PJN
ISSN 1680-5194

PAKISTAN JOURNAL OF NUTRITION

ANSInet
308 Lasani Town, Sargodha Road, Faisalabad - Pakistan
Mob: +92 300 3008585, Fax: +92 41 8815544
E-mail: editorpjn@gmail.com

Pakistan Journal of Nutrition 12 (9): 821-826, 2013
ISSN 1680-5194

Effect of Human Resource Development on Livestock Production in District Chitral, Khyber Pakhtunkhwa, Pakistan (A Study Conducted by Agha Khan Rural Support Programme)

Safirullah[1], Khurshaid Anwar[1], Muhammad Sajid[1], Abdur-Raziq[1], Muhammad Mujtaba[1], Khisrao Kalim[2], Sartaj Khan[2], Anwar Ali[1] and Tariq Ullah[3]
[1]Veterinary Research Institute, Peshawar, Pakistan
[2]Livestock Research and Development Station, Analytical Laboratory, Dir (Lower), Pakistan
[3]Sindh Agricultural University, Tandojam, Pakistan

Abstract: A study was conducted to examine the effect of Aga Khan Rural Support Program on human resource development particularly on livestock management in district Chitral. Study was conducted in three-community organizations in village Charun, Tehsil Mastu, Chitral. A total 120 respondents were randomly selected for interview, 98 beneficiaries and 22 non-beneficiaries. Almost 100% respondents were landowners, cultivating a land of about two kanal and were satisfied with training component of AKRSP, about 47% were literate. The enrolled respondents were 50.2% of the age 33-45 years and 30.1% of the age 46-58 years. Farming was main occupation of 64% beneficiaries, 29% adopted as secondary occupation and 8% having not even the secondary occupation. The rest were engaged in other services like business, labor etc., while majority having annual income ranging from RS. 34600 to 45600. About 45% respondents applied training information and found it useful. Collectively observed 47% increase in livestock size and 24%-improved breed was used as AKRSP had provided a jersey bull for crossing with local breed. The after effects of the study resulted in improved managemental practices which caused remarkable development like enhanced production and increased income of the beneficiaries i.e. up to 62%, changes in farming practice up to 19% and up gradation in occupation of 65% beneficiaries. Besides improvement in the size of livestock holding and milk production, medication and vaccination reduced animal mortality and disease out breaks. The study showed that diseases can be controlled and income could be improved if inputs and credit are provided in the areas of concern.

Key words: Livestock, farming, human resources, bull, disease

INTRODUCTION

Development is the process of improving the quality of human lives. Despite good progress over the past few generations more than one billion people still live in acute poverty and suffer due to inadequate access to resources like education, health services, infrastructure land, credit etc., (Tordaro, 1999; Rao, 1990). There are several key challenges that need to be faced to achieve food security for all people. These challenges are; widespread poverty, limited economic growth, low levels of human resource development, rapid population growth and urbanization, insufficient growth in food supply, threats to natural resources, low levels of agricultural inputs use, poorly functioning markets, lack of infrastructure, inappropriate production and trade policies and inadequate domestic resource mobilization and international assistance. Sustainable action is required in priority areas like strengthening the capacity of developing-country governments and NGOs, investing more in poor people, accelerating productivity in food production, assuring sound management of natural resources, developing competitive markets and expanding and realigning international development assistance (Andersen, 1999).

Human resource development is a continuous process and multi faceted concept. It requires sensitivity to changing needs in order to set priorities accordingly. It holds the key for economic development through enabling people to become more productive. An economic development also depends upon the level of industrial activity, therefore investment in developing science and technology has become critical. Choices need to be made between target groups and between different strategies of implementation (Rao, 1990). Livestock being a sub-sector of agriculture in Pakistan accounts for nearly 52.2% of Agriculture value added and 11% of the GDP. It also plays an important role in rural economy and about 30-35 million rural populations is engaged in livestock farming, deriving 20-30% of their income from livestock (GOP, 2008).

Corresponding Author: Khurshaid Anwar, Veterinary Research Institute, Peshawar, Pakistan

Different rural support programs has been working in Pakistan like Sarhad Rural Support program, Baluchistan Rural Support program etc. Agha khan rural support programme is one of among them which have been working with communities of Northern Areas and Chitral for the last twenty-eight years. Its main aim in chitral region is to enable the people to organize and mobilize to achieve the basic needs and to enable the rural communities to bring about equitable and sustainable improvement in their lives. AKRSP has imparted various training programs in district Chitral. The major objectives of AKRSP are, the capital generation through regular saving and upgrading essential skill through human resource development, Women progress, Natural resources management, Credit enterprise development, Human Resource Development (HRD), Planning, Monitoring, Evaluation and Research. The present study was designed to know the effects of livestock training programme on production and income of the beneficiaries and to identify the problems facing the farmers in the area.

MATERIALS AND METHODS

Chitral is the largest district of Khyber Pakhtunkhwa. Three-community organizations i.e. Mughlandure, Mulain and Romkali were randomely selected in which AKRSP has already imparted training programmes. Respondents were selected from the community organizations and out of 120 beneficiaries, 40% were randomly selected using simple random sampling methods and the samples were proportionately distributed among the three selected villages. For collecting the primary data, an interview schedule for questioner was prepared which was pre-tested before collecting the actual data. Data was collected through face-to-face interview by the researcher. In order to get accurate information, it was essential to build the confidence and cooperation of the sampled respondents. Therefore sample respondents were taken into confidence for enabling them to answer the questions properly and to best of their knowledge. They were made known about the objectives of the study so as to get correct and unbiased information. After collecting the data it was analyzed by using simple frequency distribution, percentage and averages.

AKRSP had imparted training programmes in the following areas:

- Vaccination and medication techniques
- Deworming of animals
- Feed and feeding pattern
- Urea treatment practice
- Livestock management and upgrading
- Spinning of wools and fine fiber making techniques
- Poultry farming in rural area

RESULTS AND DISCUSSION

Age group of respondents: As shown in Table 2, about 50% respondents belong to the age group of 33-45 years and respondents in this group are mature and energetic as compared to others and easily adopt new ideas. While 30% belong to the age group of 46-58 years and respondents in this group are experienced and play very important role to make better decision on the basis of their past experience. While 12% belong to the age group of 20-30 years. About 7% participants were in the age group of 59 and above and none was less than 20 years of age.

Literacy wise distribution of respondents: Table 3 indicates that all respondents were literate. AKRSP has

Table 1: Village wise distribution of respondents

Community Organization	Total members	Respondents
Mughlandure	45	15
Mulain	35	12
Romkali	40	13
G. Total	120	40

Table 2: Age group of respondents

	Age group (year)									
Name of CO*	20-32	(%)	33-45	(%)	46-58	(%)	59 and above	(%)	Total	(%)
Mughlandure	2	5	6	15	4	10	2	5	14	35
Mulain	1	2	8	20	3	7	0	0	12	30
Romkali	2	5	6	15	5	12	1	2	14	35
G. Total	5	12.5	20	50	12	30	3	7.5	40	100

CO* Community organizations (Source field survey, 2007)

Table 3: Literacy wise distribution of respondents

	CO*				
Eud. level	Mughlandure	Mulian	Romkali	Total n = 40	Change (%)
Illiterate	0	1	0	1	25
Literate	8	5	6	19	47.5
Primary	2	2	1	5	12.5
Middle	1	2	1	4	10
Matric	4	2	3	9	22.5
Hs and above	1	0	1	2	5
G. Total	16	12	12	40	100

Table 4: Tenurial statues of respondents

Tenurial status	Co* Mughlandure	Co* Mulain	Co* Romkali	Total	Change (%)
Owner	12	9	11	32	80
Owner cum tenant	2	3	3	8	20
G. Total	14	13	13	40	100

Table 5: Duration of the training

	CO*				
Period	Mughladure	Mulain	Romkali	No	(%)
Two week	7	5	6	18	45
Three week	6	5	3	14	35
Four week	4	2	2	7	20
G. Total	17	12	11	40	100

Table 6: Relevancy of training

	CO*				
Training relevancy	Mughladure	Mulain	Romkali	No = 40	Change (%)
Yes	12	9	8	29	72.5
NO	3	5	3	11	27.5
G. Total	15	14	11	40	100

Table 7: Status of livestock holding before and after training

	Size of livestock holding (No)		Change number	
Species	Before	After	No	age (%)
Cow	10	19	9	22.5
Bull	7	16	9	22.5
Goats	11	23	12	30
Sheep	12	22	10	25
G. Total	40	80	40	100

Table 8: Mode of livestock Treatment before and after training

	Before		After	
Mode of treatment	NO	(%)	NO	(%)
local treatment	20	50	10	25
Veterinary hospital	8	20	13	32.5
AKRSP trained person	-	-	15	37.5
No treatment	3	7	2	5
G. Total	31	77	40	100

chosen only the literate persons as per requirement of the development modules of various training and services to communities. According to the data, almost 47.5% of the beneficiaries were literate. Out of which, Matriculate 22.5%, middle 10%, primary 12.5%, higher secondary and above 5% while 2% were found illiterate. It shows that literate people are keenly interested in development.

Tenurial status of respondents: Tenurial status represents land ownership. It is very important factor of AKRSP approach to involve all classes of a village for the development. There were two categories of respondents in the area, Owner and owner cum tenant. The Table 4 shows that 80% (majority) respondents were owner and 20% landowner cum tenant. It reflects that area posses great development potential because most people have their own land resources.

Duration of training: The training duration was scheduled as two, three and four weeks. About 45% respondents got training of two, followed by 35% three and 20% four weeks.

Relevancy of training: As shown in Table 5, 72.5% respondents reported that these training relevancy to their requirements, while 27.5% responded in negation. The reason for their different response was due to the fact that most of the respondents were owner and owner cum tenan and those who reported in negation were engaged in occupation other than farming.

Size of livestock holding: AKRSP training program has shown an upward trend in livestock development. The increase was 10,13,12 and 15% in cows, goats, bulls and sheep respectively. As a whole increase in livestock size was 47% in the project area. Vaccination and medication were the activities provided by AKRSP, causing and improved low mortality rate health of livestock.

Mode of livestock treatment: Agha Khan Rural Support Program trained selected members from the village in livestock development who extended their services to the respective communities. Table 7, shows that before the training program 57.5% respondents were giving local or traditional treatment to livestock, while 37% were taking animals to veterinary hospital or private hospitals for treatment. The coordinated effort of livestock department and linkage development played vital role in eradication of diseases in the project area.

Vaccination and medication of livestock: Table 8 represents that 73% livestock in the sampled area got vaccination after training programme while only 31%

Table 9: Vaccination and medication of livestock before and after training

	Vaccination				Medication			
			Change				Change	
Livestock No	Before	After	No	(%)	Before	After	No	(%)
Cattle	8	16	8	20	11	17	6	15
Bull	4	10	6	15	5	11	6	15
Goat	10	23	13	32.5	9	19	10	25
Sheep	9	22	13	32.5	5	23	18	45
G. Total	31	73	40	100	30	70	40	100

Table 10: Annual mortality of livestock

	Annul mortality (Avg. no per year)		
Types of animal	Annual before (40)	Annul after (40)	Change
Cattle	12	5	-7
Goat	19	11	-8
Sheep	23	13	-10
Bull	9	2	-7
G. Total	63	31	-32

before the program. After the initiation of the program, medication of livestock increased by 70% which was 30% before the program. Due to lack of staff and vaccines the livestock were not vaccinated or medicated. AKRSP training program ensured 73 and 70% medication and vaccination respectively to develop livestock sector of the area.

Annual mortality of livestock: It is evident from the Table 9 that overall mortality rate of livestock reduced by 62.5% after the training program. This might be due to vaccination and medication services provided by livestock extension workers after training of AKRSP being launched.

Housing: All respondents were residing in their own houses and respondents of village charun were living in either Kacha or Semi Paca house.

Effect on occupation of the beneficiaries: Human resources development activities can develop the occupational status and have effect on the beneficiaries' income. Most of the beneficiaries about 75% developed their occupation due to HRD/ training activities. About 22% remained at the same level, 15% believed that training was not good enough to affect their occupation and 10% complained about non-availability of financial resources.

Change in the income status of the beneficiaries: Trained workers utilized their training to enhance their income besides high production of livestock. They provided services in different villages and earned reasonable earrings. Table 12, represents increase in their monthly income.

As agriculture, forestry and livestock have close coordination naturally and different segments of the trica are dependable either on one aspect or another, therefore different programmes under the umbrella of rural community have been in practice for the last few decades in the country. To analyze and support the findings of the present study different studies have been conducted by different researchers in order to get access to the root causes of the farmer-oriented problems. Some are discussed here.

Khan (2003) evaluated the role of AKRSP in natural Resource management strategies for managing natural resources and to formulate recommendations for stimulating NRM in Astor valley of northern areas. He reported that 87.5% respondents benefited from training in animal husbandry sector, 39.2% helped in animal improvement and 15% provided exotic breeds of livestock. In the programme 70% respondents received training and fully utilized it. It was also found that 96% respondents were having forests and AKRSP helped them to plant more trees. Similarly, the provision of various inputs and technology skill not only increased productivity but also motivated the rural community towards the goal of sustainable agriculture.

Hamid (2003) also evaluated the role of AKRSP in livestock management. He initiated to compare the milk production of beneficiaries with that of non-beneficiaries of AKRSP intervention. The data collected from 75 respondents, 40 beneficiaries and 35 non-beneficiaries to whom AKRSP had introduced high milk producing cows on subsidized rates i.e. to beneficiaries. The supply of these cows reflected positive effect and enhanced milk production of the beneficiaries as compared to the non-beneficiaries. Amjad (2002) evaluated the role of SRSP particularly its HRD based training program on livestock production in Tehsil Mansehra. Majority of the respondents were young and energetic, all literate having an average 40 kanals land per household. Majority of the owners were having farming being their main source of income. The after effects were increased size of livestock, enhanced milk production and income of the beneficiaries. Modern treatment practices, vaccination and medication decreased annual mortality and 80% decline in disease.

Qaddafi (2001) evaluated the effect of NRM strategies of

Table 11: Ownership status and housing system

	CO*				
Ownership status	Mughlandure	Mulain	Romkali	Total	Change (%)
Kacha Mud and Wood	8	11	9	28	70
Semi paca Break and wood	5	3	4	12	30
Total	13	14	13	40	100

Table 12: Effect on the occupation of the beneficiaries

	Yes		No		Factor response for change			
Name of co*	No	Age (%)	No	Age (%)	A	B	C	D
Mughlandure	9	22.5	3	7.5	6	2	2	1
Mulain	10	25	5	12.5	7	4	2	2
Romkali	11	27.5	2	5	7	3	3	1
G. Total	30	75	10	25	20	9	7	4

A: Same but even better than before
B: No Change
C: Training was not that effect
D: Non-availability of resources

Table 13: Change in the income status of the beneficiaries

	Increase income (Rs/M)							
	Rs. 1200-1800		Rs. 1900-2800		Rs. 2900-3800		Total Change (%)	
Respondent	No	(%)	No	(%)	No	(%)	No	(%)
Mouhglandure	2	5	4	10	6	15	12	30
Mulain	4	10	5	12	5	12	14	35
Romkali	3	7	6	15	5	12	14	35
G Total	9	22	15	37	16	40	40	100

NRSP and stated that it has far reaching effect in management of natural resources particularly animal husbandry. Different vaccination campaigns and awareness on balance diet of livestock and poultry increased milk production. Similarly provision of various inputs and technological skill of farming on modern scientific lines not only resulted in increased productivity but also motivated the rural community for sustainable agriculture. Jabber (2000) reported that the involvement of AKRSP in agricultural development has increased the population of livestock, improvement in animal health and productivity. Nadeem (1999) evaluated the effects of AKRSP to foster the development of rural people through human resource development programme in Teshsil Mastuj, Chitral. The study was confined to Agriculture, livestock and poultry. The study showed an upward trend of production and downward trend of mortality and disease.

Mohmand (1999) evaluated the impact of the development programmes of the NGOs like Aga Khan Rural Support Programme, Sarhad Rural Support Corporation and Balochistan Rural Support Programme in mountain areas of enterprise Pakistan. Special focus is given to the nature and thrust of these programmes in the context of development. All NGOs have a common approach and programme structure i.e., all emphasize on formation of community-based organizations and establishment of participatory approach. The package offered include construction of local infrastructure, improved natural resource management, better agriculture practices, use of inputs and livestock management, training in various fields for human resource development, provision of credit and promotion of savings and support for income generating micro-enterprises.

Brook *et al.* (1998) reported that planning dairy production system involves integrating natural, human resources and capital into a complete package. The system must be economically feasible and environmentally compatible while providing a satisfactory quality of life for the owners and employees. Evaluation of natural resources include the areas of site location, available water and environmental consideration, feed production potential and spread able areas for manure management. A complete natural resources evaluation is critical in planning a successful operation. Human resources evaluation is critical for operation involving family members. The plan is more likely to be successful if natural capital and human resources are systematically evaluated. Sarwar (1991) suggested that information on new and improved technologies need to be conveyed to farmers through communication channels.

Conclusion: The training reflected positive effects in the area especially in livestock production. The trained workers encouraged and compelled farmers to increase size and production of livestock. A trend was developed among the people to keep more cows, sheep, goat and poultry. The people were nicely awarded and inclined to pick up ideas to enhance income either by selling of animals or their by products like milk, hides. All This was made possible when people started to take animals to veterinary centers, getting services of the livestock extension workers and vaccinated/medicated their livestock. A remarkable reduction in livestock mortality or diseases and increase in livestock holding size and production was observed. Training activities introduced modern methods of livestock management and marvelous increase in milk production. The training program brought development in majority of the beneficiaries's occupation besides per month increase in their income.

RECOMMENDATIONS

- Training should be long term, informative and practical in nature
- Assistance should be provided in marketing of livestock and its products
- A strong viable linkage must be maintained between village communities and government line agencies
- Disease reporting center should be established to identify problems related to livestock diseases and management practices
- Long term planning is essential for sustainable development of livestock in the area
- AKRSP should develop a baseline data regarding livestock production at farm level to devise and improve future strategies

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