow' component viz; personal and household characteristics of the respondents and situtional variables like availability / acquisition of HHFC technology. An observation checklist dealing with the housing and kitchen conditions / facilities was also incorporated in the inflow component. Information related to the process component was sought in Section II of

the schedule by gathering data on access to and utilization of HHFC technology. Information on the benefits experienced or the problems faced after their usage was also collected under this part so as to derive the cost/benefit component both within and between the groups. Provision was made in the Section III of the schedule to gather necessary data which had the operationalizations of the two dependent variables of the Status of study viz. Rural Women (SORW) and Family Resource Development (FRD). The section also included a five point continum scale based on Likert's summated rating scale, to measure the attitude of the homemakers towards technology. The scale was validated prior to its use for the pilot study (pre-testing) by seeking expert opinion of panel of seven judges belonging to varous fields. After the pilot study, item analysis for attitude scale was done. The scale, thus constituted of 22 items. The realiability coefficient of the attitude scale computed was 0.86.

Method of Data Collection : Before administering the tool, the investigator took several steps to build a good rapport with the villagers in general and rural women in particular, with help of local leaders and village functionaries. Data were gathered personally from the homemakers from August, 1991 to December, 1991. As observed earlier, participant observation was done for the ergonomic component of the study.

Analysis of Data : Both descriptive (frequency, percentage and mean) and relational statistics (Pearson's product moment correlation, analysis of variance, t-test and multiple regression analysis-step-wise) were used for analyzing the data.

MAJOR FINDINGS

A. RESOURCE INFLOW

1. Personal and Household Characteristics : The personal characteristics of the homemakers of both advanced and backward regions did not reveal significant differences. Nuclear families were relatively predominant (67.33 per cent) in the advanced region as compared to the backward region (56 per cent). Backward region had large mean family size (6.72 members). Jats, who are mainly engaged in agricultural activities, constituted the dominant caste in both the regions. Significant inter regional differential were found with regard to mean monthly family's income (region A Rs.=7028.4 and region B=Rs.5231) reflecting the economic prosperity of advanced region as a consequence of the Green Revolution.

2. Housing and Kitchen Conditions/Facilities : Findings on the above variable, which could be an important ergonomic component to quantify human cost of work of homemakers, showed that size of the landholding emerged as a key explanatory variable both in terms of inter

and intra region differentials. The data revealed that overall 45 per cent of the households had good housing conditions, 51.67 per cent of them had average and only 3.33 per cent of the households, mainly belonging to backward region, had poor housing and kitchen conditions / facilities.

3. Possesion Status of Technology : Analysis of the inventory status of 4 different types of technology, which was taken up for the study, disclosed significant inter and intra regional variations. Possession of modern technological items by the households was found to be associated with technological advancement of the region and size of the landholding.

3a. Household Technology : Time and labour saving devices viz., handpumps for drawing water, electric grain grinders, electric milk churners, electric fodder cutters etc. were more popular than the fuel-efficient one's. Traditional and semi-modern household technological items such as wood stove, pressure stove, manual grain grinders, manual milk churners, manual fodder cutters etc. were also popular in both the regions.

3b. Farm Technology : Among the modern farm technological items, most popular were tubewells (region A=54.67 per cent and region B=24.67 per cent), tractors (30 per cent, 10.67 per cent), mechanical threshers (16 per

was followed by television (67.67 per cent). Striking inter region variations were observed with regard to respondent's contact with gram sevikas (region A=47.33 per cent and region B=1.33 per cent), aganwadi workers (41.33 per cent and 1.33 per cent), A.D.Os. (24.67 per cent and 9.33 per cent) B.D.Os. (34 per cent and 27.34 per cent), agents of KRIBHCO/IFFCO (18.67 per cent and 2.67 per cent) and village health workers (58.64 per cent and 23.33 per cent respectively).

B. THE PROCESS COMPONENT

The findings pertaining to access, extent of use and adoption level of HHFC technology have been discussed here.

4. Access To And Extent Of Use Of Household Technology : Rural women had an access to all types of household technological items, which were being utilized by them daily/frequently. However, only male members had an access to electric fodder cutter. Due to sex-segregation of household activities, it was found that only male members of the households were frequenting the community chakki.

5. Adoption Level Of Household Technology : The adoption level of household technology measured on the basis of two major criteria viz; possession status of technological items and their frequency of use (vide Methodology) revealed 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. 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.

6. Access To And Extent Of Use Of Agricultural Technology:

As far as access to and extent of use of agricultural technology was concerned the stamp of sex -segregation and gender bias phenomenon was again very revealing. Use of tractors, disc-harrows, cultivators, levellers, tubewells, mechanical threshers, winnowers etc. was the exclusive domain of the males. Wherever farm mechanization had taken place, women suffered because it proved to be women labour displacing/or resulted in their marginalization or pauperization.

7. Adoption Level Of Farm Technology : Findings revealed a positive association between size of the landholding and adoption level of farm technology both within and between the regions. Overall, 16 per cent of the households were high adopters, 71.33 per cent were medium adopters and 12.67 per cent were low adopters of agricultural technology.

8. Access To And Extent Of Use Of Health Care Services : Findings pertaining to health technology highlighting its access and utilization and their effect quantified

in terms of adoption level reaffirmed the overall gender non-neutrality phenomenon. Irrespective of the regional advancement and size of the landholding, respondents were using traditional health care services. Hundred per cent of them were consulting birth attendant / dai for matters concerning pre-natal, natal and post-natal care. More number of male members had access to modern health care services.

9. Adoption Level Of Health Technology : Data pertaining to adoption level of health technology gives a disturbing picture as more than 50 per cent of the couples had not adopted any of the birth control methods. In the advanced region 42 per cent of the respondents were high adopters, 8 per cent were medium and 10.67 per cent were low adopters of health technology. As compared to this, in the backward region 14 per cent of the respondents were low adopters, 10 per cent were high adopters and the remaining were non-adopters of health technology.

10. Access To And Extent Of Use Of Communication Technology: Findings revealed that traditional channels of communication, constituting of friends and neighbours and village shopkeepers were more popular in both the regions as compared to channels of mass mmedia and extension personnel. Poor show of extension personnel was reflected by the fact that they were concentrating mainly on large and medium farmers and

agricultural extension personnel remained accessible only to males. Homemakers had an access to aganwadi workers and gram sevikas. Overall, this gender-specific approach of extension personnel proved to be unfavourable to women.

11. Adoption Level Of Communication Technology : Advancement of the region and size of the landholding emerged as determining variables for adoption level of communication technology. In the advanced region, 60.67 per cent of households were high adopters, 38.67 per cent were medium and a negligible 0.66 per cent were low adopters of communication technology. As compared to this, in the backward region, 46.33 per cent of the households were high adopters, 41.33 per cent were medium and 12.33 per cent were low adopters of communication technology.

C. THE RESOURCE OUTFLOW

Data pertaining to resource outflow/outcome analyzed in terms of diverse status of rural women and family resource development gave revealing findings from the focus of adoption level of technology :

12. Technology Vis-A-Vis Productivity / Efficiency Status Of The Homemaker : Productivity / efficiency status of women indicate their capacity to perform work efficiently with minimum of human energy expenditure.

In the present study it was quantified mainly in terms of amount of time spent by rural homemakers on various household, economically extended, livestock and farm related tasks. The findings revealed that the average working day for homemakers came out to be 13.00 hours (region A=12.3 hours and region B=13.70 hours) which reflects the miserable plight of the rural women. The leisure time accounted for only 1.23 hours (region A=1.43 hours and region B=1.02 hours) whereas 0.35 hours (0.54 hours and 0.17 hours) were being spent on rest and sleep accounted for 7.42 hours (7.51 hours and 7.33 hours respectively). Data showed a tendency that with an increase in adoption level of household technology, the time spent by homemakers on work decreased and it increased on leisure, rest and sleep though the difference was not substantial.

13. Health Status : 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 better health seeking behaviour.

13a. Time Spent On Personal Care : Time spent on personal care, which has been associated with health status component of the homemakers, included the time spent by them on bathing, toiletting, getting dressed and eating meals etc. It was disappointing to note that in

the present sample only 61.45 minutes (region A=63.74 minutes and region B=60.17 minutes) were being devoted to the personal care. The time spent on personal care varied with adoption level of technology as high adopters of both the regions were spending more time on personal care as compared to medium and low adopters of technology, in both the regions.

13b. Energy Expenditure Ratio : The mean energy expenditure was calculated by using equation given by ICMR (1985). On an average, the energy expenditure of the respondents came out to be 2883.15 kilo calories per day. It was found to be less in the advanced region (2854.95 k.cal/day) as compared to the backward region (2911.36 K.Cal/day). The data showed a tendency that as the level of adoption of household technology declined, in both, between and within regions, the energy spent on various tasks increased.

13c. Anthropometric Measurements : Findings pertaining to body weights and heights of the respondents, which reflect their state of health, revealed that in the present sample, the average height of the respondents was 157.65 cms. and their mean weight was 53.37 kilograms, which is slightly below the normal. In the technologically advanced region, average height of the respondents came out to be 157.69 cms. and average weight of 54.92 kilograms, which is just equal to the

one recommended by the ICMR. In the backward region, respondents belonging to households having low adoption level of technology were found to be under weight as with an average height of 162.55 cms. they were weighing 47.46 kilograms only which is indeed far below the normal weight recommended for this height. It is worth to note that no significant association could be established between adoption level of technology and anthropometric measurements of respondents.

13d. Control Over Fertility : This variable, taken as an indicator of health status of women, was operationalized in terms of actual practice of family planning method. Data revealed that as the adoption level of technology improved, homemaker's control over fertility increased. However, this difference was not found statistically significant. Data showed that, in the entire sample 54.33 per cent of the respondents (region A=34 per cent and region B=74.67 per cent) had no control over fertility. Either they were not practising family planning or they had no say in matters concerning fertility control. Overall, only a small percentage of the respondents i.e. 11.67 per cent had full control over fertility.

13e. Better Utilization of Health Care Services : 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 ascertained. The findings revealed that overall only 7.67 per cent of the respondents (region A=10.67 per cent 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 per cent) had average and 47 per cent (37.33 per cent and 56.67 per cent) had low level of utilization. Data pertaining to this aspect showed a tendency that usage of health care services by the respondents declined with decrease in level of adoption of technology (both within and between the regions).

14. Technology Vis-A-Vis Economic Status of Women: Economic status of women was measured in terms of their power structure within the family, exemplified through their gainful employment, their control over money resource, ownership of assets and their decision making power on important familial issues.

14a. Gainful Employment : Gainful employment, which is an internationally accepted indicator of status of women was derived from the work status of the rural women. It was evident from the data that wherever technology had 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, thus, severly undermining their economic status. 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 technologically advanced region, merely 3.70 per cent of the respondents belonging to low adopters of technology category were working as agricultural labourers whereas in the backward region 23.18 per cent of the homemakers belonging to low adopters category were working as agricultural labourers and 2.89 per cent of the respondents were self-employed.

15b. Control Over Money Resource : It was disappointing to note that in the present sample, only 37.67 per cent of the homemakers had full control over money resource, which is invariably an important indicator of their status in the household. The data further showed 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.

15c. Ownership of Assets : Ownership of liquid, financial and physical assets like land, house, plots, saving deposits in bank 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 advancement 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 which was mainly under the control of mother-in-law or by other male members of the family. The data further revealed that assets like land, house, saving accounts in the bank etc. were either on the name of the spouse or father-in-law or they were being held jointly by the male members of the family.

15d. Decision Making Power : The extent of participation of respondents in decision making, which is an important indicator of status, was measured on a "Process Oriented" four point continuum scale. The areas selected were household, farm, economic and health related decisions. The findings revealed that as the progressiveness of the region decreased so did the extent of participation of homemakers in household related decisions. Decision making regarding farm matters was more or less a male domain, as they were initiators of the problem and the final decision was also theirs. However, as the progressiveness of the region decreased, extent of participation of women in farm related decisions increaased thus, establishing an inverse relationship between technological advancement and participation of women in farm related decisions.

Data pertaining to economic decisions (work, household expenditure, savings and decision to invest money) revealed that respondent's extent of participation in

economic decisions was higher in the backward region as compared to the advanced region. In region B, almost half of the respondents (49.33 per cent) were having high level of participation in economic decisions whereas 38 per cent of them had medium level of participation and only 12.67 per cent of them had low level of participation. As compared to this, in region A, only one-fourth of the respondents had high extent of participation in decisions pertaining to economic matters whereas 36 per cent of them had moderate and 38.67 per cent of the respondents had low extent of participation.

16. Technology Vis-A-Vis Cognitive Status of Women : Cognitive status, which can go a long way in breaking the mental isolation of rural women was measured in terms of their participation in community activities and their opinions regarding progressive issues.

16a. Homemaker's Extent of Contact with Agents of Change : In both the regions, findings revealed that as compared to development agents respondents had more contact with channels of mass media as 24 per cent of the respondents had high contact with them whereas 49.33 per cent had low and 26.67 per cent of them had no contact with mass media. 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 were having low

contact and as many as 43.33 per cent reported that they never had any contact with either extension personnel or 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. The findings reflect the poor awareness and knowledge of rural women regarding their agents of change thereby highlighting their physical and mental isolation.

16b. Homemaker's Participation in Community Activities : The data revealed that respondents only contact with community was through Mahila Mandals and 40.33 per cent of the respondents (region A=45.33 per cent and region B=35.33 per cent) were aware of its existence in their village. Remaining 59.67 per cent of the respondents were not even aware of presence of such Mandal. Adoption level of technology exerted influence on respondent's knowledge regarding Mahila Mandal as in both the regions, more number of high adopters of technology had better knowledge about it as compared to the medium and low adopters. Out of those respondents who were aware of Mahila Mandal, only 62.80 per cent were its members. It is note worthy that majority of the members had just registered their names but were rarely attending meetings. Only 23.14 per cent of the respondents (region A=32.36 per cent and region B=11.32

per cent) were fully participating in community activities by taking part in discussions, decision making and follow-up action.

16b. Homemaker's Opinions Towards Progressive Issues : Opinions towards progressive issues has been considered as a qualitative indicator of measuring status of women. Under this, mainly their opinions towards issues such as introduction of technology in rural areas, popularization of family planning and immunization programmes importance of communication technology etc. has been considered. The findings revealed that as level of adoption of technology declined, both within and between the regions, there was a marked increase in homemaker's negative opinions towards progressive issues.

17. OTHER INDICATORS OF FAMILY RESOURCE DEVELOPMENT

Apart from SORW, other indicators taken for measurement of FRD were 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.

17a. Time Spent on Child Care : Time allotted to child care activity was recorded only for children below 6 years of age. 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. Though, in the present sample children were not getting much attention (region A=60.20 minutes and region B=45.27 minutes) still the gravity of the situation was reduced by the fact that 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).

17b. Consumption Expenditure Pattern of the Households : Technology showed a significant effect on consumption expenditure pattern of the rural households-a major indicator of quality of life and family resource development. Engle's ratio or the APC of high adopters of technology on physiological needs was merely half the those of low adopters of technology. This tendency was also noticed with respect to other consumption items like clothing, fuel and medicine. But the "cost feature" in consumption expenditure pattern was in the nature of "conspicuous consumption" such as expenditure on liquour, cigrettes, bidies etc. Overall, the findings revealed that 52.34 per cent of respondents (region A=67.33 per cent and region B=37.33 per cent) had good quality of consumption whereas 42.33 per cent (region A=30 per cent and region B=54.67 per cent) had average and only 5.33 per cent (region A=2.67 per cent

and region B=8 per cent) of the households had poor quality of consumption.

17c. Perception of Homemakers Regarding Benefits and Costs of Technology : The positive / negative perceptions of homemakers regarding HHFC technology have been recorded based on their actual experiences and the net cost and benefit of the same has been derived and statistically tested.

Household Technology : Perception of benefits experienced by the homemakers after usage of household technology in descending order were reduction in drudgery of work (region A=66.67 per cent and region B=62 per cent), time and energy conservation (66.67 per cent, 31.33 per cent), better quality of life (46 per cent, 2 per cent), elimination of cooking in smokeful environment and fetching of fuel wood (28 per cent, 10.66 per cent) and elimination of walking a long distance to fetch water (98.67 per cent and 70.67 per cent respectively). It was, however, revealing to note that when the net outcome of household technology in terms of cost and benefit analysis was worked out, the cost ($\bar{x}$=4.33) out weighed the benefit ($\bar{x}$=3.02). This difference was also found significant at 0.01 level (t = 11.40). Respondents were facing difficulties in terms of increase in electricity bill, frequent breakdowns and high costs of repair,

difficulty in operating items due to lack of proper knowledge and need for more care and maintenance.

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 : increase in production of crops due to use of H.Y.V. (82.67 per cent), protection of crops by use of pesticides and insecticides (67.33 per cent), increase in household earnings (65.33 per cent), improved standard of living (40 per cent) and better consumption level (34 per cent). The cost of agricultural technology out weighed its benefits as the mean scores of benefits ($\bar{x}$ = 2.34, Sd=1.84) was found to be less than mean scores of costs ($\bar{x}$=3.59, Sd=2.60). 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=598). The costs of agricultural technology as perceived by the respondents were lack of training facilities in agricultural field, neglect of females by extension agents, lack of technical know-how to operate machines, lack of introduction of modern technology in female intensive areas and non-availability of work in agriculture.

Health Technology : Among the benefits perceived by the homemakers of the health technology, control over fertility (region A=88 per cent and region B=100 per cent) came at the top position. 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). Ironically, technology ostensibly developed to help rural women was not without its negative impacts. 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). Not much intra and inter region differentials existed with regard to homemaker's perception of costs of health technology. It is disturbing to note that even cost of health technology ($\bar{X}$=4.62, Sd=2.46) outweighed the benefit ($\bar{X}$=3.63, Sd=2.67). This difference was found statistically significant at 0.01 level (t=3.34, df=248). The inter and intra region differentials in net cost and benefit of health technology was also found significant.

Communication Technology : It was 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. Radio and

television were considered as a source of entertainment by 42.33 per cent of the respondents (45.33 per cent and 39.33 per cent). 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. Due to limited responses on this component, the net cost and benefit of communication technology could not be computed.

7d. Attitude of the Homemakers Towards Technology : The scale developed to assess homemaker's attitude towards technology constituted of statements which expressed feelings towards household, health, farm and communication technology. The mean attitude score for the total sample was 57.92 (Sd=6.28). Data revealed a positive relationship between attitude of the homemakers and their education level and adoption level of technology. Overall, 27 per cent of the respondents were having negative attitude towards technology, 14.33 per cent of them had positive and as many as 59.67 per cent of the respondents had neutral attitude towards technology.

18. Determinants of SORW and FRD : A three way statistical analysis comprising of Pearson's product moment correlation coefficient, analysis of variance and stepwise multiple regression analysis was carried out

to test the hypotheses postulated for the study and to identify the determinants of SORW and FRD. The findings revealed :

a. Highly significant and positive correlation was found between adoption level of household technology and work status of the homemaker, size of the landholding, family's income, region, adoption level of farm and communication technology.

b. Adoption level of farm technology was found to be significantly and positively related to education level of the spouse (r=0.281), family type (r=0.196), size of the landholding (r=0.519), income of the family (r=0.692), region (r=0.321) and adoption level of communication technology (r=0.573).

c. Variables like education of the respondents and spouse, work status of the respondent, size of the landholding, family's income, region, adoption level of household, farm and communication technology resulted in high adoption level of health technology. Moreover, the younger the homemaker, the higher was the adoption level of health technologyy as indicated by the negative relationship between the two (r= -0.241).

d. A significant positive relationship existed between adoption level of communication technology and education of the homemaker (r=0.222), education of the spouse (r=0.211), size of the landholding (r=0.532) and family's income (r=0.693) and region (r=0.194). More

number of young respondents were adopting communication technology as compared to the older respondents.

e. The adoption level of technology and personal and household variables accounted for significant differentials in the human cost of work, measured in terms of time and energy expenditure.

f. Attitude of the respondent was found to be a significant and positive correlate of education level and work status of the homemaker, size of the landholding, income of the family, region, adoption level of household technology and mass media technology. Young homemakers had more positive attitude towards technology as compared to older homemakers.

g. Significant positive relationship existed between attitude of the respondents towards technology and their perception regarding benefits of household and mass media technology.

h. More the perception of costs of farm and health technology more unfavourable was the attitude of the respondents towards technology.

i. Adoption level of technology and personal and household variables accounted for differentials in decision making power of the respondents.

j. Quality of consumption of household was found to be positively correlated with size of the landholding, family's income, ownership of milch animals, region and adoption level of farm and communication technology.

Nuclear families had better quality of consumption as compared to the joint family.

k. Determinants of SORW and FRD : Adoption level of communication, household and health technology and homemaker's education were found to be positive determinants of SORW are shown by the stepwise multiple regression analysis. Explanatory variables like family type, adoption level of farm technology and region emerged as negative determinants of SORW.

Family's income, region, adoption level of farm technology and homemaker's education positively contributed to FRD, whereas type of family emerged as a negative determinant of FRD.

CONCLUSIONS

The study very clearly reveals on inter and intra region imbalance with regard to access and availability of HHFC technology. Comparatively rural women of advanced region, especially those belonging to large and medium farming households, have better access to household technology whose usage has accounted for differentials in human cost of work. Modern farm technology has greatly benefitted the rural households, mainly the large and medium farming ones. It has led to an increase in earnings of these households and improvement in level of living as reflected through their quality of consumption. However, farm technology has adversely affected women's economic status as it has resulted in their withdrawal from the labour market. In this respect, the Status of Rural Women in the backward region is at an advantageous position as compared to their counterparts in the advanced region. Access to and utilization of health technology revealed the phenomenon of gender non-neutrality especially with respect to adoption of family planning methods. The entire burden has been shifted on rural women along with the associated detrimental side-effects. It was heartning to note that communication technology to some extent has been successful in over coming the constraints of illiteracy. However, lots of imbalance exists both within and between the regions, with regard to its access and availability. Due to their gender specific approach most of the extension agents remain elusive to rural

women thus, contributing to their mental isolation. Hence, it can be concluded that if developmental goals are to be realized through technologyy then there should not be any regional imbalance in its availability, access and extent of utilization and it should be made gender neutral.

POLICY IMPLICATIONS

The findings of the study brought out a number of implications for policy formulations and action programmes for different public and private institutions ministries, government functionaries, NGO's, women organizations, extension wings of agricultural universities and resource management specialists concerned with women's issues. These have been enumerated as follows :

1. The present study has revealed intra and inter regional differentials in adoption level of technology. It was mainly concentrated in large and medium farming households, especially of advanced region. Hence, the promoters of technology should take necessary steps to ensure that atleast simple technology at the household level should be made accessible to all without any class, caste or regional distinction.

2. Time and labour saving devices were found to be relatively more popular than fuel efficient ones. The fact that only 11.33 percent of the respondents were making use of smokeless chulahs, in the present sample, is indeed a matter of concern especially in this day of energy crisis. The issue should be taken up by the personnel involved in popularization of non-conventional energy resources.

3. Lack of centre concept in the kitchen was highlighted by the present study. This has an important policy implication for the ministry dealing with rural housing as lack of ergonomic component can result in increase in human cost of work.

4. Cost of household technology was found to be significantly more in terms of care and maintenance of items, difficulty in operation due to lack of knowledge and increase in electricity bills. Manufacturing firms should devise, fuel-efficient equipment and should sell them with a simple instruction manual.

5. The study revealed that inspite of rural women's active involvement in agriculture their access to modern farm technology remained limited. This calls for a need to train women so that they can upgrade their skills and can operate modern farm machinery. The gender specific approach of extension personnel has to be wiped out.

6. Despite India being the first country in the World to have a national level family planning programme since as early as 1952, the study revealed that programme had achieved marginal success. In the present sample, more than fifty per cent of the couples were not practising family planning. Hence, a great effect is required on the part of the government to sensitize the rural population regarding importance of small family and

adverse implications of large family at micro and micro level.

7. Study has shown that family planning devices were found to be too complicated. Hence, research effort is required on the part of medical institutions to devise less complicated methods of family planning with minimum or no side-effects, which can be easily delivered to rural population at their door steps.

8. Issue of family planning has remained "female-focussed" hence there is an urgent need to change the attitude of males regarding usage of family planning devices so that women's burden will be reduced.

9. Findings pertaining to communication technology revealed that inspite of various programmes run by the government related to family planning and immunization, health and sanitation, non-conventional energy resources programme' etc., for the welfare of the rural population 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. Many of the respondents, especially those belonging to the backward region, remain ignorant of the extension programmes as well as of extension personnel. This poor show of extension agents should be a matter of concern to the relevant departments. This calls for taking of steps to ensure effective

functioning of this very important channel of communication.

10. Besides highlighting the ineffectiveness of the extension programmes, the findings point out the potential of Doordarshan as an effective source of information for the rural population. This has got an important policy implication for the development planners so that potential of Doordarshan can be optimally utilized in bringing about overall human resource development.

11. Study has strikingly revealed that technology has great potential to reduce the human cost of work. Even adoption of simple technology can conserve human energy considerably and can lead to release of leisure/free time. It will be more cost-effective that the release can enable rural women to become economically productive by taking up income generating activities during their free time. Their skills should be put to optimum utilization by opening up new avenues of small scale cottage industries before them. The promotion and development of village industries would constitute a major step in improving quality of life of rural women through economic contribution.

Recommendations For Future Research :

1. A study can be planned to assess the suitability of existing improved technology for women and also to design simple tools for the tasks in which modern technology are absent.

2. A similar type of research can be taken up by different institutions in different parts of the country, through networking, to get a holistic picture on the issue of technological change and its impact on rural women, which can guide the policy.

3. Participatory research can be taken up in promoting self-employment through usage of various technology which can lead to improving the Status of Women and Family Resource Development, both of which are essential for the overall development of any society.