

Women Empowerment and Food Security for Sustainable Development

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ABSTRACT

For centuries women were not treated equal to men in many ways. They were not allowed to own property, they did not have a share in the property of their parents, they had no freedom to choose their work or job and so on. But now the world has been changed, so the women have changed. They started to work in almost all fields like men and are equal to men. In spite of the various measures taken up by the government after independence women haven't been fully empowered. The ground reality is deprivation and exploitation of women specially women from rural areas and those belonging to deprived sectors of the society. The study was conducted in Raichur District. For this study, 120 rural women were selected and gathered information through structured interview schedule. The results of the study revealed that, majority of the women participated regularly in activities like sowing operations, weeding and inter cultivation operations, harvesting and post harvesting operations and animal husbandry activities. Major per cent of them participated in training demonstrations on vermiculture training and dairy training. Majority of the women perceived that losses at storage (due to storage pests attack), pests and diseases attack are the major causes for food grain losses. Empowerment of women in agriculture field is one of the major strategies for achieving food security. Hence there is a need for empowerment of women in terms of social, cultural, economical and educational dimensions to play an important role in the overall development of the country. There is a need for empowerment of farm women to take care of food production and post harvest production losses for global food security through extension strategies.

Keywords: *Empowerment; Food security; Sustainable; Vermiculture;*

For centuries women were not treated equal to men in many ways. They were not allowed to own property, they did not have a share in the property of their parents, they had no freedom to choose their work or job and so on. But now the world has been changed, so the women have changed. They have started to work in almost all fields like men and equal to men. In spite of the various measures taken up by the government after independence women haven't been fully empowered. The ground reality is deprivation and exploitation of women specially women from rural areas and those belonging to deprived sectors of the society. Globalization has offered tremendous opportunities for overall growth and development of both men and women. It has altered the socio-economic status, life style and life condition of women. Globalization has given women a stronger voice. People are more accepting of women's rights. There has been

an increased emphasis on women's rights at the grass roots level. Women started to participate in social activities and their economic conditions have also improved. Even their, women at village level are not getting the benefits of the developmental programmes. Women are generally responsible for selection and preparation of food in any family.

Women influence the farmer in many ways. She influences the farmer in selection of crop, developing the farm with irrigation and other facilities, adoption of latest technologies, timely harvesting, assisting the farmer in post harvesting and storage, timely marketing of the produce and in savings for the future. In spite of all these, women are not given proper attention. But the globalization has provided many ways and means for the overall development and empowerment of women. For sustainable food security and development women empowerment is crucial in the present situation.

Agricultural products undergo series of operations before they reach the potential consumer and hence there is a chance of loss of agricultural products in the process of series of operations. *Basavaraj et al (2007)* reported that post-harvest losses per quintal of food grains produced were estimated to be 3.82 kg/q in rice and 3.28kg/q in wheat at the farm level. The results obtained by them were presented in Table 1.

Table 1. Post harvest Food grain losses in rice and wheat crop

| Stages | Rice Loss | | Wheat Loss | |
|------------------------|-----------|--------|------------|--------|
| | (kg/q) | (%) | (kg/q) | (%) |
| Farm level losses | 3.82 | 73.57 | 3.28 | 75.93 |
| Wholesale level losses | 0.29 | 5.59 | 0.20 | 4.63 |
| Processor level losses | 0.03 | 0.42 | 0.03 | 0.46 |
| Retailer level losses | 1.06 | 20.42 | 0.82 | 18.98 |
| Total | 5.19 | 100.00 | 4.32 | 100.00 |

It is clear from the above table that, majority of the post harvest losses occur at farm level operations like harvesting, threshing, winnowing, drying and storage. There is a scope to prevent the loss at the farm level by empowering the farm women in carrying out these operations as majority of the operations were carried out by women only.

With this background the present study was undertaken with other objectives of knowing the socio economic characteristics of farm women, extent of participation in agricultural activities and the perception regarding the causes for food grain losses.

METHODOLOGY

The research study on farm women was conducted during the year 2011-2012 in Raichur district of Karnataka. Raichur district was purposively selected based on the farm women exposed to training and demonstration programmes. In Raichur District, Manvi and Raichur talukas were selected. From each taluka three villages were selected. Twenty respondents were identified from each village by following simple random sampling technique. Thus, the total sample size for the study was 120 farm women. Ex-post-facto research design was employed in the present investigation. The data were collected personally from the respondents using a pre-tested structured interview schedule. The gathered information was analyzed by using appropriate statistical methods i.e. mean, frequency, percentage, mean deviation and standard deviation.

RESULTS AND DISCUSSION

Profile characteristics of respondents: It is clear from the Table 2 that, majority (65.83%) of the respondents belonged to middle aged category followed by young (26.67 %) and old (7.50 %) age categories. With respect to educational qualification, majority (56.67%) of them were educated up to primary and middle school. 27.50 per cent of them were illiterates and smaller per cent of them were educated up to high school (7.50%), PUC (5.83 %) and graduation (2.50%).

It is evident from the table that, slightly more than half (52.50 %) of them belonged to small family size followed by medium (32.50%) and large (15.00%) family size, respectively. With regard to land holding, majority (57.00%) of the respondents belonged to marginal farmers category with a land holding of less than 2.5 acres. 42.50 percent of them were small farmers with a land holding of 2.5 to 5 acres. Only ten per cent of them were big farmers with a land holding of more than 10 acres.

In case of extension participation, majority (48.33%) of the respondents belonged to medium extension participation category followed by low (32.50%) and high (19.17%) categories respectively. With regard to mass media utilization, majority (57.50%) of them belonged to medium category followed by low (24.17%) and high (18.33%) mass media utilization categories respectively.

It is also clear from Table 2 that, 47.50 per cent of the respondents were in medium risk orientation category followed by low (30.83%) and high (21.67%) risk orientation categories respectively. Slightly more than fifty (52.50%) per cent of the respondents belonged to medium scientific orientation category and 24.17 and 23.33 per cent of them were in low and high scientific orientation categories respectively.

Participation of respondents in agriculture and allied activities: Women participate in various agricultural activities. The level of participation of women in agricultural and allied activities varies greatly depending on the nature of the activity and also skill required for the activity. In most of the cases, women carry out the operations requiring great skills like sowing, grading, cleaning etc. It is evident from the Table 3 that, as high as 81.67, 80.83, 75.83 and 74.17 per cent of the women respondents participate regularly in

harvesting and post harvesting operations, sowing operations, weeding and inter cultivation operations and animal husbandry activities, respectively. Other agricultural operations in which the women participate regularly are land preparation (22.50%), selection of crop and variety (15.83%) and irrigating the crop (15.83%) respectively. It might be due to the fact that, these are the operations that require great skill and expertise and also these are the crucial operations in agricultural production. *Chayal and Dhaka (2010)* also reported that majority of farm women participate in harvest and post harvest operations and other operations like sowing, manure application and irrigation were performed on field by women.

Table 2. Profile characteristics of respondents

| Particulars | No. | % |
|--|-----|-------|
| <i>Age</i> | | |
| Young (Up to 30 years) | 32 | 26.67 |
| Middle (31 to 50 years) | 79 | 65.83 |
| Old (Above 50 years) | 09 | 7.50 |
| <i>Educational qualification</i> | | |
| Illiterates | 33 | 27.50 |
| Primary and middle school (1 to 7th std) | 68 | 56.67 |
| High school (8 to 10 th std.) | 09 | 7.50 |
| PUC | 07 | 5.83 |
| Graduation | 03 | 2.50 |
| <i>Family size</i> | | |
| Small (1 to 6 members) | 63 | 52.50 |
| Medium (7 to 10 members) | 39 | 32.50 |
| Large (10 members and above) | 18 | 15.00 |
| <i>Land holding</i> | | |
| Marginal farmers (< 2.5 acres) | 57 | 47.5 |
| Small farmers (2.5 to 5.0 acres) | 51 | 42.5 |
| Big farmers (> 5.0 acres) | 12 | 10 |
| <i>Extension participation</i> | | |
| Low (Mean – 0.425*SD) | 39 | 32.50 |
| Medium (Mean + 0.425*SD) | 58 | 48.33 |
| High (Mean + 0.425*SD) | 23 | 19.17 |
| <i>Mass media utilization</i> | | |
| Low (Mean – 0.425*SD) | 29 | 24.17 |
| Medium (Mean + 0.425*SD) | 69 | 57.50 |
| High (Mean + 0.425*SD) | 22 | 18.33 |
| <i>Risk orientation</i> | | |
| Low (Mean – 0.425*SD) | 37 | 30.83 |
| Medium (Mean + 0.425*SD) | 57 | 47.50 |
| High (Mean + 0.425*SD) | 26 | 21.67 |
| <i>Scientific orientation</i> | | |
| Low (Mean – 0.425*SD) | 29 | 24.17 |
| Medium (Mean + 0.425*SD) | 63 | 52.50 |
| High (Mean + 0.425*SD) | 28 | 23.33 |

Table 3. Extent of participation of respondents in agriculture and other allied activities

| Activity | Regularly | | Occasionally | | Never | |
|---|-----------|-------|--------------|-------|-------|-------|
| | No. | % | No. | % | No. | % |
| Land preparation | 27 | 22.50 | 41 | 34.17 | 52 | 43.33 |
| Selection of crop and variety | 19 | 15.83 | 39 | 32.50 | 62 | 51.67 |
| Sowing operations | 97 | 80.83 | 17 | 14.17 | 06 | 05.00 |
| Weeding and inter cultivation operations | 91 | 75.83 | 24 | 20.00 | 05 | 04.17 |
| Irrigating the crop | 19 | 15.83 | 27 | 22.50 | 74 | 61.67 |
| Manuring | 09 | 7.50 | 19 | 15.83 | 92 | 76.67 |
| Plant protection activities | 13 | 10.83 | 21 | 17.50 | 86 | 71.67 |
| Harvesting and post harvesting operations | 98 | 81.67 | 12 | 10.00 | 10 | 08.33 |
| Transportation and marketing | 07 | 5.83 | 15 | 12.50 | 98 | 81.67 |
| Animal husbandry activities | 89 | 74.17 | 21 | 17.50 | 10 | 8.33 |

It is also evident from the Table 3 that, the farm women participate occasionally in operations like land preparation (34.17%), selection of crop and variety (32.50 %), irrigating the crop (22.50%), weeding and inter cultivation operations (20.00%). It might be due to lack of strength and ability of farm women to carry out ploughing and other land preparation activities including inter cultivation operations. Similar results were also reported by *Chayal et al., (2013)*.

It is also clear from Table 3 that, transportation and marketing (81.67%), manuring (76.67%), plant protection activities (71.67%), irrigating the crop (61.67%), selection of crop and variety (51.67%), land preparation (43.33%) are the some of the agricultural operations in which farm women never participate.

Extent of participation of farm women in capacity building programmes (training / demonstration): It is clear from the results of Table 4 that, out of eight training programmes majority (85.83 %) of farm women actively participated in trainings / demonstrations on vermiculture, use of agricultural waste as organic matter (74.17%), vermi wash production (64.17%), dairy training (80.83%), clean milk production technologies (70.00%) and preparation of milk by-products (65.83%). This is because of importance and ease of practical

Table 4. Extent of participation of farm women in training/ demonstration

| Training/Demonstration | % |
|---|-------|
| Vermiculture training | 85.83 |
| Use of agril. Waste as organic matter | 74.17 |
| Demonstration on production of organic manure | 64.17 |
| Demonstration on vermin wash | 57.5 |
| Dairy training | 80.83 |
| Fodder production technologies | 44.17 |
| Clean milk production technologies | 70.00 |
| Demonstration on milk by-products preparation | 65.83 |

Table 5. Overall impact of vermicompost and dairy training on knowledge status of farm women (in %)

| Impact | Vermicompost | Dairy |
|--------------------------|--------------|-------|
| High (Mean +0.425*SD) | 74.17 | 69.17 |
| Medium (Mean + 0.425*SD) | 13.33 | 18.33 |
| Low (Mean - 0.425*SD) | 12.50 | 12.20 |

Table 6. Perceived causes of food grain losses

| Causes | No. | % |
|--|-----|-------|
| <i>During production</i> | | |
| Use low quality inputs | 51 | 42.5 |
| Weeds infestation | 39 | 32.5 |
| Insect and pests attack | 97 | 80.83 |
| Diseases attack | 93 | 77.5 |
| <i>During harvesting and post harvesting</i> | | |
| Poor handling during harvesting and post harvesting operations | 59 | 49.17 |
| Losses at storage (Storage pests attack) | 103 | 85.83 |

Table 7. Relationship between Profile characteristics of respondents with their participation in agriculture and other allied activities

| Variables | (r) |
|---------------------------|---------------------|
| Age | -0.210* |
| Educational qualification | 0.049 ^{NS} |
| Family size | -0.301* |
| Land holding | 0.425* |
| Extension participation | 0.260* |
| Mass media utilization | 0.321 ^{NS} |
| Risk orientation | 0.56* |
| Scientific orientation | 0.490* |

*Significant at 1 per cent level of significance

NS – Non significant

adoptability by the farm women. The findings indicate the fact that majority of the farm women have realized the importance of participation in trainings/ demonstrations resulting in higher aspiration for economic returns, higher achievement motivation for improved standard of living provoked by the organization during training and demonstration on agro based entrepreneurship.

Impact of vermicompost and dairy training on knowledge status of farm women: It is evident from the Table 5 that, majority of farm women belonged to high knowledge category with respect to both vermicompost (74.17%) and dairy (69.17%). Remaining per cent of them belonged to medium and low knowledge categories respectively. It might be due to their interest and active participation in trainings and demonstrations. The interest and active participation of individuals in training and demonstrations improves the knowledge status.

Perceived causes of food grain losses: It is clear from the Table 6 that, losses at storage (pests attack) is the major cause for the loss of food grains as expressed by majority (85.83%) of the farm women. Insect pest attack during crop production stage was also one of the major causes of food grain loss as expressed by 80.83 per cent of the respondents. Other reasons for food grain losses as perceived by farm women are diseases attack (77.50%), poor handling during harvesting and post harvesting operations (49.17%), use of low quality inputs (42.50%) and weeds infestation (32.50%). This might be due to the fact that farmers generally store the food grains in traditional storage structures without following any scientific methods and also they don't take up any scientific control measures against storage pests.

Relationship between profile characteristics of respondents with their participation in agriculture and other allied activities: It is clear from Table 7 that, the variables like land holding, extension participation, risk orientation and scientific orientation exhibited positive and significant relationship with the extent of participation of respondents in agricultural and allied activities. Whereas, variables like age and family size showed negative and significant relationship with the extent of participation of respondents in agricultural and allied activities. Other variables like educational qualification and mass media utilization did not show any relationship with the extent of participation of the

respondents in agricultural and allied activities. Hence there is a need for empowerment of farm women through extension education activities for effective and efficient participation in agricultural activities. Hence, there is a link between women empowerment and food security measures, therefore the policy makers and administrators should give importance to women empowerment with respect to food security measures through intensive training and demonstration.

CONCLUSION

Rural women constitute the most important work force in Indian economy and majority of the agricultural operations were carried out by the farm women. It is concluded from the study that, harvesting and post harvesting operations, sowing operations, weeding and inter cultivation operations and animal husbandry activities are the operations in which farm women participate regularly. Participation of farm women in

capacity building programmes like demonstration, trainings, field visits, etc. enhances the knowledge level which in turn improves the income level and their standard of living. This in turn empowers them in achieving food security of the family. Transportation and marketing, manuring, plant protection activities, irrigating the crop, selection of crop and variety, land preparation are the operations in which farm women never participate. Development of entrepreneurship among farm women through appropriate extension strategies like group discussion, demonstration, training and exposure visit is crucial for sustainable development of farm women. Further, the participation of women in all the agro based enterprise through convergence of all stakeholders and facilitators is required. Hence government has to make a policy for all-round development of women.

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