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DYNAMICS OF AGRICULTURAL EXTENSION SERVICES IN PAKISTAN: A HISTORY OF NATIONAL PERFORMANCE

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ABSTRACT

Extension Advisory Services (EAS) are under criticism in various countries and Pakistan is one of them. In this mixed-method research study, various reasons for this criticism are explored. This study followed a *supportive model of organizational behaviour* as a conceptual model and summarized results through secondary and primary data sources. Scholarly articles and grey literature during 1952-2018 was critically examined followed by a discussion with 10 experts who had been a part of extension programs in the past to evaluate various extension programs implemented in Pakistan. 180 purposively selected respondents from Extension Field Staff (EFS) were interviewed qualitatively to underpin factors affecting their performance. Results summarized that EAS in Pakistan is perceived as ineffective and failed to meet the farmer'sneeds. Since 1952 numerous programs were implemented but abolished one after the other without any significant impact. Derisory coordination, departmental rivalries, political involvement, ignored participation of local elite in planning, misuse of funds and financial obstructions caused failure of programs. At present, working Field Staff is facing the same challenges like no service structure, lack of mobility means, no incentives and rewards, inappropriate offices, involvement in irrelevant duties, a large ratio of extension staff to farmers and weak inter- and intra-departmental communication and coordination gap turning the services ineffective. This implies that since the inception of EAS nothing is changed and EFS is confronted with inherited problems and confused roles to play.

Key word: extension services, evaluation, policy, coordination, model.

INTRODUCTION

Being 6th populous nation with over 201 million population and population escalation rate of 2.14% agriculture is an onus to fulfil food demand. Agriculture is the lifeline with 19.9% GDP share and livelihood support to 42.3% population (Government of Pakistan, 2018). Achieving food sufficiency and meeting dietary requirements for the population is indebted to the agriculture sector. To substantiate food requirements, support crop production, curtailing the cost of production, the surge in quality and devised policies to lodge farming a profitable venture are unavoidable. Improving agriculture sector promulgates the need for the holistic working of research institutions and extension advisory service providers to abate the glitches. The growth of the agriculture sector is proportionate with stability and rise of farming community and effective extension advisory services. Department of Agriculture Extension, working under provincial governments across the country is expected to educate farming communities' and disseminate recent technologies and required information. Extension services in Pakistan emerged under Community Development programs in 1952 in the form of Village AID program. Mobilizing community for participation in planning and development, self-help and improvement in infrastructure (i.e. health, education, and agriculture) was the soul of community development programs. These programs were mainly funded by globally acclaimed institutions like the World Bank. In 1961 distinct department of extension services emerged as curator and facilitator of the farming community in Pakistan. V-AID, People Works Program (PWP), Rural Works Program (RWP), Integrated Rural Development Program (IRDP), Basic Democracy System (BD-System), Training and Visit System (T&V), Farmers Field Schools (FFS) and Decentralization/Devolution Plan are prominent extension programs. Extension services contributed to crop yield improvement and increasing income of farmers (Mirrani and Memon, 2011). Baloch and Thapa (2016) vowed that those farmers who had received extension services produced higher production. Effective extension service is paramount for growth and tantamount to justify national exchequer. However, extension work across Pakistan is heavily criticized and perceived as ineffective in meeting farmers' needs. Agriculture extension contributes ominously to a multifold increase in production through the dissemination of modern techniques. Therefore, it is imperative to conduct an extensive study on persisted agricultural extension system across Pakistan to mull policy discourse.

Research conducted on agriculture extension systems and assessment of factors affecting the performance of Extension Field Staff in Pakistan are scanty. Most studies are of a local level and bear repetition in results. Unlike other studies, this work is broader as it entailed an extensive review of scholarly papers, books, reports, interviews and grey literature and primary data from Extension Field Staff (EFS). It is anticipated that implications of this study will be helpful for the government to formulate policies in the best entrust of field staff, farming communities and nation. This study emphasized on following objectives.

- To examine different extension programs implemented in Pakistan
- To assess factors affecting the performance of extension field staff

Conceptual Framing: The conceptual frame elucidates the intent of the study. This study assumes that extension service through public sector is a cost-effective and foremost constituent of agricultural improvement. In spite of intensive fieldwork, the extension is perceived ineffective by rural clienteles. The effectiveness of extension service is dependent on several independent factors including knowledge, attitude, and skills of extension staff, infrastructure, follow up, evaluation, the frequency of visits, number of extension agents and facilities that are provided extension staff. This review is an attempt to examine the importance of independent variables and association between variables in making extension work ineffective in the country.

This review shadowed "Supportive Model of Organizational Behavior" as a conceptual framework. This model is an acquaintance of motivated and aspiring leaders and workers. This model suppresses authoritative power and supports incentives and rewards for the motivation of leaders and workers. Previously, Roethlisberger *et al.* (1939) used this model and examined human behaviour under sociological, psychological perspective in an organizational setup. This study concluded that workers are an integral component of any organization and their needs must be understood. Employees should be provided with supportive behavior to uphold their credibility. Similar framework is applied in this study assuming Provincial Department of Extension as an organization and Extension Field Staff as a working group.

Methodological Approach: This study entailed mixed-method research technique to the objectives. In order to meet the first objective, to examine different extension programs in Pakistan critical examination of peer-reviewed scholarly papers, evaluation reports, books and grey literature were made. National literature on extension services evaluation across Pakistan is scanty. However, scholarly research articles of the local genre are published in national and international peer-reviewed journals. Thus, an in-depth analysis of published literature was made. Gray literature and unpublished material regarding extension programs were also consulted to evaluate extension services and client response.

The key questions addressed were;

- What is the impact of numerous extension programs executed in different years and why they were terminated one after each other?
- What is the response of farming masses towards provided extension services?
- How the extension system in Pakistan can be revamped to satisfy farmers' needs?

Literature published regarding agricultural extension programs is scanty and most of the published papers look alike and reflect repetitions. Unlike other papers, in this work diversified approach is followed and extensive literature is discussed. Libraries were visited to review those reports which are not published online. Published literature on extension programs also helped to conceive the results. Most of the published research was authored by local researchers while little has been done by international researchers.

For the second question, published literature helped in unveiling barriers to effective extension work. For in-depth probing, struggle, challenge, environmental barriers, financial barriers and infrastructure associated factors were examined. The major keywords searched were the satisfaction of farmers, the infrastructure of extension, working competencies of EFS, and constraints to effective extension work in Pakistan. The author started searching for data from the year 1952 to 2018 and the description of the entire data collected is stated under review results.

For in-depth probing, a list of experts who had been part of extension programs on various positions was prepared. Considering convenience 10 experts were decided to hold a discussion regarding the failure of extension programs implemented in different regimes. Selected experts were retired Deputy District Officers, District Officers and Executive District Officers of agriculture extension department. The only question kept under debate was;

- Why extension programs failed to show impact? What you perceived during your experience and how this wide gap can be bridged now?

The entire discussion was recorded in a tape recorder and pen down in the diary. Afterwards for thorough content analysis, technique discussion was turned to meaningful interpretation.

To meet the second objective, assessment of factors affecting EFS performance, total of 180 Agriculture Officers were purposively selected. Punjab is the leading province of Pakistan and comprises of 36 districts. Each district is graced with district level extension administration under the headship of Deputy

Director of Agriculture (DDOA) while Agriculture Officers (AO) is the major constituent of this administration. AO is mainly responsible for technology dissemination among farmers and the implementation of projects in the field. For wider scope 5 Agriculture Officers (AOs) were selected purposively from one district, thus making a total sample of 180 agriculture officers. AOs were interviewed qualitatively and asked to fill an open-ended questionnaire.

Collected qualitative data were converted to quantitative in multiple steps. On the first step, verbatim responses were written into the first column of the spreadsheet. Accordingly on the basis of careful review sub-categories were created. Each comment was coded to link each verbatim comments with sub-categories. In front of each comment, an "X" was placed in sub-categories that best represent the verbatim. Multiple sub-categories were annotated for a single comment and new sub-category was created when no sub-category reflected the comment. Sub-categories were kept limited to save time and increase the accuracy and code entire data set. Accordingly, through Excel Function COUNTIF, responses in each column were calculated. This formula provided a view of total mentions under the each-sub category which helped the researcher to identify top issues identified in the survey. Further descriptive analysis was carried out for the meaningful interpretation of responses through the Statistical Package for Social Sciences (SPSS).

RESULTS

Critical Examination of Extension Programs

Village Agricultural and Industrial Program (V-AID): V-Aid was the foremost formal initiative of Pakistan for community development was launched in 1952. This system evolved democratic planning and supported by Ford Foundation and United Agency for International Development (USAID) (Horton, 1958). Meeting felt needs of the community through local participation in program planning was the soul of this initiative. This initiative socially mobilized the farmers and provoked them to focus on agriculture. Chaudhry (2002) endorsed that expansion of crop and livestock farming was prevalent preference of V-AID. Country was sub-divided into "Development Areas" comprising of 15-200 villages and administered by one Government Officer who was further accountable to Deputy Commissioner of respective district (Waseem, 1982). Two supervisors, 20 village workers (men) and 5-10 village workers (women) were recruited to support Government Officer. Field workers were trained for one year in Government V-AID Institute (Waseem, 1982).

V-AID initiative socially mobilized the farmers and provoked them to focus on agriculture though, outcomes were not far-reaching pertinent to numerous factors causing failure of the program. Of the various barriers, poor coordination among allied departments was foremost (Waseem, 1982). Embodied top-down administrative decisions (Luqman et al., 2011) and deploying poorly trained technical staff (Waseem, 1982) were some profound flaws. V-Aid workers served as multipurpose extension agents (Davidson *et al.,* 2001) and too much volunteer work was expected from rural people (Malik, 1990). Misuse of funds on top level subdued the program. Participation of local people in the planning of the program was dismal (Abbas et al., 2009). Agriculture department opposed V-AID and this collusion incited the United States to withdraw technical assistance. Ultimately V-AID ended in 1961 without any formal evaluation and impact assessment.

Basic Democracy (BD) System: The president of Pakistan *Ayub Khan* laid the foundation of BD system in 1959 with the aim to meet "felt needs" of community through the integration of local community and political force (Waseem, 1982). This system stressed 85% of rural population in the country and sought public welfare through the collaboration of office holders and local people (Mellema, 1961).

BD-initiative evolved four tiers administrative structure comprising Union Council, Tehsil/Thana, District and Division as four pillars (Government of West Pakistan, 1965). Union Council comprised of 5-6 villages and 12-15 village councilors (8000-15000 persons) was lowest tier (Government of Pakistan, 1960). Councilor's selections was based on population i.e. 10,000 for union council. Chairman Union Council (UC) was elected among total elected councilors (Government of Pakistan, 1963).The elected councils conceded social and economic development work in their respective jurisdiction. Councilors emphasized to resolve societal problems regarding education, infrastructure, agriculture, sanitation and health (Waseem, 1982; Chaudhry, 2002). UC was mainly responsible for agriculture, industrial and community development in unions and set the motion for economic and political awareness (Ziring, 1965).

Involving local elite in program planning was top preference. Though, various weaknesses lowered the impact of the program. Union Councils (UCs) were treated as "Government Agencies" and Democrats paid meager focus on agricultural development (Ziring, 1965). Involvement of local elite in program planning discouraged, funds were inadequate and while undue involvement of bureaucracy distressed BD-system (Malik, 1990). Resources were misused and the government was reliant on the expertise of senior administrators, despite their poor skills unveiled in pilot study evaluation held at Comilla, Bangladesh. BD-system was abolished in 1970 without any formal evaluation (Government of Pakistan, 1971).

Rural Works Program (RWP): Pakistan Academy for Rural Development (PARD) launched RWP in 1961 with a budget of 196 million dollars to achieve developmental objectives. Agricultural cooperatives, women educational programs, irrigation programs and *thana* programs were initiated under RWP (Stevens *et al*., 1976). About 9584 schools and man-days employment to 173 million people was generated under RWP. First evaluation report published in1969 advocated the expansion RWP. Annual reports of PARD found RWP a successful activity as about 60,000 projects were completed at a lower cost. Inspite of positive results, RWP was replaced with People Works Program (PWP) in 1971. Lethargic coordination among departments and lack of involvement of local elites in program planning were a significant reason of failure (Mohsen, 1963; Chaudhry, 2002). Departmental Officers didn't earn local attention. Ineffective and biased attitude of officers hampered community mobilization. Small projects were preferred in PWP while follow up and maintenance of already implemented projects was depressing. Politics refrained RWP when funds were viciously utilized in general election 1965.

People Works Program (PWP): PWP was implemented in 1972 for rural and urban areas (Government of the Punjab, 1983). PWP was implemented for both rural and urban areas with emphasis on involvement of local elite in developmental structures (Mallah, 1997). PWP was designed for solidarity between rural and urban population. *Village* and *mohalla* were declared as organizing unit to managing affairs of rural and urban population respectively. Report of Planning Commission of Pakistan, 1975 found that concept and implementation of PWP were defective. Political involvement intervened the program and elevated the reliance of people on government. Local participation refrained and contractors led the projects to manipulate actual funds. Findings of Malik (1990) and Chaudhry (2002) cemented distressing involvement of local people in 90% of the total projects. Soon after 2-3 years of implementation PWP was abolished. Some projects aiming community development were implemented by different governments under the umbrella of People Works Programs (PWP). Current ruling Government renamed PWP as Tameer-e-Watan Program (TWP) to execute community development programs.

Integrated Rural Development Programs (IRDP): Another modality Integrated Rural Development Programs (IRDP) to uplift rural life through public sector and beneficiaries coordination was implemented in Pakistan (Government of Punjab,1983). Shah and Baporikar (2010) lodged that IRDP was a comprehensive model of institutional progress and socio-cultural growth. IRDP was a comprehensive model of institutional progress and socio-cultural growth focusing on agricultural growth through adoption of modern technique, intensified farm management, provision of credit to small and medium farmers, enabling storage facilities, and effective transportation and structured marketing system.

To fulfill intended objectives of the IRDP, *"Markaz"* (an area consisting of 4-8 Union Councils) was declared focal point of IRDP activities. Under IRDP program various multipurpose cooperative societies were started at village level (Qadeer *et al*., 1977) for timely guidance and obligatory support and services to rural people (Government of Punjab, 1983). National departments were integrated in best entrust of farm families, diluting services to *Markaz* level and inspiring information and delivery system (Waseem, 1982)

IRDP commercialized national agriculture and fostered local involvement to solve indigenous problems of the farming community. The concept of IRDP was appreciated (Ruttan, 1975) and the idea of Village Cooperative Societies was the utmost success. Operation of cooperative societies was unable to mobilize local involvement (Gill *et al*., 1999). Scarce departmental coordination, unskilled project managers, poor information management system, limited incentives, futile technical assistance and deprived response from envisioned beneficiaries were observed. IRDP was short in developing capacities of beneficiaries (Shah and Baporikar, 2010). Intensive non-coordination laid IRDP to abolishment in 1977 without any impact assessment and integrated into the Department of Local Government.

Training and Visit System (T&V): The World Bank-led T&V system was implemented in 1978 in Pakistan. Initially T&V program was propelled in selected districts of the Punjab and Sindh provinces (Gondal, 1989). The triangular relationship between research, extension and farmers was the philosophy of T&V (Abbas *et al.,* 2009).

Frequent trainings of Extension Field Staff (EFS) followed by stringent schedule of field oriented activities was prime approach of this program (Benor *et al*., 1984). Field Assistants (FAs) were frontline workers and supposed to contact 10% of the farmers in their jurisdiction. Extension workers were destined to pay eight (08) visits to farmers in 2 weeks (Benor *et al.,* 1984). Extension workers visited 4 groups of contact farmers (6-8 farmers in each group) in first week and remaining four in second week Jalvi (1981). Two days in each week were fix for extra visits, trainings and officer work. Apart from technical guidance and facilitation to farmers, extension workers and field assistants were responsible to organize group activities (demonstration plots, farmers' days, and exhibition) among contact farmers (Davidson, 2001).

T&V was over emphasized on communicating messages rather than making farmers able to understand these messages. T&V system was ineffective in stimulating communication and organizing systematic

contact with farmers, biased in contact farmers' selection and upholding effective linkage between research and line departments (Muhammad and Garforth, 1995). Quantity of extension activities was preferred over quality (Hussain *et al*., 1994). This system improved the operational system of extension, but professional standards were ignored. In adequate adaptive research programs, repetition of messages, biased selection of contact farmers and poor sense of responsibility among contact farmers and poor monitoring system contributed to the failure of T&V (Hussain *et al*., 1994). Weak coordination, scanty professional trainings, defective supply chain, insufficient logistic support, deficient promotions, poor local involvement in planning and bungling use of mass media were the militating factors (Ashraf *et al*., 2007). Pertinent to subdued performance T &V was abolished in 1994-95.

Farmer Field School Approach (FFS): FFS was initiated in 2002 for fruits and in 2005 for fruits and vegetables under the umbrella of Pakistan Agriculture Research Council (Mengal *et al*., 2014). FFS aimed to disseminate knowledge among farmers regarding minimal use of pesticides for environmental protection. FFS was a non-formal education approach (Mengal *et al*., 2014) and observation, group discussion and analysis of phenomena occurring infield were strengths of this initiative (Khatam *et al*., 2010). Research studies endorsed the positive impact of FFS. Ahmad (2009) affirmed that FFS led IPM reduced pesticides consumption by 87% and cost of pesticides by 26.5%. Average increase in yield was 10.5%, reduction in cost 22.3% while gross margin was reported 46%. Overall impact and consistent availability of financial resources were further questioned by Ali and Haider (2012). Inappropriate curriculum and nepotism in selecting farmers lowered the value of FFS (Rola et al., 2002). Substantial expenses on implementation of FFS, time consuming process and attending school on weekly basis were the additional value cutting factors (Khatam *et al.,* 2010). FFS was limited to interested farmers only leaving a poor impact. The inappropriate curriculum taught to participants and partiality in farmers' selection lowered the impact of FFS (Rola *et al*., 2002).

Devolution Plan/Decentralized Extension System: Decentralization was launched in 2001 with aim of improving agricultural productivity and achieving state of food sufficiency and security through well-equipped extension services in Pakistan (Government of Pakistan, 2004). In the beginning results were perceived effective (Ahmad *et al*., 2008).

Ministry of Food Agriculture and Livestock (MINFAL) implemented the decentralization. Producing policies and strategies was the domain of federal cell and provincial governments (Government of Pakistan, 2004). According to the policy, agriculture extension worked under supervision of District Government. Operations of sister organizations including livestock, soil conservation, water management and forestry were under administration of Executive District Officer of Agriculture (EDOA). Designation of Deputy Director Agriculture (DDA) was changed to District Officer Agriculture (DOA) who worked under the EDOA. The EDOA was destined to report District Coordination Officer (DCO) who was further accountable to elected District Nazim (Administration). Line departments provided technical backstopping and monitored inter and intra district agricultural development projects. DOA and Deputy District Officer of Agriculture (DDOA) at district and tehsil levels respectively assisted EDOA whereas Agricultural Officers (AO's) and Field Assistants (FA's) performed duties at Markaz and Union Council level respectively (Malik, 2003).

Group Contact Method for technology dissemination as adopted by Extension Field Staff (EFS) was perceived effective by farmers (Lodhi *et al*., 2006). Access to information and feedback improved under this system (Ashraf *et al*., 2009). About 82% of extension workers substantiated the improvement in their working (Ashraf *et al*., 2007). Despite success, the system was unable to sustain the impact and weaknesses started to emerge. Paper work was doubled, extension agents were involved in irrelevant tasks and multiple duties (Ahmed *et al.,* 2008). This troubled working lowered their working ability and confused their roles. Lack of mobility means restricted their coverage. Inadequate infrastructure, staff, funds and mobility mean restricted working of extension staff under decentralization system (Ullah *et al.,* 2017). By this mean, in 2017, decentralization was terminated.

Focus Group Discussion (FGD)

Experts Opinions on the failure of extension programs: An expert who had been the part of different extension programs perceived different reasons of the meager success of extension programs. Poor planning and lethargic involvement of local elites in program planning were among the prominent causes. Programs were mainly at rural development and extension service providers would be an integral constituent of the planning process. But, their involvement was discouraged indeed. The conductance of benchmark surveys prior planning and implementation of programs was flimsy. Thus, rural clients' needs were ignored. Pilot projects are imperative to strengthen program planning and multifold increase in effectiveness. The trend of pilot projects prior implementation was poorly handled with biased findings.

Discussion further reflected that recruitments of irrelevant and untrained staff, inadequate training for staff, departmental rivalries, personality clashes, political involvement and misuse of funds contributed significantly to failure. Accountability in the agriculture

department was perceived preoccupied. The extensive investment was made to achieve desired goals through extension programs and in spite of failure, none of the officers or officials were held accountable to persistent fiascos. It is still a riddle where the assets have gone.

Table 1. Summary of reasons behind the failure of different extension programs.

Extension Programs	Reasons for Failure
Village AID	• Lack of coordination • The top-down approach in administrative decisions • Poorly trained staff • Multipurpose extension agents • Too much volunteer work • Financial constraints • Misuse of Funds • No formal evaluation by government • Ignored local participation in planning and implementation of the program • Departmental rivalries • Withdrawal of technical assistance by the United States
Basic Democracy (BD) System	• Poor focus on agriculture development • Councillors were directly under the administration of government bureaucracy • Misuse of resources utilization • No formal assessment • Poor coordination of line departments
Rural Works Program (RWP)	• Inadequate coordination • Poor participation of local elites in planning • Poor working of staff • The inefficiency of developmental officers • More focus on small projects • Political involvement as funds was used in general election • Involvement of parliamentarians (MNAs & MPAs) • Poor concept and implementation • Local involvement was ignored • Favouritism • Misuse of funds • Poor response of people
Integrated Rural Development Project (IRDP)	• Non-cooperative behaviour of officials • Peoples response was meagre • Local involvement was ignored • Inadequate cooperation of departments
Training & Visit System	• More focus on communication • Poor focus on education to farmers • Non-systematic contact • Biased selection of contact farmers • Weak linkage between research-extension • Quantity oriented approach rather than quality • Repetition of messages • Poor monitoring • The weak infrastructure of Extension (i.e. no mobility mean, no service structure, large area to be covered by staff etc.) • Scanty use of mass media techniques
Farmer Field School (FFS)	• No impact assessment or evaluation on the government level • Huge investment required • Limited to interested farmers only

Decentralization/Devolution Plan	• Public-private sector competition • Nepotism • Increasing no. of pesticides companies • Lack of coordination among departments • Overburden of paperwork • Irrelevant duties to extension staff • Political involvement • The weak infrastructure of the extension system • Mobility issues of extension staff • Large Extension staff to farmers ratio • Poor coordination among departments • Multifarious duties • Lack of incentives and awards

Termination of programs without impact assessment and evaluation pens down the non-seriousness of policy division. Experts maintained that agriculture has never been a priority of governments in Pakistan. Building infrastructure and promoting business is preferred over agriculture. Agriculture share in Gross Domestic Product (GDP) is declining, farmers are becoming poorer, the land is turning to residential colonies and farmers are leaving farming but the policy in this regard is slack. Vision, foresightedness and concrete agricultural policy is the need of the hour, experts reported.

Since the inception of extension programs, marketing is regarded as a bulbous problem. The marketing system is still ineffective inducing farmers to not act upon the advice of extension worker. Experts summarized that agriculture should be a priority and involvement of extension staff in planning should be ensured.

Factors Affecting Performance of EFS: Socio-economic characteristics of the respondents were recorded and analyzed which are presented in Table 2. The Perceived constraints hampering EFS performance are illustrated in Table 3.

Results presented in Table 2 arbitrated that 85.2% of respondents were male and 14.8% were female. Of the total respondents, the majority (77.8%) were working as Agriculture Officer while negligible chunk (5.7%) were Assistant Directors of Agriculture. Whereas, 15 and 1.4% were cotton inspector and Farm Manager respectively. Simple majority (62.4%) respondents had an experience of 1-7 years in the extension department while 14.2% were having experience from 8-15 years. Slightly less than one-fourth respondent were having an experience of more than 15 years in the extension department. Of the total respondents, 11.4% were Bachelor's, 80.7% masters and 7.9% PhD in agriculture.

Table 2. Personal Characteristics of the respondents.

Personal attributes of respondents	Percentage
Gender	
Male	85.2
Female	14.8
Post name	
Agriculture Officer (AO)	77.8
Cotton Inspector (CI)	15
Farm Manager (FM)	1.4
Assistant Director (AD)	5.7
Job Experience (in years)	
1-7	62.4%
8-15	14.2
More than 15 years	23.4
Qualification	
BSC	11.4
MSC	80.7
PhD	7.9

Constraints analysis

Table 3. Constraints analysis.

Themes	Percentage
Performance Management	26.2
Career Growth and Development	22
Work Environment	34.5
Compensation	17.4

Table 3 illustrates that work environment related problems are prominent in impeding the effectiveness of extension field staff (34.5%). Career growth and development theme showed 22% contribution and constraints under the performance management contributed 26.2% in hurdling extension work.

Table 4. Factors affecting the performance of Extension Field Staff.

Factors affecting performance of EFS	Percentage
i. Work Environment	
There is no service structure	85.7
There is no mobility means for agriculture officers	73.8
Poor linkage between research and extension	51.8
Agriculture officer is bound to cover a large area	67
Limited number of agriculture officers to work for farmers	61.6
Political involvement is higher	27.3
Lack of departmental coordination	69
ii. Performance Management	
Over burden and involvement in irrelevant duties	74.3
Sluggish physical facilities to staff i.e. outdated office, non-availability of internet etc.	46.4
Non-involvement in planning process	21.5
Non-availability of multimedia and Audio Visual Aids	52.2
More focus on electronic facilitation and record keeping, ultimately paper work is high	67.6
iii. Compensation	
No fix travelling allowances	34.2
No system of incentives and rewards	69.3
Scanty appreciation from higher ups	50.2
iv. Career Growth and Development	
Lesser opportunities of career development	22.6
No system of induction trainings	59
Lesser number of departmental trainings	20.8
No system of foreign trainings	52.7

Work Environment: EFS had no service structure to proceed in next grades. Majority of EFS is compelled to serve department for a decades in the same grade. It is evident from the results that 23.4% respondents are still working in 17 grade from over 15 years. On contrary, in allied department including livestock and education officer are enjoying a proper route of promotions. Results further augmented that 73.8% respondents had no mobility means to cover a large jurisdiction and disseminate technology accordingly (Table 4). During discussion agriculture professionals reported that since the inception of extension services in Pakistan, EFS are not provided with vehicles to move to and far in rural areas. More often, EFS use their own vehicles and cover fuel and maintenance costs from their pocket while compensation system in this regard is meager.

About 69% respondents reported poor inter and intra-departmental coordination creating a communication gap between research and extension department. EFS to farmer ratio is immense. One Agriculture Officer (AO) is appointed on Markaz level covering over 10,000 population without any significant facilitation.

About 67% EFS argued a large area to cover to disseminate technologies. Large EFS to farmer ration and large jurisdiction hinder the efficiency of EFS. Extension work is further coupled with poor research-extension linkage, as reported by 51.8% respondents. During informal discussion, EFS showed disappointment that since inception of extension service we are struggling in poor linkage between research and extension. Findings of Mengal *et al.* (2014) had reported that linkage between research and extension was non-significant and weak in dissemination need based information to farmers. While Abbas *et al.* (2009) viewed these weak linkages a "fundamental weakness" in making extension work ineffective. Extension services in Pakistan are usually traditional and operate in isolation from research and extension, as indicated by Burton *et al.* (2012). They further reported that extension service lack in coordination between different components of Agriculture Knowledge and Information System. Therefore, farmers needs more often remain unaddressed (Khan, 2006).

Performance Management: EFS is overburdened and involved in irrelevant duties. This undue involvement in irrelevant duties makes their extension advisory services ineffective. EFS is involved in *Ramzan Bazar*, *wheat procurement, flood control duty* and many other district administrative functions. Emergence of Information Communication Technologies (ICTs) aimed at helping EFS in reducing burden had escalated the burden indeed. The focus of EFS has switched to electronic facilitation and record management as perceived by 67.6% respondents (Table 4). The mode of educating farmers as adopted by EFS is conventional. More than half (52.2%) respondents claimed they lack in in multimedia facility

and audio-visual aids to foster information dissemination among farmers. Lodhi (2003) had reported that EFS was not equipped with necessary channels and tools to advocate services effectively. Rahim *et al.* (2003) had reported that information dissemination system adopted by EFS was perceived out dated and ineffective in meeting farmer's needs (Ullah *et al.,* 2014).

Compensations: EFS was more concerned over unjustified compensations. According to 69.3% respondents there is no incentives and rewards system for EFS (Table 4). EFS is committed and serving farmers at their doorsteps under limited resources. Most of the time EFS has to bear expenses from their pockets. Despite of that, they had no reward and incentives for their encouragement. Half of respondents (50%) didn't received any appreciation from their higher ups. Sluggish system of compensation compel EFS to bear travelling costs and expenses from their pockets. In spite of their enthusiastic working, EFS has a scanty and injudicious access to travelling allowances to compensate their expenses.

Career Growth and Development: Table 4 reflects that within career growth and development theme, 59% respondents reported lack of induction trainings for newly recruited officers. For Extension Field Staff (EFS) there is not a single training academy for EFS in country. More than half (52.7%) of respondents reported meager opportunities of foreign trainings for career development. Instead, more focus is paid on departmental trainings which are usually ineffective and irrelvant as reported by one fifth respondents. About 22.2% respondents stated they had no carreer growth and developmnt opprtunities while working ina griculture department. These poor career building oppertunities restrict EFS to meet the needs of the farmers. Public sector extension is mainly criticized due to not meeting the needs of the farmers (Ahmad *et al*., 2008). Inadequate trainings imparted to the EFS do not enable them to identify farmer's needs (Khan *et al*., 2012).

Conclusion and Recommendations: Agricultural extension is central for agricultural development and to achieve self-sufficiency in food and improvement in livelihood various extension programs were implemented in country. Philosophy of extension programs was democratic but inherited with poor planning and ignoring local participation in planning process. Extension services rendered to farmers are perceived in effective in meeting needs of the farmers. This ineffectiveness is inherited from the past and persisting in the present. Extension services had ignored attention of practitioners, despite being key in improving agriculture and livelihoods. Ineffectiveness of extension services is persisting over the time and points a question mark on performance of practitioners and program planning. Research-Extension linkage is key for technology dissemination and fostering adoption on farm level. Still linkage is under criticism and departments are being operated in isolation. Therefore, this paper concluded a brief policy implications to revamp entire extension system in Pakistan.

First of all there is need of third party pre and post evaluations different implemented projects in agriculture extension department. None of the project should be implemented without pre-assessment and feasibility study. There is need to change the top-bottom strategy to bottom-up strategy and ensure local participation in program planning. Government should bring research and extension under one umbrella to work in proper route for effective technology transfer. There is need to initiate accountability system in extension department for judicious use of funds and implementation of projects.

Agricultural extension department should be provided with sublime budget and execution of farmer led initiatives i.e. effective marketing system rather than subsidized programs. EFS is sole of Extension department. They must be set free from political involvement and control of District Administration. Let them focus on agriculture rather than irrelevant duties. EFS should be provided with basic facilities and gadgets like multimedia to disseminate technologies in effective manner.

There should be a service structure, incentive and rewards systems for EFS and equal opportunities of career growth development as well. EFS to farmers ratio is higher, therefore, a modified model needs to be implemented. Duties of Agriculture Officer should be switched to Union Council Level rather on Markaz Level and Field Assistant should assist AOs on Village level. This model will not only escalate EFS interaction with farming communities but also increase employment opportunities for the agriculture graduates.

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