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Awareness Among Rural Youth about Agriculture Related Livelihood Options in Hills of Uttarakhand

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ABSTRACT

Uttarakhand state is blessed with rare biodiversity which gives a great opportunity for diversified farming and horticulture. Regardless of the livelihood options available for hill youth the migration rate have also been high from the hill districts of the state. Low awareness about the agriculture related livelihood options may be one of the reasons behind youth out-migration. Hence, the study was carried out in Tehri Garhwal district of Uttarakhand, with descriptive research design. Two blocks were selected by random sampling and under each block two villages were selected by simple random sampling method. Respondents were taken by census method. The results of the study revealed that out of total eighty five livelihood options related to agriculture and allied sectors, the awareness among rural youth was found to be low on 43 options, medium in the 18 areas and high level of awareness in 24 areas as they were being traditionally cultivated in the area. The outcome of the study may be used by stakeholders to strengthen the information communication network for ultimately providing a sustainable livelihood to the rural youth and to reverse the out-migration from the hills of Uttarakhand.

Keywords: Awareness, Hill-agriculture, Livelihood options, Rural youth

INTRODUCTION

Uttarakhand state was carved out of Uttar Pradesh in the year 2000 for the development of hills as majority of the area of the state falls under hilly area. The state is blessed with the rare bio- diversity and has almost all major climatic zones which make it amenable for agriculture diversification and commercialization of horticulture. Other than this there is a vast opportunities for organic farming, tourism, forest based industries which can give a better source of employment to the people of hill areas. Still the people have to raise their income and quality of life. It has been more than sixteen years since the establishment of the state and still hilly areas strive for employment opportunities and livelihood options due to which rate of migration is high, a major problem of hills today. Among the problems poverty, unemployment, health care facilities, quality of education are major. Other than these, women drudgery is still prevailing in hills and natural disasters and wild life threat also prevails in the area (Pratap, 2011). In rural areas of hills, the major source of livelihood in agriculture as majority of the population is engaged in agriculture and related occupations, but most of them rely on subsistence farming and do not go for diversification of agriculture. One major factor behind is that youth of hill areas show less interest in primary sector for income generation and they migrate to plain areas to search for their source of livelihood, resulting in the increase in the rate of migration (Mamgain, 2004). Due to this, hill agriculture is facing several problems like agriculture degradation, depletion of land and lack of innovations in agriculture. The agriculture universities and

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research institutions working in Uttarakhand have proposed several livelihood options pertaining to the agro-climatic conditions of hilly areas to raise the standard of living of people of hills but it has been perceived that youth of hills are less aware about the livelihood options related to agriculture. Due to this, study was carried with the objective to study the extent of awareness among rural youth of hills about identified livelihood options.

METHODOLOGY

The study was conducted in Tehri Garhwal district of Uttarakhand. Two blocks were selected randomly for the study. Two villages from each block were taken. As the population in the villages of hill area is scattered and the migration rate is also high respondents were selected by census method for the study. Descriptive research design was used. Data was collected through structured interview schedule. Appropriate statistical tools and techniques such as frequency, percentage, arithmetic mean, standard deviation and weighted mean score were used for analysis and interpretation.

RESULTS AND DISCUSSION

According to prepared list of livelihood options related to agriculture and allied sectors awareness of rural youth was found out. In each of the sub sector which has a potential to become an option for livelihood of youth, the awareness was measured. According to calculated weighted mean score, the livelihood options were categorized in three categories of high, medium and low according to the responses given by the respondents for a particular area.

Horticultural crops and medicinal plants

The data in the Table 1 depicts that about information related to cultivation practices of horticultural crops. The result has shown that majority of the youth were found to be fully aware for the cultivation of vegetable pea, French bean, potato, tomato and capsicum, these vegetables are traditionally being grown in the area and not aware about salad, lettuce, celery production, nursery raising and seed production, as these were not grown or consumed in the area. For the cultivation of summer squash and cabbage, medium level of aware was found in majority of the youth. The table further depicts that for exotic fruit production like kiwi fruit, avocado, strawberry and raising nursery, the level of awareness was low. For cultivation of temperate fruits like apple, almonds, production of walnut and apricot kernel for production of oil and for sweet orange production medium level of awareness was found. There was high awareness for walnut, peach and plum and for fruit preservation techniques. The reason behind low level of awareness was due to less exposure of respondents to exotic fruits. Among floriculture production techniques, protected cultivation of flower, nursery raising, hybrid seed production and flower bulb production low level of awareness was shown. For cut flower production and loose flower production medium level of awareness was found. For majority of the areas under medicinal plants such as *Brahmi, Reetha*, piper mint, *Trifala* cultivation the level of awareness among youth was low. For aromatic plants such as lemon grass, citronella, lavender, geranium, medicinal and aromatic plants nursery and oil extraction unit also the awareness was low. Only for basil cultivation there was medium level of awareness among youth. The factor behind low level of awareness was lack of exposure campaigns for youth about these options.

Organic farming and Cereals, millets and pulse production

Data regarding awareness related to organic farming practices is presented in Table 2. According to calculated weighted mean score, the awareness about organic ginger, turmeric, *Arbi,* chilli and garlic cultivation the level of awareness was high as these are the crops traditionally grown in the area and for organic manure production the awareness level was medium. By calculating weighted mean score, it was found that there was high awareness among rural youth about cultivation of coarse cereals, cultivation of maize, cultivation of pulses and coriander cultivation. For soybean, cardamom and *Jakhiya* cultivation the awareness level was low and for processed products of soybean the awareness level was low.

Livestock farming

The data regarding awareness about livestock farming practices is presented in Table 3. The table explains that

Table 1: Distribution of the respondents on the basis of their awareness related to horticultural production system and medicinal plants

Areas	Not aware		Partially aware		Fully aware		Weighted
	F	%age	F	%age	F	%age	mean score
Vegetables							
Cultivation of vegetable pea	2	2.44	9	10.98	71	86.59	2.84
Cultivation of French bean	2	2.44	10	12.19	70	85.37	2.82
Cultivation of Potato	0	0	13	15.85	69	84.05	2.84
Cultivation of tomato	3	3.66	25	30.49	54	65.85	2.62
Cultivation of capsicum	7	8.54	16	19.51	59	71.95	2.63
Cultivation of summer squash	14	17.07	43	52.44	25	30.49	2.13
Cultivation of cabbage	13	15.85	36	43.90	33	40.24	2.24
Nursery raising	42	51.22	29	35.37	11	13.40	1.62
Seed production of vegetable crops	45	54.88	35	42.68	2	2.44	1.47
Salad- lettuce, Celery production	77	93.90	5	6.09	0	0	1.06
Protected cultivation	76	92.68	2	2.44	4	4.88	1.12
Fruit crops production							
Cultivation of temperate fruits (Apple)	11	13.41	38	46.34	33	40.24	2.26
Walnut	0	0	33	41.25	49	59.75	2.59
Almonds	5	6.09	56	68.29	21	25.21	2.19
Peach, Plum	0	0	15	18.29	67	81.71	2.81
sweet orange	0	0	11	13.40	71	86.59	2
Exotic fruit production (kiwi fruit)	69	84.05	12	14.63	1	1.21	1.17
Avocado	75	91.46	6	7.31	0	0	1.06
Strawberry	71	86.59	11	13.40	0	0	1.13
Nursery raising	79	96.34	3	3.66	0	0	1.03
Walnut, Apricot kernel for production of oil	19	23.17	54	65.85	9	10.98	1.87
Fruit preservation (Jam, Jelly, Chutney, Pickle, Juice, candy)	0	0	18	21.95	64	78.05	2.78
Floriculture							
Cut flower production (Rose, Gladiolus, Tube rose)	15	18.29	51	62.19	16	19.51	2.01
Loose flower production (Marigold)	17	20.73	53	64.63	12	14.63	1.93
Protected cultivation of flowers	71	86.59	11	13.40	0	0	1.13
Nursery raising	81	98.78	1	1.22	0	0	1.01
Hybrid seed production	81	98.78	1	1.22	0	0	1.01
Flower bulb production (Lilium, Gladiolus, Chrysanthemum, Tulips)	80	97.56	2	2.44	0	0	1.02
Medicinal plants							
Medicinal plant cultivation: *Brahmi*	48	58.37	33	41.25	1	1.21	1.42
Reetha cultivation	45	54.88	35	42.68	2	2.44	1.47
Tulsi cultivation	10	12.19	20	24.39	52	63.41	2.51
Mint, Piper-mint	70	85.36	10	12.19	2	2.44	1.17
Aromatic plant cultivation (Lemon grass)	74	90.24	8	9.75	0	0	1.09
Citronella cultivation	73	89.02	9	10.97	0	0	1.10
Lavender cultivation	74	90.24	8	9.75	0	0	1.09
Geranium cultivation	73	89.02	9	10.97	0	0	1.10
Trifala making (cultivation of *Harar, Bahera, Amla*)	69	84.05	12	14.63	1	1.21	1.17
Medicinal and aromatic plants nursery	79	96.34	3	3.66	0	0	1.03
Oil extraction unit	77	93.90	3	3.66	2	2.44	1.08

Table 2: Distribution of the respondents on the basis of their awareness related to organic farming and Cereals, millets and pulse production (n=82)

Areas	Not aware		Partially aware		Fully aware		Weighted
	F	%age	F	%age	F	%age	mean score
Organic farming							
Organic Ginger cultivation	7	8.54	40	48.78	35	42.68	2.34
Turmeric cultivation	9	10.98	21	25.61	52	63.41	2.52
Arbi cultivation	8	9.75	20	26.83	54	65.85	2.56
Chilli cultivation	6	7.31	23	28.05	53	64.63	2.57
Garlic cultivation	7	8.54	22	26.83	53	64.63	2.56
Organic manure production/ bio-fertilizer production	27	32.93	35	42.68	20	24.39	1.91
Cereals, millets and pulse production							
Cultivation of coarse grains (Buckwheat, barnyard millet, Finger millet, Amaranthus)	4	4.88	3	3.66	75	91.46	2.86
Cultivation of Maize	3	3.66	4	4.88	75	91.46	2.87
Cultivation of pulses (*Naurangi*, Kidney bean, Pigeon pea, *Gehat, Bhatt*)	0	0	4	4.88	78	95.12	2.95
Soybean cultivation	9	10.98	66	83.49	7	8.54	1.97
Soybean processing (Paneer, milk, Tofu)	73	89.02	8	9.75	1	1.21	1.12
Cardamom cultivation	46	56.09	28	34.15	8	9.75	1.53
Coriander cultivation	7	8.54	27	32.93	48	58.37	2.50
Jakhiya cultivation	47	57.32	26	31.70	9	10.98	1.59

Table 3: Distribution of the respondents on the basis of their awareness related to livestock farming (n=82)

Areas	Not aware		Partially aware		Fully aware		Weighted
	F	%age	F	%age	F	%age	mean score
Dairy farming (dairy products: ghee, butter, butter milk)	0	0	8	9.75	74	90.28	2.90
Fodder crop production	1	1.21	14	17.07	67	81.70	2.80
Goat rearing	2	2.44	13	15.85	67	81.70	2.79
Sheep rearing	3	3.66	14	17.07	65	79.27	2.75
Wool making	25	30.49	44	53.66	13	15.85	1.85
Bio-gas production	6	7.32	40	48.78	36	43.90	2.36
Buffalo farming	2	2.44	16	19.51	64	78.05	2.75
Silage production	2	2.44	11	13.40	69	84.05	2.81
Angora rabbit farming	62	75.61	17	20.73	3	3.66	1.28

there was high awareness about dairy farming, fodder crop production, goat rearing, bio- gas production, buffalo farming and silage production and medium level of awareness about sheep rearing and wool making. For Angora rabbit farming the level of awareness was found low.

Other crops and income generating options

According to weighted mean score, all three areas under mushroom cultivation (button mushroom production, oyster mushroom production and compost making) were found under low level of awareness. Similarly, for honey

Table 4: Distribution of the respondents on the basis of their awareness related to other crops and income generating options (n=82)

Areas	Not aware		Partially aware		Fully aware		Weighted
	F	%age	F	%age	F	%age	mean score
Button mushroom production	73	89.02	5	6.09	4	4.88	1.15
Oyster mushroom production	73	89.02	5	6.09	4	4.88	1.15
Compost making	72	87.80	6	7.32	4	4.88	1.17
Honey production	78	95.12	4	4.88	0	0	1.04
Value added products	78	95.12	4	4.88	0	0	1.04
Vermi- Compost production	66	80.49	11	13.4	5	6.09	1.25
Worms production	66	80.49	11	13.4	5	6.09	1.25
Broiler production	35	42.68	21	25.61	26	31.70	1.89
Egg production	35	42.68	21	25.61	26	31.70	1.89
Backyard poultry farm	30	36.59	27	32.93	15	18.29	1.57
Mulberry silk worm rearing	75	91.46	7	8.53	0	0	1.08
Mulberry nursery raising/ planting material production	32	39.02	40	48.78	10	12.19	1.48
Silk production/ silk yarn making	78	95.12	4	4.88	0	0	1.04
Fibre crop production (Ringal)	54	65.85	28	34.15	0	0	1.34
Fibre extraction	74	90.24	6	7.32	2	2.44	1.12
Cultivation of oil seeds (Sarson)	9	10.98	38	46.34	35	42.68	2.31
Oil extraction unit	77	93.90	5	6.09	0	0	1.06
Tea cultivation	78	95.12	4	4.88	0	0	1.04
Tea making unit	78	95.12	4	4.88	0	0	1.04
Timber trees (pines, *Deodar, Semal*)	1	1.21	17	20.73	64	78.05	2.19
Fuel wood (Acacia, *Kharsu, Moru*)	0	0	25	30.49	57	69.51	2.29
For fodder purpose (*Bhimal, Baanj*)	1	1.21	31	37.80	50	60.98	2.34

production and value added products the awareness of rural youth was low, the probable reason behind may be lack of training programmes for youth about these ventures (Table 4). The level of awareness for vermi compost production and for worm production was found low due to the less participation of youth in training programmes related to these ventures. The table also depicts that for backyard poultry farming the level of awareness was low and for broiler production and egg production the level of awareness was in medium category. The awareness for mulberry silk worm rearing, mulberry nursery raising and silk production was low. The possible reason behind lack of awareness may be due to lack of awareness campaigns by extension agencies about these options. Awareness related to fisheries was found low and the probable reason behind this was that the less prevalence of this option in the research area. Similarly, for fibre crop production, fibre extraction, oil extraction unit of oil seed crops, tea cultivation and tea making unit which can be a viable livelihood option, the awareness among rural youth was low. For cultivation of mustard the awareness was found to be of medium level as this is the major crop grown in the area. For forest based options such as timber trees (pines, *Deodar* and *Semal*) for fuel wood (Acacia, *Kharsu, Moru*) and for fodder purpose (*Bhimal, Baanj*), the rural youth had medium level of awareness. Out of total eighty five livelihood options identified for the area,

low awareness was found for 43 areas, medium awareness for 18 areas. Only about 24 livelihood options the awareness level was high.

CONCLUSION

Out of these options the awareness among rural youth of Tehri Garhwal district was found to be low (43 options) medium level of awareness was found in the eighteen areas. Twenty four areas were having high level of awareness as they were being traditionally cultivated in the area. The study may help to strengthen the prevailing information and communication network which will provide solution to the problem of lack of awareness and information about available livelihood options in rural youth of hills. The line departments, research centers, universities and knowledge hubs may utilize the propositions emerging through this research to spread and disseminate the technology related to different vocations among rural youth of Uttarakhand with the ultimate aim to reverse out-migration and sustainable livelihood for the rural youth.

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