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Problems in adoption of homestead technologies by rural women of Bihar

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Abstract

The research systems have though generated highly useful and appropriate technologies for rural women, most of these have either been not adopted or adopted partially by them. There are quite a few no. of rural women who falls into 'early adopters' category but due to several social, economic, situational or technological problems they tend to reject the technology, discontinue it or partially adopt it. Hence, a study was conducted to find out the various possible problems faced by rural women in adoption of homestead technologies. A study was conducted on 225 rural women from three districts of Bihar, constituting 25 respondents from the nine selected villages (three from each district). Data was collected through interview schedule in 2013. The major problems expressed by majority of the respondents were- less number of trainings conducted, too short duration of training, lack of awareness among people, raw materials not available, poor family income, dual responsibility, difficulty to acquire perfect skill etc. to figure out a few.

Keywords: homestead technologies, rural women, poor family income

Introduction

Most of the farm women are marginal or small farmers, landless tenant farm women and farm labourer. They have meagre land to cultivate, having less knowledge, limited access to innovative technologies, low capital and less credit facilities.

Empirical studies show that although women farmers play a vital role in agricultural development in a country, they are comparatively less informative than male farmers due to certain socio-economic and cultural constraints. They need more accurate, reliable and quick information along with male farmers for agricultural development as a whole. Rural women received most of the agricultural information from interpersonal sources rather than mass media sources. (Das, 2012 and Kalash *et al.* 2011)

Adoption of technologies in rural areas is affected by many factors like farming situation, resource availability, needs and aspirations of the rural women having different socio-economic and cultural backgrounds, etc. Further, inadequate extension services, high illiteracy among rural women, socio-cultural background, low paying-capacity, lack of skill, etc. may be the barriers for non-adoption or low adoption of various improved homestead technologies. With these points in view, the study was conducted with the following specific objectives- to find out the problems faced by rural women in adoption of homestead technologies and solutions to overcome such problems.

Material and methods

An interview schedule was prepared to unearth problems faced by rural women in adoption of homestead technologies along with their appropriate solutions as expressed by them. The respondents were asked to state the problems for the nine selected homestead technologies i.e. fruit & vegetable preservation, stitching & embroidery, value addition to garments, arts & craft making, value added products from cereals & pulses, mushroom production, value added mushroom products, vermicompost and apiculture and to suggest suitable solutions for them from their perspective. The most common and important problems with respect to all the nine technologies along with their suitable solutions were tabulated and then expressed in terms of frequency and percentage

Results and discussion

The problems encountered by the respondents in adoption of homestead technologies of RAU and the solutions to overcome them are discussed in this section and presented in table 1.

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Less number of trainings conducted- Very few number of training on a particular technology is conducted hence the learnt skill was not retained for long and it was difficult to practice the skill later on.

1. **Too short duration of training-** The duration of training was very short according to the number of training and nature of skill involved in the technology. Hence, it was difficult to acquire all the skill and retain it.
2. **Lack of awareness among people-** There is lack of awareness among people about jam, jelly, squash etc. This is also supported by the researcher's own experience when interacting with the respondents. It was one of the reasons for low level of the knowledge level of the respondents and consequently low level of its adoption by them.
3. **Raw materials not available-** The raw materials required for some of the value added products from fruits & vegetable, garment making, arts & crafts etc. were unavailable in the village market. Since these materials are not available hence there is poor adoption of these technologies by rural women.
4. **Poor family income-** Low income of the family was also a barrier in adoption of these technologies. It was very difficult for the family even to manage two times meal; hence they cannot afford to adopt such costly technologies.
5. **Lack of family support-** The family members do not provide adequate support in running tailoring, boutique, art & craft shops etc. as an enterprise from commercial areas. Lack of family support weakens the confidence and the courage to carry it out on full scale.
6. **Dual responsibility-** Dual responsibility of the respondents i.e., household work and entrepreneurial activities poses problem in full adoption of the technology. Household work leaves very less time for other work. If there is lack of family support, family members do not share household responsibility then it becomes very difficult for the respondents to carry out it as an enterprise.
7. **Carry out an enterprise from home-** Majority of the respondents carry out stitching & embroidery work from their homes. Hence they get very few customers and also do not get good price for the stitched garments.
8. **Not a profitable enterprise-** The respondents get very price for their produce/ products. There are many women in the village who carry out an enterprise (tailoring, papad and pickle making, etc.) from their homes. Hence there is too much competition and as such do not get good price for it.
9. **Difficulty in selling the produce-** The prepared products (soft toys, artificial flowers etc.) do not have good quality and finishing to compete with the market available products. Hence it was difficult to sell the products in the markets and get adequate price for the products.
10. **Less demand in rural areas-** There was less demand for some of the art & craft products especially soft toys, artificial flowers etc. in rural areas. So it could not be adopted as an alternative means of income generation.
11. **Costly to adopt-** The raw materials required to prepare some of the products were very costly. Also the raw materials were not available in the village market. The cost of making soft toys, artificial flowers were high but did not get good return from it.
12. **Product quality not competitive-** It was difficult to get the desired quality of extruded products from cereals and jam, jelly, sauce etc. The prepared products do not have the quality to compete with the market products.
13. **Buyers not available at the right time-** Buyers are not available when the harvest is ready. Due to its high perishability, it could not be stored for more than 1 day at room temperature. Hence it is either consumed by the family or distributed to relatives and neighbours.
14. **Storage and packaging problem-** There is no proper training on storage and packaging techniques. Mushroom being a highly perishable produce, it is difficult to sell the produce in distant markets.
15. **Food labelling and quality standardisation certificate-** Many of the products like honey, mushroom, vermicompost, value added food products etc. are sold without any food labelling or quality certification. Hence the products don't have quality assurance and credibility among buyers.
16. **Difficulty in getting inputs and seeds at the right time-** The respondents of Vaishali and Muzaffarpur district reported that since the University is located far from their homes and the inputs are not always readily available at the KVKs, it was difficult to get the inputs and seeds for mushroom production at the right time. Sometimes it results in delayed cultivation or missing out of the season.
17. **Government support & encouragement-** Government should support and encourage vermicompost technology as an enterprise. The incentives of RKVY program of the Government should be extended to the farmers for a minimum period of 5 years to promote and sustain the enterprise.
18. **Inadequate buy-back policy -** There is inadequate buy-back policy of the State Government for vermicompost. Only few farmers benefit from this policy. Hence majority of the farmers get less return from sale of vermicompost.
19. **No pricing policy-** No definite pricing policy exists at present for vermicompost. It results in very poor quality vermicompost having variation in prices and the nutrient composition as well. In general the farmers sell vermicompost at Rs. 500/Tonne.
20. **Exploitation by buyers and middlemen-** The respondent's male family members go to distant market for sale of honey. They load their produce in vehicle and when they reach the market, the buyers deny paying the price for which the deal was fixed complaining that the quality of honey is not up to the mark and also its sweetness is less. Hence they pay less than the fixed price. The producers at this stage are not in a position to take back their goods as they have already incurred payment for transportation of goods and may have to bear heavy loss by returning the goods back. Hence they are compelled to sell it off at a lower price. The same situation exists when they transact through middlemen. The producers get only Rs. 70- Rs. 80 per kg for the raw honey whereas it is sold in the market to the consumers at Rs. 300 to Rs. 350 per kg.
21. **Difficult for women to go to market for selling-** It is not feasible for women to travel to distant market for selling the produce. Hence they have to depend on male members of the family.

Solutions

The solutions that were provided by the respondents to overcome these problems were-

- 1. More numbers of training to be organised-** The institutions should conduct more numbers of training on women friendly technologies so that more number of rural women could benefit from it and can help them to retain the technology.
- 2. Duration of training should be adequate-** Duration of training should be sufficient according to the number and complexity of skills involved in the technology. Sufficient time and opportunity should be given to the participants so that they could practice the skill during the training and get confidence in its use later on.
- 3. Awareness generation-** There is a need to generate awareness among rural people about preserved and value added products from cereals, pulses, fruits and vegetables in order to popularize them and encourage rural women to adopt them on large scale.
- 4. Inputs to be accessible within the village -** The raw materials required for preparation of these products should be made available in the local village market so that they can adopt it and take up as an enterprise.
- 5. Loan facility-** If loan is provided at interest free rate or subsidized rate to the women then they can take it up as an enterprise on full scale.
- 6. Family members to shoulder responsibility-** Family members should lend a helping hand in household work and support their women in taking up these activities as an

enterprise.

7. Better market facility- Better market facility should be within easy reach of rural women. All the basic raw materials required for adopting these technologies should be available in the local market itself so that they need not travel to distant places for them.

8. Carrying out this enterprise in commercial areas- If the enterprise can be run in a commercial area rather than from their homes then it will earn more income. But for this, financial as well as family support was needed to start in commercial areas in cities or towns.

9. No demand in rural market- Some of the technologies like value addition to garments, value added mushroom products, extruded products from cereals etc. do not have market demand and hence cannot be taken up as an enterprise in the village. However, if it is started in the cities or sold in urban market then only it will be an useful technology.

10. Assistance in marketing the product- Identification of different marketing channels and formulation of marketing strategies should also be included as part of the training program so that the trainees will learn where and how to sell the product for maximum profit.

11. Location feasible trainings- The institutions should provide training on such products that have value and market in rural as well as urban areas.

12. Training on storage and packaging- The Scientists should conduct training programs on storage and packaging of mushroom to enhance its shelf life.

Table 1: Distribution of respondents based on problems encountered by them in adoption of selected nine homestead technologies and solutions to overcome them, (N=225)

Sl. No.	Problems	Solutions	Frequency (f)	Percentage (%)
1.	Less number of trainings conducted	More trainings should be conducted	56	24.89
2.	Too short duration of training	Adequate training duration	123	54.67
3.	Lack of awareness among people	Awareness generation among people	120	53.33
4.	Unavailability of raw materials	Inputs to be accessible within the village	38	16.89
5.	Poor family income	-----	147	65.33
6.	No adequate family support	Awareness programs for family members	42	18.67
7.	Dual responsibility	Family members to share responsibilities	87	38.67
8.	Carrying out enterprise from home	To run in a commercial area or market	59	26.22
9.	Not a profitable enterprise	-----	110	48.89
10.	Difficulty in selling the products	Marketing channels to be explored	68	30.22
11.	Less demand in rural areas	To develop other products suitable for rural areas	117	52.00
12.	Costly to adopt	Low cost technologies to be developed	94	41.78
13.	Product quality not competitive	-----	20	8.89
14.	Buyers not available at the right time	Assistance in marketing of produce	73	32.44
15.	Storage and packaging problem	Organising training programs on proper storage and packaging techniques	105	46.67
16.	Obtaining food labelling and quality standardisation certificate is difficult.	RAU should assist in obtaining food label and quality assurance certificate	15	6.67
17.	Difficulty in getting inputs and seeds at the right time	Inputs should be made accessible within the village	37	16.44
18.	Lack of Government. encouragement	Promotion of vermicompost technology by the Government.	12	5.33
19.	Inadequate buy-back policy	Buy-back from the Government.	15	6.67
20.	No pricing policy	Standard pricing policy	18	8.00
21.	Exploitation by buyers and middlemen	Direct selling of produce in the market	48	21.33
22.	Difficult for women to go to market for selling	Male members go for selling the produce	78	34.67

13. Labelling and certification- The University should collaborate with other organisations to procure food labelling and quality certification for mushroom, honey, vermicompost. This will enhance the value and credibility of the produce.

14. Buy-back policy- The Government should provide buy-

back policy to the farmers for vermicompost so that they get fair price for the compost.

15. Standard pricing policy- The Government should fix guidelines and implement standard pricing policy for vermicompost.

16. Education on marketing skill- Rural women should be given proper education and training on marketing skill to protect them from being getting exploited at the hands of middlemen. They should also be educated on when, where and how to sell their produce in order to increase the profit margin.

17. Produce sold from the doorstep- It was suggested by most of the respondents that raw honey should be sold from the doorstep of the beekeepers or through the village cooperatives so that they do not have to face the inconvenience of taking the produce to market and then selling it to the buyers at their decided price. This solution will give an upper hand to the beekeepers in getting the price for their produce.

Antwal and Bharaswadker (1990) reported that 77.7 per cent rural women expressed lack of personal contact with extension worker as the major constraint in adoption of Home Science technology followed by 53.33 per cent women who were ignorant of new technology, 44.0 per cent of them expressed lack of money as the difficulty in adoption of technology, 32.0 per cent of rural women expressed habit of traditional practice as the difficulty, while 22.22 per cent of them had stated non-availability of the devices as the problem in adoption of new technology. Only 13.33 per cent of rural women expressed complexity in its use as the constraints in adoption of Home Science technology.

Conclusion

Technologies are developed by scientists so that it reaches the ultimate users and get wide acceptance by way of adopting it on a continued basis. But if the situation is not so then all the efforts, time and resources goes in vain. The homestead technologies designed and developed for rural women should be widely adopted by rural women so as to improve their living conditions. From the results of this study, it has been observed that multifarious problems come in their way of adoption of the technologies. A thorough and sincere attention needs to be paid to eliminate these problems and make these technologies more women-friendly.

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