The Pharma Innovation

Kanika Pandey
Ph.D Scholar, Department of
Agricultural Communication,
G.B. Pant University of
Agriculture and Technology,
Pantnagar, Uttarakhand, India

VLV Kameswari
Professor, Department of
Agricultural Communication,
G.B. Pant University of
Agriculture and Technology,
Pantnagar, Uttarakhand, India

Training needs of rural women of migrant households: A study in Kumaon division of Uttarakhand

Kanika Pandey and VLV Kameswari

Abstract
Migration has long been an important livelihood strategy for people of the hilly region of Uttarakhand. Male out migration has resulted in women bearing the sole responsibility of managing the household, agriculture and livestock. A study was conducted in Almora district of *Kumaon* division of Uttarakhand to assess the training needs of rural women of migrant households. It was found that out of the major training areas, mushroom cultivation with highest weighted mean score was ranked first. Majority of the respondents preferred one week training by Subject Matter Specialists in their village during the afternoon time. Preference was for training in group of 25-50 women with demonstration as the preferred mode of learning. A detailed training module on mushroom cultivation was prepared keeping respondents preferences in mind.

Keywords: Training needs, rural women, migrant households, Uttarakhand, training, module

Introduction
Migration is an important adaptive measures to cope with the hardships of a subsistence economy, changing environmental conditions and associated natural and socio-economic risks. According to Food and Agriculture Organization of the United Nations (2018) [4], migration is a strategy used by farm households to cope with income uncertainties and risk of food insecurity. The extent of rural-urban migration has increased significantly in India during recent times. On the economic front, better employment opportunities in urban centers attract a sizeable proportion of workers from rural areas, thus inducing rural-urban migration (Chakraborty and Kuri, 2013) [1].

Uttarakhand is one of the states where outmigration is high. Male out-migration from rural areas has resulted in women having to assume roles and responsibilities previously handled by men. A large proportion of Uttarakhand's 10.09 million people reside in villages. The rural population in the state is 7.04 million, while urban population stands at 3.05 million (Directorate of Economics and Statistics, 2011) [7].

The Human Development Report of Uttarakhand refers to the survey conducted on outmigration in 2017 across all 13 districts. It reported that the number of households that have at least one migrant (short term or long term) is 27.8 percent, implying that almost one in every four households has a migrant. In the hill districts, the proportion of households having at least one migrant was 34.3 percent, while in plains districts it was 5.3 percent. Main reasons of migration in the state are desire for better employment, decline in fertility of land and consequent decrease in agricultural production, lack of education facilities, physical infrastructure and medical facilities, and destruction of crops by wild animals.

Most of the economic opportunities in the state are concentrated in plain areas of the state, leading to huge income inequalities across the hill and plain districts of the state. Majority of the rural population in the hills either survive on subsistence agriculture or migrate for better livelihood opportunities. The increasing trends of male out-migration has not only provided stability to rural economy in terms of income through remittances, but has also marginally improved women's access to education, local institutions, resources, development opportunities, grass-root leadership and natural resource management (Joshi, 2018) [8]. Majority of women reported that after male out migration, they had decision making autonomy in day-to-day household activities and in many instances women left behind have reported an increase in social status within the village community (Singh, 2018) [12]

Rural women face greater vulnerability on various fronts due to male out-migration and limited livelihood opportunities in the hilly region. It is essential to provide educational facilities, training and motivation to women in this region to cope with male out migration.

Corresponding Author:
Kanika Pandey
Ph.D Scholar, Department of
Agricultural Communication,
G.B. Pant University of
Agriculture and Technology,
Pantnagar, Uttarakhand, India

Post migration, as women play a greater role in managing the household and taking crucial decisions inside and outside the home, there is a need to study the training needs and design suitable training interventions to enable them to cope with the situation. Thus, a study was taken up to find out the training needs of rural women from migrant households in the Kumaon hills. Yadav *et al.* (2007) [14] conducted a study entitled "Training needs of rural women in home science, agricultural and animal husbandry activities" and concluded that majority of women required training on seed production technology, followed by harvesting and post harvest technology of fruits and vegetables. Income generation activities like khoya making was identified as most needed training area, followed by candle making, rakhi making, masala grinding and detergent making. Under family resource management, grain storage, solar devices, time and energy saving devices were the areas in which respondents expressed their training needs. A study was carried out by Durga and Subhadra (2009) [3] on training needs of farm women in dairy farming and concluded that women needed training in housing, feeding and management, followed by marketing and finance, health care and breeding. Kaur *et al.* (2014) [10] in a review of training needs among rural women stated that rural women are key agents for development and play catalytic role towards achievement of transformational economic, environmental and social changes required for sustainable development. Sabharwal *et al.* (2015) [11] studied the training needs of rural women in home science and allied fields and found that farm women felt high level of training needs in decoration of clothes, followed by cutting and tailoring, fruit and vegetable preservation, drudgery reduction technologies and improved grain storage. Other training areas recognized by them were bakery, papad and badi making. Further, it was found that farm women needed training in preparation of bio-fertilizers, Integrated Pest Management, Integrated Disease Management, seed treatment, scientific cultivation of fruit crop, preparation of nursery, feeding of animals, clean and hygienic milk production, protection of goat from diseases, protection of grains from insects/pests and preparation of milk products (Manohar, 2018) [5].

For the designing of training module Verma (2008) [2] in a study on the impact of mushroom production training on below poverty line (BPL) beneficiaries concluded that practical sessions were preferred by most of the trainees. The respondents also suggested more than seven days training programme in a group of 25 trainees. Kandeeban and Velusamy (2016) [9] in a study on training needs found that majority of rural women in hilly areas prefer Panchayat Bhawan and village school as training venues.They also preferred Demonstration method followed by study tours as training methods. In a study on the opinion of farm women on vocational training programs conducted by KVK, Jeolikote by Singh *et al.* (2020) [13] found that 88.88 percent of the trainees preferred their own village as venue for training and 75.55 percent of the respondents preferred training during slack season. Majority of women (64.44%) preferred demonstration followed by discussion along with demonstration and lecture with simple visuals.

Methodology
The study was conducted in Almora district of Uttarakhand. Almora was choosen purposely as, it has negative population growth rate (-1.64%) due to heavy out-migration from the district (Census 2011) [7]. Out of the 11 blocks in Almora district, Dwarahat block was selected randomly. There are 216 villages in Dwarahat block, out of which, two villages *viz*: Talli Mirai and Kaphara were selected randomly. All women in the age group of 18-55 years (112) were respondents for the study. Sampling plan of the study is given in Table 1. Agriculture is main source of livelihood in both the villages. In last few years, male out migration of 60-65 percent has been reported from Talli Mirai village and about 45-50 percent from Kaphara village.

Table 1: Sample plan

Level	Name		Method
District	Almora		Purposive selection
Block	Dwarahat		Random selection
Villages	Talli Mirai and Kaphara		Random selection
Respondents	Talli Mirai Village	68	Census method
	Kaphara Village	44	

Taking into consideration the nature of study and to provide answers to the research questions, descriptive research design was used to carry out the investigation. Pre-tested interview schedule was used for data collection. Six major areas - agriculture and horticulture, agro forestry, fisheries, veterinary sciences, allied sectors and vocational training areas were considered. These areas were further divided into sub areas of training. On the basis of Weighted Mean Score (WMS), sub areas of trainings were ranked to prioritize the training needs of rural women. Data was also collected to know the preference of respondents regarding various aspects of training including logistics and methods, to help in the designing of training module.

Results and Discussion
Training needs of rural women of migrant households has been presented in Table 2 according to the six major areas listed earlier.

Agriculture and Horticulture
In agriculture and horticulture sector, disease and pest control of field crops ranked first with WMS of 1.95, followed by selection of seed or planting material with WMS of 1.75 and polyhouse cultivation was ranked third with WMS of 1.39. Pest infestation and diseases are the most important factors affecting crop production and most of the respondents reported that in every season, there is significant yield loss due to pests and diseases. Proper management is critical in order to avoid damages, meet regulatory standards, protect the environment and decrease pesticide resistance.

Veterinary sciences
In the area of veterinary sciences, vaccination and disease management of cattle was ranked first with WMS of 1.91,

followed by breed selection at second rank with WMS of 1.83 and vaccination and disease management in poultry birds at third rank with WMS of 1.19. Animals are susceptible to a wide range of diseases caused by viruses, bacteria, fungi and parasites and to keep the farm animals safe, the respondents wanted to attend training program on the vaccination schedule and disease management. Training in this subarea was seen as important as it will effectively reduce the occurrence of diseases in farm animals and pets, and maintain animal health and welfare.

Allied sectors
In allied sectors, mushroom cultivation was most preferred by the respondents and ranked first with WMS of 2.01, followed by bee keeping and vermicomposting at second rank with WMS of 1.14 and production of bio-control agents, bio-control fertilizers, bio-pesticides was ranked third with WMS of 1.08. Most of the respondents reported that their relatives

and friends at other places have asked them to start mushroom cultivation as it involves small initial capital, production is possible all round the year around and agricultural waste can be utilized as substrate. As the initial cost is less, respondents felt that they can start mushroom cultivation in small area if they are provided training.

Vocational training
Under vocational training, tailoring and embroidery work was ranked first with WMS of 1.57, followed by home decoration at second rank with WMS of 1.34 and computer application at third rank with WMS of 1.24. Most of the respondents belonged to middle age category (30-42 years), hence under vocational training, they wanted to learn home improvement or household activities, rather than job oriented skills.
None of the respondents expressed training needs in fishery and agro-forestry sectors

Table 2: Training needs of rural women of migrant households.

Vocations	Sub areas of training	WMS	Rank
Agriculture and Horticulture	Disease and pest control of field crops	1.95	1
	Selection of seed/planting material	1.75	2
	Polyhouse cultivation	1.39	3
Veterinary Science	Vaccination and disease management of cattle	1.91	1
	Breed selection	1.83	2
	Vaccination and disease management in poultry birds	1.19	3
Allied sectors	Mushroom cultivation	2.01	1
	Bee keeping	1.14	2
	Vermin-composting	1.14	2
	Production of bio control agents, fertilizers, bio-pesticides	1.08	3
Vocational training	Tailoring and Embroidery	1.57	1
	Home decoration	1.34	2
	Computer applications	1.24	3

Opinion about training module
The designing of an effective training module was done on the basis of their preference of respondents on various aspects of training including logistics and training methods. It was found that majority of the respondents (77.68%) preferred village as the training venue as village is the most convenient place. Majority of the women (86.61%) preferred afternoon time for training and it was observed that 38.39 percent of rural women preferred training of one week. Majority of the respondents (58.04%) preferred Subject Matter Specialist as the resource person. Training group of 25-50 women (58.92%) was preferred. Demonstration method was the preferred mode of learning for majority of the respondents (74.11%). Mushroom cultivation with WMS of 2.01 was ranked first among all the training areas. Hence, a detailed training module given in Table 3 was prepared keeping respondents preference in mind.

Training module on Mushroom Cultivation
Goal: Capacity building of rural women in Mushroom Cultivation.

Learning Objectives: The major objectives of the training program are to furnish the trainees with knowledge and skills required to undertake mushroom cultivation. The process of mushroom cultivation will be taught through demonstrations,

lectures and field visits. The training programme has been designed to fulfill the following objectives:
1. To train rural women in cultivation of common varieties of mushrooms.
2. To impart knowledge on value addition and post harvest technologies of mushrooms.

To develop marketing skills among rural women with specific reference to mushrooms

Implementation Modalities
Number of trainees: One batch of trainees will comprise of 20 women.

Training venue: The training will be held in village at a place accessible to all the participants.

Resource Person: The resource persons for the training will be from Mushroom Research Training Centre, G. B. Pant University of Agriculture and Technology, Pantnagar, Uttarakhand.

Trainees: Rural women of village from migrant households.
Duration of Training: The duration of training will be one week.

Table 3: Training Module on Mushroom Cultivation

Day	Time	Major topics	Content	Learning methods/ Activities	Instruments/ Material required
1st day	1:00-1:15 pm	Introduction to mushroom cultivation	Inaugral session		
	1:15-2:00 pm		Importance of mushroom cultivation and contribution to sustainable livelihood.	Lecture	Charts
	2:00- 2:15 pm		Break		
	2:15- 3:00 pm		Types of mushroom and its characteristics.	Lecture	Specimens
	3:00-3:30 pm		Recap session	Discussion	
2nd day	1:00- 1:15 pm	Steps in mushroom cultivation	Recap of previous day		
	1:15-2:00 pm		Steps in Mushroom cultivation production	Demonstration	Specimens
	2:00- 2:15 pm		Break		
	2:15-3:00 pm		Steps of mushroom cultivation	Demonstration	Video film
	3:00 – 3:30 pm		Recap session	Discussion	
3rd day	1:00-1:15	Compost making	Recap of previous day		
	1:15- 2:00 pm		Types of compost- synthetic and natural compost	Demonstration	
	2:00- 2:15 pm		Break		Gunny bags, spawn, plant waste, salts, supplements (rice/wheat bran), water
	2:15 - 3:00 pm		Spawn, casing and cropping	Lecture followed by demonstration	
	3:00-3:30 pm		Recap session	Discussion	
4th day	1:00-1:15 pm	Pests, Diseases and Disorders	Recap of previous day		
	1:15-2:00 pm		Pests and diseases in mushrooms	Lecture	Photograph, charts, samples of insecticides
	2:00-2:15 pm		Break		
	2:15- 3:00 pm		Abiotic disorders in mushroom	Lecture	
	3:00-3:30 pm		Summary		
5th day	1:00-1:15 pm	Harvesting and Post harvest management	Recap of previous day		
	1:15- 2:00 pm		Drying/ dehydration of mushroom	Lecture	Sample of processed mushrooms, Packaging material
	2:00- 2:15 pm		Break		
	2:15- 3:00 pm		Pickling and canning of mushroom	Lecture	
	3:00- 3:30 pm		Summary		
6th day	1:00- 1:15 pm	Marketing of mushrooms	Recap of previous day		
	1:15 -2:00 pm		Accessing market information, marketing channel and strategies	Lecture	Video film on successful case.
	2:00- 2:15 pm		Break		
	2:15- 3:00 pm		Recap session and feedback	Discussion	
	3:00- 3:30 pm		Valedictory function		

Conclusion

Six major areas that were identified as potential training areas were - agriculture and horticulture, agro forestry, fisheries, veterinary sciences, allied sectors and vocational trainings. The women can be trained for better skills and knowledge and enhance income. It was found that in agriculture and horticulture sector, disease and pest control was ranked first. In veterinary sciences, vaccination and disease management of cattle was at first rank. Mushroom cultivation was mostly preferred by the respondents in allied sectors. In vocational training sector, tailoring, and embroidery was mostly preferred by the respondents. Mushroom cultivation with WMS of 2.01 was ranked first among all the training areas. A training module was designed on mushroom cultivation taking rural women preferences into consideration. Training module developed by the researcher can be implemented in a week long training programs by extension agencies.

References

1. Chakraborty D, Kuri PK. Rural-Urban Migration and Urban Informal Sector in India: An Inter- State Analysis. International Journal of Current Research. 2013;5(4):950-956.
2. Deepika Verma. Impact of Mushroom production Training on below poverty line beneficiaries of Udham Singh Nagar district. Thesis, Master of Science, G. B. Pant University of Agriculture and Technology, Pantnagar, Uttarakhand, India, 2008, 263.
3. Durga RV, Subhadra MR. Training needs of farm women in dairy farming. Veterinary World. 2009;2(6):221-223.
4. FAO. Rome, Italy. Migration, agriculture and rural development. Published by FAO, Rome. 2018, 199. http://www.fao.org.
5. Hirade Komal Manohar. Training Needs Assessment of Farm women. Thesis, Master of Science, Mahatma Phule Krishi Vidyapeeth, Rahuri, Maharastra, India. 2018, 109.
6. India. Ministry of Home Affairs, Directorate of Economics and Statistics Planning Department, Government of Uttarakhand. Human Development Report 2017. published by Institute for Human Development, 2017, 284.
7. India. Ministry of Home Affairs. District Census Handbook Almora, published by Directorate of Census Operations Uttarakhand. 2011, 348.
8. Joshi B. Recent Trends of Rural Out-migration and its Socio-economic and Environmental Impacts in Uttarakhandv Himalaya. Journal of Urban and Regional Studies on Contemporary India. 2018;4(2):1-14.

9. Kandeeban, M. and Velusamy, R. 2016. Training needs of rural women in hilly areas for their empowerment. International Social Science Review. 2018;2(2):56-71.
10. Kaur R, Kaur C, Aulakh GS. A review of training needs among rural women. Agriculture Update. 2014;9(3):445-449.
11. Sabharwal K, Devi U, Panwar RD. Training needs of rural women in home science and allied activities. Annals of Agri Bio Research. 2015;20(2):261-264.
12. Singh R. Impact of Male Out-Migration on Women Left Behind: A Study of Two Villages in Uttar Pradesh. Remittances Review. 2018;3(1):75-92.
13. Singh N, Bhardwaj N, Singh S. Opinions of Farm women regarding vocational trainings conducted under KVK Jeolikote. Journal of Pharmacognosy and Phytochemistry. 2020;9(2):177-179.
14. Yadav MS, Prabhu JC, Chandy RK. Managing the future: CEO attention and innovation outcomes. Journal of marketing. 2007 Oct;71(4):84-101.