



Effects of Farmers' conflicts on Agricultural Extension Services in District Sargodha of Punjab, Pakistan

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Abstract

Small-scale farmers suffer from various agricultural related conflicts. These conflicts affect not only agricultural and food production but also the personal growth and development of the individuals. The farming conflicts that may not managed properly and on time could hinder sustainable agricultural development. Agricultural Extension, as a behavioural science is responsible not only for technology dissemination but also for raising the living standards of rural households. The present study carried out in the Department of Agricultural Extension, Sargodha University during 2017. The focus of this study was to examine the effects of farming conflicts on agricultural extension services; to identify the present role of agricultural extension services in the management of farmers' conflicts. The data from extension field staff (EFS) collected with the help of a structured questionnaire. It was found that the system was predominantly occupied by EFS who were not qualified in the field of extension and hence were unaware of the concept of problem solving in the scenario of conflict management (CM) among farming communities. Further, the results confirmed a detrimental effect of conflicts on performing extension activities. Their effect was more for turnover of extension work by EFS. The low satisfaction level among EFS hinders smooth functioning of extension activities and they cannot monitor the farmers' deeds during the conflicting situation. Presently, EFS does not take part in the conflict management process as they consider it not part of their formal job. The results of the chi-square test of association between EFS major degree area and their involvement in CM of farmers was significant.

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Introduction

In the present world scenario, conflicts and wars have become major causes of devastated economies of the world. Similarly, in rural communities of South Asian countries especially in Pakistan, farmers' conflicts are a very common social phenomenon. These conflicts affect the production and living of farmers and are considered as a threat to rural economic activities hence causing food insecurity and poverty. Majorly, land, water, livestock, the struggle for depleting resources and leadership, honor-killing, cultural and religious disagreements and corruption are the factors that increase the probability of conflicts (Manu *et al.*, 2014). When these conflicts become intensified, agricultural productivity is troubled seriously because it prevents farmers to make profitable interventions in their agricultural business (Sekeris, 2010). These conflicts destroy crops, farm equipment, seed stocks and other farming capitals, reduce access to irrigation water, and force farmers to quit farming. Labour becomes short which creates hindrances in agricultural operations, markets remain closed, interrupt planting and harvesting cycles and ultimately crops destruction and high cost of production leads to economic loss (Brinkman, 2011; Kimenyi, Adibe, Djiré, and Jirgi, 2014). Furthermore, when these conflicts go to the formal court of law, farmers lose almost 19% to 23% of agricultural productivity (Siyum *et al.*, 2015). Landowners disapproved of this system due to more time-taking and incompetence for providing solutions to conflicts, especially among small farmers. Courts are overburdened with a huge backlog of cases. The farmers spend tens of thousands of rupees and time in finding solutions to these conflicts. The cases may take 3-4 years or even more to resolve issues in the court of law (Jehangir, 2002; Dowall and Ellis, 2007; Ali and Nasir, 2010).

The majority (89%) of the growers in Pakistan have comprised of small and marginal farmers having land less than 5 hectares and cover 55% of the cultivated area (Kleffmann Group, 2019). Conflicts and quarrels among small farmers occur frequently throughout the country (Malik, 1996). These conflicts are not only an

exclusive challenge to farming but also represents more and more serious social problem that undermines both the faith of people in the system and their power to accomplish sustainable development (Sovannarith *et al.*, 2001).

Extension education is a behavioural science that brings desirable changes in complex human behaviour. In rural settings, extension services are responsible for empowering farmers (Hellin, 2012) for joint learning and collective action (Höckert and Ljung, 2013) for combating rural poverty and food insecurity through technology transfer, supporting rural adult learning, assisting farmers in problem-solving and getting farmers actively involved in the agricultural knowledge and information system (Christoplos, 2000). Through continuous extension interventions and applications of various techniques and approaches in extension programs, the desired change in human actions is possible (Krishiworld, 2012). The similar historical views were shared by van der Ban and Hawkins (1996) that the goals of agricultural extension included transferring information from the global knowledge base and from local research to farmers, enabling them to clarify their own goals and possibilities, educating them on how to make better decisions, and stimulating desirable agricultural development. Thus extension services provide human capital-enhancing inputs, including information flows that can improve rural welfare—an important outcome long recognized in the development dialogue (Leonard 1977; Garforth 1982; Jarrett 1985; Feder, Just, and Zilberman 1986; Roberts 1989). Further, the philosophy of extension work does not limit to educate farmers regarding innovative technologies, but also enlightening to recognize the tricky situation that hinders the way of adoption of different technologies by the farming communities. Therefore, it is meaningful for extension advisory staff to become accountable for conflict management among farmers (Adisa, 2012). Agricultural extension plays a starring role in agricultural and rural development hence is regarded as a policy tool for promoting the safety and quality of agricultural products (Bonye, 2012).

Rural development being the holistic development perspective of the farming community embraces many new ideas other than teaching only. Agricultural extension being a “service delivery institution” at the mass level may also include in the responsibilities of extension field staff to provide services to its stakeholders regarding knowledge and training to manage conflicts at the community level (Lopokoiyit, 2013). Okoli and Atelhe (2014) asserted that in crisis; development could not be attained and sustained. Extension agents work in communities affected by conflicts, face challenges beyond those normally associated with their jobs (National Academy of Engineering, 2012) because, during conflicts of farmers, they are often at the crossroad between their job and loyalty to the communities, villages, kindred and individuals who are in a conflict where the agents operate.

Literature has no evidence for the after-effects of farmers’ conflicts on the activities of extension agents in district Sargodha, Punjab-Pakistan. Numerous studies are available at the national level dealing with factors affecting the efficiency of extension services. However, there is hardly any study of agricultural extension in Pakistan, which exclusively reveals data regarding the effect of farmers' conflicts on the output of extension field staff.

Therefore, a gap exists in knowledge and available models for conflict management and resolution among farmers.

It is due to this reason that the present study has been conceived and designed to investigate the effects of farmers’ conflicts on agricultural extension services delivery in the district of Sargodha, Punjab-Pakistan.

Material and methods

Research design

For the present research, the cross-sectional survey research design was chosen to answer the research objectives for identifying the effect of farmers’ conflicts on agricultural extension service, in district Sargodha, Punjab, Pakistan.

Census study for the population (extension field staff)

The selection of respondents from the overall population of EFS including Agriculture Officers (AOs), Deputy Directors of Agriculture (DDOAs), and Director of Agriculture (DOA), was limited and accessible in district Sargodha. Therefore, the census survey was conducted with the whole EFS including DOA, DDOAs, AOs, and field assistants (FAs) from the Department of Agriculture (Extension) of District Sargodha.

Research Instruments

A survey instrument (Questionnaire) was developed for EFS. This selection of instruments was done as the EFS was educated and requires less time to administer.

Pre-testing of Research Instrument

Ten respondents have randomly selected from EFS to pre-test the reliability of the questionnaire. Revisions made in the light of respondents’ observations and remarks concerning the quality of the research instrument to enhance its validity and reliability.

Reliability

The reliability coefficients of the instruments were calculated using Cronbach’s Alpha formula using Statistical package for social sciences (SPSS). Alpha (α) ranges from 0 to 1. A value of ≥ 0.70 reflects good reliability. The reliability coefficient for all factors measured on a Likert-type scale for the present study was computed and found satisfactory which was 0.950 (Mugenda and Mugenda, 2003).

Validity

The content and face validity of the survey instrument (questionnaire) were ascertained as per the opinions of the experts. The experts from the Agricultural Extension Department of Sargodha University and the discipline of Agricultural Extension and Rural Development of Agricultural University, Faisalabad, Pakistan consulted for checking the validity of the survey instrument. All constructive suggestions incorporated into the final instrument.

Data collection procedures

The survey instrument for EFS translated into Urdu so that the EFS staff (FA) other than the executive heads can understand it well. Of the 150-survey instrument, 118 completed and used all of them. The response rate for the study was 79%. Follow up methods (telephone, and reminders) were used to increase the response rate from the respondents and 12 questionnaires were received due to the follow-up methods.

Data analysis

Data were analysed using the computer software program Statistical Package for Social Sciences (SPSS). The tools of descriptive statistics such as percentages, frequencies, and means were used to describe the data.

Results and discussion*Demographic profiles of the respondents*

Numbers of factors such as age, educational qualification, major degree area, years of job experience of EFS were explored during the study.

Age

Results of the study depicted that approximately 41% of the respondents were middle-aged (between the age of 41-50 years), 32% of the respondents were old i.e. between the age of 51 to 60 years, one fifth (20%) were young (between 31-40 years), whereas, only 6.9% were pretty young having age up to 30 years.

The average age was found 45 years. Hence, it is concluded that the majority of the respondents were middle-aged in the survey (see Table 1).

Table 1. Age distribution of the respondents (N =130).

| Age (years) | Frequency | Percent |
|-------------|-----------|---------|
| Up to 30 | 9 | 6.9 |
| 31 – 40 | 26 | 20.0 |
| 41 – 50 | 53 | 40.8 |
| 51 – 60 | 42 | 32.3 |
| Total | 130 | 100.0 |

Note. Average age = 45 years.

Educational qualification

The educational profile of EFS was checked and results revealed that out of 130 respondents, 80% were holding a diploma in agricultural sciences, just 0.8 % hold bachelor degree in agriculture. However, 19.2% of respondents hold a master's degree in

different areas of agriculture. Importantly, the minimum educational level for attaining the position of Agricultural Officer is a bachelor's degree in any area of agriculture. A diploma in agriculture sciences is a qualification for the position of Field Assistant (FA) (see Table 2).

Table 2. Distribution of respondents according to their education (N =130).

| Educational qualification | Frequency | Percent |
|----------------------------------|-----------|---------|
| Diploma in Agricultural Sciences | 104 | 80.0 |
| B.Sc. (Hons.) Agriculture | 1 | 0.8 |
| M.Sc. (Hons.) Agriculture | 25 | 19.2 |
| Total | 130 | 100.0 |

Major degree area

Related to the major subject, 7.69% of the respondents held the degree of agricultural extension and plant breeding and genetics, (50%) were graduated with agronomy, (19.3%) with agricultural economics, (3.85%) with entomology, and (11.54%) with soil science. Hence, it is evident that agricultural extension system has dominated by non-extension

professionals. It is further said that extension system in Pakistan is led by individuals who have little knowledge of extension education philosophy for extension work which demands the consideration of policymakers for formulating rules of "right man for the right job" for proper and conducive work environment in any system (see Table 3).

Table 3. Distribution of major degree area of *AOs, **DDOAs and ***DOAs (N =26).

| Major degree area | Frequency | Percent |
|-------------------------|-----------|---------|
| Agri. Extension | 2 | 7.69 |
| Agronomy | 13 | 50.00 |
| Agri. Economics | 5 | 19.23 |
| Entomology | 1 | 3.85 |
| Plant Breeding Genetics | 2 | 7.69 |
| Soil Sc. | 3 | 11.54 |
| Total | 26 | 100.0 |

*Agricultural officers, **Deputy Director of Agriculture, ***Director of Agriculture.

Table 4. Distribution of respondents according to their work experience (N =130).

| Experience (years) | Frequency | Percent |
|--------------------|-----------|---------|
| 1 – 10 | 11 | 8.5 |
| 11 – 20 | 44 | 33.8 |
| 21 – 30 | 62 | 47.7 |
| 31 – 40 | 13 | 10.0 |
| Total | 130 | 100.0 |

Years of job experience

About half of the respondents (47.7%) had work experience between 21-30 years. Moreover, 33.8% had experienced between 11-20 years. The average experience of the job was 21 years (see Table 4).

Effects of conflicts on agricultural extension activities

The second objective of the study was to identify the extent to which conflicts affect the smooth functioning of agricultural extension activities by EFS. The respondents described their opinion in each of the specific areas on a 5- point Likert scale ranging

from very low to very high (1-5).

Table 5 shows the overall level of effect of conflicts on agricultural extension activities under study ranged from medium to high. However, turnover/results of extension work (mean = 4.330) were at the top. The next extension activity “satisfaction among staff” (mean = 3.984) was also reported by the respondents to be highly affected as a result of farmers’ conflicts. The subsequent eight activities in Table (5) were perceived to be pretentious by conflicts and the level of effect fell between medium and high but tended more towards high.

Table 5. Means, Standard Deviations, and Ranks of effects of conflicts on agricultural extension activities as perceived by the respondents (N = 130).

| Agri. extension activities | Mean | SD | Rank |
|---|-------|-------|------|
| Turnover/results of extension work | 4.330 | 0.892 | 1 |
| Satisfaction among staff | 3.984 | 1.194 | 2 |
| Steady monitoring of farmers’ deeds | 3.746 | 1.247 | 3 |
| Training on novel practices | 3.723 | 1.213 | 4 |
| Farmers’ Education | 3.700 | 1.236 | 5 |
| Creation and organization of farmers’ groups | 3.700 | 1.198 | 6 |
| Diffusion of innovation to farmers | 3.615 | 1.190 | 7 |
| Frequency of farm visits | 3.600 | 1.038 | 8 |
| Completion of extension duties in time | 3.600 | 1.255 | 9 |
| Organizing field demonstration | 3.569 | 1.244 | 10 |
| Co-operative activities | 3.530 | 1.175 | 11 |
| Relationship between extension agents and farmers | 3.415 | 1.368 | 12 |
| Linking farmers to input agencies | 3.192 | 1.107 | 13 |
| Linking farmers to credit points | 3.123 | 1.019 | 14 |

Scale: 1 = Very low, 2 = Low, 3 = Medium, 4 = High, 5 = Very high.

The medium effect was perceived for the next four doings from “co-operative activities” (mean = 3.530), to “linking farmers to credit points” (mean = 3.415).

Involvement of EFS in conflict management of farmers

Respondents were asked about their involvement in resolving farmers' conflicts. The results showed that there is near to never an involvement of EFS in CM of farmers both informally and formally (mean = 1.123, mean = 1.00), respectively (see Table 6).

Reasons for lack of involvement in conflict management

The respondents were enquired “why they don't participate in CM of farmers”. They responded with several reasons. The data regarding this information given in Table 7 reveals that “extension recommendations are packed nationally (top-down)”

with the mean value of 4.892 and “technology transfer is considered as the only primary role of EFS” (mean = 4.785) got uppermost two positions concerning reasons of non-involvement of EFS in CM of farmers. Their mean values tended more on the way to very high. The succeeding two highly perceived reasons having an insignificant variance of mean were “existing extension services have no knowledge of CM” (mean = 4.570) and “non-extensionists staff having lack of professional competency about basic extension philosophy of human resource development” (mean = 4.540). Mean values for the above-mentioned reasons fell between high and very high groups but consuming a fair fascination to very high. “Ignorance about the livelihood of small farmers”, ranked as the least reason for EFS' non-involvement in CM of farmers since the mean value showed greater decline (1.423) and tends towards a very low level on the scale (see Table 7).

Table 6. Means, Standard Deviations, and Ranks of EFS' nature of involvement in farmers' conflict management (N = 130).

| Nature of involvement | Mean | SD | Rank |
|--|-------|-------|------|
| Agricultural extension services are informally involved in CM of farmers | 1.123 | 0.413 | 1 |
| Agricultural extension services are formally involved in CM of farmers | 1.000 | 0.000 | 2 |

Scale: 1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Often, 5 = Always.

Table 7. Means, Standard Deviations, and Ranking of EFS' Perceptions Regarding Possible Reasons for their Non-Involvement in CM of Farmers (N = 130).

| Possible reasons | Mean | SD | Rank |
|---|-------|-------|------|
| Extension' recommendations are packed nationally (top down) | 4.892 | 0.486 | 1 |
| Technology transfer is the only primary role of EFS | 4.785 | 0.777 | 2 |
| Existing extension services have no knowledge of CM | 4.570 | 0.825 | 3 |
| Non-extensionists staff having lack of professional competency about basic extension philosophy of human resource development | 4.540 | 0.881 | 4 |
| Ignorance about the livelihood of small farmers | 1.423 | 0.608 | 5 |

Note: 1 = Very low, 2 = Low, 3 = Medium, 4 = High, 5 = Very high.

Association between major degree area and EFS Involvement in conflict management

The Chi-square test of independence was applied for checking the association among the EFS' (including DOA, DDOAs, AOs, and FAs) major degree area and their involvement in CM. The following null hypothesis was formulated during the study:

H₀: EFS' Major degree area and EFS' involvement in CM of farmers are independent

H₁: EFS' Major degree area and EFS' involvement in CM of farmers are associated

Data given in Table 8 shows the results from Chi-square analysis for drawing necessary conclusions to

see the association between EFS' major degree area and involvement in CM of farmers. The results from Chi-square analysis indicated that there is a

significant association between the two factors since $\chi^2 (5) = 20.785, p < .05$.

Table 8. Major Degree Area * Involvement in Conflict Management by Extension Field Staff Cross Tabulation.

| Major Subject | | Involvement in Conflict Management by EFS | | Total |
|---------------|-------------------------|---|----------------|-------|
| | | Not (Involved) | Yes (Involved) | |
| Major Subject | Agri. Extension | 101 | 5 | 106 |
| | Agronomy | 13 | 0 | 13 |
| | Agri. Economics | 4 | 1 | 5 |
| | Entomology | 0 | 1 | 1 |
| | Plant Breeding Genetics | 2 | 0 | 2 |
| | Soil Sc. | 3 | 0 | 3 |
| Total | | 123 | 7 | 130 |

$\chi^2 (5) = 20.785, p = 0.001$.

Conclusion

Farmers' conflicts adversely affect the delivery of extension services. Ironically, in a country like Pakistan, the extension is far away from its philosophy of problem-solving since current agricultural services are preoccupied with merely technology transfer concept only due to top-down extension planning and approaches. During the study, it was noticed that Extension personnel were generally unaware of the concept of conflict management. Further, it is concluded that EFS with specialization in agricultural extension has more association with conflict management among farmers.

Recommendations

The right man at the right place is the formula for success in every field of life. It is found by this research study that non-professionals (non-extensionist) staff at gusted levels is more which capture serious attention towards the right man for the right job. Graduates with Extension education degrees should be promoted in the intended discipline of the Department of Agriculture (extension). Only the professionals with high understanding of human psychology can do the job well related to technology transfer, human resource development, or conflict management. For the smooth functioning of EFS, farmers' conflicts are the most important issues that the government should

tackle first to improve agricultural yield and rural development.

Technology transfer, problem solving, education, and human resource development are the tetrad principle for capacity building in individuals and communities that must be part of the national extension system. It is recommended that to achieve a good role being played by EFS in farmers' CM, the government should give due consideration to the training of EFS for changing their behaviour and skills towards conflict management despite merely focusing on technology transfer.

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Conflict of interest

The authors and co-authors have declared no conflict of interest in this study.

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