# INFORMATION NEEDS FOR HILL FARM WOMEN OF UTTARANCHAL

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Women, the backbone of hill agriculture are extensively engaged in more farm operations, except ploughing and to some extent marketing. According to the assessment by Singh (1987) in the Indian Himalayas, a pair of bullocks works for 1064 hrs, a man for 1,212 hrs and women for 3,485 hrs in a year on one hectare land A women's work is 1.5 times more then that of man and farm animal combined. They are normally engaged in multiple tasks but in the design the programme for agricultural development, women are neither the direct clientele of the manage nor do they have an opportunity to discuss their doubts and misgivings.

Sandhu and Sharma (1976) studied information need of farm women in two villages of Ludhiana and Jallandhar district. They found that the information need of farm women were high in respect of plant protection measures, seed selection and treatment, gardening storage and marketing.

In third world countries information technology has rapid growth and development but the hill farmwomen are yet to have access to the information including in the area If agriculture. These days information has become critical especially in view of the growing sophistication in agriculture technology.

Keeping these facts in view the present study was carried out with the following specific objectives :

1. To determine information needs of hill farmwomen of Chamba Block of Tehri Garhwal district in respect of agriculture practices.
2. To determine information need of hill farmwomen of Home science practices.
3. To formulate training course curriculum on the baseis of their priority need of agriculture and allied disciplines.

## METHODOLOGY :

The data were collected from 6 villages including 2high hills (1500m and above) 2mid hills (1050-1500mts.) and low hills (below 1050mts.) village of district Tehri Garhwal of Uttar Pradesh. Forty respondents from each (high, mid and low hill) village were selected randomly. Total, 120 families were selected for this study. The information was collected with the help of pre-tested schedule by personally interviewing the farm women. The mean score was used for calculating the rank of information need.

## RESULTS AND DISCUSSION :

The data related to the information need in agriculture, Family welfare, Health and Hygiene, Nutrition and Environment were analysed and the findings were categorically reported as under :

### I. Information needs in Agriculture :

Table 1. shows, that high yielding variety happens to be the most important area of agriculture in which hill farm women need information and this was followed by field preparation and cereal production. The other areas of information need pertaining to agriculture were proper use of fertilizer,

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pesticide, weed control, disease control and sowing procedure.

**Table 1. Agriculture need on the various aspects of agriculture**

| S.N. | Aspect of Agriculture | Mean Weighed scors | Rank |
|---|---|---|---|
| 1. | Field preparation | 0.941 | II |
| 2. | High yield varieties | 1.475 | I* |
| 3. | Proper use of fertilizer | 0.408 | IV |
| 4. | Weed control | 0.275 | IX |
| 5. | Proper use of pesticides | 0.375 | V* |
| 6. | Disease control | 0.308 | VIII |
| 7. | Sowing procedure | 0.308 | VII |
| 8. | Post harvest technology | 0.225 | XI |
| 9. | Cereal crop production | 0.600 | III |
| 10. | Agriculture implement | 0.100 | IX |
| 11. | Irrigation | 0.066 | X |

*Shows most important information need

## II. Information need in family Welfare :

Table 2. Shows that immunization of infant happens to be most important area of family welfare information need of the respondents followed by family planning. The other areas of information need pertaining to family welfare were disease control, immunization of pregnant mother and childcare.

**Table 2. Information need of farm women on various aspects of family welfare.**

| S.N. | Aspect of Family Welfare | Mean Weighed scors | Rank |
|---|---|---|---|
| 1. | Family planning | 1.908 | II* |
| 2. | Immunization and care of pregnant mother | 0.250 | III* |
| 3. | Immunization of infant | 1.958 | I* |
| 4. | Cause of disease and their control | 0.233 | IV |
| 5. | Child care | 0.083 | V |

*Shows most important information need

## III. Information Need in the area of heath and hygiene :

From Table 3. it is clear that body cleanliness was most important area of information need followed by house cleanliness and sulabh sochalaya. The other area of information need pertaining to health and hygiene were sulabh sauhalaya, water purification, care of sick person and smokeless chulha.

**Table 3. Information needs of farm Women on various aspects of health and hygiene.**

| S.N. | Aspect of health and hygiene | Mean weighed score | Rank |
|---|---|---|---|
| 1. | Body cleanliness | 1.658 | I* |
| 2. | Water purification | 0.4416 | IV |
| 3. | De-worming | 0.050 | IX |
| 4. | House cleanliness | 0.791 | II* |
| 5. | Sulabh Sauchalaya | 0.608 | III* |
| 6. | Drainage facilities | 0.033 | XI |
| 7. | Care of sick person | 0.200 | VI |
| 8. | Smokeless chulha | 0.158 | VII |
| 9. | Toilet training of children | 0.350 | V |

*Indicates most important information need

## IV. Information need in nutrition

Table 4. shows that the balanced diet was found to be the most important area of nutrition for information need of the respondents followed by procedure to improve nutritional quality in diet. The other areas of information need pertaining to nutrition were scientific method of local food preparation, food for pregnant women, food for lactating mother and food for sick person.

**Table 4. Information need farm women on various aspects of nutrition**

| S.N. | Aspect of nutrition | Mean Weighed Score | Rank |
|---|---|---|---|
| 1. | Balance diet | 1.975 | I* |
| 2. | Scientific method of local food preparation | 0.558 | III* |
| 3. | Procedure to improve nutrition quality | 0.840 | II* |
| 4. | Food for lactating mother | 0.425 | IV |
| 5. | Food for sick person | 0.266 | VI |
| 6. | Food for pregnant women | 0.283 | V |
| 7. | Preservation technology | 0.066 | IX |
| 8. | Weaning food | 0.183 | VII |

*Indicating most important information on need

## V. Information need in environment

Among the heeds related to environment, plantation was most important area of information needs of farmwomen followed by water pollution. The other area of information need pertaining to environment were environment pollution, fodder production, protection of land slide and forest conservation as clearly mentioned in Table 5.

**Table 5. Information need of farm women on various aspects of environment**

| S.N. | Various aspect of environment | Mean weighed score | Rank |
|---|---|---|---|
| 1. | Plantation | 1.533 | I* |
| 2. | Environment pollution | 0.675 | III* |
| 3. | Protection of land slide. | 0.383 | V |
| 4. | Importance of social forestry | 0.358 | VII |
| 5. | Fodder production | 0.450 | IV |
| 6. | Water pollution | 0.883 | II* |
| 7. | Forest conservation | 0.375 | VI |
| 8. | Save of fuel | 0.300 | IX |

*Indicates most important information need.

## CONCLUSION :

On the basis of the findings of this study the following syllabus can be prepared for providing the need based information or development training programme to farmwomen of hilly region on priority.

### Agriculture :

1. High yielding varieties
2. Field crop production
3. Cereal crop production
4. Proper use of fertilizer
5. Proper use of pesticides
6. Horticulture
7. Disease control
8. Sowing procedure
9. Agricultural Implement
10. Fodder Production
11. Soil testing
12. Irrigation

### Family welfare :

1. Family planning
2. Immunization and care of pregnant mother
3. Causes of disease and their control
4. Child care

### Health and Hygiene :

1. Body cleanliness
2. House cleanliness
3. Sulabh sauchalaya
4. Water purification
5. Toilet training of children
6. Care of sick person
7. Smokeless chullah
8. Deworming
9. Drainage facilities

### Nutrition :

1. Balance diet
2. Procedure to improve nutrition quality in diet
3. Scientific method of meal preparation
4. Food for lactating mother
5. Food for pregnant women
6. Food for sick person
7. Weaning food
8. Preservation technique

### Environment :

1. Plantation
2. Water pollution
3. Environment pollution
4. Fodder production
5. Protection of land slide
6. Forest conservation
7. Importance of social forestry
8. Save of fuel

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# ASSESSMENT AND INTRODUCTION OF IMPROVED CHICKPEA VARIETIES IN EXISTING PULSE–BASED RAINFED CROPPING SYSTEM IN HAMIRPUR DISTRICT (U.P.)

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Unlike agricultural development is resource capability and management centered. It is, therefore, being increasingly recognized that alignment of research objectives with local agricultural land resource management practices through participatory approach is the sound format for generating location specific technologies. Till now, technologies generated at the research station were thrust upon the farmers in the technology transfer programmes without understanding their existing situation. It is therefore, required a complete reversal of Transfer of Technology (TOT) approach where farmers are fully involved at all the stages of technology development process. In Uttar Pradesh, Hamirpur district has tremendous potential in pulses production. This is predominantly a pulse-growing district. Chickpea is the major pulse grown in this district. In Hamirpur, chickpea is grown in 88,000 hectare (11%) out of total chickpea area 82 million hectare and production 89,000 tonnes out of total production 7,30 000 tonnes (12%). The present study was conducted at Vidokhar village of Hamirpur district in Uttar Pradesh as a part of NATP funded project on Technology Assessment and Refinement through Institution Village Linkage Programme. Most of the farm families in the village depend upon farming and about 90 % farmers grow chickpea in rabi season. Participatory Rural Appraisal Technique was applied to have a thorough knowledge of the existing situation of the village. The participation of the farmers was also ensured with this tool. The residents of the village have identified the different micro-farming situation of the village and the major problems in crop production. Farmers have identified and prioritized unstable yield of chickpea as the most serious problem. Chickpea is an important pulse grown by all the farmers in Vidokhar village. It accounts for 471 hectare in rabi season under rainfed situation (90 % of total area sown in rabi season). The productivity of chickpea is unstable due to incidence of wilt disease and heavy rain in December-January and high temperature in February – March. The farmers take chickpea year after year as they have no assured irrigation facility to grow cereal in rabi season. The repeated chickpea cultivation has caused heavy incidence of wilt disease. Keeping this problem in view, the following study was conducted with the objective – To assess technologies which focus on stability and sustainability along with the productivity of small production system.

## METHODOLOGY :

The study was conducted at Vidokhar village of Sumerpur block in Hamirpur district. The village Vidokhar was selected purposively. Chickpea is the main pulse crop sown in the village in rabi season.

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Predominance of rainfed farming and agriculture as main occupation were the other factors which influenced the selection of this village. Through PRA, farmers have identified the cause of unstable yield of chickpea and prioritized them. The intervention points were identified and technological intervention was finalized. The main cause for unstable yield of chickpea is due to ignorance about wilt resistant chickpea variety. On-farm trial was carried out at 40 farmers' fields in two consecutive year (20 farmers in each year) i.e. 2000-2001 and 2001-2002 rabi season. Three chickpea varieties were identified for this viz. JG-315, JG-322 and KWR 108. The characteristic features of these varieties are–

**KWR 108 :-**

| | |
|---|---|
| Duration | : 130-135 days |
| Resistance | : Tolerant to Fusarium Wilt + Root Rot |
| Seed Size | : Small |
| Yield Potential | : 20-23 q/ha |
| Recommended Zone | : North East Plain Zone |

**JG-315 :-**

| | |
|---|---|
| Duration | : 120-125 days |
| Resistance | : Highly resistant to Fusarium Wilt + Moderately resistant to Wet Root Rot and Stunt |
| Seed Size | : Medium Bold |
| Yield Potential | : 19-20 q/ha |
| Recommended Zone | : Central Zone |

**JG-322 :-**

| | |
|---|---|
| Duration | : 110-115 days |
| Resistance | : Resistant against Fusarium Wilt |
| Seed Size | : Medium |
| Yield Potential | : 18-20 q/ha |
| Recommended Zone | : Central Zone |

Four micro-farming situation were identified where chickpea is being grown. The four micro-farming situations are :–

(a) Clay (Mar) & clay loam (Kabar) soil- Rainfed, after fallow

(b) Clay loam (Kabar) soil- after fallow, irrigated

(c) Clay loam (Kabar) soil-after urd, moong and sesamum, sown with pre-sowing irrigation

(d) Loam (Parwa) soil- Irrigated (one irrigation at 45-50 DAS), sown after urd, moong, sesamum and soybean crop

Technical Observations were taken of the following parameters:

(a) Initial plant stand/meter row length

(b) Plant height (cm.) at 45 DAS and 90 DAS

(c) No. of nodule at 45 DAS and 90 DAS

(d) No. of branch–Primary at 45 DAS and 90 DAS
Secondary at 90 DAS

(e) Days of start of flowering

(f) Days of 50% podding

Yield data was collected for each treatment in all micro-farming situation and benefit cost ratio was also calculated on the basis of net return per rupee invested.

## RESULTS AND DISCUSSION :

The technological intervention in all micro-farming situation was formulated involving three wilt resistant varieties along with the local variety as a control.

**Table 1. Detail of technological intervention in different micro-farming situation**

| Micro Farming Situation (Soil type) | No. of Farmers | Treatment |
|---|---|---|
| 1. Clay (Mar) & clay loam (Kabar) soil- Rainfed, after fallow | 12 | $T_1$-Local variety |
| 2. Clay loam (Kabar) soil- after fallow, irrigated | 08 | $T_2$-KWR 108 |
| 3. Clay loam (Kabar) soil- after urd, moong and sesamum, sown with pre-sowing irrigation | 12 | $T_3$- JG-315 |
| 4. Loam (Parwa) soil- Irrigated (one irrigation at45-50DAS),sown after urd, moong, sesamum and soybean crop | 08 | $T_4$- JG-322 |

Technical observations were collected in parameters mentioned earlier in different micro-farming situation. The situation wise technical observation and yield data with respective benefit cost ratio is given below:

**Table 2. Technical observation in clay (Mar) & clay loam (Kabar) soil-Rainfed, after fallow situation**

| Treatment | Initial plant stand/m row length | Plant height (cm) | | No. of nodules | | No. of branch | | | Days of start of flowering | Days of 50% podding |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 45 DAS | 90 DAS | 45 DAS | 90 DAS | Primary 45 DAS | Primary 90DAS | Secondary 90 DAS | | |
| $T_1$ | 14.7 | 26.1 | 40.6 | 4.1 | 6.3 | 8.0 | 5.8 | 7.1 | 66 | 108 |
| $T_2$ | 7.4 | 17.4 | 31.7 | 9.3 | 12.3 | 16.3 | 2.5 | 2.8 | 87 | 113 |
| $T_3$ | 11.8 | 27.3 | 41.8 | 7.2 | 9.1 | 12.8 | 2.1 | 2.6 | 67 | 103 |
| $T_4$ | 11.6 | 27.1 | 42.1 | 6.9 | 9.2 | 12.4 | 2.4 | 2.9 | 67 | 102 |

In this intervention, three wilt resistant varieties like KWR 108, JG 315 and JG 322 along with local variety were sown in four different situations. The initial plant stand was low in variety KWR 108 as the seed were bold and the seed rate was same for all the improved varieties. The higher plant stand in the local variety was due to higher seed rate. The plant height of KWR 108 was less throughout the growth period in all situations, but more in high moisture condition i.e. in clay soil (as the water holding capacity of clay soil is higher) and in assured irrigation in clay loam soil. The other varieties were equal in height. The number of primary and secondary branches was higher in KWR 108 as compared to the other varieties. The percentage of dead plant was less in all three improved varieties. Maturity in JG 322 and JG 315 started early (10-15 days) in comparison to the local and KWR 108. These two varieties are running parallel to the local variety in this regard but KWR 108 is late.

**Table 3. Yield data in clay (Mar) & clay loam (Kabar) soil-Rainfed, after fallow situation**

| Technological Intervention | Thematic area | Mode OFT/VT | No. of farmers covered | Treatment | Grain yield q/ha | Percentage increase in yield | Net return/ Rs. | B/C ratio |
|---|---|---|---|---|---|---|---|---|
| Management of root rot/wilt in chickpea through tolerant variety | NRM | OFT | 12 | $T_1$- Local variety | 9.8 | — | 8,450.00 | — |
| | | | | $T_2$- KWR-108 | 11.8 | 12.4 | 9,700.00 | 1.7 |
| | | | | $T_3$- JG-315 | 12.1 | 23.5 | 10,150.00 | 2.0 |
| | | | | $T_4$- JG-322 | 12.4 | 26.5 | 10,600.00 | 2.2 |

**Table 4. Technical observation in clay loam (Kabar) soil- after fallow, irrigated situation**

| Treatment | Initial plant stand/m row length | Plant height (cm) | | No. of nodules | | No. of branch | | | Days of start of flowering | Days of 50% podding |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Primary | | Secondary | | |
| | | 45 DAS | 90 DAS | 45 DAS | 90 DAS | 45 DAS | 90DAS | 90 DAS | | |
| $T_1$ | 16.1 | 23.2 | 48.5 | 3.0 | 5.6 | 6.2 | 6.3 | 7.8 | 72 | 115 |
| $T_2$ | 8.9 | 12.8 | 40.6 | 7.1 | 10.4 | 11.7 | 2.1 | 3.2 | 91 | 128 |
| $T_3$ | 12.6 | 22.9 | 49.2 | 5.4 | 8.6 | 9.4 | 2.9 | 3.4 | 73 | 113 |
| $T_4$ | 12.8 | 23.1 | 49.0 | 5.9 | 8.9 | 10.2 | 2.4 | 3.6 | 74 | 114 |

**Table 5. Yield data in clay loam (Kabar) soil- after fallow, irrigated situation**

| Technological Intervention | Thematic area | Mode OFT/VT | No. of farmers covered | Treatment | Grain yield q/ha | Percentage increase in yield | Net return/ Rs. | B/C ratio |
|---|---|---|---|---|---|---|---|---|
| Management of root rot/wilt in chickpea through tolerant variety | NRM | OFT | 08 | $T_1$- Local variety | 13.1 | — | 9892.00 | — |
| | | | | $T_2$- KWR-108 | 15.7 | 19.8 | 10843.75 | 2.68 |
| | | | | $T_3$- JG-315 | 17.3 | 32.1 | 14743.75 | 5.33 |
| | | | | $T_4$- JG-322 | 16.8 | 28.1 | 13993.75 | 3.81 |

**Table 6. Technical observation in clay loam (Kabar) soil- after urd, moong and sesamum, sown with pre-sowing irrigation situation**

| Treatment | Initial plant stand/m row length | Plant height (cm) | | No. of nodules | | No. of branch | | | Days of start of flowering | Days of 50% podding |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Primary | | Secondary | | |
| | | 45 DAS | 90 DAS | 45 DAS | 90 DAS | 45 DAS | 90DAS | 90 DAS | | |
| $T_1$ | 14.3 | 20.6 | 37.9 | 3.6 | 5.1 | 5.0 | 7.3 | 8.1 | 61 | 107 |
| $T_2$ | 7.8 | 11.4 | 28.1 | 6.3 | 9.3 | 10.8 | 2.6 | 2.9 | 83 | 109 |
| $T_3$ | 10.2 | 21.3 | 38.4 | 5.1 | 7.1 | 10.1 | 3.2 | 3.6 | 62 | 97 |
| $T_4$ | 10.6 | 22.0 | 38.1 | 5.3 | 7.4 | 9.5 | 3.0 | 3.5 | 63 | 96 |

It has been observed from technical observation of all the situations that the start of flowering of both JG 315 and JG 322 varieties coincide with the local one where as the days of 50 % flowering is less in case of JG 315 and JG 322 as compared to the local variety and KWR 108.

**Table 7. Yield data in clay loam (Kabar) soil- after urd, moong and sesamum, sown with pre-sowing irrigation situation**

| Technological Intervention | Thematic area | Mode OFT/VT | No. of farmers covered | Treatment | Grain yield q/ha | Percentage increase in yield | Net return/ Rs. | B/C ratio |
|---|---|---|---|---|---|---|---|---|
| Management of root rot/wilt in chickpea through tolerant variety | NRM | OFT | 12 | $T_1$- Local variety | 11.7 | — | 9,722.50 | — |
| | | | | $T_2$- KWR-108 | 14.1 | 20.5 | 11,572.50 | 2.1 |
| | | | | $T_3$- JG-315 | 15.6 | 33.3 | 13,822.50 | 3.3 |
| | | | | $T_4$- JG-322 | 15.8 | 35.0 | 14,122.50 | 3.5 |

The yield data indicates that yield of local variety is 9.8 q/ha, which is increased by 20.4,23.5 and 26.5 percent in treatments 2nd, 3rd and 4th respectively (Table 7). More increase in yield is observed in pre-sowing irrigated crop. All three varieties have proved their superiority over the local one. The farmers have accepted KWR 108 and JG 315 and seed of last year is distributed among the farmers for large-scale production.

**Table 8 Technical observation in loam (Parwa) soil- irrigated (one irrigation at 45-50 DAS), after urd, moong, sesamum and soybean situation**

| Treatment | Initial plant stand/m row length | Plant height (cm) | | No. of nodules | | No. of branch | | | Days of start of flowering | Days of 50% podding |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 45 DAS | 90 DAS | 45 DAS | 90 DAS | Primary | | Secondary | | |
| | | | | | | 45 DAS | 90DAS | 90 DAS | | |
| $T_1$ | 16.6 | 24.9 | 48.9 | 4.6 | 7.1 | 7.5 | 5.4 | 6.8 | 65 | 106 |
| $T_2$ | 10.2 | 15.3 | 40.3 | 9.1 | 13.2 | 17.1 | 2.3 | 2.5 | 88 | 111 |
| $T_3$ | 13.4 | 25.2 | 47.1 | 7.3 | 8.4 | 13.4 | 2.5 | 3.0 | 66 | 104 |
| $T_4$ | 13.7 | 24.6 | 47.5 | 7.5 | 9.0 | 13.0 | 2.1 | 2.5 | 67 | 104 |

**Table 9. Yield data in loam (Parwa) soil- irrigated (one irrigation at 45-50 DAS), after urd, moong, sesamum and soybean situation**

| Technological Intervention | Thematic area | Mode OFT/VT | No. of farmers covered | Treatment | Grain yield q/ha | Percentage increase in yield | Net return/ Rs. | B/C ratio |
|---|---|---|---|---|---|---|---|---|
| Management of root rot/wilt in chickpea through tolerant variety | NRM | OFT | 08 | $T_1$- Local variety | 12.7 | — | 9775.00 | — |
| | | | | $T_2$- KWR-108 | 14.5 | 15.1 | 11168.75 | 1.96 |
| | | | | $T_3$- JG-315 | 16.1 | 27.8 | 13,568.75 | 3.61 |
| | | | | $T_4$- JG-322 | 15.9 | 26.2 | 13,268.75 | 3.40 |

Eight (8) on-farm trials were conducted to evaluate the performance of root rot/wilt tolerant varieties of chickpea in partial irrigated double cropping situation. In this micro-farming situation, the yield of local variety was about 12.6 q/ha, which increased by 15.1,

27.8 and 26.2 percent in case of KWR-108, JG 315 and JG 322 respectively. Performances of JG 315 and JG 322 are almost at par with a little variation. The maximum net return was noticed in JG 315 (Rs. 13,568.75/ha).

## CONCLUSION :

The results of the variety trials in chickpea that had a reasonable degree of replication are depicted in tables 1-9. All the three varieties gave some indication of increase in yield, which varies from 15 to 35 percent. The KWR 108 variety gave modest yield increase and farmers reported that it is resistant to Fusarium Wilt but the maturity period is more (20 days more) in comparison to the local variety, JG 315 and JG 322. Both JG 315 and JG 322 varieties performed well in all micro-farming situation and were well accepted by the farmers as these varieties were found wilt resistant. The duration of these two varieties also suit to the existing farming practice of this area. The trials were conducted with voluntary participation of the farmers. The result had tremendous impact on the farmers as they got first hand experience. These improved varieties had been tested and assessed in existing resource poor condition against the local variety. After the first year, most of the farmers who had a successful trial kept the seed to sow next year. This itself is a sign of acceptance of these improved varieties and an excellent response to the first year trials. In the following year farmers have sown their own seed JG 315 and JG 322. Farmers who were covered under the programme have given seed to the other farmers of the same village and also in the nearby villages for sowing.

Three improved chickpea varieties were tested and assessed at the farmers' field in existing resource under four different micro-farming situations in village Vidokhar of Hamirpur district. According to the experimental results, JG 315 variety was found the most suitable followed by JG 322 for rabi cultivation in different micro-farming situations in the study area. The outcome of this study holds good for the entire Bundelkhand Region of U. P. as the study area represents Bundelkhand region in all aspect viz. climate, soil and cropping system. These two varieties can be popularized among the farmers of this region for increase in yield of chickpea. The dissemination of this technology can be done with a collaborative approach. The coordination among the ICAR Institutes, State Department of Agriculture, State Agriculture University and Non-Governmental Organizations with active participation of the farmers can ensure the dissemination of this technology in this region.

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# CONSTRAINTS AS PERCEIVED BY THE FIELD FUNCTIONARIES OF NWDPRA IN IMPLEMENTATION OF 000WATERSHED TECHNOLOGY

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Agricultural productivity significantly depends upon soil and water conservation because agriculture is the back bone of Indian economy and major area i.e. 60 per cent of total cultivated area is under rainfed. Watershed management is inevitable, especially for conserving the water and soil in dryland and rainfed areas of Rajasthan. Agricultural production in Rajasthan state mainly depends upon monsoon rain. Rainfall in Rajasthan generally remains abnormal with prolonged drought periods and only contributes one percent of the national gross water resources. In Rajasthan, 75 per cent of the total cultivated area is under rainfed. Government of India initiated National Watershed Development Project for Rainfed Areas (NWDPRA, 1986) and Government of Rajasthan established a separate department of watershed development and soil conservation in 1991.

Constraints are the forcible restrictions and confinement of action. For implementation of any rural development programme, the constraints or impediments play very important role. Therefore, to obtain better esults from NWDPRA, it is very essential to ind out the constraints and to minimize the ame in implementation and adoption of vatershed technology as far as possible. Keeping this point in view the study Constraints as perceived by field unctionaries of NWDPRA in implementation of watershed technology" was undertaken with the following specific objectives:

(i) To find out the constraints being faced by field functionaries of NWDPRA in implementation of watershed technology.

(ii) To seek suggestions for effective implementation and adoption of watershed technology of NWDPRA.

## METHODOLOGY :

The research was conducted in four watershed districts namely Sikar, Chur, Jaipur and Jhunjhunu of Jaipur watershed region. A complete list of field functionaries from the study area, who were engaged in the implementation of the project from grass root level to regional head quarter, was obtained from the concerning offices. All the field functionaries i.e. officers to field supervisors from each unit office, Deputy Director office and regional office of the selected watersheds were included in the sample. Thereby making the total size of 48 respondents. The constraints were measured with the help of schedule developed by the investigator. The responses expressed by field functionaries were recorded on a three point continuum viz., most important, important, less important and scores were assigned 3, 2, 1, respectively. The mean scores were calculated for ranking the constraints based on the frequency and

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percentage of each constraint. Similarly to seek suggestions for effective implementation of NWDPRA various structured statements were grouped and these were finalized on the basis of experts' opinion. Some open-ended questions were also formulated and the investigator also discussed with the field functionaries and respondent farmers in this regard. The responses of the respondents were taken into 'yes' or 'no' form. The frequencies were worked out accordingly and ranks were assigned on the basis of percentage.

## RESULTS AND DISCUSSION :

### I. Constraints faced by field functionaries of NWDPRA in adoption of watershed technology :

Under this section various categories of constraints viz., planning and organization, financial, technical, transfer of technology, coordination and cooperation, monitoring and evaluation were included.

**Table 1. Relative importance of planning and organization constraints faced by field functionaries in adoption of watershed technology** N = 48

| S.No. | Constraints | MI | I | LI | TS | MS | R |
|---|---|---|---|---|---|---|---|
| 1. | Lack of involvement of farmers in watershed planning. | 13 | 32 | 3 | 106 | 2.21 | V |
| 2. | Lack of proper identification and survey on land use and its management | - | 22 | 26 | 70 | 1.46 | VII |
| 2. | No provision of incentives for excellent field functionaries posted in remote areas. | 28 | 12 | 8 | 116 | 2.42 | III |
| 3. | Lack of proper survey of socio-economic status of farmers. | 8 | 28 | 12 | 64 | 1.33 | VIII |
| 4. | Lack of publicity of the watershed project among farmers to create general awareness. | 4 | 29 | 15 | 85 | 1.77 | VI |
| 5. | Lack of rules to avoid over exploitation of ground water resources. | 24 | 24 | - | 120 | 2.50 | II |
| 6. | Larger operational area and is far away from the head quarter | 32 | 12 | 4 | 124 | 2.58 | I |
| 7. | Lack of vehicles for mobility in the operational area. | 24 | 11 | 13 | 107 | 2.23 | IV |

MI= Most important, I= Important, LI= Less important, TS= Total score, MS= Mean score, R= Rank

Among the planning and organizational constraints, the data in Table 1 indicates that the constraint larger operational area and far away from headquarter was having the highest mean score (2.58), hence it was ranked first. Lack of rules to avoid over exploitation of ground water resources (2.5) and no provision of incentives for excellent field functionaries posted in remote areas (2.42) were ranked second and third constraint respectively. The last rank was assigned to the constraint lack of proper survey of socio-economic status of farmers (1.33).

It could be concluded that the constraint larger operational area and is far away from headquarter was the most important constraint as perceived by the field functionaries. This might be due to the fact that the watersheds were situated in remote areas at distant locations and field functionaries headquarters were situated at block or district level owing to which their valuable time was passed in (to and fro) traveling, from one watershed to other watershed. The second ranked constraint was lack of rules to avoid over exploitation of ground water resources. This might be due to the fact that Govt. had not imposed effective rules/laws to control the unlawful exploitation of ground water. The third ranked constraint was no provision of incentives for field functionaries posted in remote areas. This might be because there was no difference

between excellent worker and an average worker. Best workers were not rewarded in cash or kind. It could also be concluded that the lack of survey of socio-economic status of farmers was ranked as the least important constraint. This might be due to the fact that the programme was implemented without conducting the proper survey of social and economic position of respondent farmers but it did not play an important role because the programme might have covered whole watershed community.

Among financial constraints, the data in Table 2 reveal that low wage rate discourages labourers to do work in watershed area was having the highest mean score (2.15) and hence, it was ranked first. The second and third ranks were assigned to inadequate budget for follow-up programme (2.02) and uncertainty of forth coming funds even after approval of the budget (2.00) respectively. The last rank was assigned to the constraint public contribution to the watershed development (Corpus) fund is negligible (1.40).

**Table 2. Relative importance of financial constraints faced by field functionaries in adoption of watershed technology** N=48

| S.No. | Constraints | MI | I | LI | TS | MS | R |
|---|---|---|---|---|---|---|---|
| 1. | Lack of sufficient funds for different activities. | 8 | 12 | 28 | 76 | 1.58 | VII |
| 2. | Uncertainty of forth coming funds even after approval of the budget. | 8 | 32 | 8 | 96 | 2.00 | III |
| 3. | Funds allocated for watershed work are diverted for other activities. | - | 31 | 17 | 79 | 1.65 | VI |
| 4. | Budget is not properly distributed under different heads | 4 | 15 | 29 | 71 | 1.48 | VIII |
| 5. | Public contribution to the watershed development (corpus) fund is negligible. | 4 | 11 | 33 | 67 | 1.40 | IX |
| 6. | Recovery of loan from watershed beneficiary is great problem. | 16 | 8 | 24 | 88 | 1.83 | V |
| 7. | Low wage rate discourage labourers to do work in watershed area. | 17 | 21 | 10 | 103 | 2.15 | I |
| 8. | Mis-utilization of development (corpus) funds | 4 | 37 | 7 | 93 | 1.94 | IV |
| 9. | Inadequate budget for follow up programme. | 12 | 25 | 11 | 97 | 2.02 | II |

MI= Most important, I= Important, LI= Less important, TS= Total score, MS= Mean score, R= Rank,

It could be concluded that the constraint low wage rate discourages labourers to do work in watershed area was perceived by field functionaries as the most important constraint among financial constraints. It might be due to the fact that there was great difference between watershed areas and urban areas' wage rate and in other facilities so that rural labourers were mobilized towards urban areas. Inadequate budget for follow up programme was ranked second. This might be due to the fact that budget provision for maintenance of community assets (created under the project) after completion of the project was negligible. Uncertainty of forth coming funds even after approval of the budget was ranked third. This might be due to the fact that the budget was curtailed even after approval of the budget.

It could also be concluded that the last ranked constraint budget is not properly distributed under different heads was the least important constraint as perceived by the field functionaries. This might be due to the fact that though budget under different heads was unevenly distributed but field functionaries were involved mostly in construction work which was having sufficient budget.

Among technical constraints, the data in Table 3 depicts that the constraint books and publications are generally written in foreign language was having the highest mean score (2.31), hence, it was ranked first. The second and third ranks were assigned to lack of area specific and viable technology (2.13) and lack of farmers motivation and conviction about watershed technology (2.04) constraints, respectively. The last ranked constraint was small and fragmented land holding are not suitable for treatment (1.69).

**Table 3. Relative importance of technical constraints faced by field functionaries in adoption of watershed technology** N=48

| S.No. | Constraints | MI | I | LI | TS | MS | R |
|---|---|---|---|---|---|---|---|
| 1. | Lack of area specific proven and viable technology | 11 | 32 | 5 | 102 | 2.13 | II |
| 2. | Small and fragmented land holdings are not suitable for treatment | 5 | 23 | 20 | 81 | 1.69 | VI |
| 3. | Contour furrow/loose stone check dams are not properly designed and constructed | 8 | 33 | 7 | 97 | 2.02 | IV |
| 4. | Encroachment on Government /on pasture land | 4 | 27 | 17 | 83 | 1.73 | V |
| 5. | Lack of farmers motivation and conviction about watershed technology | 9 | 32 | 7 | 98 | 2.04 | III |
| 6. | Books and publications are generally written in foreign language | 16 | 31 | 1 | 111 | 2.31 | I |

MI= Most important, I= Important, LI= Less important, TS= Total score, MS= Mean score, R= Rank

It could be concluded that the books and publications are generally written in foreign language was perceived by the field functionaries as the most important constraint. This might be due to the fact that mostly field functionaries felt it as the difficult task to understand and translate the watershed literature from foreign language to Hindi or local language. Lack of area specific proven and viable technology was ranked as the second constraint. It might be due to the fact that the location specific watershed technology of Watershed Development Project (WDP) approved by regional research station of the area was not available, lack of farmers' motivation and conviction about watershed technology was ranked as the third constraint. This might be due to the fact that field functionaries might have not fully convinced the watershed farmers about importance and use of watershed technology.

**Table 4. Relative importance of transfer of technology constraints faced by field functionaries in adoption of watershed technologY** N=48

| S.No. | Constraints | MI | I | LI | TS | MS | R |
|---|---|---|---|---|---|---|---|
| 1. | Beneficiary farmers are not invited in group discussions/ meetings | - | 20 | 28 | 68 | 1.42 | VIII |
| 2. | Inadequate field visits by the watershed staff | - | 26 | 22 | 74 | 1.54 | VII |
| 3. | Lack of adequate trained field staff | - | 27 | 21 | 75 | 1.56 | VI |
| 4. | Inadequate training to the farmers by field functionaries | 4 | 24 | 20 | 80 | 1.67 | V |
| 5. | Use of difficult and complex language in training | 8 | 20 | 20 | 84 | 1.75 | IV |
| 6. | Lack of infrastructural facilities for training | 16 | 25 | 7 | 105 | 2.19 | III |
| 7. | Farmers are more interested to get free inputs than in the technical know how | 17 | 31 | - | 113 | 2.35 | II |
| 8. | Lack of zonal/regional package of watershed technology | 29 | 19 | - | 125 | 2.60 | I |

MI= Most important, I= Important, LI= Less important, TS= Total score, MS= Mean score, R= Rank,

could also be concluded that the last warded to small and fragmented land ng are not suitable for treatment was ived by the field functionary as the least rtant constraint. This might be due to the hat the watershed technology under DPRA might be suitable for all categories mers.

As far as constraints related to transfer chnology, the data in Table 4 depicts that of zonal/regional package of watershed nology was having the highest mean score 0). The second and third ranks were rded to the constraints, farmers are more rested to get free inputs than in the nical know how (2.35) and lack of astructural facilities for training (2.19), pectively. The last rank was awarded to constraint beneficiary farmers are not ited in group discussions/meetings (1.42).

It could be concluded that the most portant constraint as perceived by field ictionaries among the constraints related to nsfer of technology was lack of zonal/ gional package of watershed technology. his might be due to the fact that full package practices of watershed technology based area specific was not available. The cond ranked constraint was farmers are ore interest to get free inputs than in the chnical known how. This might have occurred due to the fact that farmers were not confident about the benefit of the watershed technology and were hesitant to adopt the technology. Third rank was achieved by the constraint lack of infrastructural facilities for training. This might be due to the fact that training experts, training aids, training materials etc. and other facilities which were essential for conducting training were not available at watershed office.

It could also be concluded that the last ranked constraint as beneficiary farmers are not invited in group discussions/meeting as perceived by field functionary was the least important constraint. This might be due to the fact that field functionaries did not want the involvement of whole watershed community in each and every meeting but they might have invited the farmers on some occasions.

As far as constraints related to cooperation and coordination, the data in Table 5 reveal that apathy of Govt. was having the highest mean score (2.92), hence, it was ranked first. The second and third ranks were assigned to people are more interested in getting quick returns from their land than conserving soil for future (2.31) and lack of team work feeling among staff members (2.25), respectively. The last ranked constraint was dis-satisfied behaviour of superiors.

**Table 5. Relative importance of cooperation and coordination constraints faced by field functionaries in adoption of watershed technology** N=48

| No. | Constraints | MI | I | LI | TS | MS | R |
|---|---|---|---|---|---|---|---|
| 1. | Lack of co-ordination with line departments | 4 | 24 | 20 | 80 | 1.67 | VI |
| 2. | Lack of team work feeling among staff members | 16 | 28 | 4 | 108 | 2.25 | III |
| 3. | Lack of co-operation from farmers | 4 | 21 | 23 | 77 | 1.60 | VII |
| 4. | Apathy of government | 44 | 4 | - | 140 | 2.92 | I |
| 5. | Lack of involvement of Panchayat Raj Institutions | 9 | 28 | 11 | 94 | 1.96 | V |
| 6. | Illiteracy, poverty and conservative attitude of farmers | - | 25 | 23 | 73 | 1.52 | VIII |
| 7. | People are more interested in getting quick returns from their land than in conserving soil for future. | 15 | 33 | - | 111 | 2.31 | II |
| 8. | Project staff ignores vegetation programmes but more interest in engineering/ construction work | 16 | 20 | 12 | 100 | 2.08 | IV |
| 9. | Dis-satisfied behaviour of the superiors. | - | 17 | 31 | 65 | 1.35 | IX |

MI= Most important, I= Important, LI= Less important, TS= Total score, MS= Mean score, R= Rank

It could be concluded that Apathy of Govt. was perceived as the most important constraint by field functionaries among coordination and cooperation category of constraint, this might be due to the fact that the Govt. itself projected in the programme and farmers involvement in implementation of the programme was ignored. People are more interested in getting quick returns from their land than in conserving soil for future was perceived as the second ranked constraint. This might be due to the fact that farming as a livelihood for the farmers due to their poverty so they were interested in getting quick return from their land. Lack of team work feeling among staff members was ranked as third constraint. This might be due to the fact that staff members suffered from factionalism and they were having their own welfare interest rather than community welfare.

Project staff ignores vegetation programme but more interest in engineering/ construction work was ranked as fourth constraint. This might be due to the fact that project staff does not having expertise in vegetation programme. It could also be concluded that the last ranked constraint dis satisfied behaviour of the superiors was perceived as the least important constraint. This might be due to the fact that some times superiors were not satisfied with the work done by sub-ordinates but it was rarely observed.

**Table 6. Relative importance of monitoring and evaluation constraints faced by field functionaries in adoption of watershed technology** N=48

| S.No. | Constraints | MI | I | LI | TS | MS | R |
|---|---|---|---|---|---|---|---|
| 1. | Untimely and irregular evaluation | 9 | 37 | 2 | 103 | 2.15 | IV |
| 2. | Farmers are not included in the evaluation committee | 12 | 32 | 4 | 104 | 2.17 | III |
| 3. | Farmers are not kept acquainted with the evaluation reports | 16 | 32 | - | 112 | 2.33 | II |
| 4. | Evaluation is done on the basis of work planned but not on the physical verification | 3 | 16 | 29 | 70 | 1.46 | VIII |
| 5. | The work done by field functionary is not properly reported/ recognized | 12 | 28 | 8 | 100 | 2.08 | V |
| 6. | Monitoring of physical and financial progress are the formalities | 24 | 17 | 7 | 113 | 2.35 | I |
| 7. | Mal-practices in auditing of accounts at watershed level | 3 | 24 | 21 | 78 | 1.63 | VII |
| 8 | State Government does not pay attention to control the mal practices in the use of budget | 3 | 25 | 20 | 79 | 1.65 | VI |

MI= Most important, I= Important, LT= Less important, TS= Total score, MS= Mean score, R= Rank,

About constraints related to monitoring and evaluation, the data in Table 6 reveals that monitoring of physical and financial progress are the formalities having the highest mean score (2.35), hence, it was ranked as first. The second and third ranks were awarded to the constraints, farmers are not kept acquainted with the evaluation reports (2.33) and farmers are not included in the evaluation committee (2.17), respectively. The last rank awarded constraint was evaluation is done on the basis of work done but not on the basis of physical verification (1.46).

It could be concluded that the first ranked constraint monitoring of physical and financial progress are the formalities was perceived as the most important constraint among monitoring and evaluation constraints. This might be due to the fact that proper rules and regulations were not strictly followed in monitoring of physical and financial progress of the WDP. The second ranked constraint,

farmers are not kept acquainted with the evaluation report might be perceived due to the fact that the watershed staff thought that target, achievement, work progress were not concerned with farmers. The third ranked constraint, farmers are not included in the evaluation committee might have perceived by the field functionaries due to the fact that according to watershed personnel view, farmers were not having knowledge about evaluation procedure of WDP.

It could also be concluded that the last ranked constraint, evaluation is done on the basis of work planned but not on the physical verification was least perceived by the field functionaries. This might be due to the fact that the WDP was target-oriented so that progress reports were prepared on the basis of work planned but concerned with physical verification.

**Table 7. Relative position of different categories of constraints faced by field functionaies in adoption of watershed technology** N=48

| S.No. | Category of constraints | No. of statements | TS | MS | R |
|---|---|---|---|---|---|
| 1. | Planning and organization | 8 | 792 | 2.06 | I |
| 2. | Financial constraints | 9 | 770 | 1.78 | VI |
| 3. | Technical constraints | 9 | 572 | 1.99 | II |
| 4. | Transfer of technology | 8 | 724 | 1.88 | V |
| 5. | Coordination of cooperation | 9 | 848 | 1.96 | IV |
| 6. | Monitoring and evaluation | 8 | 759 | 1.98 | III |

TS= Total score, MS= Mean score, R= Rank

The data in Table 7 indicates that planning and organization category of constraints was having the highest mean score (2.06), hence it was ranked first. The last rank was assigned to the category of financial constraints (1.78).

It could be concluded that among all planning and organization category of constraint was perceived by the field functionaries as the most important, whereas financial constraints were observed the least important category of constraint.

**II. Suggestions made by field functionaries for effective implementation of watershed technology :**

The suggestions made by field functionaries presented in Table 8 reveal that more than three-fourth of field functionaries suggested that regional/zonal package of practices of watershed technology should be evolved (83.33%), training component of WDP should be strengthened (81.25%), provision of single door delivery system of all agricultural and technical inputs to farmers (79.17%), mal-practices in use of budget and auditing should be stopped (77.08%) and were ranked as first, second, third and fourth respectively. Seventy five per cent field functionaries suggested about provision of posts related to agriculture extension experts to encourage agricultural production whereas mal-practices in use of budget and auditing should be stopped (ranked fifth).

The last seventeenth, eighteenth, nineteenth and twentieth ranks were received by provision of sufficient budget for follow up programme, members of watershed association should be selected based on family cards, proper distribution and use of budget under various sanctioned heads, proper survey, selection and planning of watershed area and were suggested by 50.00 per cent, 43.75 per cent, 41.67 per cent and 30.58 per cent field functionaries, respectively.

**Table 8. Suggestions made by field functionaries for effective implementation and adoption of watershed technology** N= 48

| S.No. | Suggestions | Number | Per cent | Rank |
|---|---|---|---|---|
| 1. | Proper survey, selection and planning of watershed areas | 19 | 39.58 | XX |
| 2. | Delineation and reducing of operational area under each watershed | 27 | 56.25 | XIV |
| 3. | Members of watershed association should be selected based on family cards | 21 | 43.75 | XVIII |
| 4. | Provision of farmers contribution in watershed development (corpus) fund per ha of land instead of per activity | 29 | 60.42 | XII |
| 5. | Provision of single door delivery system of all agricultural inputs and technology to farmers | 38 | 79.17 | III |
| 6. | Provision of posts related to agriculture extension experts to encourage agricultural production | 36 | 75.00 | V |
| 7. | Provision of more budget for vegetation work instead of engineering work | 34 | 70.83 | VII |
| 8. | Training component of WDP should be strengthened | 39 | 81.25 | II |
| 9. | Regional/zonal package of practices of watershed technology should be developed | 40 | 83.33 | I |
| 10. | More emphasis on saving and conservation of water | 25 | 52.08 | XVI |
| 11. | Excellent field functionary should be rewarded | 33 | 68.75 | VIII |
| 12. | Provision of farmers' representation during formulation of watershed project | 35 | 72.92 | VI |
| 13. | Immediate release of funds after its sanction | 30 | 62.50 | XI |
| 14. | Provision of sufficient budget for follow up programme | 24 | 50.00 | XVI |
| 15. | Provision of vehicle facilities to visit watershed areas | 29 | 60.42 | XII |
| 16. | Proper distribution and use of budget under various sanctioned heads | 20 | 41.67 | XIX |
| 17. | Provision of well trained staff in watershed technology specially in vegetation and crop production | 31 | 64.58 | X |
| 18. | Publication and distribution of literature based on specific proven vegetation and crop production | 35 | 72.92 | VI |
| 19. | Development of infrastructural facilities for training | 32 | 66.67 | IX |
| 20. | Proper linkage with line departments | 28 | 58.33 | XIII |
| 21. | Inclusion of farmers in evaluation committee | 26 | 54.17 | XV |
| 22. | Mal-practices in use of budget and auditing should be stopped | 37 | 77.08 | IV |
| 23. | Provision of proper balanced monthly planning and distribution of watershed work to be performed by field functionaries | 28 | 58.30 | XIII |
| 24. | Promote diversified farming | 30 | 62.50 | XI |

Therefore, it may be concluded that most important suggestion made by field functionaries were regional/zonal package of practices of watershed technology should be evolved (ranked-I), training component of WDP should be strengthened (ranked-II) and single door delivery system of all agricultural and technical inputs (ranked-III) whereas the least important suggestion made by the field functionaries were members of watershed association should be selected based on family cards (ranked-XVIII), proper distribution and use of budget under various sanctioned heads (ranked-XIX) and proper survey, selection and planning of watershed area (ranked-XX).

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# EFFECT OF DIFFERENT SOCIO PERSONAL CHARACTERISTICS ON LISTENING BEHAVIOUR OF HILL WOMEN

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In the context of rural development it has been recognized that women play a very important role. Women are the world's caretakers of home and perform a variety of tasks. Recognizing the importance of women in general and hill women in particular in the field of agriculture, the Government of India has started a number of programmes for developing the potential of women. Radio is considered one of the most powerful and effective medium of mass communication because of its flexibility, immediacy, immense potentiality and capacity of catering to the natural and local needs of rural masses. Today 1950 radio stations, 9 relay centers and 300 transmitters are functioning in the country covering 97.3 percent of population and 90 percent of geographical area of the country. Farm and Home units started in 1966 are broadcasting programmes for farmers and farm women on regular basis. At present there are 81 All India Radio stations producing and broadcasting Agricultural and rural programmes (Kaurani,1995) In which on an average 60-100 minutes are covered on Agriculture. It is a very important medium for quick transfer of technical information, which is evident from the fact that almost all farm and home units of All India Radio have started special broadcast for women.

All India Radio, Almora which was started on June 15, 1986 has also started its farm and home unit to cater to the needs of hill women. The women of hill area can benefit from these programmes only when the programmes are listened regularly and the listening will depend upon the nature and context of the programmes. There is every like hood for enhanced listening if the programmes suit the interest and timings of the hill women. Therefore, a study was conducted to find out the effect of different socio personal characteristics on listening behavior of hill women in relation to the programmes broadcast by AIR, Almora with the following main objectives:

**Objectives :**

1. To study the profile of hill women.
2. To study the effect of social participation, education, age, mass media exposure, status, length of radio possession on extent of radio listening.

## METHODOLOGY :

The study pertains to the listening behaviour of hill women in relation to the programme broadcast by AIR, Almora, therefore, the locals of the study was the listening zone of AIR, Almora. The local covers 10 villages of two developmental blocks. Out of the respondents who were possessing radio sets, 25 per cent from each village were selected randomly. The selected respondents were interviewed with the help of a pretested interview schedule. The data collected personally were classified and tabulated according to the objectives of the study.

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## RESULTS AND DISCUSSION :

**Profile of the Respondents**–As the very first objective of the study, the profile of the respondents was studied which includes socio personal characteristics of the respondents, their occupation and mass media exposure. (Table 1).

**Table 1. Profile of the respondents**

| Socio personal characteristics | Respondents | | Percentage |
|---|---|---|---|
| Age | Young | 64 | 58.71 |
| | Middle | 39 | 35.77 |
| | Old | 6 | 5.50 |
| Education | Illiterate | 12 | 11.00 |
| | Low | 33 | 30.27 |
| | Medium | 59 | 54.12 |
| | High | 5 | 4.50 |
| Caste | Low | 6 | 5.50 |
| | High | 103 | 94.49 |
| Land holding | Landless | 4 | 3.66 |
| | Small | 97 | 88.99 |
| | Medium | 8 | 7.33 |
| | Large | 0 | 0.00 |
| Social participation | Low | 97 | 88.99 |
| | Medium | 6 | 5.50 |
| | High | 6 | 5.50 |
| Mass media. exposure | Low | 54 | 49.54 |
| | High | 55 | 50.45 |

It was found that majority of the respondents (59 per cent) were of young age group. Education wise maximum number of respondents (54 per cent) was of medium education level. Majority of the respondents were having small land holding (89 per cent) and having low social participation level (89 per cent). Equal number of respondents was having low and high mass media exposure (50 per cent each).

Regarding viewing TV, films, listening radio and reading newspaper and magazines it was found majority of the respondents were not viewing films, television, not reading newspapers and magazines.

Before the study was conducted certain hypothesis were framed. It was thought that education, size of land holding, social participation, economic status and mass medium exposure have direct effect on listening of radio programme. So the effect of socio personal characteristics of the respondents on listening was studied. The study reveals that there is a direct effect of these socio-personal characteristics on listening of radio programmes.

**Effect of Age**–It is clear from Table 2 that the young respondents were good listeners of both programmes. It means the age has direct effect on listening of the programme broadcast by AIR.

**Table 2. Age wise distributions of respondents and extent of listening to various programmes**

| Age | Extent of listening | | |
|---|---|---|---|
| | Good | Fair | Poor |
| **Gram Jagat Programme (n=109)** | | | |
| Young | 42(68.85) | 6(9.8) | 13(21.31) |
| Middle | 25(69.44) | 4(11.11) | 7(19.44) |
| Old | 3(50.00) | 2(33.33) | 1(16.66) |
| **Ghar sansar programme (n=99)** | | | |
| Young | 24(38.70) | 16(25.80) | 2(35.48) |
| Middle | 10(30.30) | 16(25.80) | 7(21.21) |
| Old | 1(25.00) | 2(50.00) | 1(25.00) |

**Note :** Figure in parenthesis indicates percentage

**Effect of Education**–It is clear from Table 3 in case of Gram Jagat programme maximum number of respondents having high level of education were good listeners followed by medium, low and illiterate. In case of Ghar Sansar programme also the majority of respondents having high level of education were good listeners followed by medium, low and illiterate. Thus the study reveals that as the level of education increases the listening to different programmes also enhances.

**Table 3. Education wise distribution of respondents and extent of listening to various programme**

| Education | Extent of listening | | |
|---|---|---|---|
| | Good | Fair | Poor |
| **Gram Jagat programme (n=103)** | | | |
| Illiterate | 5 (45.45) | 1(9.09) | 4 (45.45) |
| Low | 22 (66.66) | 3 (9.09) | 8 (24.24) |
| Medium | 39 (72.22) | 8 (14.71) | 7 (12.06) |
| High | 4 (80.00) | 0 (0.00) | 1(20.00) |
| **Ghar Sansar Programme (n=99)** | | | |
| Illiterate | 2 (22.22) | 6 (66.66) | 1 (11.11) |
| Low | 10 (33.33) | 11 (36.36) | 9(30.00) |
| Medium | 20 (36.36) | 17(30.40) | 18(32.72) |
| High | 3 (60.00) | 0 (0.00) | 2 (40.00) |

**Note:** Figures in parenthesis indicate percentage

**Effect of Caste**–Majority of high caste respondents were good listeners of Gram Jagat programme. The high caste and low caste were almost equally distributed as good listeners of Ghar Sansar programme (Table 4)

**Table 4. Castwise distribution of respondents and extent of listing to various programmes**

| Education | Extent of listening | | |
|---|---|---|---|
| | Good | Fair | Poor |
| **Gram Jag at programmed (n=103)** | | | |
| Low | 4(66.66) | 1(16.66) | 116.66) |
| High | 66(68.04) | 11(11.34) | 30(21.61) |
| **Ghar Sansar Programme (n=99)** | | | |
| Low | 1(16.66) | 3(50.00) | 2(33.33) |
| Low | 34(36.55) | 31(33.33) | 28(30.10) |

**Note :** Figures in parenthesis indicate percentage

**Effect of Land Holding**–Land holding has very less effect on listening of programmes broadcast by AIR, Almora. Majority of medium landholders were good listeners of Gram Jagat programme, while majority of small landholders were good listeners of Ghar Sansar programme (Table 5).

**Table 5. Land holding wise distribution of respondents and extent of listening**

| Land holding | Extent of listening | | | |
|---|---|---|---|---|
| | Good | Fair | Poor | Total |
| **Gram Jagat programme (n=109)** | | | | |
| Landless | 2(50.00) | 0(0.00) | 2(50.00) | 4(100) |
| Small | 61(67.03) | 11(12.08) | 19 (20.89) | 91(100) |
| Medium | 7(87.5) | 1(12.50) | 0(0.00) | 8(100) |
| Large | 0(0.00) | 0(0.00) | 0(0.00) | 0(0.00) |
| **Ghar Sansar Programme (n=99)** | | | | |
| Landless | 1(25.00) | 2(50.00) | 1(25.00) | 4(100) |
| Small | 33(37.07) | 28(31.46) | 28(31.46) | 89(100) |
| Medium | 1(16.66) | 4(66.66) | 1(16.66) | 89(100) |
| Large | 0(0.00) | 0(0.00) | 0(0.00) | 0(0.00) |

Note : Figures in parenthesis indicate percentage

**Effect of social participation**–The study reveals that majority of respondents having low social participation were good listeners of Gram Jagat programme while in case of Ghar Sansar majority of those who were of medium level of social participation were good listeners of the programme (Table 6).

**Table 6. Social participation wise distribution of respondents and extent of listening**

| Social participation | Extent of listening | | | |
|---|---|---|---|---|
| | Good | Fair | Poor | Total |
| **Gram Jagat programme** | | | | |
| Low | 65(71.42) | 9(9.80) | 17(18.68) | 91(100) |
| Medium | 2(33.33) | 2(33.33) | 2(33.33) | 6(100) |
| High | 3(50.00) | 1(16.16) | 2(33.33) | 6(100) |
| **Ghar Sansar Programme** | | | | |
| Low | 32(36.36) | 30(34.09) | 26(29.54) | 88(100) |
| Medium | 3(50.00) | 0(0.00) | 3(50.00) | 6(100) |
| High | 0(0.00) | 4(80.00) | 1(20.00) | 5(100) |

Figure in parenthesis indicate percentage

Thus, it can be concluded that as the level of social participation increases, the listening decrease. It may be due to the involvement of farmers in other social activities and getting less time to listen radio.

**Effect of Mass Media Exposures–** The extent of listening was also studied by mass media exposure and it was found that in case of Ghar Sansar programme, the maximum of those who were having high level of mass media exposure were good listeners of the programe while in case of Gram Jagat the trend was just reverse (Table 7).

**Table 7. Mass media exposure wise distribution of respondents and extent of listening**

| Mass media exposure | Extent of listening | | | |
|---|---|---|---|---|
| | Good | Fair | Poor | Total |
| **Gram Jagat programme** | | | | |
| Low | 36(69.23) | 4(7.69) | 12(23.07) | 52(100) |
| Medium | 34(66.66) | 8(15.68) | 9(17.64) | 51(100) |
| **Ghar Sansar Programme** | | | | |
| Low | 15(30.00) | 18(36.00) | 17(34.00) | 50(100) |
| Medium | 20(40.81) | 16(32.65) | 13(34.00) | 49(100) |

Figure in parenthesis indicate percentage

**Effect of length of radio possession–** The effect of length of radio possession was also studied and findings reveals that the maximum of good listens of Ghar Sansar programmes were those who owned radio recently (short length of radio possession) while in case of Gram Jagat programme the respondents possessing radio since few years back (having medium length of radio possession) were found good listens (Table8)

**Table 8. Length of Radio possession wise distribution of respondents and extent of listening**

| Length of Radio possession | Extent of listening | | | |
|---|---|---|---|---|
| | Good | Fair | Poor | Total |
| **Gram Jagat programme (n=103)** | | | | |
| Short | 11(61.11) | 2(11.11) | 5(27.27) | 18(100) |
| Medium | 38(69.09) | 6(10.90) | 11(20.00) | 55(100) |
| Long | 21(30.00) | 4(13.13) | 5(16.66) | 30100) |
| **Ghar Sansar Programme (n=99)** | | | | |
| Short | 7(41.17) | 4(23.52) | 6(35.29) | 17(100) |
| Medium | 19(35.18) | 17(80.45) | 18(33.33) | 54(100) |
| Long | 9(32.18) | 13(46.42) | 6(21.42) | 28(100) |

Figure in parenthesis indicate percentage

## CONCLUSION :

On the basis of above findings we can conclude that young respondents were good listeners of the programmes which indicates that age has an effect on listening. The education is also directly associated with the listening. As the education level increases the listening also increases. Caste has no very significant effect on listening, as in case of Ghar Sansar programme the listeners were equally distributed as good, fair and poor but in case of Gram Jagat the respondents of low and high both were good listeners of the programme.

Land holding has very less effect on listening of the programme. There was significant effect of social participation on listening. The study reveals that respondents having low and medium level of social participation were good listeners of Gram Jagat and Ghar Sansar programme respectively. Mass media exposure has no significant effect on listening. But length of radio possessions is related to listening. Those who possess radio since short time duration were found good listeners.

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# FACTORS AFFECTING ADOPTION OF DAIRY MANAGEMENT PRACTICES BY MEMBERS OF DAIRY COOPERATIVE SOCIETY

**Mithlesh Singh[1], M.K Dubey[2] & Y.R.Khare[3]**

With the rapid advancement of science and technology several livestock development programmes are in vogue in the country with the ultimate aim to help dairy farmers to adoption innovation in animal husbandry practices. Inspite of all efforts there seems to be a wide gap between technology available with the research and its adoption particularly related to animal dairy. The present investigation is an attempt to investigate factors which are responsible for hindering or accelerating change among dairy owners. The study proposes to identify some of the prominent attitudes of members of cooperative society and also to estimate the present gap in management practices.

The introduction of scientific dairy farming practices have added now dimensions in Indian Farming System particularly for rural poor, who command limited land sources.

Therefore the present investigation was undertaken with the of following objectives :

1. To study the attributes of dairy cooperating society members.
2. To find out the extent of adoption and adoption gap regarding recommended dairy management practices of members.

## METHODOLOGY :

The investigation was conducted in Shahpura Block of Jabalpur District in Madhya Pradesh which comprises of 17 registered Dairy Cooperative Society (DCS). Out of which 11 smoothly functioning DCS were purposively selected.

There were 754 members of DCS in those 11 DCS. From the list of members of each DCS. 15 per cent respondents were selected on the basis of proportionate random sampling method for the purpose of study. Thus the total of 115 respondents were the sample of study. The data were collected through personal interview with the help of structure interview schedule.

Adoption gap was calculated by using formula

$$\text{Adoption gap} = \frac{\text{Maximum possible score} - \text{Actual score}}{\text{Maximum possible score}}$$

## RESULTS AND DISCUSSION :

The results with regards to the attributes of Dairy Cooperative Society members, have been presented in Table 1. The arbitrary scale was used to measure the attributes of Dairy Cooperative Society members.

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3. Trg. Associate (Extension) KVK, JNKVV- ZARS, Morena (M.P.)

**Table 1. Attributes of dairy cooperative society members**

| Attributes | Number (N=115) | Percentage |
|---|---|---|
| **Age** | | |
| Young ( 20-26 years) | 47 | 40.87 |
| Middle ( 37-55Years) | 46 | 40.00 |
| Old ( 54-70 Years) | 22 | 19.13 |
| **Level of education** | | |
| Illiterate | 27 | 23.48 |
| Primary passed | 28 | 24.33 |
| Middle Passed | 30 | 26.09 |
| High School passed | 23 | 20.00 |
| Graduate & above | 07 | 06.08 |
| **Family type** | | |
| Nuclear | 66 | 57.39 |
| Joint | 49 | 42.61 |
| **Family size** | | |
| Small (upto 4 members) | 57 | 49.57 |
| Medium (5 to 8 members) | 23 | 20.00 |
| Large (above 8 members) | 35 | 30.43 |
| **Size of land holding** | | |
| No land | 25 | 21.74 |
| Upto 1 acre | 15 | 13.04 |
| 2 to 5 acres | 29 | 25.22 |
| 6 to 10 acres | 17 | 14.78 |
| 11 to 15 acres | 07 | 06.09 |
| Above 20 acres | 18 | 15.65 |
| **Other occupation** | | |
| Labour | 23 | 70.00 |
| Cultivation | 82 | 71.30 |
| Service | 10 | 08.70 |
| **Total annual income:** | | |
| Up to Rs. 12,500 | 16 | 13.91 |
| Rs. 12,501 to 25,000 | 33 | 28.70 |
| Rs. 25,001 to 50,000 | 38 | 33.04 |
| Rs. 50001 to 75,000 | 15 | 13.04 |
| Rs. 750001 to 1,00,000 | 06 | 05.22 |
| Rs. 1,00,000 to 1,25,000 | 05 | 04.35 |
| Above Rs. 1,25,000 | 02 | 01.74 |
| **Social participation** | | |
| Member of one organisation | 70 | 60.87 |
| Member of more than one organisation | 45 | 39.13 |
| **Herd size** | | |
| Small ( upto 5 animal) | 85 | 73.91 |
| Medium ( 6 to 10 animal) | 19 | 16.52 |
| Large ( above 10 animals) | 11 | 09.57 |
| **Milk production per day:** | | |
| Low ( upto 5 litres) | 82 | 71.30 |
| Medium ( 6 to 10 litres) | 27 | 23.48 |
| High ( above 10 litres) | 06 | 05.22 |
| **Use of information sources** | | |
| Low ( upto 3 sources) | 43 | 37.39 |
| Medium ( 4 to 6 sources | 45 | 39.13 |
| High ( above 6 sources) | 27 | 23.48 |
| **Risk preference** | | |
| Low ( 6 to 18 score) | 25 | 21.74 |
| Medium ( 19 to 30 score) | 48 | 41.74 |
| High ( 31 to 42 score) | 42 | 36.52 |
| **Scientific orientation** | | |
| Low ( 6 to 18 score) | 30 | 26.09 |
| Medium ( 19 to 30 score) | 48 | 41.74 |
| High ( 31 to 42 score) | 37 | 32.17 |
| **Knowledge level** | | |
| Low ( 61 to 75 score) | 28 | 24.35 |
| Medium ( 76 to 90 score) | 47 | 40.87 |
| High ( 91 to 105 score) | 40 | 34.78 |
| **Extent of adoption** | | |
| Low ( 46-65 score) | 32 | 27.83 |
| Medium (66-85 score) | 63 | 46.09 |
| High (86 –105 score) | 30 | 26.08 |

It was observed from Table 1, that majority of DCS members were in young age group (20-36 years), 40.87 per cent, followed by middle age group (40%). In the older age group the percentage of DCS members was only 19.13.

About education, the data reveals that of the total 26.09 per cent were middle passed followed by 24.35 per cent primary passed, 23-48 per cent illiterate, 20 per cent high school passed and only 6.08 per cent graduate and above.

Distribution of members according to their family type. The data reveals that 57.39 per cent members belonged to nuclear family and 42.61 per cent belonged to joint family. Data regarding size of family indicated that 49.57 per cent were having small size followed by 30.43 per cent large and 20 per cent medium size of family.

Data regarding size of land holding indicated that of the total, 25.22 per cent had

2 to 5 acres of land holding followed by 21.47 per cent landless, 15.65 per cent more than 20 acres, 14.78 per cent 6 to 10 acres, 19.04 per cent upto 1 acre, 6.09 per cent 11 to 15 acres and 03.48 per cent 16 to 20 acres of land holding.

Data with respect to occupation of DCS members further showed that majority of them were engaged in cultivation as their occupation (71.30 percent), followed by 20 per cent labouers and 8.70 per cent were engaged in service.

As regards to income, the higher percentage of members 33.04 per cent and 28.70 per cent were having their income in the range of Rs. 25001 to 50,000 and Rs. 12,5001 to 25,000 respectively.

Distribution of members according to their land size. The data shows that of total, 73.91 per cent members had small herd size ( up to 5 animals), 16-25 per cent medium ( 6 to 10 animals), and 9.57 per cent large herd size (above 10 animals).

Data with respect to use of information sources, 39.13 per cent of the members had medium (4 to 6 sources), followed by 37.39 per cent low ( up to 3 sources and 23.49 per cent high ( above 6 sources).

Data further revealed that majority (41.74%) of the members possessed medium (19 to 30 score) risk preference followed by 36.52 per cent high and 21.74 per cent low risk preference.

Distribution of members according to their scientific orientation. The data presented in Table 1 shows that of the total, 41.74 per cent were having medium scientific orientation, 32.17 per cent high and 26.09 per cent low.

Data further revealed that of the total, 40.87 per cent had medium followed by 34.78 per cent high and 24.35 per cent low knowledge level related to improved dairy management practices.

Distribution of members according to their adoption of recommended dairy management practices. It is evident from Table 1 that of the total 46.09 per cent had medium level of adoption, followed by 27.83 per cent low and 26.08 per cent high adoption of recommended dairy management practices. The finding obtained support from the work of Rakshe *et al.* (1998).

**Adoption Gap.**

**Table 2. Showing the adoption gap of recommended management practices in members**

| Practices | No. of Max. practices | Marks possible scores | Mark obtained | Mean marks obtained | Gap in percentage | Book on the basis of gap percentage |
|---|---|---|---|---|---|---|
| Feeding practices | 13 | 38 | 3176 | 27.62 | 27.32 | IV |
| Breeding practices | 10 | 22 | 1358 | 11.81 | 46.32 | I |
| Disease practices | 7 | 18 | 1195 | 10.39 | 42.27 | II |
| General management | 11 | 27 | 2195 | 19.09 | 89.31 | III |
| **Total** | **41** | **105** | **7924** | **68.90** | **34.38** | |

The Table 2. shows the adoption gap of recommended dairy management practices of members. It reveals that maximum adoption gap 46.32 per cent was observed in breeding practices followed by 42.27 per cent in disease control, 29.31 per cent in general management and 27.32 per cent in feeding practices. The overall adoption gap (34.38 per cent) was observed in recommended dairy management practices among the members.

The attributes of members revealed that most of the members were in the young and middle age group, having education from primary to middle level, nuclear family type, small family size, 2 to 5 acres of land holding, cultivation as their main occupation, total annual income in the range of Rs. 25001 to 50,000, small herd size and low milk production per day. It was further observed that the majority of the respondent were member of one organisation, having medium use of information sources, medium risk preference and medium scientific orientation.

A higher percentage of members had moderate level of knowledge regarding recommended dairy management practices.

A higher percentage of members had medium level of adoption regarding recommended dairy management practices. Higher percentage of adoption gap was assured in breeding and disease control practices of recommended dairy management in members. The overall adoption gap 34 per cent was observed in recommended dairy management practices among members.

The knowledge and adoption level of members toward recommended dairy management practices were moderate. Hence it is suggested that recommended dairy management practices should be motivated for more adoption by organising education programmes, training classes, short duration courses and demonstrations. Hence village level workers, livestock supervisors agricultural assistance of extension workers should make extensive effort to popularize improved dairy practices.

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# ROLE OF MASS MEDIA IN CREATING AWARENESS ABOUT HEALTH PROGRAMMES AMONG RURAL WOMEN OF AGRA DISTRICT (U.P.)

Ruchi Goyal[1] & Bharti Singh[2]

Rural development has always been a prime concern of all governments in India. The Mass media is a convenient tool with the government to reach out to a very large population. As an important agent of development services, media has found wide inroads into rural life style.

In context of sources of awareness one study report said,

"Combined channels of interpersonal communication were more often the sources of awareness about the schemes and programme than the combined mass media".

Several national health programmes are being implemented as centrally sponsored schemes-aimed mainly at reduction of morbidly and mortality by major diseases.

**1. Family Welfare Programme and MCH Programme**–The maternal and Child Health care is an integrated part of the family welfare programme. This programme as such tries to ensure the health of matter and children to achieve a small family norm.

**2. Reproductive and Child Health Programme**–Is a comprehensive package of services for family planning, maternal and child health and management of reproductive tract infections. The objective of the RCH programme are fulfilled with other 4 mother and child health programmes, which are implemented by the government. Therefore, these health programmes are included in RCH programme. These are :

(i) Prevention of prenatal sex determination.
(ii) Prevention of unwanted pregnancies.
(iii) Tetanus Vaccination Programme.
(iv) National Immunization Programme.

**3. AIDS Eradication Programme**–The government of India established an AIDS cell in the directorate general of health services, strategy planned for AIDS control is, identification of high risk groups and their screening, promoting use of nirodh etc.

**4. Tuberculosis Control Programme**–Was launched with a long term goal to reduce the problem of tuberculosis in the community to a level where it ceases to be a public health problem.

**5. Programme for control of Blindness**–Was launched as a hundred percent centrally sponsored programme. It has been pointed out that in a family and community, management of health remains the prime concern and duty of the women from conception to adulthood. Therefore, it is important that women should be aware about various issues and programmes related with health. Since mass media seems to be an important source to reach masses for dissemination of information. The present study undertaken with the following objectives;

1. To ascertain reach of health programme through mass media in the selected rural areas.

1. P.G. Student, 2. Head, Deptt. of H. S. Ext. Edu., Institute of Home Science, Dr. B.R.A.University Agra.

2. To assess the knowledge of rural women about health programmes.
3. To find out the impact of knowledge about health programmes in adoption of health practices.

## METHODOLOGY :

For the purpose of study Multistage random sampling was used. The study was carried out in Agra district of Uttar Pradesh. The villages Jagner Dehat and Bhara of Jagner block of Agra District were selected by random sampling. 50 married women (between the age of 18 to 45 years) from each village, were selected randomly. Thus a total number of 100 respondents were identified for the study.

For the present study the structured interview schedule was prepared. Interview schedule was divided into 2 main parts. Part-1 consists of general information about respondent and her family and part-2 consists of specific information. Specific information was further classified into 5 selected health programmes and each health programme was categorized into 3 sections : first, for general information about the health programme, second, information regarding knowledge and practice of the respondents about health programmes and third section consists of information regarding sources of communication from which the respondents get knowledge about health programmes. During the course of preliminary survey, it was observed that in the selected area along with mass media, there were many other important sources of communication, therefore, in the present study other sources of communication were also included and were categorized as under :

1. **Mass media sources** consists of folk media, print media and electronic media.
2. **Personal localite sources** consists of family members, friends, gram pra etc.
3. **Personal cosmopolite sources** cons doctor, village development officer etc.

With the help of pretested and structured interview schedule, the data collected personally from the respondents the related village at their household. T collected data was classified and tabulat to ascertain the relationship betwe independent and dependent variables. Simp mean score percentage and chi-square tabl were important statistical tool f interpretation of data.

## RESULTS AND DISCUSSION :

**General profile of the Respondents-**

Analysis of the data collected indicates th respondents were mostly (70%) in the ag group between 18 to 30 years. Almost all th respondents (99%) belonged to Hind religion, out of which 89% belonged to gener category and rest (11%) were from other cast (SC/ST and OBC). Majority of th respondents (67%) were literate followed b illiterate respondents (33%)

Family type of the respondents were almost equal (47% nuclear and 53% join families). Family size of 6 to 10 members wa more common in the villages (56%). Majorit of the respondents (55%) belonged t business class families followed by farmin (31%). Respondents belonging to low income group were in majority (62%).

**Sources of communication and their use in dissemination of information about health programmes :**

Table 1(A) shows the reach of health pro grammes through mass media sources. It in dicates that television was used by the the majority (70%) followed by newspaper, magazines (17%)

**Table 1.(A) Mass Media Sources**

| S.No. | Mass Media Sources | Respondent (N=100) | |
|---|---|---|---|
| | | Number | (1%) |
| 1. | Drama/nukkad | 0 | - |
| 2. | Camps | 7 | 7 |
| 3. | Poster/banners | 5 | 5 |
| 4. | Wall paintings | 14 | 14 |
| 5. | Pamphlet | 1 | 1 |
| 6. | Newspaper | 17 | 17 |
| 7. | Books/ Magazines | 17 | 17 |
| 8. | Public Address System | 2 | 2 |
| 9. | Radio | 7 | 7 |
| 10. | Television | 70 | 70 |

Table 1 (B) indicates that among personal localite sources majority of the respondents (90%) generally used family members followed by neighbouers and relatives (74% and 72% respectively).

**Table 1.(B) Personal localite sources**

| S.No. | Personal Localite Sources | Respondent (N=100) | |
|---|---|---|---|
| | | Number | (%) |
| 1. | Family members | 90 | 90 |
| 2. | Relatives | 72 | 72 |
| 3. | Friends | 12 | 12 |
| 4. | Neighbours | 74 | 74 |
| 5. | Gram pradhan | 00 | - |
| 6. | Local leader | 00 | - |

Table 1(C) indicates that among personal comopolite sources, doctor was used as a source of information by the majority followed by nurse (39%).

**Table 1.(C) Personal cosmopolite sources**

| S.No. | Personal cosmopolite | Respondent (N=100) | |
|---|---|---|---|
| | | Number | (%) |
| 1. | Doctors | 65 | 65 |
| 2. | Nurse (ANM) | 39 | 39 |
| 3. | Anganwadi worker (AWW) | 3 | 3 |
| 4. | Teacher | 1 | 1 |
| 5. | Village Development officer (V.D.O.) | 00 | - |
| 6. | Hospital/clinics | 6 | 6 |

Overall reviews of the table 1A, 1B and 1C shows that among the various sources of communication personal localite like family members, neighbours and relatives were used by the majority (90%, 74% and 72% respectively) followed by mass media sources television (70%) and cosmopolite sources doctor (65%) and ANM (39%). The findings are also supported by Kumar et al (2001).

The data presented in table 2. clearly indicate that out of 6 socio economic variables, caste, education and income were significantly associated with the knowledge of the respondents.

**Table 2. Association between socio economic characteristics of the respondents and knowledge regarding health programmes.** N=100

| Socio-Economic characteristics | Chi-square Value |
|---|---|
| Age | 0.928 |
| Caste | 6.38* |
| Education | 27.425** |
| Type of Family | 3.100 |
| Family size | 0.374 |
| Family income (Percapita per annum) | 7.221* |

* Significant at 0.05 level of significance

** Significant at 0.01 level of significance.

Further analysis of the data shows that majority of the respondents belonging to the low income group were illiliterate. Respondents from other caste (SCs and OBCs) were mostly illiterate and belonged to low income group. This could be the reason why caste, education and income of the respondents were significantly associated with the knowledge

Table 3. clearly indicates that education and family income were significantly associated with practice score of the respondents.

**economic characteristics of the respondents and practices regarding health programmes** N=100

| ocio-economic characteristics | Chi-square value |
|---|---|
| ge | 1.366 |
| aste | 0.200 |
| ducation | 13.120** |
| ype of family | 0.221 |
| amily Size | 1.620 |
| amily Income | 6.456* |

Significant at 0.05 level of significance
* Significant at 0.01 level of significance

**Table 4 Association between use of ources of communication and knowledge egarding health programmes among ural women :**

**able 4 (A) Association between sources f communication and knowledge.** N=100

| .No. | Health Programmes | Chi-square Value |
|---|---|---|
| 1. | Family Welfare programmes | 13.228** |
| 2 | RCH programmes | 4.361 |
| 3. | AIDS Eradication programme | 0.34 |
| 4. | TB control Programme | 4.503 |
| 5. | Programme for control of Blindness | 8.988* |

Significant at 0.05 level.
* Significant at 0.01 level.

Scores have been given according to umber of sources used by the respondents.

Table 4(A) indicates that use of sources f communication is significantly associated ith family welfare programme and rogramme for control of blindness. While remaining 3 health programmes multiplicity communication sources does not affect the vel of knowledge, reason being, RCH rogramme : As far as the RCH programme concerned, the complete information could e obtained mainly from single inter personal sources like family members or the doctor etc.

AIDS control programme: Out of 100 respondents only 41 knew about the disease AIDS and 59 did not know even about the word 'AIDS'. It was observed that respondents use only TV and family members. It does not matter how many sources of communication used for dissemination of information.

TB control programme : It was seen that in rural areas, from every third family 1 or 2 persons were suffering from TB and the same becamethe sources of communication.

**Table 4(B) Association between use of mass media sources only and knowledge regarding health programmes** N=100

| Mass Media Sources | Knowledge score | | Total |
|---|---|---|---|
| | Below mean | Above mean | |
| Nill | 24 | 4 | 28 |
| 1 | 16 | 17 | 33 |
| 2 | 2 | 17 | 19 |
| 3 | 4 | 6 | 10 |
| 4 and above | 0 | 10 | 10 |
| **Total** | **46** | **54** | **100** |

X2=36.149**
** Significant at 0.01 level with 4 d.f.

Table 4(B) Indicates that there was highly significant association between use of mass media sources and knowledge regarding health programmes. Similar findings were also reported by Bhardwaj (1981), and Pushpa and Sheela (1997).

Therefore, it can be said that if one mass media is supplemented with other medias or a combination of media is used, knowledge level increases.

Table 5. Indicates the association between knowledge and practices regarding health programmes among respondents. Table shows that there was significant association between knowledge and practice of respondents regarding health programmes.

| S.No. | Health Programmes | Chi-squar value |
|---|---|---|
| 1. | Family Welfare Programme | 6.952** |
| 2. | RCH Programme | |
| | (i) Prenatal sex determination and Unwanted pregnancies | 5.11* |
| | (ii) Tetanus Vaccination | 7.97** |
| | (iii) Immunization | 33.408** |

* Significant at 5% level with 1d.f.
** Significant at 1% level with 1d.f.
1. Practice could be assessed only in family welfare and RCH programme.

## CONCLUSION :

It is concluded from the study that out of all the mass media sources, television play the most important role in dissemination of information. Since the community in the rural areas is very close knit, along with mass media sources other communication sources such as family members, relatives and neighbours become very important sources of communication for creating awareness. Also it is important to note that during the study, it was found that these members of the the block and services are regularly provided by doctors and ANM, they come at the next place as a source of communication.

Out of all the socio economic variables, it is found that education plays most important role in affecting knowledge and practice of the rural women regarding health programmes.

To conclude it is suggested that for dissemination of the information for rural masses TV should be given utmost importance as it was found to be most powerful source of communication.

Doctor and ANM become very important source in the sense that whatever Information rural people gather from them, along with mass media, they communicate to the other members of the community and since they are found playing second most important role in dissemination of information. They should be provided with correct and sufficient information, so that they can be used as a channel of communication.

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# HURDLES IN PROPER FUNCTIONING OF VILALGE PANCHAYATS IN EASTERN U.P.

G. P. Singh[1] Avanish K. Singh[2] & Gyasuddin Ansari[3]

The 73rd constitutional amendment has rightly claimed that it is on Institution that takes power to the people. We have to see that the spirit of the said amendment is not lost. Therefore it is imperative to educate the people at large and village leader in particular about the implication and expectations of the panchayat raj act. So that necessary foundation for participatory democracy at the grass root is well laid. The credit for reviving this grass root democratic institution goes to Late Shri Rajeev Gandhi who introduced the 73rd amendment in the constitution, which made panchayat elections mandatory and in particular recognising Gram Sabha as a basic Institution of the new panchayat raj system. When panchayat raj was introduced in the country in 1959 then Prime Minister Pt. Nehru said that it was the greatest revolution in the country and the system worked well till 1964. But after the demise of Pt. Nehru the system become more of a political institution.

Rural progress depends entirely on the existence of on active organisation like Gram Sabha in the village which can bring all the people including the weaker section in to common pgogramme to be carried out with the assistance of the administration. Panchayat raj was a unit of government as the village, panchayat raj on the country means a system of governmented. horizontally. It is a network of gram sabhas and village panchayat vertically. It is an organic growth of the panchayat rising up to the national level. Infact, country is so large and panchayat raj (democratic decentralization) is so complex subject will for reaching consequence that there is the fuller scope of trying out various pattern and alternatives. The idea of decentralization, therefore, seeks to transfer of power of administration to help village representative to access the needs of the area, work out scheme and meet the same.

The three tier system of the panchayat raj had come through the recommendation of Shri Balwant Rai Mehta committee in year of 1958. This team recommended three-tier system of district administration as pattern of democratic decentralization. The panchayat at the village level will be the basic institution for planning and execution of development programme. In rural area, people in general are unaware of the kinds of developmental activities under taken at panchayat levels. Mobilization and proper utilization of financial resources is the major problem of gram panchayat at where resources are limited in quantum because of poor taxation. The primary reasons for the slow growth of panchayat raj system were viz. lack of coordination between government agencies and voluntary agencies engaged in social development at the grass root level, lack of proper communication between panchayat raj bodies and the rural people, problem of illiteracy, traditionalism, conservatism, lack of

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omplex pressure groups and political and ational consciousness, absence of esponsible, democratic and development riented leadership etc.

Panchayat Raj system seeks to ensure elf-government through direct representatives has transformed representation into articipatory democracy, which means ransition of political power to the grass root evel in the country. It encourages people to articipate in the development activities and rings a meaningfull socio-economic change. everal studies like have Mankar *et al.* 1997), Pramanick *et al.* (1995), Bava Noorjahan (1996) and Madhushree *et al.* 1998) reiterated clearly this point. Keeping he above views in mind this study was onducted with following objective special bjective :

To study the hurdles in proper functioning f village panchayat in Eastern U.P.

## METHODOLOGY :

C. D. block Dudahi (Tambuhi) in district Kushinagar was selected purposively, out of 14 C.D. blocks of the district. Ten village panchayats were sleected from the development block of random sampling method. A list of adults of the villages was prepared of both the ten village panchayats and thus, 100 respondents were selected randomly for obtaining information for the present study. The data were collected with the help of interview schedule. The data was collected using pretested interview schedule. The data was analysed using frequencies, $c^2$ test and percentage. The of research was conducted from September 2001 to Dec. 2002.

## RESULTS AND DISCUSSION :

In this study various hurdles hampering the normal working of village panchayat like structural, administrative and functional were studied and the results have been discussed as under:

**Structural hurdles**–Various structural hurdles hampering the normal working of village panchayat were included in the study are presented in table 1.

**Table 1. Structural hurdles in the proper functioning of village panchayats**

(N=100)

| S. No. | Structural hurdles | Level of Response | | |
|---|---|---|---|---|
| | | Agreed | Undecided | Disagreed |
| 1. | The larger size of village panchayat creates obstacles in preparation of village development plan and execution of village development projects schedule | 39 | 5 | 56 |
| 2. | The way of election of members of village panchayat is erroneous and hence the village panchayat does not represent the homogeneity | 40 | 10 | 50 |
| 3. | Panchayat raj act needed amendments time to time | 37 | 8 | 55 |
| 4. | The existing set up of village panchayats is efficient to bear responsibilities of agro-economic an social development | 35 | 12 | 53 |
| 5. | Lack of co-oridination between government educational institutions and financing organisation hampered the proper functioning of the village panchayats | 55 | 10 | 35 |
| | **Total** | **206** | **45** | **249** |

$x^2$ = 13.086, DF = n-1, 5% level = 9.488, Agreed % = 39, 40, 37, 35 & 55

was observed from the analysis of the data the statements form 1 to 5 were not homogeneous ($x^2$=13.086)

It is clear from above table that majority 55%) of respondents were agreed to the statement "Lack of co-ordination between government education institutions and

financing organization hampered the proper functioning of the village panchayat". A majority (56%) of respondents were disagree to statement 1 and followed by statements 3, 4, and 2 perceived by 55%, 53%, & 50% respectively. A few (nearly 9%) respondents should have undecided position about above statements. Thus it is clear that lack of co-ordination between government, educationa institution and financing organisation hampere the proper functioning of the village panchaya

**Administrative hurdles**–Efforts wer also made to study administrative hurdles i the working of village panchayat, the result have been discussed in Table 2.

**Table 2. Administrative hurdles impeding the functioning of village panchayats** (N=100)

| S. No. | Administrative hurdles | Level of Response | | |
|---|---|---|---|---|
| | | Agreed | Undecided | Disagreed |
| 1. | The election of village panchayats have given rise to village factionalisms resulting in poor performance of duties | 35 | 5 | 60 |
| 2. | Three tier system of administration of ten imposes difficulties in executing and planning the programme | 59 | 14 | 27 |
| 3. | Lack of true respresentative of active honest and loyal men in to administration and executive body | 30 | 11 | 59 |
| 4. | The elected representatives seldom take interest in planning and executive the plan | 35 | 7 | 58 |
| 5. | Uneducated, un-experienced but politically strong representative missuse privilege and thus crate hindrances in normal functioning | 41 | 10 | 49 |
| | **Total** | **200** | **47** | **253** |

$x^2 = 28.15$, DF = n-1 5% level = 9.488, Agreed % = 35, 59, 30, 35 & 41
It was observed the statements form 1 to 5 were not homogeneous ($x^2 = 28.18$).

Table showed that majority (59%) of respondents were agreed to the statement "Three tier system of administration of ten imposes difficulties in executing and planning the programmes". While a majority (60%) of respondents were disagreed to the statement 'The election of village panchayats have given rise to village factionalism's resulting in poor performance of duties" & followed by statements no. 3, 4 and 5 perceived by 59%, 58%, & 49% respectively. A few (nearly 9%) respondents should have undecided position about above statements. Thus it is clear that three tier administration often imposed difficulties in executing and planning the programmes.

**Functional hurdles**–Efforts were also made to study functional hurdles of village panchayat, the results have been discussed in Table 3.

It is clear from the above table that majority (58%) of respondents were agreed to the statement "Inadequate and lack of timely availability of production inputs followed by statement no. 6, 1, & 2 as 56%, 55%, and 52% respectively. While a majority of farmers were disagreed to statement no. 5, 3 and 7 as perceived by 53%, 48% and 48% respectively. Thus it is clear that inadequate and lack of timely availability of production inputs and other hurdles like statements 6, 1 and 2 should have major role in proper fuctioing of village panchayats. Nearly 11-12 per cent respondents were responses to unawareness about above statements.

**3. Functional hurdles impeding the normal working of village Panchayat** (N=100)

| Functional hurdles | Level of response | | |
|---|---|---|---|
| | Agreed | Undecided | Disagreed |
| Lack of enthusiasm villagers and officials of village panchayat in participating actively in the planning and executing of various schemes | 55 | 7 | 38 |
| Mutual conflicts and conformation among officials of village panchayat causes delay in carrying out of various functions | 52 | 9 | 39 |
| Village panchayats are finance striken bodies and are unable to plan and to execute the development programme according to need of village community | 44 | 8 | 48 |
| Inadequate and lack of timely availability of production inputs | 58 | 11 | 31 |
| Illiteracy among the members of executive body | 25 | 22 | 53 |
| Times bound developmental activities an over looked causes delay planning as well as executive the programme | 56 | 6 | 38 |
| The corrupt practices of officials/non officials also crated hindrances in normal functioning of village panchayat | 37 | 15 | 48 |
| **Total** | **327** | **78** | **295** |

= 26.43 DF = n-1, 5% level = 12.592 Agreed % = 55, 52, 44, 58, 25, 56 & 37.
was observed from the analysis of the data that the statements form 1 & 6 were not homogeneous =26.43).

## ONCLUSION :

Hence, to conclude the study points out at the village panchayat are very important illage institution for overhauling the socio-conomic conditions of the villages. Owing o some constraints these panchayat could not chieve the desired goals due to unawareness bout the external world for which emphasis s to be given on the village education. The nost important shortcoming was observed hat the villages do not participate in the levelopment work voluntarily. They seem to be satisfied on there own decisions.

Moreover, due to poverty, illiteracy and unawareness of the participants of village panchayat desired. So, targets are not being achieved. This institution may be proved more effective and beneficial for the village upliftment. It emphasis should be given to organised night class to educate the adult of the village to enable them to under stand the benefits of village panchayat. They should be aware to co-ordinate between the local co-operative societies and village panchayat so that timely disbursement of short term and mid term loans could be made available to the needy villagers. Emphasis should be made to increase sources of income of village panchayats.

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# "THE SCOPE OF INFORMATION TECHNOGY IN RURA DEVELOPMENT: A STUDY OF AGRA DISTRICT

Bharti Singh[1] & Shaily Rathore

Information technology plays a big role in development and in fact is a part of development process. The role of information technology is of special significance for a country like India where rural development is the need of hour. Government of India, therefore, aimed at fostering, promoting, sustaining by all appropriate means the cultivation of Information Technology in all aspects of rural development. There is no aspect of human life, of course that includes agriculture, rural development, health, and energy, industry that is not affected by the information explosion.

To make the presence of Information Technology (IT) in rural development more meaningful, the needs of the rural populace have to be first understood and identified, then questions can be posed about devising instruments, equipment, software and system-solutions, based on a host of technologies. Many a time, technology develops in response to a need. The information needs of the rural population include expert guidance on day-to-day problems like crop planning, pest management, animal husbandry, hand pumps installation and repairs. Individual information requirements could include job/education opportunities, bank loans and land records. For local level planning, the government/ panchayat requirement could include health information including vital events like (birth, death and outbreak of certain diseases), besides status of different developmen activities and vital infrastructure like roads wells and transport.

In consideration with the importance o information technology in rural developmen the study was undertaken with the followin objectives:

1. To find the status of 'IT' in Agra district
2. To know the various purposes for, whic 'IT' is being used
3. To study the scope of 'IT' in futur development of rural areas
4. To ascertain advantages of 'IT' an obstacles in the development of 'IT' i rural development.

## METHODOLOGY :

The Methodological design adopted fo the present study was Exploratory Researc Design. Multiphase sampling was used for th selection of rural development departmen functionaries. The sampling was done at eac and every phase, selecting the Agra district twenty four district level rural developmen department functionaries, eighteen block leve rural development department functionaries and finally six village level rural development department functionaries, making the sample of fifty respondents.

The questionnaire was prepared for the study to collect the data from the rural development department functionaries.

After the collection of data, it was tabulated and subjected to statistical analysis i.e. percentage.

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## RESULTS AND DISCUSSION :

The functionaries from the rural development departments were using information technologies. The awareness about 'IT' and use of 'IT' is given in the following table.

**Table 1.1 Awareness and use of 'IT' in Rural Development Departments**

| | Number | Percentage |
|---|---|---|
| **Awareness about 'IT'** | 45 | 90 |
| **Use Of 'IT'** | | |
| Job work/ Data processing | 16 | 32 |
| Telecommunications | 47 | 94 |
| Internet | 21 | 42 |
| Video conferencing | 7 | 14 |

In Table 1.1, it can be seen that majority of the functionaries i.e. 90 per cent were aware about 'IT'.

Regarding the use of 'IT' in rural development departments majority (94 percent) of the functionaries were using telecommunications in the form of the telephones and faxes, whereas only 42 per cent functionaries were using Internet facility followed by 32 per cent functionaries were using 'IT' for job work or data processing work.

**Table 1.2 Facilities required for the use of 'IT' in rural development departments**

| Facilities Required | Number | Per centage |
|---|---|---|
| Building | 18 | 36 |
| Hardware | 38 | 76 |
| Software | 41 | 82 |
| Trained personnel | 44 | 88 |

In Table 1.2, it can be seen that majority (88 percent) of the functionaries required trained personnel so that 'IT' can be more effectively used in rural development areas. Whereas software were required by 82 percent functionaries followed by 76 per cent functionaries required hardware. Building was required by only 36 per cent functionaries.

**Table 2.1 Purpose Of 'IT' Use In Rural Development Departments**

| Purpose Of 'IT' Use | Number | (%) |
|---|---|---|
| To inform about rural problems via telecoms, Internet | 15 | 30 |
| Information exchange at different administrative levels | 14 | 28 |
| Through NIC* via telecom/ Internet at block and district level. | 9 | 18 |
| Information flow from district headquarters and administration level. | 7 | 14 |

*NIC: National Informatics Center

In Table-2.1, it can be seen that 30 per cent functionaries suggested 'IT' could be used for informing about rural problems via telecoms and Internet whereas 28 per cent functionaries suggested that 'IT' could be used to exchange the information at different administrative levels. Only 18 per cent functionaries suggested that they are using 'IT' via telecom or Internet at district and block level through National Informatics Center, Agra.

**Table 3.1 Scope of 'IT' In Rural Development**

| Scope in rural development | Number | (%) |
|---|---|---|
| Development in all rural aspects | 8 | 16 |
| Monitoring of progress issues and reports | 20 | 40 |
| Knowing problems and their solutions | 12 | 24 |
| Providing computer sets/cyber connections | 3 | 6 |
| Knowing about latest techniques | 7 | 14 |

In Table-3.1, it can be seen that 40 per cent of the functionaries suggested the scope of 'IT' in monitoring of progress issues and reports at the administrative level. Other 24 per cent of the functionaries suggested that 'IT' can have a scope of 'IT' if it can be used for knowing the problems of rural people and communicating them to specialists for having feasible solutions rapidly, whereas other 16 per cent functionaries suggested that 'IT' can be

to those who need it. Lastly all the information centers must be converted into tele-info centers in which all the services of 'IT' should be available which leads to easy access of information.

## CONCLUSION :

The investigation was a two way study from the point of view of the status of information technology in rural development departments in Agra district and secondly the scope of information technology in the development of rural areas.

The awareness regarding 'IT' and its aspects among the rural development department functionaries was good but the use of 'IT' for administrative purposes was poor like job work/data processing as well as the use of Internet was low.

The facilities which were required by functionaries were the trained manpower and software for the use of 'IT'. Mainly the services of 'IT' can be used to exchange of information at various administrative levels and to inform about rural problems to higher authorities. 'IT' can have a scope in rural development if it can be used for the rapid solutions of rural problems from the subject matter specialists. But this requires the efforts from the level of planners to make the rural people literate, motivate and make them aware of the use of 'IT'.

The advantages of information technology over personal contacts such as it is more time saving, economic, allows rapid exchange of information are countered by the obstacles such as weak economy of India, lack of trained personnel, education environment and awareness and improper power supply in rural areas.

## SUGGESTIONS :

1. More emphasis should be given in providing training and generating awareness among people regarding the use of information technology.
2. The planners should make provision of the connectivity of 'IT' at each level *viz.*, central to grass root level. It may enhance the coverage of 'IT' in rural areas.
3. The needed departments and areas should be provided better facilities for the proper usage of information technology.
4. Information technology can definitely have a scope if it will be used in knowing the problems of rural people and transmitting them the appropriate solutions fastly and cheaply.
5. The government should start cyber cafes or Information centers at block and village level at minimal cost so that the rural people can afford.
6. The rural development departments must be provided the software so that implementation, monitoring and evaluation of the programmes become not only easy but also rapid.

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# JOB SATISFACTION OF AGRICULTURE DEVELOPMENT OFFICERS IN WEST BENGA

Sabyasachi Das[1] & S. N. Laharia

Transfer of technology from research stations to farmers' fields is essential for agricultural development. Its major responsibility lies with the State Department of Agriculture. The Government of India has launched many programmes/projects for the development of the agriculture, which are being implemented by the State Departments of Agriculture where extension personnel play the most important role. It is the combined effort of farmers and extension workers, scientists and administrators to make the country self-sufficient in food production.

In the State Department of Agriculture every employee has to work as a member of the team with extended hands of cooperation and coordination. to achieve the goals of the organization.

In an organizational set up, persons working at various levels in the hierarchy have to guide, supervise and motivate their subordinates to perform the desired tasks and achieve the determined goals. Job performance of the employees depends on many organizational factors such as motivation, job satisfaction, morale etc. The present study aimed to know the level of job satisfaction of the ADOs working in West Bengal with following objectives.

1. To assess the job satisfaction of Agriculture Development Officers (ADOs).

2. To study the relationship between job satisfaction and personal variables of the ADOs.

## METHODOLOGY :

The study was conducted in the state o West Bengal. There are 18 districts in the stat and out of these, nine districts were selecte randomly. About 50 per cent ADOs (a tota of 100 ADOs) working in the nine district were selected randomly. Job satisfaction wa measured with the scale developed by Talukdar (1984). It consists of 37 statements The scale was presented to the respondents on a five-point continuum scah namely, highly satisfied, satisfied, neither satisfied nor dissatisfied, dissatisfied and highly dissatisfied with weightages in a descending order ranging from 5 to 1. The maximum and minimum scores for each respondent were 185 and 37 respectively. The high score indicates more job satisfaction of the respondents.

## RESULTS AND DISCUSSION :

**Job satisfaction of ADOs**–The study revealed that mean job satisfaction score of the respondents was 114.64, which indicates a moderate level of job satisfaction. The SD (16.35) and CV (14.26) values are comparatively very low which suggests that the sample is highly homogeneous with respect to its job satisfaction status. It has seen from the table1 that Two-third(67.0%) of the respondents had medium level of job satisfaction. 17 per cent of the ADOs had low level of job satisfaction where as 16 per cent of them were in high job satisfaction category.

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**Table 1. Job satisfaction of ADOs**

| Sl. No. | Category | Frequency | Percentage |
|---|---|---|---|
| 1. | Low | 17 | 17.0 |
| 2. | Medium | 67 | 67.0 |
| 3. | High | 16 | 16.0 |

**Relationship with their background information**

The background information was also collected on seven major aspects, i.e., age, education, total service tenure, service tenure as ADO, parental occupation, rural-urban background and family type. The distribution of the ADOs into different categories of these variables and on the basis of job satisfaction level is shown in the Table 2.

**Table 2. Distribution of the ADOs on the basis of their job satisfaction score**

| Variables | Category | f | X | SD | CV | F-ratio | CD | Job satisfaction | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Low | Medium | High |
| Age | Young | 47 | 118.26 | 14.94 | 12.63 | 6.17* | Young Vs Middle = 6.56 | 3 (6.38) | 35 (74.47) | 9 (19.15) |
| | Middle | 32 | 115.69 | 16.40 | 14.18 | | Young Vs. Old = 7.71* | 7 (21.88) | 18 (56.25) | 7 (21.88) |
| | Old | 21 | 104.19 | 14.56 | 13.97 | | Middle Vs. Old = 8.11* | 7 (33.33) | 14 (66.67) | 0 |
| Education | B.Sc. (Ag.) | 27 | 109.89 | 15.13 | 13.77 | 2.10 | – | 6 (22.22) | 19 (70.37) | 2 (7.41) |
| | M.Sc. | 62 | 116.67 | 15.77 | 13.52 | | – | 10 (16.12) | 41 (66.13) | 11 (17.74) |
| | Ph.D. | 11 | 119.08 | 18.86 | 15.84 | | – | 1 (9.10) | 7 (63.64) | 3 (27.27) |
| Total Service tenure | Short | 59 | 116.67 | 15.15 | 12.98 | 4.90* | Short Vs. Medium = 7.74 | 6 (10.17) | 42 (71.19) | 11 (18.64) |
| | Medium | 20 | 118.68 | 18.87 | 15.90 | | Short Vs. Long = 7.60* | 5 (25.00) | 10 (25.00) | 5 (25.00) |
| | Long | 21 | 105.19 | 14.32 | 13.62 | | Medium Vs. Long = 9.35 | 6 (28.57) | 15 (71.43) | 0 |
| Service tenure as ADO | Short | 68 | 114.87 | 15.33 | 13.35 | 3.66* | Short Vs. Medium = 6.82 | 10 (14.71) | 47 (69.12) | 11 (16.18) |
| | Medium | 28 | 117.11 | 16.86 | 14.39 | | Short Vs. Long = 15.62* | 5 (17.86) | 18 (64.29) | 5 (17.86) |
| | Long | 4 | 94.00 | 21.37 | 22.73 | | Medium Vs. Long = 16.23* | 2 (50.00) | 2 (50.00) | 0 |
| Parental occupation | Farming | 34 | 112.00 | 16.34 | 14.66 | 4.02* | Farming Vs. Service = 6.92* | 7 (20.59) | 22 (64.71) | 5 (14.71) |
| | Service | 41 | 120.03 | 17.10 | 14.22 | | Farming Vs. Trade = 7.86 | 6 (16.67) | 25 (60.98) | 10 (24.39) |
| | Trade | 25 | 110.25 | 11.93 | 10.85 | | Service Vs. Trade = 7.57* | 4 (16.00) | 20 (80.00) | 1 (4.00) |
| Rural-urban background | Rural | 44 | 109.70 | 17.23 | 15.71 | 4.75* | Rural Vs. Ur-rural = 7.43 | 11 (25.00) | 27 (61.36) | 6 (13.64 |
| | Ur-rural | 26 | 115.55 | 18.08 | 15.65 | | Rural Vs. Urban = 7.11* | 0 | 23 (88.46) | 3 (11.54 |
| | Urban | 30 | 121.65 | 9.12 | 7.49 | | Ur-rural Vs. Urban = 8.05 | 6 (20.67) | 17 (56.67) | 7 (23.3 |
| Family type | Joint | 50 | 111.18 | 17.75 | 15.97 | 3.46 | | 12 (24.00) | 30 (60.00) | 8 (18.0 |
| | Nuclear | 50 | 118.18 | 14.20 | 12.05 | | | 5 (10.00) | 37 (74.00) | 8 (16.0 |

* Significant at $P < 0.05$ level.
Values within parentheses indicate percentages.

It is seen from the above table that the mean job satisfaction score is highest among the young respondents (118.26) closely followed by the middle aged ADOs (115.69). On the other hand, it is low 104.19 in case of old aged extension personnel working at the block level. The data was reanalyzed to assess whether level of job satisfaction differ significantly among the young, middle and old age group. For this purpose single factor analysis of variance worked out and F-ratio (6.17) suggests that the groups differ significantly with respect to their level of job satisfaction. The CD value (7.71) indicates that job satisfaction among the young ADOs was significantly higher than those of old aged, while the difference does not appear to be significant among young and middle age group as well as between middle and old age group. So it is clear from the present study that young ADO have comparative higher level of job satisfaction.

In case of education, surprisingly the respondents with B.Sc. (Ag.) qualification have the lowest mean job satisfaction score (109.89) while ADOs with doctoral degree had the highest (119.08). Calculated F-ratio (2.19) indicates no significant difference of job satisfaction among the group. Since the F value is very close to the significant value, it may be better to test the results with a bigger sample to draw a valid generalisation. It is also seen from the table that ADOs having less than 10 years of total service tenure had higher job satisfaction than those having more than 20 years of experience but the CD value (7.74) was not significant. It suggests that the difference is not statistically significant.

The respondents with farming background were significantly less satisfied than those from service class (F-ratio = 4.02, CD = 6.92). On the other hand, mean job satisfaction scores do not appear to differ significantly among farming and traders class. The CD value (7.57) also reveals that there was a significant difference in mean job satisfaction score among service and traders class.

The Table 2. also shows that job satisfaction differed significantly with respect to rural-urban background of the ADOs (F-ratio = 4.75). Calculated CD value (7.11) suggests that mean job satisfaction score of the ADOs with urban background was (121.65) significantly higher than those from rural areas (109.70). But it did not vary significantly among those having urban and ur-rural as well as rural and ur-rural orientation. According to family type, though the respondents belonging to nuclear family system had a higher level of job satisfaction than those living in joint family system but they do not differ statistically (F-ratio = 3.46).

Further analysis of data shows that about 20 per cent of the ADOs of young as well as middle age group were in high job satisfaction category, while no ADOs of old age group was in this category. On the other hand, the percentage of ADOs having low job satisfaction was highest among the old age group (33.35%) against only 6.1 per cent of young aged ADOs. It implies that the ADOs of young and middle age group were more satisfied to their job than those belonging to old age group.

Academically it is also seen that the ADOs possessing higher level of education were comparatively more satisfied. The table shows that about 27 per cent of Ph.D. degree holder ADOs were in high job satisfaction group against only 7.41 per cent of ADOs who are only agriculture graduate. On the other hand, their percentage in low satisfaction group is maximum (22.22%) against only 9.12 per cent ADOs with Ph.D. degree. As total service tenure is also linked with age of the respondents, the findings are also on the similar pattern i.e. persons having short to medium total service tenure are comparatively more satisfied with their job than their peers of old age group. The study revealed the similar pattern with respect to their service

tenure as ADO. Of the four ADOs having long service tenure at present level, two are in low job satisfaction while another 2 are in medium job satisfaction. On the other hand, about 17 per cent ADOs having less than 10 years of service tenure as ADO are in high job satisfaction category.

About 60 per cent of the respondents belonging to farming and service category are in medium level of job satisfaction category. In this regard percentage of ADOs with trader class is the highest (80%) but if both medium and high job satisfaction category are merged together we will find that there is no difference among them on the basis of parental occupation as about 80 per cent from each category would be in medium and high level of job satisfaction classes.

The ADOs belonging to nuclear family exhibited slightly higher level of job satisfaction as 90 per cent of them are medium and high category against only 76 per cent of ADOs belonging to joint family system.

**Table 3. Zero order correlation between job satisfaction of the ADOs and their background variables**

| Background variables coefficient (r) | Correlation |
|---|---|
| Age | –0.30* |
| Education | 0.18 |
| Total service tenure | –0.32* |
| Service tenure as ADO | –0.23* |
| Parental occupation | –0.02 |
| Rural-urban background | –0.24* |
| Family type | 0.17 |

* Significant at P < 0.05 level.
** Significant at P < 0.01 level.

To have amore accurate results, the correlation analysis was done and presented in Table 3. It was revealed that age, total service experience, experience on the present position and rural-urban background have a significant negative linear association between job satisfaction level of the ADOs. This finding supports the earlier study conducted by Dakhore and Bhilengaonkar (1988).

The correlation with other variables viz., education, parental occupation and family type had no significant relationship with the job satisfaction of the respondents. Manjunath *et al.* (1997) also indicated that education, rural-urban background, family size of the Agricultural Assistants had no significant association with their level of job satisfaction.

The study thus clearly shows that the ADOs of young and middle age group are comparatively more satisfied with their job than those of old category.

## CONCLUSION :

Job satisfaction of the employee is a very critical issue in modern management. The present study revealed that only 16 per cent of the ADOs were highly satisfied in their work place. The State Department of Agriculture (SDA) should take the necessary steps to improve the present level of job satisfaction. There should be more scope for the career development for those who have high productivity. The SDA may introduce reward system, which will certainly improve the job satisfaction status of the ADOs.

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# AGROFORESTRY PERIODICALS AS SOURCE OF INFORMATION TO THE FARMING COMMUNITY : AN EXPLORATORY STUDY

R.P. Dwivedi[1], R.K. Tewari[2] & Jitendra Chauhan[3]

Agroforestry periodicals being brought out by research Institution and agricultural universities are considered to be an important carrier of information to the farming community. With the increase in literacy, these periodicals are going to play a vital role in the development of agroforestry and farmers are going to rely more and more on these periodicals for seeking agroforestry information. Dwivedi, Chauhan and Meena (2003) point out that there is need for intensive agroforestry extension efforts for inculcating the importance of agroforestry among villagers. Even when only a few individuals in a village read, information contained in these periodicals reaches a large number of persons through what Rogers (1983 ) termed it depended literacy route. Gupta (1980) stated that farm magazine used as one of the source by village level workers to communicate the information. Thus the importance of such an important source cannot be denied and effective utilization of this system as carrier of agroforestry information is the need of the day. To explore this, the present study was undertaken with the following objectives.

1. To know the farmers' opinion regarding information comprehension aspect of Krishivaniki samachar patra as a carrier of agroforestry information to the rural area.
2. To know the views of the farmers on information utility aspect of Krishivaniki samachar patra.
3. To know the Farmers' opinion about general outlook aspect of Krishivaniki samachar patra.

## METHODOLOGY :

Agroforestry newsletter is a quarterly magazine of National Research Centre for Agroforestry , Jhansi being published in English and Hindi. The English version is quarterly and the Hindi version is annual publication. The Hindi version is entitled as "krishivaniki Samachar patra" which is very popular among the farmers of the region. In the present study, the Hindi version of agroforestry Newsletter (krishivaniki Samachar patra) was analysed because the farmers of this area (Bundelkhand), are Hindi spoken.

The respondents of the study consist of 112 farmers ( readers). For the selection of the respondents, a list of farmers ( readers) who visited NRCAF, Jhansi on different occasions e.g. Kisan Mela , Exhibition etc. was obtained from the Farmers Information Centre of NRCAF, Jhansi. For collection of data, a pre-tested schedule was mailed to 327 respondents out of which 112 questionnaires duly filled in, were received back. Therefore, the final sample size was 112. The data so collected were tabulated

1. Scientist Sr. Scale (Agril. Extn.) 2. Senior Scientist (Horticuture) NRCAF, JHANSI.
3. Reader (Agril. Extn.) R.B.S. College, Bichpuri, AGRA.

It was found that information carried by the magazine enjoyed highest degree of trustworthiness among majority of the respondents (53.57%). Mohammed and Singh (1978) point out that trustworthiness of information source play an important role in the farm communication.

**(C) General Outlook of the Magazine**

The findings as presented in Table-3 reveal that, regarding the periodicity of the magazine, majority of the respondents (66.96%) expressed their dissatisfaction with

**Table 3. Farmers' opinion on general outlook aspect of Krishivaniki samachar patra**

| Sl. No. | Aspects | Frequency | (%) |
|---|---|---|---|
| 1. | Periodicity of the magazine | | |
| | (a) Satisfied | 37 | 33.03 |
| | (b) Not satisfied | 75 | 66.96 |
| 2. | Readability of cover page | | |
| | (a) Very easy | 103 | 91.96 |
| | (b) Easy | 7 | 6.25 |
| | (c) Not easy | 2 | 1.78 |
| 3. | Volume size of the magazine | | |
| | (a) Appropriate | 80 | 71.42 |
| | (b) Not appropriate | 32 | 28.57 |
| 4. | Liking of the magazine | | |
| | (a) Liked | 95 | 84.82 |
| | (b) Disliked | 17 | 15.18 |

he existing pattern. They desired that the nagazine should be monthly instead of annual ublication. Thus, it could be concluded that naximum number of the readers had high krishivaniki samachar patra, which they were reading as a source of agroforestry information. Regarding the cover page of the magazine majority of the readers (91.96%) were of the opinion that it was very easily readable. For majority of the respondents (71.42%) the existing volume size of the agroforestry newsletter is appropriate while 28.57 per cent wanted it to be increased. It was found that majority of the respondents (84.82%) liked the krishivaniki samachar patra. Dwivedi and Shukla (1998) stated that there is need of agroforestry farm periodicals for successful technology transfer. It is suggested that the volume of periodical may be increased to bring more information to the farmers.

## CONCLUSION :

Thus, it can be concluded that majority of the readers had highly positive views/ opinion about the krishivaniki samachar patra. The farmers were utilizing it as a source of agroforestry information. It may be suggested that authors should be careful in using technical terms while writing articles and should try to minimize these technical terms as far as possible. It was found that information carried by the magazine enjoyed highest degree of trustworthiness among majority of the respondents. It is also concluded that the magazine should be monthly instead of annual publication.

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# INFLUENCE OF CHARACTERISTICS OF FARMERS ON THEIR TRAINING NEEDS ABOUT CULTIVATION OF MUSTARD

**Sunil Sharma[1], O. P. Daipuria[2] & S. K. Latoria[3]**

It is imperative that the farmers should be trained to keep abreast with the latest innovations in mustard cultivation so as to maintain its productivity. Training plays a vital role in making the farmers more receptive and skillful with new technologies. Training may be useful in bridging the enormous gap between remarkable yield achieved by the scientists and that obtained by the farmers. Considering the above facts in mind, the study was conducted with the following specific objectives :

1. To find out the relationship between farmers socio-economic characteristics and their training needs about mustard cultivation technology.
2. To find out the relative influence and extent of contribution of socio- economic factors fo farmers on their training needs.

## METHODOLOGY :

The present study was undertaken in Morar block of Gwalior district (M.P.). Morar block was purposely selected among four blocks of Gwalior district. The Morar block compresses of 16 RAEO's circles. Out of these, 8 RAEO circles and from each selected circle one village was selected by using simple random sampling method. A list of farmers growing mustard was prepared for each of the selected village. Out of the list, 120 mustard growers were selected randomly by simple random sampling method.

The data was collected through personal interview method with the help of specially structured schedule prepared in this regard. The characteristics like age, education, occupation, social participation, income, experience in mustard cultivation, land holding, area under mustard and socio-economic status of the farmers were selected as independent variables and their training needs in main and sub areas; and scientific attitude towards mustard cultivation were taken as dependent variables. Statistical methods given by Jonhson (1950) namely simple correlation coefficient and standard partial regression coefficient were used to analyze the data.

## RESULTS AND DISCUSSION :

**Association of Socio-economic Characteristics with Training needs and scientific attitude towards mustard cultivation**–Simple correlation coefficients between socio-economic characteristics of farmers and their training needs in main and sub area and scientific attitude towards mustard cultivation are presented in table-1. As evident form Table-1 that age, education and socio-economic status of the farmers were found negative and highly significant with main area of training needs while its relationship with experience in mustard cultivation was found positive and significant at $p = 0.05$. It is interesting to note that the relationship of age, education, socio-economic status and social participation (only with scientific attitude) of the farmers with sub area of training needs as well as scientific attitude towards mustard cultivation were found positive and

1&2. Student, Deptt. of Extension, 3. Assoc. Porf., Deptt. of Extension, College of Agriculture, Gwalior.

highly significant. It can be inferred that respondents having higher socio-economic status, age and education did not require any training in main area of mustard technology whereas in case of sub areas as well as their scientific attitude towards mustard cultivation they need special training in sub area to have deeper knowledge as well as skillful development for making mustard cultivation more scientific. Whenever, respondents having more experiences of mustard cultivation reported for positive correlation were of the opinion to have more training to be given in main areas. These findings were supported by Raut et al. (1995) and Mathiyazhaban and Singh (1986).

**Table-1. The simple correlation coefficient of socio-economic factors with training needs in main area and sub areas; and scientific attitude towards mustard cultivation**

| S. No. | Socio-economic factors | 'r' values | | |
|---|---|---|---|---|
| | | Training needs in | | Scientific attitude towards mustard cultivation |
| | | Main area | Sub area | |
| 1. | Age | -0.418** | 0.402** | 0.510** |
| 2. | Education | -0.597** | 0.496 | 0.762** |
| 3. | Occupation | 0.151 | -0.039 | 0.006 |
| 4. | Social participation | -0.090 | -0.069 | 0.282** |
| 5. | Income | 0.165 | 0.025 | 0.016 |
| 6. | Experience in mustard cultivation | 0.0206* | -0.031 | -0.096 |
| 7. | Land holding | -0.112 | 0.142 | 0.058 |
| 8. | Area under mustard | -0.084 | 0.051 | 0.136 |
| 9. | Socio-economic status | -0.297** | 0.284** | 0.482** |

* Significant at p = 0.05

** Significant at p = 0.01

**Predictable variables of training needs and scientific attitude**–Since a character like training needs in main area & sub area or scientific attitudes of farmers is associated with or dependent on their socio-economic characteristics, simple correlation coefficient alone are not sufficient in ascertaining the intensity of association between characters and may even be miss leading. Studies with partial regression coefficient are very useful in determining such relationship precisely. In order to study the relative influence of nine socio-economic characteristics of the farmers on their training needs in main and sub area; and scientific attitude towards mustard cultivation, the values of standard partial regression coefficient in place of partial regression coefficient were calculated and presented in Table-2 & 3. The study of the standard partial regression coefficient showed that out of 9 socio-economic fetors only two factors i.e. education and social participation influenced the training needs of the farmers in main area significantly to the extent of 38.98 per cent. About 44.23 per cent variation in main area of training needs was contributed by all 9 socio-economic factors. As per their relative importance in predicting the training needs of the farmers in main area, education was the first, and social participation was the second.

It is evident from the Table-2 & 3 that the training needs of the farmers in sub area as well as scientific attitude towards mustard cultivation were positively and significantly influenced by the education to the extent of 24.63 and 58.13 per cent, respectively. However, 32.63 percent variation in training needs in sub area and 63.55 percent variation in scientific attitude towards mustard cultivation were explained by all 9 socio-economic factors.

All the multiple correlation coefficients ® were found to be significant (Table-2 & 3). Multiple regression equation fitted to serve as selection indicates were judge by $R^2$ and it was found that the multiple regression equation

based on education and social participation (only for main area) thus appeared to be fairly effective.

**Table-2. Standard partial regression coefficient (β- values) of socio-economic factors with training needs in main area and sub area and scientific attitude towards mustard cultivation.**

| S. No. | Socio-economic factors | 'β' values | | |
|---|---|---|---|---|
| | | Training needs in | | Scientific attitude towards mustard cultivation |
| | | Main area | Sub area | |
| 1. | Age | -0.040 | 0.196 | 0.010 |
| 2. | Education | -0.595** | 0.519 | 0.858** |
| 3. | Occupation | 0.107 | -0.044 | 0.138 |
| 4. | Social participation | 0.184 | -0.172 | -0.079 |
| 5. | Income | 0.172 | 0.121 | 0.134 |
| 6. | Experience in mustard cultivation | 0.124 | 0.096 | 0.126 |
| 7. | Land holding | -0.126 | 0.108 | -0.048 |
| 8. | Area under mustard | 0.141 | -0.097 | -0.104 |
| 9. | Socio-economic status | -0.049 | 0.019 | 0.050 |
| | Coefficient of determination ($R^2$) | 0.4423 | 0.3898 | 0.6365 |
| | Multiple correlation coefficient (R) | 0.66** | 0.57** | 0.79** |

* Significant at p = 0.05

** Significant at p = 0.01

Selection index for the determination of training needs of farmers in main area and sub area s well as scientific attitude towards mustard cultivation.

**Multiple regression equation**–Main area of training needs :

$$Y = 47.7910 - 3.2190X_1 + 1.8440 X_2$$

Sub area of training needs :

$$Y = 167.3620 + 5.1040X_1$$

Scientific attitude towards mustard cultivation :

$$Y = 42.6816 + 3.3945X_1$$

**Table 3. Standard partial regression coefficient (β-values) of socio-economic factors with training needs in main & sub area and scientific attitude towards mustardcultivation(by step down method)**

| S. No. | Socio-economic factors | 'β' values | | |
|---|---|---|---|---|
| | | Training needs in | | Scientific attitude towards mustard cultivation |
| | | Main area | Sub area | |
| 1. | Education ($X_1$) | -0.683** | 0.496** | 0.762** |
| 2. | Social participation ($X_2$) | -0.200* | – | – |
| | Coefficient of determination ($R^2$) | 0.3898 | 0.2464 | 0.5813 |
| | Multiple correlation coefficient (R) | 0.62** | 0.50** | 0.76** |

* Significant at p = 0.05

** Significant at p = 0.01

## CONCLUSION :

1. The socio-economic factors like age, education and socio-economic status were negatively associated with training needs in main area while experience in mustard cultivation was positively associated with training needs in main area.
2. The socio-economic factors namely age, education, social participation (only with scientific attitude) and socio-economic status of the farmers were positively associated with training needs in sub area as well as with scientific attitude.
3. The socio-economic factors like education and social participation have influence on training needs in main area while only education have influence on training needs in sub area as well as scientific attitude towards mustard cultivation.

**Implications**–The findings of the present study suggested that only two socio-economic characteristics like education and social

participation may be considered for better prediction of training needs by the farmers in main area. However, only one socio-economic characteristics of the farmers namely education may be considered for better and effective prediction of training needs by the farmers in sub area as well as scientific attitude of the farmers towards mustard cultivation suggested that more emphasis on educating the farmers for their betterment is to be taken on priority basis in view of making them abreast with the technology generating from time to time.

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# ADOPTION BEHAVIOR OF SUGARCANE GROWERS

S.K. Latoria[1] and A.M. Jaulkar[2]

Sugarcane is the most important remunerative crop and contributing rearly 1.9 per cent of the National G.D.P. At present, the total production of sugarcane in the country is 300 million tones and producing 18 million tonnes of sugar. Sugarcane supports a large number of open pan sugar (khandsari) and Jaggery (gur) unit in the un-organised sector with a production of over 10 million tones of jaggery (gur). There is tremendous opportunity for making further progress in relation to increase the production of sugarcane by way of adoption of modern recommended technology in sugarcane cultivation.

The low productivity of sugarcane are due to many factors responsible for non-adoption of improved technology. Until and unless the farmers have not adopted complete package of practices of sugarcane cultivation, consequently resulted that the production may no be raised to achieve the desirable target of sugarcane production. The adoption of improved technology of sugarcane by the farmers is not uniform due to several reasons. Hence, this study was undertaken to identify the various factor in relation to adoption of improved agricultural technology for sugarcane cultivation.

**Objectives :**

1. To study the knowledge and adoption level of recommended package of practices of sugarcane crop.
2. To study the relation between the characteristics of sugarcane growers and their knowledge and adoption of improved practices of sugarcane cultivation.

## METHODOLOGY :

The Dabra block of Gwalior district of Madhya Pradesh was purposely selected for the study as it has highest area under sugarcane crop during 2000-2001. The list of villages under Dabra block were obtained from the block head quarter. Dabra block consists of 16 R.A.E.O circles. Out of 16 R.A.E.O. circles. 6 circles were selected randomly and from each selected R.A.E.O. circle, two villages growing sugarcane crop were selected with the help of random number. List of the farmers of 10 selected villages were prepared. From each selected village, 15 farmers were selected on the basis of simple random sampling method. In this study, in all 150 sugarcane growers were selected for this study. The data was collected by personal interview method with the help of structured interview schedule.

For this study, ten important improved practices such as improved variety, seed rate, seed treatment, time of sowing, sowing method, spacing, application of fertilizer, irrigation, intercultural operations and plant protection measures were selected for studying the knowledge and adoption of improved practices of sugarcane cultivation.

The knowledge and adoption index was computed with the help of following formulae :

1. Asso.Prof., Deptt. of Extn. and Edu., 2. Asso. Prof., Deptt. of Eco., College of Agrl., Gwalior (M.P.)

1. Knowledge Index =
$$\frac{\text{Sum of the adoption score obtained by the respondents}}{\text{Sum of the obtainable knowledge socre}} \times 100$$

2. Adoption Index =
$$\frac{\text{Sum of the adoption score obtained by the respondents}}{\text{Sum of the obtainable knowledge socre}} \times 100$$

The relationship between independent variables of sugarcane growers with knowledge and adoption of improved recommended practices of sugarcane cultivation was analysed with the help of computing correlation coefficient.

## RESULTS AND DISCUSSION :

**Knowledge and adoption level of recommended package of practices of sugarcane growers :**

**(a) Knowledge**–It may be observed from the table-1, that the overall average of knowledge index was found to be 82.92. The knowledge index of sugarcane growers with reference to improved variety, seed rate, time of sowing, method of sowing, spacing, irrigation, intercultural operation was found to be 100. Similarly, the knowledge index about fertilizers application was found to be 90.33. The knowledge in respect of seed treatment and plant protection measures was found to be relatively lower than other proactices and ranged between 55.33 to 65.33 accordingly. Consequently resulted, that the most of the sugarcane growers knew about recommended practices of sugarcane cultivation except seed treatment and plant protection measures.

**(b) Adoption**–The extent of adoption of recommended practices of sugarcane crop by farmers has shown that the overall adoption index was 73.31. The adoption index pertaining to seed rate, application of fertilizer, irrigation, method of sowing and spacing was found to be ranging between 82.00 to 94.68. It was found to be 35.68 and 45.60 for plant protection measures and seed treatments respectively. The extent of adoption of recommended package of practices of sugarcane was found to be satisfactory, though, it was discouraging particularly in respect of use of plant protection measures and seed treatment.

The knowledge and adoption of recommended practices of sugarcane by the farmers were significantly related with each other. It can be concluded that the increase in knowledge of the farmers was also significantly increased with their adoption of sugarcane technology for all practices.

**Table-1. Knowledge and adoption level of recommended package of practices of sugarcane.**

| S. No. | Recommended Practices | Knowledge Index | Adoption Index |
|---|---|---|---|
| 1. | Improved variety | 100.00 | 100.00 |
| 2. | Seed rate | 100.00 | 82.00 |
| 3. | Seed treatment | 55.33 | 45.60 |
| 4. | Time of sowing | 100.00 | 100.00 |
| 5. | Sowing method | 100.00 | 90.00 |
| 6. | Spacing | 100.00 | 94.68 |
| 7. | Application of fertilizer | 90.33 | 82.44 |
| 8. | Irrigation | 100.00 | 85.67 |
| 9. | Intercultural operation | 100.00 | 90.26 |
| 10. | Plant protection measures | 65.33 | 35.68 |
| | **Average** | **82.82** | **73.31** |

**Correlation of independent variables with knowledge and adoption behaviour of sugarcane growers :**

In order to find out the relationship of independent variables with knowledge and adoption behavior of sugarcane growers and reported in table-2. Among the independent variables only education, farm information sources, social participation and socio economic status were found to have positive significant relationship with knowledge and adoption of recommended practices of sugarcane crop. But annual income was positively significantly related with adoption. The independent variable that is size of land

holding did not establish the relationship with knowledge and adoption of recommended practices of sugarcane. The reason may be that, the farmers were required to acquire knowledge about latest technology and use it on their farm for enhancing production.

**Table-2. Correlation of independent variables with knowledge and adoption behavior of sugarcane growers**

| S. No. | Variables | Knowledge 'r' value | Adoption 'r' value |
|---|---|---|---|
| 1. | Education | 0.2806** | 0.2685** |
| 2. | Size of holding | 0.1624 | 0.1541 |
| 3. | Annual income | 0.0980 | 0.1605* |
| 4. | Farm information sources | 0.3312** | 0.3674** |
| 5. | Social participation | 0.2976** | 0.2533** |
| 6. | Socio economic status | 0.4395** | 0.4036** |
| 7. | Economic motivation | 0.1424 | 0.0365 |
| 8. | Risk preference | 0.1969* | 0.3742** |
| 9. | Extension programme participation | 0.1460 | 0.2349* |
| 10. | Market availability | 0.0625 | 0.0031 |
| 11. | Scientific orientation | | |

* & ** Significant at 5% and 1% level respectively.

Risk preference was found to be positively and significantly related with knowledge and adoption accordingly. But the factor economic motivation did not establish significant relation with knowledge and adoption. The scientific orientation shshows the positive association only with adoption. The extension programme participation indicated positive association with various information sources increases their contacts and receipt of information which ultimately leads to addition in existing level of knowledge of individual. The independent variable, market availability was not found to be significant correlation with both knowledge as well as adoption of recommended practices of sugarcane. It is a matter of fact that the factor market availability is very important because the sugarcane is not consumed at the village level and the farmers has to sell it for processing. The non significant relation may be due to the fact that two sugar factories plant were established in Dabra and Kolaras area and present sugarcane growers not facing any problem about marketing of the produce.

## CONCLUSION :

The study revealed that the majority of the farmers are taking sugarcane crop due to traditional impact of sugar factories established in study area of Gwalior district. The farmers were having adequate knowledge about cultivation of sugarcane crop but the adoption was found to be low, when compared with knowledge. It is further concluded that the knowledge has strong relation with extent of adoption of sugarcane crop. It is stated that adoption of any innovation is not possible without knowledge.

For the adoption of recommended practices farmers should be exposed to improved method of sugarcane cultivation through training and field demonstration. The extension agencies providing information about the production technology of sugarcane through personal contact, radio, T.V. and other media. This will not only speed up the process of adoption but also increase in production of sugarcane which is the main source of sugar.

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# CONSTRAINTS AND SUGGESTIONS IN ADOPTION OF WATERSHED TECHNOLOGY IN TRIBAL AREA OF MADHYA PRADESH

A. M. Rajput[1], K. K. Saxena[2] & O. R. Misra[3]

Watershed management implies the rational utilization of land and water resources for optimum production with minimum hazard to natural resources. The concept of watershed management is essentially adoption of soil and water conservation practices in the watershed. The aims of these conservation practices are proper land use protecting land against all forms of degradation, building and maintaining soil fertility, conserving water for sustainable farm use and increasing overall productivity from all land uses. It is important that watershed management must include the social economic and institutional factors working within and outside the watershed area. All watersheds contain various types of natural resources. The key is to use these resources as efficiently as possible with minimum watershed degradation.

Water management is an ongoing, continuous process starting from the highest and ending at the lowest point of the topography. It should also be emphasized that the proposition of watershed management must not aim exclusively at benefiting the people but the biosphere in too. Moreover the watershed approach is to set an agreable and sustainable relationship between man and nature and it is always a continuous and flexible approach.

**Objective of the study**–To identify constraints and suggest measures for further improvement under the programme.

## METHODOLOGY :

For the present study 2 villages, viz., Kalapipal and Doompada of the watershed area were selected purposely as the treatment area. The other 2 villages, viz., Mashuria and Fulgawdi of non-watershed area were selected randomly from the Jhabua tehsil to act as control non-treatment area. In respect of agro climatic conditions, these villages are more or less similar with each other.

The 45 sample cultivators included 25 small (upto 2.0 ha), 16 medium (2.1 to 4.0 ha) and 05 large (4.1 ha and above) selected randomly from the list of total cultivators in the 2 villages of watershed area, and similarly 45 cultivators including 25 small (upto 2.0 ha), 15 medium (2.1 to 4.0 ha) and 05 large (4.12 ha and above) from the list of total cultivators in the 2 villages of non-watershed area. The data was collected for the year 2001-2002.

**Reasons for non-adoption of watershed technology**–The watershed technology and improved farms practices have been evolved to increase the production efficiency of the area.

The watershed technology relates to soil moisture, soil testing, fertilizer doses, availability of capital, supply of labour and the availability of crop production technology etc.

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Through the investigation, the problems and constraints being faced by farmers in adopting the new farm practices, have been identified in watershed and non-watershed areas.

**Watershed area**–The reasons for non-adoption have been identified for the three categories of farms, by soliciting their views on adoption of specific farm practices.

Small farms indicated lack of soil moisture, lack of irrigation facilities, untimely supply of inputs, shortage of capital and inadequate rainfall as the main reasons for non-adoption of the watershed technology.

Medium farmers expressed lack of soil moisture, lack of irrigation facilities, untimely supply of inputs, non-availability of soil testing facilities, absence of approach roads and unawareness about recommended doses of fertilizer (NPK) as main reasons for non-adoption. Large farmers were more worried about the inadequate rainfall, lack of soil moisture, lack of irrigation facilities and approach road for transportation of their agricultural produce. Overall, 71 per cent sample farmers expressed lack of irrigation facilities, 80 per cent about awareness of NPK doses, 66 per cent untimely supply of inputs, 58 per cent shortage of capital, and 53 per cent about approach roads as the constraints to adoption. Only 13 per cent farms expressed the labour problems as one of the reason for non-adoption. It shows that availability of labour is not a major problem in the watershed area.

**Non-watershed area**–In the non-watershed area, small farms indicated lack of awareness about new technology, lack of irrigation facilities, untimely supply of inputs, non-availability of hybrid seeds, shortage of capital and unawareness about soil testing as the main reasons of non-adoption of watershed technology. Medium farmers expressed unawareness of NPK doses, untimely supply of inputs and absence of approach road as main reasons for non-adoption. Large farmers were generally concerned about non-availability of hybrid seeds, untimely supply of inputs and absence of approach roads.

Overall, 82 per cent farmers expressed untimely supply of inputs, 84 per cent unawareness about soil testing, 78 per cent unawareness of NPK doses, 66 per cent lack of irrigation facilities, 64 per cent lack of awareness about the technology and 64 per cent farmers expressed costly nature of the technology as main reason of non-adoption. Only 8 per cent farmers expressed availability of labour as a constraint. It can be concluded that the farming community in the non-watershed area was in general, not aware about the new technology and economic cropping patterns. Illiteracy, shortage of capital, and non-awareness about the improved technology were the important reasons for poor farming practices in the non-watershed area.

**Recommendation and suggestions**–The results and conclusions drawn from the study leads to the following recommendation:

1. Fulfil the needs of sufficient capital to the farmers by easy schemes through the banks.
2. The soil testing facilities should be available on easy way and lowest cost.
3. Approach road should be constructed to improve the financial position of the study area.
4. Should provide the new irrigation technology (drip irrigation) for economical improvement of the area.
5. Watershed technology should be transferred in the farmers fields throughdemonstrations.
6. Extension education should be made compulsory for the progress of farmers.

## Table 1. Reasons for non-adoption of watershed technology

| Size group | Total No of farmres | Average holding size (ha) | Costly in nature | Inadequate rainfall | Lack of soil moisture | Non availability of soil testing facilities | Unawareness about soil testing | Lack of awareness of new techno-qlogy | Shortage of captal | Non-availability of hybrid seeds | Lack of irrigation facility | Labour problem | Awareness of NPK doses | Non-timely supply of inputs | Approach road |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **WATERSHED AREA** | | | | | | | | | | | | | | | |
| I | 24 | 0.75 | 08(33) | 12(50) | 07(29) | 03(12) | 12(50) | 13(54) | 16(66) | 10(41) | 18(75) | 02(08) | 21(87) | 16(16) | 10(41) |
| II | 16 | 2.25 | 04(25) | 07(44) | 12(75) | 09(56) | 06(37) | 09(56) | 04(25) | 12(75) | 13(81) | 11(68) | | | |
| III | 05 | 4.00 | – | 01(20) | 03(60) | 05(100) | – | – | 01(20) | 01(20) | 02(40) | – | 03(60) | 01(20) | 03(60) |
| Overall | 45 | – | 12(26) | 20(44) | 22(49) | 15(33) | 21(46) | 19(42) | 26(58) | 15(33) | 32(71) | 06(13) | 36(80) | 30(66) | 24(53) |
| **NON-WATERSHED AREA** | | | | | | | | | | | | | | | |
| I | 25 | 0.56 | 13(52) | 18(72) | 13(52) | 12(48) | 23(92) | 20(80) | 18(72) | 19(76) | 21(48) | – | 22(88) | 22(88) | 20(80) |
| II | 15 | 2.00 | 07(46) | 10(66) | 06(40) | 08(53) | 11(73) | 07(46) | 06(40) | 10(66) | 08(53) | 03(20) | 10(66) | 12(80) | 10(66) |
| III | 05 | 3.75 | 01(20) | 03(60) | 02(40) | 03(60) | 04(80) | 02(40) | 01(20) | 01(20) | 03(60) | 01(20) | 03(60) | 03(60) | 03(60) |
| Overall | 45 | – | 21(46) | 31(68) | 11(24) | 23(51) | 38(48) | 29(6) | 22(25) | 32(71) | 30(66) | 04(08) | 35(78) | 37(82) | 33(73) |

**Note :** Figures in parentage of total number of farmers.

**Denotes :** Group I (0.1 to 2 ha) small farmers, group II (2.1 to 4.0 ha) medium farmers, Group III (4.1 ha and above) large farmers.

7. The inputs should be available timely at lower rate.
8. The social welfare work should be done by Government in the villages to get ample opportunities of employment.
9. The new technology should be transferred on the farmers' field through scientists and researchers.
10. Should extend the duration of watershed programme for systematic development.
11. Should create more and more income generating group activities for the sustainability of the programme.
12. A study of water harvesting treatments and developed vegetative cover may be also assigned for further research in the area.

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# CONSTRUCTION OF A STANDARD SCALE FOR MEASURI CONSTRAINTS OF OIL SEED GROWERS CO-OPERATI MEMBERS AND FUNCTIONARIES OF IGMP BIKAN

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India is the third largest edible oil economy in the world afterU.S.A. and China. It occupise a district position not only in terms of area under oil seeds but also in terms of diversity in cltivated oil seeds.

Though the production of oil seeds has increased overtime in the country. Yet there is a large gap between their demand and supply. Demand and supply of oil seeds is expressed in terms of edible oils. The availability of edible oils in the country in only 15 gm per head per day as against a minimum requirement of 18 gm head per day as against a minimum requirement of 18 gm per head per day as recommended by the Food and Agricultural Organisation (F.A.O.)

This has necessiated to trace out these. In the light of stagnecy in the production of oil seeds and heavy expenditure of foreign exchange in the import of edible oils. Govt.of India in 1986 constitued a "Technology Mission" on oil seeds for organizing efforts from all sides to increase the oil seeds production. Similary in Rajasthan RAJFED initiated the action of installing various plants based on oil seeds and sub-sequently Rajasthan State co-opertive oil seed grower federation Ltd.(TILAM SANGH) was created on 3rd July, 1990. Almost a decade has passed after inception of this project.

As stated earlier that still there is a gap between demand and supply of oil seeds, t gap may be attributed to some constra which the functionaries of TILAM SANG might be facing in the achievement of targe production. This has necessitated to cond this study.

## METHODOLOGY :

The study was conducted in one proj i.e. Integrated Groundnut and Musta Project Bikaner of "TILAM SANGH sample was comprising of 80 oil seeds c operative members, 24 members fro mangement committee of OSCS and 1 functionaries from the different sectors of th plant.

A standard scale was developed t measure the various constraints encounter by functionaries of TILAM SANGH i achieving the set targets by the investigato

## RESULTS AND DISCUSSION :

Social science variables have the limitatio that the standard tools are not available t measure these variables in a consistent manne

A scale for measurement of constraint encountered by Oil Seed Co-operativ members, management committee membe and functionaries of IGMP,Bikaner was p available which had to be developed. Th procedural steps adopted for construction o the scale are presented below.

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**(A) Collection and Editing of Items**–An inventory of items which appeared to constitute constraints encountered by Oil Seed Grower Co-operative Members, management committee members as well as functionaries was prepared. For preparation of this inventory OSCS members were contacted other than the sample once and discussion were held with them. In addition, the pertinent literature was studied to collect the items. The list so prepared was further enriched by consulting the experts in the discipline besides officials related with the day to functioning of OSCS. The items, thus collected, were then subjected to a through scrutiny and editing on the basis of the criteria suggested by Edward(1957). Based on these criteria 126 statements in increasing oil seed production constraints from the view point of Oil seed Grower Co-operative Members and other respondents were retained for inclusion in the inventory.

**(B) Judges rating of items**–To determine the degree of importance of each of the items in increasing oil seed production the constraints encountered by respondents, it was necessary to obtain the opinion of judges. The items were listed and sent to 50 judges under a covering letter.

The judges were requested to give their judgement regarding the importance of constraints encountered by the respondents for inclusion in the scale on a 3 point continuum ranging from most important, important and less important by placing a tick-mark in the each of the item. The panel of judges comprised experts drawn from the Department of Extension Education, Rajasthan Agriculture University, Bikaner and Integrated Groundnut and Mustard Project officials and other field extension workers. Out of the 50 judges. 40 responded with their judgement of the items.

**(C) Final Selection of Items**–The responses of the Judges to the items indicated the degree of importance of a constraints on a 3 point continuum by way of its being most important,important and less important. On the basis of the degree of importance. The items were given a weightage of 3,2 and 1 respectively. Following this criteria, the responses received from the 40 Judges were computed for each of the items The raw scores of each of the items were then converted into Z scores.

For final selection of items, it was necessary to drop such items which were not important constraints in the opinion of the Judges. To do this all the items having positive Z score values and in the opinion or Judges constituted most important and important constraints were included in this scale. The item which were Judged to be not so important were rejected. With this exercise 106 statement finally selected for inclusion in the scale for measuring the constraints of respondents.

**(D) Reliability of Scale**–For testing the reliability of the instrument "Test-retest" method was used. In this method, the instrument was administered twice to the same group consisting of 80 Oil seed Grower Co-operative Members, management committee members and functionaries identical to the respondents at an interval of 10 days. The agreement between the scores obtained from the two applications of the same instrument was determined with the help of correlation coefficient which was called stability or dependability. The coefficient calculated for the scale was 0.730, which was highly significant.

**(E) Validity of Scale**–The content validity of the scale was established during

the process of construction of the scale. The items presented to the Judges represented the whole universe of the constraints collected from different sources mentioned earlier. The final selection of the statements retained in the scale was based on the degree of importance determined by 40 Judges. Accordingly, the content validity was built in the process of scale construction.

## MEASUREMENT OF CONSTRAINTS

For the purpose of the study constraints were defined as such of the bottleneck, obstacles or pressing reasons which may either be Technical,Financial, Inf-3 rastructural, Social and Educational intervening the efficient functioning of the Oil seed Grower Co-operative societies in increasing the production of major oil seed crops.

The constraints faced by OSCM were categorized in to Technical Financial, Infrastructural, Social and Educational.

For measurement of constraints a scale was developed as described earlier.

The scale was having three response categories viz most important, important and less important. The scores 3,2,& 1 were awarded to them respectively.

The total score of a constraint w summed up and then divided by total numb of respondent to obtain mean score. T constraints were ranked in descending or on the basis of these mean scores. Simi procedure was adopted for measuring t constraints of functionaries of IGMP, Bikan

## CONCLUSION :

Despite of the fact that India occup significant place among the major oil se producers in the world. There is a large ga between the demand and the supply of edi oils. Although Tilam Sangh had ma tremendous impact in increasing the ar and production of oil seed crops. Yet there wide gap between availability and dema of oil seeds. This gap may be attributed some constraints of different level in Tila Sangh. Yet a scale for measurement constraints encountered by oil see co-operative members was not availab which had to be developed. The data we collected with the help of specially develope interview schedule consisting of device t measure the dependent and independe variables.

## APPENDIX-II

## PART-I

**Table 1. Judges rating of items constituting the constraints encountered by oil seed growers co-operative members in increasing production of important oil seed crops**

| S.No. | Constraints | Raw score | Z score |
|---|---|---|---|
| | **(A) Technical constraints** | | |
| 1. | Delay in grading of oil seed by OSCS | 89 | 0.19 |
| 2. | Susceptibility to diseases and pest of mustard and groundnut | 94 | 0.67 |
| 3. | Lack of knowledge about improved package of practices of oil seed crops | 89 | 0.19 |
| 4. | Poor conception rate in groundnut | 58 | -2.80 |
| 5. | Lack of adaptability of HYVs of mustard of adverse climatic conditions | 90 | 0.29 |
| 6. | Decline in production after $F_1$ generation in HYVs of oil seed crops | 91 | 0.38 |
| 7. | Lack of knowledge about grading system | 92 | 0.48 |
| 8. | Lack of constant technical guidance by OSCS | 91 | 0.38 |
| 9. | Irregular and incorrect grading of oil seeds | 89 | 0.19 |

| S.No. | Constraints | Raw score | Z score |
|---|---|---|---|
| | **(B) Financial constraints** | | |
| 1. | No monetary incentives for supplying oil seed to the co-operative society | 95 | 0.39 |
| 2. | HYVs seed is very costly | 102 | 0.94 |
| 3. | Low price of oil seeds offered by the society | 93 | 0.23 |
| 4. | There is no provision of loans for purchasing of farm implements by society and unit | 94 | 0.31 |
| 5. | Non availability of fertilizers of subsidized rates | 101 | 0.86 |
| 6. | Private purchaser provide advance payment | 63 | -2.12 |
| 7. | Problems in receiving payment from the society | 91 | 0.07 |
| 8. | Cost of cultivation of groundnut is very high | 98 | 0.63 |
| 9. | Price of produce is unpredictable | 92 | 0.15 |
| 10. | Payment to members is not timely made by the OSCS | 96 | 0.47 |
| 11. | Quality out deducted with cash amount | 65 | -1.97 |
| | **(C) Infrastructural constraints** | | |
| 1. | Irregular and in adequate supply of inputs | 106 | 1.11 |
| 2. | Unavailability of HYVs seed at the sowing time | 102 | 0.86 |
| 3. | Poor storage facilities at oil seed co-operative societies | 97 | 0.55 |
| 4. | Society purchase center away from their home | 51 | -2.28 |
| 5. | Non available of irrigation facility through out the year | 94 | 0.37 |
| 6. | More concentration of VEWs towards local leaders and higher classes | 90 | 0.12 |
| 7. | Gunny bags are of poor quality | 60 | -1.72 |
| 8. | Poor transportation facilities of oil seeds at OSCS level | 91 | 0.18 |
| 9. | Non availability of gunny bags at the time of purchasing | 89 | 0.06 |
| 10. | Delay in procurement of oil seeds by OSCS | 92 | 0.24 |
| 11. | Lack of wide publicity about different extension activities among farmer members | 96 | 0.49 |
| | **(D) Social constraints** | | |
| 1. | Irregularity in meeting of society members | 97 | 0.83 |
| 2. | Factions among members due to caste consciousness | 94 | 0.55 |
| 3. | Lack of co-ordination and co-operation among members | 95 | 0.65 |
| 4. | Labour requirement of HYVs is more than local variety | 69 | -1.76 |
| 5. | Lack of systematic procedure of election | 97 | 0.83 |
| 6. | Negative attitude of higher classes towards depressed and back ward classes | 90 | 0.18 |
| 7. | Schedule caste members take less interest due to their poor social structure | 74 | -1.30 |
| | **(E) Educational constraints** | | |
| 1. | Lack of confidence about potentiality of HYVs on the farmer's field | 94 | 0.68 |
| 2. | Lack of knowledge and skills about proper method of oil seed production | 89 | 0.25 |
| 3. | More educated person take less interest in the OSCS activities | 69 | -1.46 |
| 4. | Lack of knowledge about proper application methods of chemical fertilizer | 97 | 0.94 |
| 5. | Educated person unnecessary press to other members | 71 | -1.29 |
| 6. | Lack of knowledge about bye-laws of the society | 96 | 0.86 |

## PART-II

**Table 2. Judges rating of items constituting the constraints encountered by members of management committee.**

| S.No. | Constraints | Raw score | Z score |
|---|---|---|---|
| 1. | No provision of salary for secretary | 103 | 1.08 |
| 2. | No provision of rent for the office building from Tilam Sangh | 105 | 1.22 |
| 3. | Lack of training facilities of office bearers | 98 | 0.74 |
| 4. | In-adequate extension activities organised by Tilam Sangh | 91 | 0.27 |
| 5. | Commission to the society is not paid timely | 90 | 0.20 |

| S.No. | Constraints | Raw score | Z scor |
|---|---|---|---|
| 6. | Lack of storage facilities at society level | 89 | 0.13 |
| 7. | Delay in advance from bank to the society | 53 | -2.31 |
| 8. | Procurement is not done timely in absence of order from Tilam Sangh head office | 92 | 0.34 |
| 9. | Sometimes oil seeds are not of good quality which affect procurement | 91 | 0.27 |
| 10. | Shortage of funds with the society | 89 | 0.13 |
| 11. | Selection of managers are not done properly | 102 | 1.02 |
| 12. | Delay in sending the input requirement to the project office | 92 | 0.34 |
| 13. | Meetings at the society level are not conducted properly | 90 | 0.61 |
| 14. | The quality standards are not maintained in the society at the procurement time because of political pressure | 90 | 0.20 |
| 15. | Lack of educational programme for the OSCS | 55 | -2.17 |
| 16. | Factions in villages due to election causes failure of society | 69 | 0.13 |
| 17. | Delay in payment by the Tilam Sangh | 97 | 0.68 |
| 18. | Field officers are not interested in visiting the society | 101 | 0.95 |
| 19. | Members don't think the society is their own | 52 | -2.38 |
| 20. | Less knowledge about co-operative principles and functioning pattern of OSCS | 89 | 0.13 |
| 21. | Lack of motivation among oil seed growers co-operative members | 89 | 0.13 |
| 22. | Lack of unit nominee in management committee | 90 | 0.20 |
| 23. | Lack of co-ordination and co-operation between society and unit | 91 | 0.27 |
| 24. | Bye-laws of the societies are not implemented strictly | 90 | 0.20 |
| 25. | Transportation cost is high and no provision of advance to OSCS by Tilam Sangh | 92 | 0.34 |
| 26. | Lack of proper input supply | 91 | 0.27 |
| 27. | No expenditure on development activities | 51 | -2.44 |
| 28. | Payment of oil seed by Tilam Sangh is made only on grading basis | 90 | 0.20 |
| 29. | Low price of oil seed offered by Tilam Sangh | 92 | 0.34 |
| 30. | Lack of proper election system | 89 | 0.13 |
| 31. | Less number of active members in society | 90 | 0.20 |
| 32. | Society HQ is away from their residence | 58 | -1.97 |
| 33. | Most of the executives don't co-operative with society | 94 | 0.47 |

## PART III

**Table 3. Judges rating of items constituting the constants encountered by the functionaries of IGMP Bikaner**

| S.No. | Constraints | Raw score | Z scor |
|---|---|---|---|
| | **(A) Constraints in Procurement of Oil Seeds** | | |
| 1. | Lack of proper procurement policy | 94 | 0.68 |
| 2. | Lack of skilled and experienced purchasers | 89 | 0.11 |
| 3 | Non availability of godown facilities at OSCS level | 89 | 0.11 |
| 4. | Fixation of rates by the Tilam Sangh Affect the procurement from different mandies | 90 | 0.22 |
| 5. | Problem of bribe creates deloviation in the quality | 58 | -3.44 |
| 6. | Targets are not achieved due to delay in payment to societies | 96 | 0.91 |
| 7. | Lack of confidence of OSCS members in grading | 89 | 0.11 |
| 8. | Untrained managers in grading at OSCS level | 90 | 0.22 |
| 9. | Prepare unnecessary records | 63 | -2.87 |
| 10. | Lack of confidence of OSCS in quality detection at plant level | 89 | 0.11 |

| S.No. | Constraints | Raw score | Z score |
|---|---|---|---|
| 11. | Procurement of poor quality seeds by the OSCS | 91 | 0.34 |
| 12. | Lack of proper division of work particularity in the procurement operations at project level | 92 | 0.45 |
| 13. | Lack of transportation facilities | 89 | 0.11 |
| 14. | Lack of regular inspection by the project staff officials | 90 | 0.22 |
| 15. | Adverse effect of natural calamities on the quality of seeds | 89 | 0.11 |
| 16. | Lack of conveyance facilities to field staff | 91 | 0.34 |
| 17. | Problems of funds during the procurement time | 89 | 0.11 |
| 18. | Lack of support from the community for effective functioning of society | 90 | 0.22 |
| 19. | Incentives and awards to efficient field workers are not given by Tilam Sangh | 92 | 0.45 |
| 20. | Irresponsive and mischievous transporter | 93 | 0.57 |
| 21. | Lack of training facilities for procurement staff | 90 | 0.22 |
| 22. | Irregular meeting of board of directors conducted by Tilam Sangh | 92 | 0.45 |
| 23. | Vast area of jurisdiction under a single supervisor | 89 | 0.11 |
| | **(B) Constraints in Supply of Inputs** | | |
| 1. | Unavailability of inputs of the proper time | 92 | 0.16 |
| 2. | Unavailability of input demand to the project from the OSCS | 91 | 0.08 |
| 3. | Poor quality of fertilizer and pesticides | 65 | -2.09 |
| 4. | Lack of interest in supply of fertilizers seeds insecticides, implements etc. by the Tilam Sangh | 93 | 0.25 |
| 5. | Lack of close co-ordination between the Tilam Sangh and other co-operative sectors i.e. IFFCO, KRIBHCO etc. | 102 | 1.00 |
| 6. | Inputs subsidized by the Govt. is very negligible | 93 | 0.25 |
| 7. | Costly transportation of fertilizer and gypsum | 92 | 0.16 |
| 8. | Lack of co-ordination between the Tilam Sangh staff and OSCS members | 93 | 0.25 |
| 9. | Members are not interested to take fertilizers from the OSCS | 61 | -2.42 |
| 10. | Frequent deputation of field staff to other places | 94 | 0.33 |
| 11. | Poor financial condition of the OSCS | 97 | 0.58 |
| 12. | Lack of facilities for conducting extension activities | 99 | 0.75 |
| 13. | Lack of provision to make available fertilizers on credit basis | 98 | 0.67 |
| | **(C) Constraints in Marketing of the Products** | | |
| 1. | Higher rate of Tilam brand oil as compared to other local brands | 89 | 0.22 |
| 2. | Unawareness of consumer about the Tilam Brand oil | 102 | 1.21 |
| 3. | Open competition between the Tilam Sangh and other unorganised oil mills | 87 | 0.07 |
| 4. | Lack of interest by the government in establishing and extending the market of Tilam oil | 89 | 0.22 |
| 5. | Competition with other local mills | 57 | -2.20 |
| 6. | Fixation of oil rates at HO level adversely affect the sale of oil at project level | 92 | 0.45 |
| 7. | Unavailability of skilled and experienced marketing personnel | 93 | 0.53 |
| 8. | Unnecessary wastage of time in filling and unfilling of tankers | 87 | 0.07 |
| 9. | No proper utilization of machinery for processing of seeds resulting into the irregular supply of oils | 89 | 0.22 |
| 10. | Poor marketing system | 96 | 0.75 |
| 11. | Lack of provision to provide oil and cake to society on credit basis | 91 | 0.37 |
| 12. | Lack of interest in selling oil and cake by the OSCS | 90 | 0.30 |
| 13. | Non utilization of solvent oil by the consumers | 56 | -2.27 |

# APPENDIX-II

## nterview schedule to measure the constraints as perceived by the oil seed grower co-operative members

| S.No. | Constraints | M.L (3) | L (2) | L.L (1 |
|---|---|---|---|---|
| | **(A) Technical constraints** | | | |
| 1. | Delay in grading of oil seed by OSCS | | | |
| 2. | Susceptibility to diseases and pest of mustard and groundnut | | | |
| 3. | Lack of knowledge about improved package of practices of oil seed crops | | | |
| 4. | Lack of adaptability of HYVs of mustard of adverse climatic conditions | | | |
| 5. | Decline in production after $F_1$ generation in HYVs of oil seed crops | | | |
| 6. | Lack of knowledge about grading system | | | |
| 7. | Lack of constant technical guidance by OSCS | | | |
| 8. | Irregular and incorrect grading of oil seeds | | | |
| | **(B) Financial constraints** | | | |
| 1. | No monetary incentives for supplying oil seed to the co-operative society | | | |
| 2. | HYVs seed is very costly | | | |
| 3. | Low price of oil seeds offered by the society | | | |
| 4. | There is no provision of loans for purchasing of farm implements by society and unit | | | |
| 5. | Non availability of fertilizers of subsidized rates | | | |
| 6. | Problems in receiving payment from the society | | | |
| 7. | Cost of cultivation of groundnut is very high | | | |
| 8. | Price of produce is unpredictable | | | |
| 9. | Payment to members is not timely made by the OSCS | | | |
| | **(C) Infrastructural constraints** | | | |
| 1. | Irregular and in adequate supply of inputs | | | |
| 2. | Unavailability of HYVs seed at the sowing time | | | |
| 3. | Poor storage facilities at oil seed co-operative societies | | | |
| 4. | Non available of irrigation facility through out the year | | | |
| 5. | More concentration of VEWs towards local leaders and higher classes | | | |
| 6. | Poor transportation facilities of oil seeds at OSCS level | | | |
| 7. | Non availability of gunny bags at the time of purchasing | | | |
| 8. | Delay in procurement of oil seeds by OSCS | | | |
| 9. | Lack of wide publicity about different extension activities among farmer members | | | |
| | **) Social constraints** | | | |
| 1. | Irregularity in meeting of society members | | | |
| 2. | Factions among members due to caste consciousness | | | |
| 3. | Lack of co-ordination and co-operation among members | | | |
| 4. | Lack of systematic procedure of election | | | |
| 5. | Negative attitude of higher classes towards depressed and back ward classes | | | |
| | **(E) Educational constraints** | | | |
| 1. | Lack of confidence about potentiality of HYVs on the farmer's field | | | |
| 2. | Lack of knowledge and skills about proper method of oil seed production | | | |
| 3. | Lack of knowledge about proper application methods of chemical fertilizer | | | |
| 4. | Lack of knowledge about bye-laws of the society | | | |

# APPENDIX-III

## Interview schedule to measure the constraints as perceived by the members of management committee of oil seed growers co-operative societies

| S.No. | Constraints | MI(3) | I(2) | LI(1) |
|---|---|---|---|---|
| 1. | No provision of salary for secretary | | | |
| 2. | No provision of rent for the office building from Tilam Sangh | | | |
| 3. | Lack of training facilities of office bearers | | | |
| 4. | In-adequate extension activities organised by Tilam Sangh | | | |
| 5. | Commission to the society is not paid timely | | | |
| 6. | Lack of storage facilities at society level | | | |
| 7. | Procurement is not done timely in absence of order from Tilam Sangh head office | | | |
| 8. | Sometimes oil seeds are not of good quality which affect procurement | | | |
| 9. | Shortage of funds with the society | | | |
| 10. | Selection of managers are not done properly | | | |
| 11. | Delay in sending the input requirement to the project office | | | |
| 12. | Meetings at the society level are not conducted properly | | | |
| 13. | The quality standards are not maintained in the society at the procurement time because of political pressure | | | |
| 14. | Factions in villages due to election causes failure of society | | | |
| 15. | Delay in payment by the Tilam Sangh | | | |
| 16. | Field officers are not interested in visiting the society | | | |
| 17. | Less knowledge about co-operative principles and functioning pattern of OSCS | | | |
| 18. | Lack of motivation among oil seed growers co-operative members | | | |
| 19. | Lack of unit nominee in management committee | | | |
| 20. | Lack of co-ordination and co-operation between society and unit | | | |
| 21. | Bye-laws of the societies are not implemented strictly | | | |
| 22. | Transportation cost is high and no provision of advance to OSCS by Tilam Sangh | | | |
| 23. | Lack of proper input supply | | | |
| 24. | Payment of oil seed by Tilam Sangh is made only on grading basis | | | |
| 25. | Low price of oil seed offered by Tilam Sangh | | | |
| 26. | Lack of proper election system | | | |
| 27. | Less number of active members in society | | | |
| 28. | Most of the executives don't co-operative with society | | | |

# APPENDIX-IV

## Interview schedule to measure the constraints as perceived by the functionaries of integrated groundnut and mustard project Bikaner

| S.No. | Constraints | MI(3) | I(2) | LI(1) |
|---|---|---|---|---|
| | **(A) Constraints in Procurement of Oil Seeds** | | | |
| 1. | Lack of proper procurement policy | | | |
| 2. | Lack of skilled and experienced purchasers | | | |
| 3. | Non availability of godown facilities at OSCS level | | | |
| 4. | Fixation of rates by the Tilam Sangh Affect the procurement from different mandies | | | |
| 5. | Targets are not achieved due to delay in payment to societies | | | |
| 6. | Lack of confidence of OSCS members in grading | | | |
| 7. | Untrained managers in grading at OSCS level | | | |
| 8. | Lack of confidence of OSCS in quality detection at plant level | | | |
| 9. | Procurement of poor quality seeds by the OSCS | | | |

| | |
|---|---|
| 10. | Lack of proper division of work particularity in the procurement operations at project level |
| 11. | Lack of transportation facilities |
| 12. | Lack of regular inspection by the project staff officials |
| 13. | Adverse effect of natural calamities on the quality of seeds |
| 14. | Lack of conveyance facilities to field staff |
| 15. | Problems of funds during the procurement time |
| 16. | Lack of support from the community for effective functioning of society |
| 17. | Incentives and awards to efficient field workers are not given by Tilam Sangh |
| 18. | Irresponsive and mischievous transporter |
| 19. | Lack of training facilities for procurement staff |
| 20. | Irregular meeting of board of directors conducted by Tilam Sangh |
| 21. | Vast area of jurisdiction under a single supervisor |
| | **(B) Constraints in Supply of Inputs** |
| 1. | Unavailability of inputs of the proper time |
| 2. | Unavailability of input demand to the project from the OSCS |
| 3. | Lack of interest in supply of fertilizers seeds insecticides, implements etc. by the Tilam Sangh |
| 4. | Lack of close co-ordination between the Tilam Sangh and other co-operative sectors i.e. IFFCO, KRIBHCO etc. |
| 5. | Inputs subsidized by the Govt. is very negligible |
| 6. | Costly transportation of fertilizer and gypsum |
| 7. | Lack of co-ordination between the Tilam Sangh staff and OSCS members |
| 8. | Frequent deputation of field staff to other places |
| 9. | Poor financial condition of the OSCS |
| 10. | Lack of facilities for conducting extension activities |
| 11. | Lack of provision to make available fertilizers on credit basis |
| | **(C) Constraints in Marketing of the Products** |
| 1. | Higher rate of Tilam brand oil as compared to other local brands |
| 2. | Unawareness of consumer about the Tilam Brand oil |
| 3. | Open competition between the Tilam Sangh and other unorganised oil mills |
| 4. | Lack of interest by the government in establishing and extending the market of Tilam oil |
| 5. | Fixation of oil rates at HO level adversely affect the sale of oil at project level |
| 6. | Unavailability of skilled and experienced marketing personnel |
| 7. | Unnecessary wastage of time in filling and unfilling of tankers |
| 8. | No proper utilization of machinery for processing of seeds resulting into the irregular supply of oils |
| 9. | Poor marketing system |
| 0. | Lack of provision to provide oil and cake to society on credit basis |
| 1. | Lack of interest in selling oil and cake by the OSCS |

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*Research Note :*

# ATTITUDE CHANGE THROUGH COMMUNICATION REGARDING ARTIFICIAL INSEMINATION

**S.K. Singh[1] and P.N. Kaul[2]**

Presently, India has 204.53 million cattle and 83.5 million buffaloes. As per Basic Animal Husbandry Statistics (1997) at least 92.56 percent of India cattle population is still indigenous, yielding between 1 to 2 kg milk per day, i.e., nearly 450 to 500 kg per lactation. Hence, our main objective must be directed towards genetic improvement of animals. Artificial insemination has been perhaps the most important abject among the animal husbandry technologies to bring about genetic improvement of animals in order to increase the milk yield of Indian cattle and buffaloes.

In spite of a number of advantages of artificial insemination technique over natural service, the extent of adoption of artificial insemination by livestock owners does not seem to be of a very high order. One reason may be that the farmers attitude towards artificial insemination is not favourable.

There are a number of factors associated with the success of artificial insemination, but here we are mainly concerned with the attitudes towards artificial insemination, assuming the technical aspects or factors, e.g., sterilization of equipments, trained technicians, collection of semen, etc., as constant though these factors can also create interference in the effectiveness of artificial insemination.

## METHODOLOGY :

The study was conducted in Mathura district of Uttar Pradesh. There are 10 development blocks in Mathura district. Each block was divided into 2 strata, i.e., one near the artificial insemination centre, i.e. within 5 km radius, and the other quite far away from the artificial insemination centre i.e., situated beyond 5 km radius. Two villages from each block were selected randomly, and hence, 20 village were selected for the present study.

The subjects owned cattle or buffaloes either as their main or subsidiary occupation and more or less of the same age group, i.e., between 25 to 40 years of age. A total of 15 subjects were selected randomly from each village, comprising a total of 300 subjects, i.e., the sample size for the study.

The scale development by Koura and Singh (1968) was used to measure the attitudes of livestock owners towards artificial insemination. This scale is of Likert type and has high reliability and validity.

A suitable message was designed keeping in view that complete information regarding artificial insemination may be covered in it, i.e., what is artificial insemination, why is it necessary, advantages and limitations of artificial insemination, advantages of crossbred animals, oestrus cycle in cattle/buffaloes, signs of heat, age of puberty, easy ways to detect signs of heat in animals, suitable time to get animals artificially inseminated, suitable time to get animals artificially inseminated after parturition, and misconceptions, superstitions

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and doubts of farmers regarding artificial insemination technology, etc.

Message was designed in the local language (Hindi). The message was focused on the behavioural changes expected form the farmer. To have greater impact of the message on the subjects, all the contact methods, i.e., individual, group and mass contact methods were used in this study. Under individual and group contact methods all the subjects of a particular village were requested to assemble together, either at the artificial insemination centre of that particular area or at a particular place in the village itself.

During administration of the message, suitable audio-visual aids, e.g., charts containing complete information regarding artificial insemination were used. Leaflets were also distributed to the subjects at the end of administration of the message. For illiterate subjects suitable diagrams were drawn on charts wherever necessary to give the livestock owners an easy access to artificial insemination technology.

Under mass contact methods the same message was also disseminated to the subjects via radio in the form of group discussion so that the livestock owners could have more impact and faith in artificial insemination technology. The message was disseminated to the livestock owners twice, on 17th Feb., 1999 and 10th March, 1999.

The before-after design was used. The attitude scale was administered to the subjects before their exposure to the message, and also after it. Since the attitude change is likely to take place after some discussion among the participants, the measurement of post message attitude was taken 4 weeks after the exposure to the message. This enabled them and provided them sufficient time to discuss the message with their peer groups, families etc.

## RESULTS AND DISCUSSION :

Table 1. shows the changes in attitudes of livestock owners towards artificial insemination. The results show that the mean attitude change scores of the livestock owners towards artificial insemination before and after the communication of the message regarding artificial insemination was signification at 1% level of significance. This shows that the message was effective in changing the attitudes of the livestock owners towards artificial insemination in the favourable direction.

**Table 1. Attitude scores of the livestock owners before and after the message**

| | N | Mean | S.D. | t-value |
|---|---|---|---|---|
| Pre-message | 300 | 71.87 | 11.08 | |
| Post-message | 300 | 76.05 | 9.69 | |
| Difference (Post-message (per-message) | 300 | 4.17* | 3.69 | 2.31** |

* This is the mean attitude change score (postmessage permessage)

** Significant at 1% level of significance.

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*Research Note :*

# MASS MEDIA UTILIZATION AMONG FARMERS : A STUDY IN UTTAR PRADESH

Yagya Dev Mishra[1]

Proliferation of mass media around the world created unique situation for quick dissemination of information to one and all.India is one of the developing nations with large network of mass media along length and breadth of the country. Use of radio, television and print media for the benefits of the farmers were promoted since long time to spread message about innovative technologies. However, it is generally labeled that mass media are class media and largely urban biased both in use of language and choice of content.

In our country, reach of radio and television has extended to more than 80 per cent of its population and the area. It aims at promoting national integration, dissemination of message, educating people, providing healthy entertainment and dissemination of essential knowledge to stimulate agricultural production.

AIR presently has 208 radio stations and 327 transmitters. These includes 149 medium wave, 55 short wave and 123 FM transmitters and provide radio coverage to 98.8 per cent population of the country. On the other side ,flagship of doordarshan reaching over 80 per cent of the population through 10,042 terrestrial transmitters of varying power. Newspaper on the other hand are published from all the states and union territories.

New papers are brought in 101 languages and dialects including 18 principal languages with highest number (19,685) in Hindi followed by English (5,712) and 2,848 in Urdu. Among the states, uttar pradesh with 8,750 newspapers retained the prestigious position of publishing the largest number of newspapers in any state. In case of dailies also U. P. held the top position with 873 newspapers.(India, 2002) However, the availability and utilisation of various mass media are not similar in all parts of the country (Panday,1997and Kukreti,1990) . Besides, the utilisation of media may greatly be affected by the access of media for various sections of population including farmers (Yadav,1985 and Maizy,1986)

So, keeping this background in mind the present study was designed to assess the pattern of utilisation of mass media viz.; newspaper, magazine, radio and television among farmers.

## METHODOLOGY :

The study was conducted in Kannauj block of Kannauj district of Uttar Pradesh. There were 73 gram sabhas in Kannauj block, out of which eleven gram sabhas were randomly selected for the study.List of all the households living in selected gram sabhas were obtained from block office and out of them five per cent farmers were selected randomly as respondents for the study.Thus, 126 farmers served as respondents of the study. The data for the study were collected through a comprehensive and duly pretested

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interview schedule. The data were also collected through non-participant observation and focused group discussion. The collected data were tabulated and analysed by using ppropriate statistical techniques.Number of media users/non-users were considerd as respondents (N) for concern table.

## RESULTS AND DISCUSSION :

The extent and utilisation pattern of different selected mass media namely newspaper, magazine,radio, television were studied. Under this extent of use, purpose, ime of utilisation,duration spent with media nd content preference media were ncorporated and have been presented below.

### Extent of Utilisation :

**Newspaper**–General newspaper were ound to be read by majority of the espondents(72.22 per cent) while only 27.78 er cent were non-readers (Table-1). Among he readers, majority of the respondents 45.24 per cent) were found to be casual eaders followed by regular news readers 26.98 per cent).

In case of agricultural newspapers only 3.17 per cent respondents were the reader and they were also casual readers.

**Magazine**–The number of magazine readers were about half (38.10 per cent) of the newspaper readers and all of them were casual readers (Table-1). This number was much less (4.76 per cent) in case of agricultural magazines and they were also found to be casual readers.

**Radio**–Radio listeners were more in numbers (85.71 per cent) as compared to newspapers and magazines(Table-1). Among the radio listeners,48.41 per cent respondents were regular listeners followed by casual listeners(37.30 per cent).

**Television**–The data in Table-1 revealed that the number of TV viewers were equal to radio listeners (85.71 per cent) but the number of regular TV viewers were less (40.48 per cent) as compared to the number of radio listeners(48.41 per cent). About 45 per cent TV viewers were casual in viewing.

**Table 1. Extent of utilization of mass media**

| l.No. | Regularity | No of Respondents (N=126) | | | | Radio | Television |
|---|---|---|---|---|---|---|---|
| | | Newspaper | | Magazine | | | |
| | | General | Agriculture | General | Agriculture | | |
| 1. | Regular | 34 (26.98) | - | - | - | 61 (48.41) | 51 (40.48) |
| 2. | Sometimes | 57 (45.24) | 4 (3.17) | 48 (38.10) | 6 (4.76) | 47 (37.30) | 57 (45.23) |
| 3. | Non-user | 35 (27.78) | 122 (96.83) | 78 (61.90) | 120 (95.24) | 18 (14.29) | 18 (14.29) |

te : Values in parentheses are percentages of the respondents

### rpose of Utilisation :

**Newspaper**–The data presented in ble-2 shows that the majority of the readers 3.41 per cent) read newspapers for taining news and information followed by ertainment (32.98 per cent) and passing e (24.18 per cent). However,few readers .09 per cent) read them as habit.

In case of agricultural newspaper all the readers read it for agricultural news and information.

**Magazine**–Maximum numbers of magazine readers (54.17 per cent) read it for entertainment (Table-2) followed by news and information (37.50 per cent) and passing time (27.08 per cent),while only 6.25 per cent readers read magazines as a habit. In case of agricultural magazines 100.00 per cent

readers read them for agricultural news and information.

**Radio**–Data presented in Table-2 shows that most of the listeners (98.15 per cent) listened radio for news and information followed by entertainment (42.59 per cent). Small percentage of listeners reported to listen radio to pass time (4.63 per cent) and as a habit (0.93 per cent).

**Television**–In case of television it was found that 69.44 per cent viewers viewed it for the purpose of entertainment whereas 68.81 per cent viewed it for news and information.only 2.78 per cent viewers reported to view the television for passing the time while remaining 1.85 per cent viewers reported to view TV as a habit (Table-2).

**Table 2. Purpose of utilisation of mass media**

| Sl.No. | Purpose | No of Respondents | | | | Radio | Television |
|---|---|---|---|---|---|---|---|
| | | Newspaper | | Magazine | | | |
| | | General | Agriculture | General | Agriculture | | |
| 1. | News & Information | 85 (93.41) | 4 (100.00) | 18 (37.50) | 6 (100.00) | 106 (98.15) | 70 (68.81) |
| 2. | Entertainment | 30 (32.98) | - | 26 (54.17) | - | 46 (42.59) | 75 (69.44) |
| 3. | Pass time | 22 (24.18) | - | 13 (27.08) | - | 5 (4.63) | 3 (2.78) |
| 4. | Habit | 11 (12.09) | - | 3 (6.25) | - | 1 (0.93) | 2 (1.85) |
| | | N=91 | N=4 | N=48 | N=6 | N=108 | N=108 |

Note : Values in parentheses are percentages of the respondents

**Time of Utilisation :**

**Newspaper**–Maximum number of readers (47.25 per cent) read newspaper in the fore noon (Table-3) while 19.78 per cent readers read it in the after noon. 30.77 percent readers reported to read newspapers as and when they were free. However, very less number of readers (2.20 per cent ) read it in the evening. The agriculture newspaper was read as and when they were free and newspapers were available.

**Magazine**–The readingtime of magazines indicated by the readers showed that most of them (87.50 per cent) read it at any time when they were free(Table-3) while only 12.50 per cent readers read it in the afternoon.

**Table 3. Time of utilisation of mass media**

| S.No. | Segment of Night | No of Respondents | | | | Radio | Television |
|---|---|---|---|---|---|---|---|
| | | Newspaper | | Magazine | | | |
| | | General | Agriculture | General | Agriculture | | |
| 1. | Morning (6 am to noon) | 43 (47.25) | 0 | 0 | 0 | 15 (13.89) | 21 (19.44) |
| 2. | Afternoon (12 noon to 4 pm) | 18 (19.78) | 0 | 6 (12.50) | 1 (16.67) | 22 (20.37) | 7 (6.48) |
| 3. | Evening (4pm. to 8 pm) | 2 (2.20) | 0 | 0 | 0 | 101 (93.52) | 102 (94.44) |
| 4. | Night (8 pm onwards) | 0 | 0 | 0 | 0 | 1 (0.93) | 2 (1.85) |
| 5. | At ani time when free | 28 (30.77) | 4 (100.00) | 42 (87.50) | 5 (83.33) | 0 | 0 |
| | | N=91 | N=4 | N=48 | N=6 | N=108 | N=108 |

Note : Values in parentheses are percentages of the respondents

Most of the readers of agricultural magazines(83.33 per cent) read it any time when they free while only 16.67 per cent readers read agricultural magazines in the after noon.

**Radio**–The data revealed that most of the radio listeners(93.52 per cent) listened to radio in the evening(Table-3), while 20.37 per cent listened radio programmes in the after noon. Some listeners (13.89 per cent ) also listened radio in the morning. A small percentage(0.93 per cent) of listeners were listening radio at night.

**Television**–The viewing time of television as reported by the respondents indicated that most of the television viewers(94.44 per cent) viewed television at evening followed by those who also view it in the morning (19.44 per cent). The number of viewers viewing TV in the afternoon and night were only to the tune of 6.48 and 1.85 per cent, respectively (Table-3).

**Duration of Utilisation :**

**Newspaper**–Table-4 clearly indicates that 40.66 per cent readers spent 1/4 to 1/2 hours per day on reading general newspaper. Very readers (15.38 per cent) devoted more than 1/2 hour per day for reading the newspaper. Very few readers (3.30 per cent) spent 1-2 hours in reading newspaper.

In case of agricultural newspaper, number of readers were only four. Out of four readers one reader devoted up to 1/4 hr., two readers devoted 1/4 to 1/2 hr. and rest one devoted 1/2 to one hour per day on reading agricultural newspaper.

**Magazine**–It is evident from the table 4 that maximum number of magazine readers (60.42 per cent) devoted 1/4 to 1/2 hour ,25.00 per cent readers devoted only up to 1/4 hour while 14.58 per cent readers devoted more than half an hour time per day on reading general magazine.

The duration devoted to reading agricultural magazines was found to be on lower side as half of the readers reported to devote 1/4 hour while rest half of the readers reported to spend more than 1/4 hour but less than 1/2 hour.

**Radio**–Table 4 shows that time spent in listening to radio varied from 1/4 to more than two hours. Maximum number of listeners (42.59 per cent) devoted only 1/4 hour in listening radio, in contrast a meagre 3.70 per cent listeners devoted more than two hours in listening radio.

**Television**–Maximum number of TV viewers(85.19 per cent) viewed television more than half an hour to one hour while 23.15 per cent viewers devoted time between one to two hours. Non of the viewers devoted more than two hour on TV viewing.

**Table 4. Amount of time (Duration) spent with mass media**

| Duration in hr./day | No of Respondents | | | | Radio | Television |
|---|---|---|---|---|---|---|
| | Newspaper | | Magazine | | | |
| | General | Agriculture | General | Agriculture | | |
| up to 1/4 hr. | 37 (40.66) | 1 (25.00) | 12 (25.00) | 3 (50.00) | 46 (42.59) | 5 (4.63) |
| 1/4 to 1/2 hr. | 37 (40.66) | 2 (50.00) | 29 (60.42) | 3 (50.00) | 25 (23.15) | 10 (9.26) |
| 1/2 to 1 hr. | 14 (15.38) | 1 (25.00) | 4 (8.33) | 0 | 43 (39.81) | 92 (85.19) |
| 1 to 2 hr. | 3 (3.30) | 0 | 3 (6.25) | 0 | 21 (19.44) | 25 (23.15) |
| More than 2 hr. | 0 | 0 | 0 | 0 | 4 (3.70) | 0 |
| N=91 | N=4 | N=48 | N=6 | N=108 | N=108 | |

Values in parentheses are percentages of the respondents

**Content preference by the media subscribers/owners :**

The preference of the newspaper and magazine readers, radio listeners and TV viewers in respect of the content of the respective medium was sought from those possesing these media. The frequencies of the people giving preferences for respective contents for different media were converted in the form of weighted mean score(WMS) to clearly found out the rank of each content.

The results revealed that the media users gave their first preferences to political information in newspapers and magazines (8.86 and 9.30 WMS,respectively). The second position was obtained by social information (7.68 WMS) in newspaper while in magazines religious content was given second preference (8.85 WMS). The entertainment (6.60 and 8.45 WMS, respectively) was given third rank for both the media. In case of radio and television, news obtained first rank (11.80 and 11.05 WMS, respectively) while the second position went to entertainment in case of radio and religious content in case of TV (10.60 and 10.88 ,respectively).All other subject areas were given subsequent ranking. It is surprising to note that the villagers did not gave any preferential ranking for agricultural infomation (Table-5).

**Table 5. Content preferences by the media subscribers/owners**

| Sl.No. | Media Content | Weighted Mean Score (WMS) and Rank | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Newspaper | | Magazine | | Radio | | Television | |
| | | WMS | Rank | WMS | Rank | WMS | Rank | WMS | Rank |
| 1. | Political | 8.86 | I | 9.30 | I | 10.51 | III | 9.48 | IV |
| 2. | Social | 7.68 | II | 8.23 | IV | 9.48 | V | 8.80 | VII |
| 3. | Economical | 6.26 | V | 7.37 | VI | 8.93 | VIII | 8.11 | XI |
| 4. | Health | 5.80 | VI | 6.50 | VIII | 9.70 | IV | 9.60 | V |
| 5. | Entertainment | 6.60 | III | 8.45 | III | 10.60 | II | 10.44 | III |
| 6. | Sports | 6.46 | IV | 7.46 | V | 7.56 | X | 8.55 | IX |
| 7. | Crime | 6.26 | V | 6.83 | VII | 9.15 | VI | - | - |
| 8. | Scietific | 4.33 | VII | 6.00 | IX | 7.50 | XI | 9.50 | XI |
| 9. | Tourism | 1.00 | VIII | 5.00 | X | 6.00 | XII | 8.00 | XII |
| 10 | Religious | - | - | 8.85 | II | - | - | 10.88 | II |
| 11 | News | - | - | - | - | 11.80 | I | 11.05 | I |
| 12 | Agriculture | - | - | - | - | 8.63 | IX | 8.73 | VIII |
| 13 | Education | - | - | - | - | 9.00 | VII | 8.16 | X |

## CONCLUSION :

Thus, it can be said that maximum number of farmers listened to radio and viewed TV casually, while the number of respondents reading the newspapers and magazines were quite less. Most of the farmers used mass media for news and information while magazines were read mostly for entertainment purposes. Farmers used media in their free time, accept some newspaper readers who used to read newspapers in the morning. More than half of the newspaper and magazines readers read them for half an hour while radio and TV were mostly switched on for half an hour to one hours. Political news content were preferred by most of the newspaper and magazine readers whereas radio and TV were preferred for news.

State during the year 2000-2001. The data was gathered from 60 Scientists of CCS HAU, Hisar, who were serving at Regional Research Stations, Krishi Vigyan Kendras situated in the aforesaid districts.

In order to ascertain the training needs of basmati rice growers, 13 main areas were identified for the purpose after discussing with scientists/extension workers and few innovative farmers of the study area. A three-point rating scale i.e. most essential, essential, not essential with the score of 3, 2 and 1, respectively was used to assess the training needs of the farmers in the areas of basmati rice production practices. The respondents were interviewed to indicate any one of the three alternative responses against each item of the areas, depending upon their perception about level of training needs of farmers. First of all total obtained training need score of a particular item was calculated considering the responses expressed by all the respondents. Then the mean score of a particular item was worked-out by dividing the total obtained score of that particular item with a total number of respondents (60). Finally based on the mean score of the rank order of preference for training in a particular area was found by following the class intervals of the scores assigned to the three point of the rating scale at illustrated of the scores assigned to the three point of the rating scale at illustrated below: 2.25 – 3.00 = Most essential, 1.50 – 2.24 = essential, 0.75 – 1.49 = not essential.

## RESULTS AND DISCUSSION :

Table 1. reveals the ranking of different areas in which the basmati rice growers need training. Here plant protection practices have

**Table 1. Training Needs of Farmers in Basmati Rice Production Practices-Agricultural Scientists Perception Analysis.**

| Sl. No. | Area of Basmati Rice prod. Practices | Level of training | | | Total obtained score | Mean score | Rank value | Category preference |
|---|---|---|---|---|---|---|---|---|
| | | Most essential | Essential | Not essential | | | | |
| | **A. Agronomic** | | | | | | | |
| 1. | Optimum Plant Population | 30 | 22 | 08 | 142 | 2.37 | IV | I |
| 2. | Recommended number of seedling per hill. | 33 | 11 | 16 | 137 | 2.27 | V | I |
| 3. | Optimum time of transplanting | 16 | 32 | 12 | 124 | 2.07 | VIII | II |
| 4. | Proper and timely application of fertilizer | 08 | 20 | 32 | 94 | 1.57 | X | II |
| 5. | Foliage pruning of excessive vegetative growth | 01 | 19 | 40 | 81 | 1.35 | XII | III |
| 6. | Application of higher doses of nitrogenous fertilizer | 16 | 11 | 33 | 103 | 1.72 | IX | II |
| 7. | Importance of application of zinc fertilizer | 12 | 19 | 29 | 93 | 1.56 | XI | II |
| | **B. Plant protection** | | | | | | | |
| 8. | Awareness about incidence of blast disease | 32 | 24 | 04 | 148 | 2.47 | II | I |
| 9. | Awareness about incidence of stem borer | 41 | 11 | 08 | 153 | 2.55 | I | I |
| 10. | Chemical seed treatment | 08 | 48 | 04 | 124 | 2.07 | VII | II |
| 11. | Diagnosis of pest and disease problem | 34 | 15 | 11 | 145 | 2.42 | III | I |
| 12. | Application of insecticides and pesticides at right time | 27 | 21 | 12 | 135 | 2.25 | VI | I |
| 13. | Application of insecticides and pesticides with recommended dozes | 15 | 32 | 13 | 122 | 2.03 | VIII | II |

got top priority as compared to agronomic practices. Basmati rice growers suffer a great loss every year on account of attack of insect-pests and diseases in their crop. Probably this might be the reason that agricultural scientists perceived plant protection to be the most important area, where farmers needed training.

**A-Agronomic practices**

This component has been viewed with regard to its seven sub-areas. Among the seven agronomic practices of basmati rice "Optimum plant population" was the most essential and ranked number one for the inclusion in the list of training needs of basmati rice cultivation. Recommended number of seedlings, optimum time of transplanting, application of higher doses of nitrogenous fertilizer, proper and timely application of fertilizers, importance of application of zinc fertilizer followed by foliage pruning of excessive vegetative growth in the descending order of priority on the basis of mean score and rank value. Optimum plant population ranked first in the training need of farmers as perceived by the agricultural scientists. This might be due to the reason that the rice transplantation is done manually by the hired labourers, and it is beyond the control of farmers. the recommended seedling per sq. mtr. is 35 to 40, whereas the usual practice is 18-22 seedling per sq. mtr.

**B-Plant protection practices**

Table-1 reflected out that awareness about incidence of blast disease and their control, awareness about incidence of stem borer and their control, diagnoses of pest and disease problem and application of insecticide and pesticide at right time were categorized priority areas of training needs of basmati rice cultivation as perceived by scientists. It is interesting to not that plant protection practices have got priority to that of agronomic practices. This might be due to the reason that every year basmati rice grower suffered a great loss on account of severe infestation of insect pest and diseases in particular and also in the study area short training programme for basmati cultivation is being organized wherein such important practices had not been fully discussed because such practices demand sufficient time. Hence it suggests that a separate training programme should be organized for plant protection practices of basmati rice cultivation for extension agencies to make an extensive efforts which may dilute the technical knowledge.

## CONCLUSION :

The findings of the study pointed out that the training needs related to plant protection practices are of much concerned as compared to agronomic practices. Among the agronomic practices the maintenance of optimum ranked first and so far as plant protection practices are concerned, awareness about incidence of blast disease, stem borer and their control, diagnosis of pest and disease problem, application of insecticide and pesticides at right time were ranked first as perceived by agricultural scientists. Probably this might be the reason that farmers need to learn and apply about plant protection practices of their crops timely and effectively as the economics of

Basmati rice largely depends upon timely remedial of insect, pest and diseases. Therefore, it is very necessary on the part of training organizers to reorient the training programme for Basmati rice growers attention on the above mentioned aspects.

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*Research Note :*

# EMPOWERMENT STYLE AND OUTLOOK OF EXTENSION PERSONNEL ABOUT FUNCTIONING OF KRISHI VIGYAN KENDRAS

**Lakhan Singh[1] & Atar Singh[2]**

The Krishi Vigyan Kendra (KVK) is an innovative science based extension institution, which undertakes vocational trainings for farmers, farmwomen and rural youths, conducted on farm trials for technology assessment and refinement. Front Line Demonstrations are conducted on latest agricultural technologies at the farmers' fields. There is strong networking of KVKs in the country. It is well known fact that the extension personnel have to deal with farmers' problems at different field situations. They normally use popular problem solving approaches such as prescriptive, where extensionists always tried to find out technological solutions for the farmers and offer them too. Another approach is enabling in nature in which farmers are helped to become self-dependend with their own efforts (Singh and Sinha, 2002 and Singh, 1997). It is abundantly clear that extension work is difficult and complex phenomenon. Perhaps, extension personnel have doubt about abilities of the farmers. They hardly try to empower them rather they create a dependency syndrome among the farmers. The subordinates are often ignored in utilizing their services at each and important steps at the planning and programming. The success of any endeavour towards extension activities will depend on the extent on which the extension personnel empower the farmers for their active involvement in all development activities. Such issues and views of extension personnel need re-thinking and action. Keeping these facts in view, the study was designed with specific objectives: to explore the level of empowerment of extension personnel and to know the views and opinion of extension staff regarding KVK functioning with their suggestions for further improvement.

## METHODOLOGY :

The study was conducted at different KVKs located in Zone IV (ICAR), Kanpur (Uttar Pradesh) and Uttaranchal during 2002-03. Altogether forty respondents (extension personnel) of 20 KVKs under different agro-climatic conditions were randomly selected. Extension personnel represent those scientists, which are working in KVKs and actively engaged in extension work irrespective of their disciplines. The respondents belonged to different disciplines viz., agril extension (12), agronomy (12), animal husbandry (5), home science (3), horticulture (3), plant protection (3), and each one from agril engineering, fisheries and agril economics. The data were collected with the help of semi-structured interview schedule. All the respondents were individually contacted for collecting data. Appropriate statistical methods like percentage, mean, range, and standard deviation were used and computed.

Empowerment refers to one's own dominant thoughts and tendencies towards self-efficacy while at work, at the work place,

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in the field or at home. Such thoughts or tendencies represent a continuum sense of efficacy with" self-sense of powerlessness". The extension staff were administered a scale to measure the psychological orientation of the extension functionaries towards empowering the farmers. There were three components in this scale, which are as follows:

1. ***Autonomy*** represents one's subjecthood which is reflected in one's actions, initiative, hope of success and problem solving, where as the ***dependency*** represents objecthood which is reflected in one's behaviour related to conformity, fear of failure, lack of self confidence and problem avoiding.
2. The ***self-esteem*** indicates the extent to which one is innovative and creative while ***self-depreciation*** is reflected in behaviour related to safe playing and security.
3. The concept of ***reflective behaviour*** indicates actor role for the work, which is challenging and quality seeking while the ***repetitive behaviour*** indicates pawn role, which is mechanically functional and has a tendency for routine performance.

This is measured with the help of an inventory consisting of 15 work related statements on 5 point continuum ranging from strongly agree to strongly disagree developed (Mehta, 1989) for the purpose. The continuum is assigned score 5 to 1 or vice versa as per positive or negative nature of statements. As there were 5 items each for three major dimensions, each dimension would get a total score varying from 0 to 25. Higher the score, greater would be the positive tendency towards empowerment and lower the score greater would be the negative tendency. The three total scores are combined to provide a final score on efficacy vs. self-efficacy and lower the score greater would be the tendency towards sense of powerlessness. Sense of efficacy would indicate a sense of psychological empowerment.

## RESULTS AND DISCUSSION :

The average age of the respondents were found 39.6 years it reflects their younger age. Fifty five per cent of the respondents were having doctorate degree and remaining (45 per cent) possessed masters degree. Majority of respondents were actively engaged in organizing on campus and off-campus trainings to the practicing farmers and rural youths, associated in laying out on farm trials and frontline demonstrations.

**Empowerment Style Of Extension Personnel**–The data reported in Table 1 reveal that the mean score of extension personnel on initiative and reflective behaviour were poor. However, the mean score on self-esteem was found relatively better. The total obtained scores ranged from 16.05 to 17.28 out of obtainable score of 25. The mean scores were towards central value indicating thereby that the extension personnel were psychologically not strongly oriented towards empowerment. The distribution of extension personnel on these three components, as well as on the overall score reveal that the tendency was towards the negative end of the continuum. It shows that the extensionists are not charged with initiative and self-esteem rather they tend to pursue routinised behaviour and thus were more inclined to create powerlessness and dependency in the farming community.

**Table 1. Empowerment style of extension personnel** N = 40

| Dimensions/Categories | Frequency | (%) | |
|---|---|---|---|
| **1. Autonomy vs. dependence** | | | |
| Low (<Mean - 1SD) | 5 | 12.5 | Mean =16.32 |
| Medium (Mean ± 1SD) | 31 | 77.5 | SD =2.68 |
| High (>Mean + 1SD) | 4 | 10.0 | Range =12-24 |
| **2. Self–esteem vs. self depreciation** | | | |
| Low (<Mean - 1SD) | 10 | 25.0 | Mean =17.28 |
| Medium (Mean ± 1SD) | 21 | 52.5 | SD =2.62 |
| High (>Mean + 1SD) | 9 | 22.5 | Range =13-23 |
| **3. Reflective vs. repetitive behaviour** | | | |
| Low (<Mean - 1SD) | 6 | 15.0 | Mean =16.05 |
| Medium (Mean ± 1SD) | 27 | 67.5 | SD =1.71 |
| High (>Mean + 1SD) | 7 | 17.5 | Range =13-20 |
| **Efficacy vs. powerlessness** | | | |
| Low (<Mean - 1SD) | 5 | 12.5 | Mean =49.65 |
| Medium (Mean ± 1SD) | 28 | 70.0 | SD =5.44 |
| High (>Mean + 1SD) | 7 | 17.5 | Range =40-67 |

**Outlook Of Extension Personnel About KVK Activities–** The data (Table 2) indicated that majority (92.5 per cent) of extension personnel working in KVKs were having lack of cohesiveness and mutual understanding. This dimension plays an important role in following group or community approach. The desirable change is only possible through combined efforts of the extension functionaries. On the other hand, strict monitoring was found aside by the competent authority (82.5 per cent). The reasons might be many but it requires a considerable thinking among concerned individuals. The monitoring can be done in well-planned way for moving on right direction. Training for extension personnel did not give much emphasis due to non-turn up of them (90 per cent) for getting training at KVKs. The projects like UPDASP are felt as a burden and they affect the KVK activities as perceived by the respondents.

**Table 2. Outlook of extension personnel about KVK activities** N=40

| Statements | Responses | Frequency (%) |
|---|---|---|
| 1. Cohesiveness among KVK staff | 1. Lack of cohesiveness and mutual understanding | 37 (92.5) |
| 2. Monitoring by competent authority | 2. Lack of strict monitoring | 33 (82.5) |
| 3. Trainings organized | 3. Emphasis on need based trainings given | 30 (75.0) |
| 4. On farm trials laid out | 4. Location specific problems identified | 31 (77.5) |
| 5. Frontline demonstrations conducted | 5. Only relevant varieties demonstrated | 21 (52.5) |
| 6. Trainings for extension personnel | 6. Not much emphasis given due to non-participation of extension staff | 36 (90.0) |
| 7. UPDASP and other projects affecting KVK activities | 7. Affecting considerably | 29 (72.5) |

**Suggestions About Improving KVK Functioning:** The data reported in Table 3 revealed that frequent visits by the scientists, sufficient vehicle facilities, establishing demonstration units at the centers, advance trainings to the scientists, freedom to do work

**Table 3. Suggestions about improving KVK functioning**

| Suggestions given | Frequency (%) | Rank |
|---|---|---|
| 1. Strict monitoring and critical review of KVK activities | 27(67.5) | VI |
| 2. Fund availability on time | 25(62.5) | VII |
| 3. Frequent visit by the Zonal Coordinators and other scientists | 33(82.5) | I |
| 4. Advance trainings in agricultural technologies to the scientists | 29(72.5) | IV |
| 5. Computerized network among KVKs | 11(27.5) | |
| 6. Advance communication facilities | 23(59.5) | VIII |
| 7. Impact study over a period of time | 25(62.5) | |
| 8. Address the gender issues | 9(22.5) | |
| 9. Freedom to do work | 28(70.0) | V |
| 10. Quality seed production at the centre | 26(65.0) | |
| 11. Demonstration units at the centres | 31(77.5) | III |
| 12. Vehicle facilities at the KVKs | 32(80.0) | II |
| 13. Seed sale counter at the KVK | 17(42.5) | |
| 14. Documentation of the extension activities | 9(22.5) | |
| 15. Villagers' active involvement in all KVK activities | 17(42.5) | |

and strict monitoring were considered as most important factors for better functioning of KVKs. Such suggestions come a cross normally over a period of time from KVK staff, but kept aside. Whenever, authorities feel and reminded them get momentum for betterment. It requires concerted efforts to minimize such dilemmas.

## CONCLUSION :

The extension personnel need to be reoriented through special training that empowers them such that they in turn, give up all that disempowers them and take initiative in creating power in people and help them realize their potential. In essence, the extension personnel perceived that they lack initiative and self-esteem as victims of repetitive routine behaviour. Cohesiveness and mutual understanding, strict monitoring of KVK activities by the scientists, organizing need based trainings, conducting on farm trails and frontline demonstrations properly, play an important role for strengthening extension strategy.

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*Research Note :*

# A SUCCESS STORY OF BER BUDDING IN 'AMRAJI-KA-GUDA' OF UDAIPUR DISTRICT (RAJASTHAN) (A CASE STUDY)

**M.S. Chauhan[1], G. S. Rathore[2] & S. K. Vasishtha[3]**

## A SUCCESS STORY OF BER BUDDING–A CASE STUDY :

The changes in the agricultural scene viz. the scarcity of water and consequent difficulty in cultivating water-intensive crops has forced farmers to seek alternatives.

Our southern part of Rajasthan State is known as "ARAWALI REGION", AND and Udaipur District is situated in this area and maximum part of this District is surrounded by hills. Ber Zizyphus mauritiana), custard apple, (Anona Sp.) and Kezri (Prosposis Scenararia) are main trees of this region and these are drought resistance trees.

It is truly said "Ber is the fruit of poor", "Custard apple is the apple of Rajasthan", "Kezri is the Kalpavraksha of our State".

Ber is the fruit of poor, because it is available free of cost in this region to poor villagers, But the quality of fruit is very poor. Fruits of deshi variety Ber are very small in size, less attractive, less nurtitive and less pulpy.

A case study was conducted on a success story of Ber budding in the village of "Amraji Ka Guda" in Udaipur district, Rajasthan.

A progressive farmer Mr. Premshanker Palival adopted ber budding practice for improvement of Deshi Ber on his farm for the first time in the village. He is educated upto the 5th class. He has one son, three daughters and a wife (Hansibai). His son has completed study up to 10th class and working as a Salesman of cloth at Surat District of Gujarat. All the three daugthers and his wife are illiterate and the daughters are married. Mr. Palival and his wife are involved in agriculture and allied achirtives. Mr. Palival has two bullocks and they are used for cultivating their land and and lifting water by persian wheel. Besides this, he also has four buffaloes, out of which two are milk yielding.

He has 30 bighas of land (12 acres) and out of which 10 bighas are irrigated and 20 bighas are hilly area. This hilly tract is covered with Deshi Ber trees. According to him the number of trees would approximately be 500.

He grows crops like corriander, potato, groudnut, maize, wheat and rape seed, mustard etc. he sells all the surplus for which, he earns about Rs. 40.000 per annum. He is really passing through quite a pleasant phase in his life.

He once haf the opportunity to visit the Horticulture farm in Rajasthan College of Agriculture, Udaipur. He was very pleased on seeing the umran plants variety and its leaves and fruits. At that time a bright idea came in his mind, why not I improve my Deshi Ber and produce more fruits and earn more? He is really a self-motivated farmer.

First of all he met the Agricultural supervisor of his Gram Panchayat and discussed how to improve his deshi ber. The Agriculture Supervisor suggested to him that he can improve the deshi ber by budding practices.

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The ber budding practice was initially practiced by the Ag. Supervisor in the presence of Mr. Palival. He go buds of improved Umram variety from R.C.A. Udaipur and this budding process was completed on 100 trees of Mr. Palival's farm. But unfortunately out of 100 trees, only 40 trees could survive. After 2 years of budding the tree bore fruits which were well shaped, in larger quantities and attractive. This has developed spiritual confidence in Mr. Paliwal.

This success of budding practice of improved umram variety on deshi ber was visied by the ICAR team, many agriculturists of R.C.A. Udaipur and the nearby villagers to see the success and they praised Mr. Palival due to which Mr. Palival felt immense pleasure. After this instant success he found a good social position in his community as a progressive farmer and he became highly respected by not only his own village farmers, but also by the farmers of other villagers, where he visits.

Because of his interest he used the budding practice at his relative's farm also on 20 trees and all the plants were a grand success. He had learnt of the ber budding practice on observing it when it was being adopted at his farm. He did not get any formal training of budding and he has proved the idiom "LEARING BY DOING TO BE ISUE".

He also wants to exercise the ber budding practice at his farm on the remaining trees and wants to earn more profit. The people of his village are also interested to learn and employ this practice at their farm.

**PROBLEMS :**

The problem experienced by Mr. Paliwal before and during the ber budding were–

1. Firstly he realised that as to whom he should contact for gaining knowledge about ber budding.
2. From where the experts of ber budding would be available.
3. From where the buds of Umran variety will be available for budding of deshi ber and how much expenditure would be incurred.
4. He was completely unware about the budding practice.

   As such a suspense was created in his mind that in what way the bud will make a tree so fruitful.
5. Initially some labour was required for cutting of old ber trees and other sprouts of deshi ber and in the care of new or improver bud.

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*Research Note :*

# CONSTRAINTS IN PARTICIPATION OF TRIBAL WOMEN IN WATERSHED PROGRAMME

**Seema Yerpude[1] & N.K. Khare[2]**

Community wise, women's participation in agriculture is highest among the tribals followed by scheduled castes. But surprisingly, the have not received due attention on the part of researcher. There are ten major scheduled tribes in our country. About half of their population is in the states of Bihar, Madhya Pradesh, Chattisgrah and Orissa.

Tribal women actively participate in watershed practices like soil water conservation, improved crop production practices, practices for fodder, fuel and vegetable production and other allied activites like poultry, goat rearing, small scale industries etc., but at the same time, their participation is affected by some constraints i.e. education, economic and practical constraints etc.

To enhance the extent of participation of tribal women in watershed programme, it is necessary to solve these constraints. In view of this, the study was undertaken with the following objectives :

1. To know the constraints in extent of participation of tribal women in watershed programme.
2. To suggest measures to improve participation of tribal women in watershed programme.

## METHODOLOGY :

Kundam block in Jabalpur district of Madhya Pradesh was purposely selected for the study because it is only block having tribal population and the watershed programme under operation by non-governmental organization i.e. "Tarun-Sanskar". Out of 19 adopted villages, 7 villages were randomly selected. From each selected village, 10 per cent beneficiaries i.e. 120 were selected randomly. The beneficiaries were personally interviewed with the help of pre-tested interview schedule.

## RESULTS AND DISCUSSION :

The main constraints faced by the tribal women in watershed programme were categorized into three groups of constraints viz. Educational, Economical and Practical.

1. **Educational constraints**–These included constraints about improved techniques, lack of training institute, lack of guidance by female extension worker.

2. **Economical constraints**–These included constraints like lack of finance facilities, high input cost like seeds, fertilizers and pesticides.

3. **Practical constraints**–These included constraints like lack of irrigation facilities, fragmentation of land holding.

The above table depicts the rank order of constraints in participation of watershed programme as perceived by beneficiaries. It is evident from the data that majority of the beneficiaries i.e. 24.16 per cent thought that the main constraints in participation is lack of guidance by female extension workers was ranked Ist, 16.67 per cent beneficiaries had the problem lack of irrigation facilities it was

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**Table–Constraints in participation of tribal women in watershed programme.**

| S. No. | Constraints | Frequency | (%) | Rank |
|---|---|---|---|---|
| 1. | lack of knowledge about improved techniques | 15 | 12.50 | V |
| 2. | Lack of guidance by female extension worker | 29 | 24.16 | I |
| 3. | Lack of irrigation facilities | 20 | 16.67 | II |
| 4. | Lack of finance facilities | 16 | 13.33 | IV |
| 5. | Lack of training institute | 12 | 10.00 | VI |
| 6. | Fragmentation of land holding | 10 | 8.33 | VII |
| 7. | High input cost like seeds, fertilizer and pesticides | 18 | 15.55 | III |

anked IInd, 15 per cent beneficiaries had ne problem of high input cost, 13.33 per cent nd 12.50 per cent beneficiaries told that main roblem is lack of finance facilities and lack f knowledge and improved techniques espectively was ranked IV and V.Remaining ad the problem that lack of training institute and fragmentation of land holding respectively. Similar findings were reported in the studies of Singh et al (1998) and Tailor et al (1998).

## SUGGESTIONS :

1. Project must be based on local needs of farm women and conditions of the particular area i.e. land topography, budding and soil conditions on the basis of participatory approach.
2. Female extension workers should contact to farm women regularly as to provide technical guidance timely to them.
3. Early maturing high yielding varieties and fertilizers should be made available to the beneficiaries timely in sufficient quantity and on subsidized rate.
4. Training programs should be conducted on the basis of the requirements of the beneficiaries and also have practicability.

## CONCLUSION :

Lack of guidance of female extension worker, lack of irrigation facilities, lack of education were the important constraints felt by the tribal farm women in participation of watershed practices. Therefore it is suggested that the concerning organization and department should timely give these facilities.

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*Research Note :*

# IMPACT OF INSTITUTIONAL TRAININGS ON KNOWLEDGE AND SKILL OF RURAL WOMEN OF RAEBARELI (U.P.)

**Seema Kanaujia[1], Neelma Kunwar[2] & Mirdula Devi[3]**

Rural women spend much of their time in unpaid activities like working in family farm or receiving income in kind by working for others and in domestic work. Whatever time they get from farm work, they engage themselves in household chores. They are the main responsible person in the family who manage all the domestic chores. Being illiterate and confined to four-walls of the house, they have no knowledge about new technologies which can enhance their productivity and alleviate drudgery. The extension efforts have failed to keep these women abreast with the new technologies, and women failed to get benefit of new technologies. As rural women can not be trained and educated through formal and long term system, it was felt that some professional approach to the task of home making and family management be made through institutions. Krishi Vigyan Kendra, Dariyapur, Raebareli is one of the institutions which imparts trainings to the rural women in these aspects. Hence, a study was conducted for evaluation of impact of trainings imparted by this Kendra on knowledge and skill of rural women.

## METHODOLOGY :

The study was conducted in Rabi block of Raebareli district of Uttar Pradesh where most of the women were trained by Krishi Vigyan Kendra, Dariyapur, Raebareli. A two-stage random sampling was adopted by selection of five villages and two hundred representative samples. Equal number of trained and untrained women were selected from each selected village. For collection of information schedule was prepared and women were personally interviewed by the authors. Knowledge and skill of respondents regarding five home science practices viz. fruits and vegetable preservation, interior decoration, stitching and embroidery, child care and grain storage were evaluated. The dichotomous scoring method was adopted and the data obtained were statistically analysed.

## RESULTS AND DISCUSSION :

Regarding the socio-economic profile of the rural women under study, it was observed that 19 per cent of the total women respondents were below 30 years of age and 59 per cent were between the age group of 30-50 years (Table 1). Of the untrained women, 28 per cent were illiterate, 8 per cent were primary educated and 26 per cent were above primary level educated whereas, among trained women, only 23 per cent were above primary level educated. Majority of trained women (54 per cent) were belonging to schedule castes whereas among untrained women 49 per cent were belonging to forward castes.

**Knowledge about home science practices**–The study showed that trained women respondents have better knowledge about home science practices in comparison to untrained women respondents Table 2 reveals that there is highly significant difference

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**Table 1. Socio-economic profile of respondents**

| Variable | Number of respondents | | Total |
|---|---|---|---|
| | Trained ($n_1$=1000) | Untrained ($n_2$=100) | (N=200) |
| **(1) Age (yrs.)** | | | |
| Below 30 | 29 | 9 | 38 |
| 30-40 | 42 | 17 | 59 |
| 40-50 | 20 | 39 | 59 |
| Above 50 | 9 | 35 | 44 |
| **(2) Caste** | | | |
| Scheduled caste | 54 | 23 | 77 |
| Other backward caste | 24 | 28 | 52 |
| Forward | 22 | 49 | 71 |
| **(3) Education** | | | |
| Illiterate | 20 | 28 | 48 |
| Literate | 31 | 38 | 69 |
| Primary | 26 | 8 | 34 |
| Middle | 16 | 7 | 23 |
| Above high School | 7 | 19 | 26 |
| **(4) Occupation** | | | |
| Farming | 30 | 42 | 72 |
| Service | 1 | 0 | 1 |
| Business | 7 | 3 | 10 |
| Caste occupation | 12 | 3 | 15 |
| Landless labour | 10 | 1 | 11 |
| Daily wages | 15 | 4 | 19 |
| House wife | 25 | 47 | 72 |
| **(5) Family type** | | | |
| Joint | 27 | 49 | 76 |
| Nuclear | 73 | 51 | 124 |

**Table 2. Knowledge about home science practices**

| Home Science practice | Average score | | 't' value |
|---|---|---|---|
| | Trained | Untrained | |
| Fruit & Vegetable preservation | 32.40 | 26.15 | 3.76** |
| Interior decoration | 22.50 | 11.45 | 7.54** |
| Stitching and embroidery | 21.25 | 14.90 | 4.02** |
| Child care practices | 17.50 | 13.30 | 4.49** |
| Grain storage | 12.80 | 10.75 | 4.44** |

** Significant at 1 per cent level of probability

in average scores obtained by these women. The highest average score (32.40) was obtained by trained women respondents in fruits and vegetable preservation whereas the lowest average score was obtained by these women in grain storage practices (12.80). The range of scores obtained by untrained women was between 10.75 and 26.15. Bala (1975) and Narsimha and Rao (1982) had also observed that trained women have better knowledge of home science practices in comparison to untrained women.

**Skill in home science practices**–The practical aspects of knowledge in the form of skill in case of all home science practices was observed. It was revealed that in fruits and vegetable preservation the trained women respondents have shown the highest skill (19.25) in comparison to other home practices (Table 3). The similar trend was observed in case of untrained women respondents. Highly significant difference was observed in case of all but child care practices. This shows that in child care practices women respondents, be they trained or untrained, have almost equal skill.

**Table 3. Skill in home science practices**

| Home Science practice | Average score | | 't' value |
|---|---|---|---|
| | Trained | Untrained | |
| Fruit & Vegetable preservation | 19.25 | 14.60 | 3.54** |
| Interior decoration | 12.25 | 5.30 | 7.97*** |
| Stitching and embroidery | 15.20 | 8.60 | 5.57** |
| Child care practices | 12.90 | 11.53 | 1.66 |
| Grain storage | 11.50 | 7.65 | 10.89*** |

** Significant at 1 per cent level of probability
*** Significant at 0.1 per cent level of probability

**Knowledge and skill gained**–Table 4 shows that through trainings imparted by the Kendra women respondents have shown better results over untrained women. The highest percentage change in knowledge (96.51) and skill over untrained women respondents was observed in case of interior decorator. This indicates that through training's imparted by Kendra, women have gained highest knowledge and skill in interior decoration. Prabhu Kumar and Veerahadraiah (1998) have also observed that there were

significant changes in knowledge and attitude of trainees of KVKs.

**Table 4. Change in knowledge and skill of respondents (per cent)**

| Home Science practice | Knowledge gained | Skill gained |
|---|---|---|
| Fruit & Vegetable preservation | 23.90 | 31.85 |
| Interior decoration | 96.51 | 131.13 |
| Stitching and embroidery | 42.62 | 76.74 |
| Child care practices | 31.58 | 11.88 |
| Grain storage | 19.07 | 50.33 |

## CONCLUSION :

On The basis of the results, it may be concluded that training's imparted by KVK have enhanced knowledge and skill of rural women of block Rahi of Raebareli district. The highest change in knowledge and skill over untrained women was observed in interior decoration practice. This indicates that trainings imparted by Kendra have enhanced knowledge and skill of rural women.

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*Research Note :*

# INFORMATION TECHNOLOGY : A NEW TOOL FOR RURAL DEVELOPMENT

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Information is key to development. Information is power and an informed society is more conducive for development. Communication of information about man and material resources; information on market prices, supply and demand, about policy makers, producers, ultimate users, etc. are essential. This is being made possible with the use of new communication technology.

The phenomenal growth of the information technology (IT) and communications systems is changing the world scenario entirely. There is no doubt that developments in IT during the last decade have radically changed the way we live. Recent advancements in microelectronics, storage technology, telecommunications and systems development have significantly changed the role of IT in our society. The UNDP Human Development Report 2001 has stated that in the network age every country needs the capacity to understand and adapt global technologies for local needs. It has also recognised that information and communications technology can break barriers of human development in three ways: (i) Breaking barriers to knowledge because the Internet and world wide web (WWW) can deliver information to the poor and the rich alike. (ii) Breaking barriers to participation. The poor people and marginalised communities who were often isolated and had no means for collective action have got their global communication network power to hold governments more accountable. (iii) Breaking barriers to economic opportunity. The information and communication technology has created potential for developing countries to create more jobs and diversify their economies, as they need less initial investments. They are labour-intensive; they provide new jobs and wages for educated workers.

**Reasons for limited IT facilities in the rural areas :**

- Poor telecommunications systems, with very less telephone lines in the rural areas.
- Insufficient power supply in the villages causing serious interruptions in data transmission.
- Less service providers like Internet service providers, technical and software expertise and hardware engineers, thus resulting in higher costs, delays and less access to these services.
- Low purchasing power of the people.
- Low literacy rate in the rural areas in comparison to urban areas.
- Limited and insufficient coverage of issues related to rural areas by radio and television service providers.
- High cost of connections.
- Slow service responses to telephone problems.
- Slow connectivity rate in case of Internet.
- Less awareness about new information and communications technologies in the rural areas.
- Poor maintenance of information and communications technologies.

The above limitations clearly reveal the

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widening gap between urban and rural India, with respect to present and future access to information and communications technologies. The need is to bridge this information gap between the "information-rich" and the "information-poor" to ensure that the rural communities are better informed.

**Information Technology : Indian Experiences**

The Government of India has realised the significance of information and communications technologies and the need to adopt it in all functional areas. In 1998, Union Communications Minister Shri. Ram Vilas Paswan had stated that all panchayats in the country would be provided with fully equipped communication centers. Some successful examples of application of IT that have made a difference in delivery of services in rural India are discussed as under.

- **Warna Wired Villages**–An IT revolution is sweeping Warna Nagar in Maharashtra, where a farmer can now monitor various processes sitting at his village. Information regarding various crop cultivation practices, pesticides and disease control, marketing, dairy and sugarcane-processing unit etc. is served right upto the farmers' village level. Warna Wired Village Project connects 70 villages attached to the Jatyasaheb Kore Cooperative Sugar Factory with each other and also to the rest of the world through Internet.
- **Information Villages Project**–A pilot study undertaken by M. S. Swaminathan Research Foundation in villages in Pondicherry has evoked encouraging results on the impact of IT on rural societies. The aim of this project is to bring the benefits of modern information and communications technologies to the poor and asset less families in the villages in Pondicherry.
- **Computerised Milk Collection Centres**–Cooperative milk collection centers under National Dairy Development Board (NDDB) are using IT-based machines to measure fat, SNF content of milk, test the quality of milk and thus resulting in instant payments to the farmers. The process has instilled confidence in farmers in the cooperative setup.
- **Computerisation of Mandal Revenue Offices in Andhra Pradesh**–The Andhra Pradesh State Wide Area Network links the stats government's secretariat with 23 district headquarters, for improved coordination at all levels. Mandals are served by this two-way communication and further, electronic commerce applications are also being developed.
- **Gyandoot Project in Madhya Pradesh**–On January 1,2000, Dhar district in Madhya Pradesh began the new millennium with a mass based information revolution. Twenty one Soochanalayas (Information Centres) were established in five blocks of the district and each of them provides user charged based services to approximately 15 Gram Panchayats and about 25 to 30 villages. Thus, the Gyandoot network benefits over half a million villagers living in 311 Gram Panchayats and over 600 villages.
- **Community Information Centres (CIC)**–IC Project was launched for providing IT facility in each and every block of Sikkim and other north-eastern states of India. It will assist the government functionaries to use e-mail and Internet for communicating with the district and state level officers. The IT infrastructure at CICs will also serve to highlight the information about local resources throughout the world via Internet so as to attract investors from

different parts of the world to the block.

- **Fatehabad District of Haryana Created History**–The district was first in the country in October 1999, to have a district computer network linking all sub-divisions, tehsils, sub-tehsils, block, municipal committees and district offices to a dual server installed at the district headquarters. It was also the first district to release a CD-ROM about its revenue data and the first in the state to have its own website on Internet (Mathew, 2001).

**Information Technology : A New Tool for Rural Development**

The above discussions clearly portrays the fact that IT can efficiently as well as effectively contribute in all round development of our country. IT is increasingly being seen by experts as an important rural development tool and that it is generating possibilities to solve problems of rural poverty, inequality and giving an opportunity to bridge the gap between the "information-rich" and the "information-poor", and support sustainable development of the rural agricultural communities. IT presents a wide range of scope to the rural societies as given below.
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- **IT will Promote Rural Business**–Remoteness from markets, policy makers and information sources is one of the major factors inhibiting the efficiency and effectiveness of business located in remote and rural areas in India. Provision of access to IT services will provide farming as well as other businesses located in the rural areas to become more efficient by having direct links with their customers, thereby removing order lags from the supply chain.
- **Maintain Parity between Rural and Urban Areas**–IT facilitates maintaining equality of opportunities between rural and urban population in areas such as education, shopping, access to government services, etc. Although it is impossible to completely eliminate the disparities but they can be minimised. Telemedicine and Telecentres, two new concepts are gaining popularity in this effect.

It is well known fact that the urban people have had access to a superior level of health services than the dwellers of rural areas. Telemedicine has the capacity to overcome this, at least part of this disparity. The Ministry of Information Technology has initiated a development project on Telemedicine in association with leading medical institutes. Indian Institute of Technology, Kharagpur has developed a technology suitable for rural application, which is presently in use at the School of Tropical Medicine, Kolkata. Telemedicine is creating the scope of providing services to the rural and remote populace of the country that was never available in the past. An advanced development that is being explored for providing rural access to modern information and communications technologies is through Telecentres or Telecottages, which was initially implemented in Scandinavia with the objective of counteracting remoteness (Qvortrup, 1989). Telecentres can provide a plethora of services including desktop publishing and printing; education and training opportunities delivered through satellite and computer based technology; telephone and fax facilities, affordable access to e-mail and Internet, and also to databases and libraries. Telecentres can also link the Internet to local media such as radio and television and help make information accessble to a wder audence. Besides, Telecentres also help in

organisation of virtual village-to-village meetings and teletraining events thus facilitating local sharing of information.

- **Facilitates diversification of Economic activity in Rural Areas**–A major opportunity that It and communications infrastrucure provide to the rural society is not only the ability to diversify their youth and attract teleworkers into their comunities (Schoeffel *et al.*, 1993). The direct employment opportunity that is created by the information and communication technologies infrastructure is highly significant to the rural communities. Besides, "Call Centres" have been extensively used in the remote regions of Ireland and Scotland (CEC, 1991) as an option for employing the unskilled labour in these areas using telecommunications. Teleworkers sitting at rural "Call Centres" provide services like directory assistance for IT based companies and help desks for different companies where base information needs to be provided at a whole different range of times of day, as in case of airlines and insurance companies. But this requires good telephone systems, good computer links to databases and on a whole a good information and communication technology infrastructure. Further, training is the prime component in this process.

  The above type of opportunity is earnestly needed as it offers flexible working hours and can generate additional income in the rural India. It offers the scope for the young community to remain in the villages because of the ability to earn a steady income for their family.

- **Dissemination of Farm Information**– Access to farm information and improved communication is sine qua non for sustainable agricultural development. In this light "Cyber Extension" would be the major form of information dissemination in the near future. That is, using the power of online networks, computer communications and digital interactive multimedia to facilitat dissemination of agricultural technology. It includes effective use of information and communications technologies, national and international network services like ICAR's, ARISnet, Internet, expert systems, multimedia learning systems and computer based training systems to enhance information access to end users such as farmers, extension workers, research scientists and extension managers.Cyber extension has opened new vistas for the farming community by catering to their information needs regarding "precision agriculture" about different crops; GIS information; weather forecasts, pests and disease control and marketing information (specifying price details of seeds fertilizers, pesticides and availability of the products, which helps the farmer to take right decision in crop management). Interaction among farmers, extension workers and the research scientists has become easy via e-mail. Thus, the extension and research institutions can obtain direct end users' feedback very easily. A question and answer, and consultancy services are also a reality now between the end users or farmers at their villages and the experts at their research stations in towns, cities through Internet.

- **E-Governance at the Grass-root Level**–It is encouraging that the Panchayati Raj system in many states in India has adopted e-governance. A successful example is Bellandur Gram Panchayat in Karnataka, which introducede-governance in the year 1999. All the Panchayat records were computerised. Now, by

pressing a key, a resident in a village can have a look at all relevant data relating to the five villages; land holdings of each family, taxes due on them and the list of beneficiaries under various housing and employment schemes. Fresh applications for power and water connections are also computerised for disposal at the monthly Panchayat meetings. The paperwork has been minimised as the computer operator issue all receipts. Thus, the Panchayat staff is free to attend other important duties (Mathew, 2001). States like Kerala, Madhya Pradesh, Andhra Pradesh, Haryana and Chattisgarh have already launched or are initiating steps for linking all the local bodies through a IT network for better governance at the villages. Other state governments should also follow suit in embracing IT for better governance of the rural areas.

- **Sustainable Management of Natural Resources**–Systems of data access, information and expertise in sophisticated modeling is being seen as an useful means of helping the rural community to develop sustainable natural resource management systems.
- **Enhances Quality of Life in Rural Areas**–A well developed IT infrastructure can play an effective role in enhancing quality of life in the rural areas. Quality of life includes a wide range of aspects like access to entertainment, emergency services, television and radio services, mobile telecommunication facilities, and communication links within communities via Internet as well as Intranet.

## CONCLUSION :

Information and communication technologies can be highly effective as a rural development tool by making the rural societies more competitive nationally as well as internationally, and if they don't get access to these new technologies and quickly, they will suffer disproportionately.

The World Bank Report stated that if countries are to obtain effective and efficient delivery of IT services there is a need to change the range of incentives provided. The Report identifies three ways of reforming institutions to improve incentives: (i) Apply principles of commercial management, operating infrastructure more like a business than a bureaucracy, with clear objectives, with managerial and financial autonomy, and with customer satisfaction as a key measure of performance; (ii) Introduce competition, directly where feasible and indirectly where not. Thus giving users more options, as competition makes providers more efficient and more accountable to users; (iii) Give users and other stake holders a strong voice and real responsibility in planning, operating, regulating and other financing services. Our efforts should be more focused on the third area of the above to guarantee a suitable and timely roll-out of IT infrastructure in our rural India. Besides, the need is to make the rural community aware of the latest technologies about "what are the possibilities" and help them to develop a vision. Finally, coordination at each and every step is very much necessary to ensure efficient and effective service to the people living in the rural and remote locations.

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