



Research Article

Role of Agriculture Inputs through NRM Interventions for the Socio Economic Development of the Poor Rural Communities of District Karak Underunder Srsp-Bacha Khan Poverty Alleviation Programme

¹Inayat Khattak, Shahida Naveed^{2*},
Muhammad Sajid Khattak³ and Tahir Farid⁴

¹NRM Coordinator Bacha Khan Poverty Alleviation Programme SRSP Karak.

²Phd Scholar Botany Department University of Peshawar.

³Phd Scholar Center of Advanced Studies Islamabad.

⁴Trainee in SRSP, BKPAP.

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*Corresponding Author

Shahida Naveed

E-mail:

Shahidanaveed@Live.Com

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ABSTRACT

The present study was specially designed to analyze the impact of NRM (natural resource management) interventions made during three years (2009-2012) of the BKPAP project tenure. The main objective of the research was to appraise the role of NRM section in the sustainable development of agriculture in the Karak district. The prominent NRM interventions were, the raising of demonstration and research plots, distribution of improved seeds and fertilizer to the farmers, agro base training like agriculture extension worker training, livestock extension worker training, poultry extension worker training, Income generating training including food preservation training, quill farming, and olive plants distribution and de-worming and vaccination campaigns. A sample of 60 respondents was selected through non probability sampling techniques from six union councils of the project area. The data was collected from male and female, literate and illiterate. The study showed encouraging result for the role of NRM section and impacts of its intervention in the Karak district. Most of the respondents were optimistic about the role of NRM section and reported its remarkable influence for the sustainable agricultural development in rural areas. A visible improvement and increased crop production in yield like groundnut, millets, sunflower, okra, cotton and olive was observed. Farmers were also made aware about the de-worming and vaccination and in the use of balanced feed to livestock and poultry that resulted in increased production of both livestock and poultry and its products..

INTRODUCTION

Poverty is a global problem which needs to be addressed seriously. A remarkable portion of the world economy is spent on poverty reduction but the desirable results are scarcely felt as the condition is further deteriorating. The poverty situation in the third world is more serious. In Pakistan the graph of poverty increases by the day. The main reason is the high growth rate of population and careless distribution of resources and lack of access of the poor. There is a need for sustainable development in the agriculture sector so that a large portion of the population may benefit in a better way and cope better with poverty situation. For this purpose SRSP has played a vital role in poverty reduction in the KPK rural community since November 1989. In district Karak, SRSP intervention is appreciable and has been working since 1993. For the last three years Bacha Khan Poverty Alleviation Program has successfully engaged in rural poverty reduction in four districts of KPK. Karak is among the intervention districts of Bacha Khan Poverty alleviation programme. Karak is a rain fed area and most of the land is also rain fed along with limited irrigated land. Under Bacha Khan Poverty alleviation programme, Natural Resource Management is a major portion of the programme. So for the NRM section, the programme has successfully intervened in the distribution of improved seeds in fertilizer raising of demonstration plots, agriculture extension workers training, livestock extension workers training, poultry extension workers training income generation training (including food preservation and olive plants distribution/cultivation), vaccination and deworming campaigns.

The role of agriculture in structural transformation has been demonstrated in many Asian countries through the green revolution, which began in the 1960s and spread rapidly throughout the region in the 1970s and 1980s, especially in densely populated and irrigated areas. The unprecedented fall in global poverty in Asia in recent decades reflects a large contribution from this successful agricultural transformation (Ravallion and Chen 2004).

Historically, few issues have attracted the attention of economists as has the role of agriculture in economic development and poverty reduction, generating an enormous literature of both theoretical and empirical studies. Much of this literature focuses on the process of structural transformation of economies, from the least developed in which economic activity is based largely on agriculture, to high-income countries where industry and the services sectors dominate.

Many recent studies focus specifically on quantifying the relationship between agriculture and poverty. Bresciani and Valdes (2007) frame their analysis in terms of three key channels they say links agricultural growth to poverty: 1) labour market, 2) farm income, and 3) food prices. They provide a theoretical framework for investigating the quantitative importance

of those various channels and then report findings from six country case studies. They conclude that when both the direct and indirect effects of agricultural growth are taken into account, such growth is more poverty reducing than growth in non agricultural sectors.

A declining share for agriculture in national employment and GDP is an inevitable consequence of economic progress (Byerlee, de Janvry and Sadoulet, 2009; Timmer, 1988; Cervantes and Brooks, 2009). This is largely due to higher income elasticity of demand for non-agricultural goods and services. As their incomes grow, consumers increase their consumption of manufactured goods and services faster than their consumption of food. Paradoxically, the process is usually accompanied by rising incomes and a lower incidence of poverty among those who depend on agriculture for a living.

Theodore Schultz began his acceptance speech for the 1979 Nobel Prize in Economics observing: "Most of the people in the world are poor, so if we knew the economics of being poor we would know much of the economics that really matters. Most of the world's poor people earn their living from agriculture, so if we knew the economics of agriculture we would know much of the economics of being poor" (Shultz, 1979).

OBJECTIVE OF THE STUDY:

The main purpose of the study was to improve the living conditions of small scale farmers by adopting modern measures to increase the per acre yield through best use of agriculture practices, so that their income is increased. It also studied Agriculture Development on sustainable basis. For that purpose the Agriculture bio-diversity and Natural Resource Management (NRM) were the proper keys. It also aimed to increase the farmer knowledge by providing them with agro base trainings. It includes agriculture extension worker trainings livestock extension trainings, poultry extension worker trainings and income generation trainings. The main objectives of the study are:

- **To improve the living condition of small scale farmers.**

By adopting modern measures to increase the per acre yield through best use of agriculture practices so that their income is increased

- **To pursue Agriculture Development in rural areas on sustainable basis.**

For this purpose the Agriculture bio-diversity and Natural Resource Management (NRM) are the proper keys.

- **To increase the rural community knowledge by providing them agro base trainings.**

It includes agriculture extension worker training, livestock extension training, poultry extension worker training and income generating trainings.

MATERIAL AND METHOD

The research is so significant for future researchers who will conduct research on NRM activities. It is also beneficial for government, non government organizations who try to know about the importance of NRM activities in rural communities. Non probability sampling method was followed in which purposive sampling techniques were used. The study was

conducted in 6 union councils of district Karak namely Sabir Abad, Terri, Jandri, Metha Khel, Chokara, and Latamber in which the SRSP- BKPAP is working. A sample of 60 respondents, in which 10 respondents were taken from each union council were analyzed using the survey sampling method. A comprehensive closed structure questionnaire was prepared for data collection from the community including male and female, literate and illiterate. The data was statistically analyzed with the SPSS software.

Data Tabulation

1. Average agricultural production of land before SRSP- BKPAP

Production of land	Frequency	Percent
Low	38	63.3
Average	20	33.3
High	2	3.3
Total	60	100.0

2. Were you able to sell products before SRSP- BKPAP

Sell products	Frequency	Percent
Yes	4	6.7
No	56	93.3
Total	60	100.0

3. Were your agricultural crops vulnerable to any diseases before SRSP- BKPAP

Vulnerable to diseases	Frequency	Percent
Yes	54	90.0
No	6	10.0
Total	60	100.0

4. What was the level of the SRSP- BKPAP agricultural training

Level of training	Frequency	Percent
Good	28	46.7
Better	32	53.3
Total	60	100.0

5. Has the agriculture trainings arranged by SRSP- BKPAP improved your knowledge?

Improve knowledge	Frequency	Percent
Yes	60	100.0

6. Has the hybrid seeds fertilizers provided by BKPAP increased production, income and land fertility?

Increase production and income	Frequency	Percent
Yes	60	100.0

7. What was your average production of millet before SRSP- BKPAP?

Production of millets	Frequency	Percent
8mond/acre	38	63.3
15 mond/acre	22	36.7
Total	60	100.0

8. What is your average production of the hybrid seeds given by SRSP- BKPAP?

Production of hybrid seeds	Frequency	Percent
20 mond/acre	34	56.7
30 mond/acre	26	43.3
Total	60	100.0

9. Have you ever cultivated cotton before SRSP- BKPAP?

Cotton crop	Frequency	Percent
Yes	2	3.3
No	58	96.7
Total	60	100.0

10. What is your production after the SRSP- BKPAP provision?

Production of cotton from bkpap	Frequency	Percent
25 mond/acre	26	43.3
35 mond/acre	32	53.3
45 mond/acre	2	3.3
Total	60	100.0

11. Were you facilitated by any Govt/ngo in provision of improved groundnut seeds before?

Facilitated by govt/ngo	Frequency	Percent
Yes	14	23.3
No	46	76.7
Total	60	100.0

12. What was your average groundnut production before SRSP- BKPAP?

Average groundnut	Frequency	Percent
8 mond/ acre	28	46.7
10 mond/ acre	24	40.0
20 mond/ acre	8	13.3
Total	60	100.0

13. What is your average groundnut production after provision of improved seed and fertilizer DAP?

Production after provision	Frequency	Percent
15 mond/acre	6	10.0
18 mond/acre	32	53.3
20 mond/ acre	22	36.7
Total	60	100.0

14. Have you ever cultivated sunflower before?

Sunflower before	Frequency	Percent
Yes	14	23.3
No	46	76.7
Total	60	100.0

15. Has your income increased after provision of sun flower by SRSP- BKPAP?

Sunflower provision by bkpap	Frequency	Percent
Yes	58	96.7
No	2	3.3
Total	60	100.0

16. How much did your income increase after selling of oil obtained from from one acre?

Selling of oil	Frequency	Percent
25000	28	46.7
35000	20	33.3
45000	12	20.0
Total	60	100.0

17. How much income did you obtain from the hybrid okra crop provided by SRSP- BKPAP

Hybrid okra crop	Frequency	Percent
10000	28	46.7
15000	30	50.0
20000	2	3.3
Total	60	100.0

18. Did your income increase with the provision of grafted olive plant by SRSP- BKPAP

Olive plant	Frequency	Percent
Yes	58	96.7
No	2	3.3
Total	60	100.0

19. Before the livestock extension worker training, did you know about rearing technique?

Livestock training	Frequency	Percent
Yes	16	26.7
No	44	73.3
Total	60	100.0

20. Have diseases that occur to livestock decreased after the training?

Disease occurred after training	Frequency	Percent
Yes	58	96.7
No	2	3.3
Total	60	100.0

21. How much production of milk increased after adopting the SRSP- BKPAP livestock training

Production of milk	Frequency	Percent
2kg	14	23.3
5kg	26	43.3
10kg	20	33.3
Total	60	100.0

22. Are the techniques taught by the SRSP- BKPAP sustainable?

Sustainable	Frequency	Percent
Yes	60	100.0

23. IsHas it improved your social status?

Social status	Frequency	Percent
Yes	58	96.7
No	2	3.3
Total	60	100.0

24. Has poultry played an important role in your family income?

Poultry	Frequency	Percent
Yes	46	76.7
No	14	23.3
Total	60	100.0

25. Has your family income increased after getting poultry extension worker training?

Family income	Frequency	Percent
Yes	46	76.7
No	14	23.3
Total	60	100.0

26. Has the disease ratio of poultry decreased after getting SRSP-BKPAP health improving techniques?

Disease ratio decrease	Frequency	Percent
Yes	58	96.7
No	2	3.3
Total	60	100.0

27. Has food provision regarding family food (meat and egg) increased after training?

Food increase after training	Frequency	Percent
Yes	60	100.0

28. If yes how much

How much	Frequency	Percent
some extent	18	30.0
more extent	18	30.0
greater extent	24	40.0
Total	60	100.0

29. Your health of livestock improved after vaccination and de-worming

Health of livestock	Frequency	Percent
Yes	60	100.0

30. How much did your meat production increase after vaccination and de-worming?

Meat production	Frequency	Percent
20%	34	56.7
40%	24	40.0
60%	2	3.3
Total	60	100.0

31. Did mortality rate of livestock decrease after vaccination and de-worming?

Mortality rate	Frequency	Percent
20%	10	16.7
30%	38	63.3
40%	12	20.0
Total	60	100.0

RESULTS AND DISCUSSION

The data collected regarding average production of land revealed that before SRSP-BKPAP intervention, 63% of the total being 38 respondents said that their average production of land in general was low while 33% of the total being 20 respondents answered in the average production and only 1% said that their production was high before the SRSP-BKPAP intervention. As for

agriculture products' selling, majority of the respondents that is 93% of the total being 56, said that they were not able to sell their products in the markets before the SRSP-BKPAP intervention and only 6% being 4 respondents of the total were in the negative mood.

The data recorded on crop vulnerable to diseases shows that before SRSP intervention in the area, a large population of 90% of the total being 54 respondents', report that their crops were seriously attacked by

different diseases. Only 6 respondents of the total claimed that their crops were safe from diseases. The table 4 showed the data recorded on agricultural extension worker training. All the 100% respondents termed it as fruitful training. Further data showed that all the respondents being 100% said that the training arranged by BKPAP improved their knowledge. When they were asked that whether the hybrid seeds fertilizer provided by BKPAP increase production, income and land fertility all the respondents gave a positive response. The data recorded regarding average production of millets before BKPAP revealed that 63% of the total being 38 respondents said that their average

production was 8 monds/acre while 36% being 22 respondents said their production of millets before BKPAP intervention was 15 mond/acre.

In table 8, majority 56% of the total being 34 respondents said that their average production of hybrid seeds given by BKPAP is 20 mond/ acre while 43% of the total being 26 respondents said that their average production of hybrid seeds given by BKPAP is 30 mond / acre. When the respondents were asked that whether they ever cultivated cotton crops before SRSP intervention majority of the respondents that is 96% of the total being 58 respondents give negative response and only 2 respondents said that they had cultivated cotton crop before SRSP-BKPAP intervention. Further data showed the respondents production of cotton after BKPAP provision that is 53% of the total being 32 respondents were of the view that their production was 35 mond / acre while the remaining 43% of the total respondents said that their production was 25 monds / acre. When they were asked that whether they were facilitated by any Govt/ NGO in provision of improved groundnut seeds before SRSP-BKPAP intervention 76% of the total being 46 respondents answered that they were not facilitated and only 23% of the total being 14 respondents said they were facilitated by Govt/ NGO before SRSP-BKPAP in provision of groundnut seeds.

The data collected from the respondents revealed that 47% of the total being 28 respondents said that their average groundnut production before BKPAP was 8 mond / acre. 40 % of the total being 24 respondents said that the average groundnut production before SRSP was 10 mond / acre. While 13 % of the total being 8 respondents were of the view that average groundnut production before SRSP was 20 mond/ acre. The data recorded, regarded average groundnut production after provision of improved seeds and fertilizer DAP revealed that 53% of the total being 32 respondents answered that their average production after provision is 18 mond /acre, 36% of the total being four respondents said that their production after provision of improved groundnut seeds was 20 mond /acre while the remaining 6 respondents reported that their production after provision is 15 mond /acre. As for as the income obtained from hybrid okra crops given by BKPAP is concerned 50% of

the total respondents said that they have obtained Rs.15000 income, 46% of the total being 28 respondents said they have obtained Rs.10000 income and 2 respondents claimed that they obtained 20000 income from the hybrid okra crop net plot size of one acre given by SRSP-BKPAP.

The data in table 18 revealed that a significant increase will be occurred in their income when the olive plants bear the fruits about 98% were optimistic in getting high production in income. The data in table 19 shows that 73 % of the total being 44 respondents accept that they were not aware about the rearing of animals only 16 respondents were aware from the rearing techniques. The respondents were more conscious about the diseases of their livestock remarkable decrease up to 98% was observed in the diseases after having livestock training and that will might be result in the high milk production, which 100% respondents reports in increased. Similarly table 22 revealed that the training will be sustainable and their social status has become upgraded in the society.

The data recorded in table. 24 regarding poultry rearing shows the significant results about 78% of the total bring 46 respondents termed it as beneficial in their day today life. Only 22% respondents showed negative attitude. As for as poultry extension worker training is concerned again 78% respondents thought that their income has increased after getting poultry extension worker training. Similarly the data recorded on poultry disease revealed that high population about 98% of the total being 58 respondents claimed that poultry diseases in the area has been decreased where SRSP-BKPAP is engaged in poultry intervention. The entire population strongly claimed in the target area that their food from the poultry such as meat and egg has been remarkably increased they reported that 100% meat and egg production need comes from domestic poultry.

The data recorded on Vaccination and de-worming in table 29 shows that in the area where vaccination and de-worming was carried out under SRSP-BKPAP, the livestock health is quite satisfactory that is supported by the bulk of the population in the targeted area. Similarly 57% of the respondent viewed that their meat production has increased up-to 20%. 40% claimed 40% increased while the remaining reported 60% increased. As for the mortality rate of livestock in the intervention area 17% respondents reported that mortality rate of livestock has decreased up-to 20%, 63 percent reported decreased up-to 30% while the remaining 20 percent reported that mortality rate of livestock has decreased up-to 40%. In general, vaccination and de-worming have put a very healthy and pleasant effect on livestock in the area under the Bacha Khan Poverty Alleviation Programme.

CONCLUSION

From the above study it is very much clear that after the NRM Intervention in the District Karak, the livelihood status of the target rural communities has significantly improved. The people in rural areas have started adopting modern ways of agriculture farming, they are ready to cultivate improved and hybrid seeds of different crops and vegetables. Similarly by getting different agro based trainings they are able to lead respectable lives in the society. In short, it is big evidence that the rural support organization has access to the grassroots level in the community and they target the needy and right people. This effectively contributes to reducing poverty in rural areas.

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