

ROLE OF PRIVATE EXTENSION SYSTEM IN AGRICULTURAL DEVELOPMENT THROUGH ADVISORY SERVICES IN THE PUNJAB, PAKISTAN

S. Ali, M. Ahmad, T. Ali, S. W. Hassan* and M. Luqman*

Department of Agri. Extension, University of Agriculture, Faisalabad, Pakistan

*University College of Agriculture, University of Sargodha

ABSTRACT: Private sector is actively engaged in providing agricultural extension services to farming community of Pakistan. It is predominantly constituted by pesticide companies. These companies not only provide agricultural inputs to the farmers but also give extension services to them. The present study was conducted to analyze the type of extension services rendered by private extension system to the farmers. The study was carried out in the Punjab province by using cross-sectional research design. Sixty (60) extension personnel of a private extension agency and 408 farmers were selected for interview by using simple random sampling technique through Fitzgibbon table. The data were collected through validated interview schedule and analyzed by using SPSS. Results revealed that 90% of the farmers got extension services from extension workers of the private sector, such as weed identification and weed control (91.5%), disease identification (87.3%), disease control (88.8%), insect pest identification (98.5%), and insect pest control (98.5%). While majority of respondents negates the provision of advisory services with respect to agronomic practices, post harvest and marketing. It is recommended that private extension system should provide a total technology package to farmers rather focusing on insect/pest control. Private sector should provide services regarding agronomic practices; soil analysis, seed bed preparation, selection of crop varieties, sowing time, sowing methods, seed treatment, spacing and seed rate in addition to post harvest, marketing, soil and water testing services.

Key words: private extension system, agri. development, advisory services.

INTRODUCTION

Agricultural extension is an essential pillar for agricultural development (Qamar, 2005). Various factors contribute towards agricultural development including agricultural extension as an institutional input. Effective agricultural extension can bridge the gap between discoveries in the laboratory and changes in the individual farmer's fields. By accelerating the diffusion process of improved technology, extension can bring about a faster growth of yields and rural incomes than would occur in the absence of extension (Birkhaeuser *et al.* 1991). Public and private sectors are actively engaged in providing extension services to farming community of Pakistan. The dominance of public sector inhibited the role of private sector till 1988. The stagnant situation of agriculture production compel the government to seek different way outs. For this purpose, the then Government of Pakistan appointed a Commission on Agriculture, to look into poor agricultural performance and make recommendations for strengthening of the sector. After conclusion, the Commission suggested the inculcation of the private sector in agriculture including agricultural extension. Commission suggested the reforms to reshape agricultural extension through the involvement of private sector. It was a major policy shift, in which the supply of

inputs was shifted to private sector from public sector (Government of Pakistan, 1988).

In the wave of the privatization, not only private sector such as Syngenta (Ciba Giegy at that time) have entered into the extension work, but also a number of NGOs (e.g., Agha Khan Rural Support Program, National Rural Support Program, Punjab Rural Support Program, etc.) and farmers' cooperatives (e.g., Salt Land Water Users Association) entered into vogue. After this permission, the extension service has become a regular feature of private input supplying agencies and a rough estimate suggests that almost 70-80% of the extension services are being provided by private sector through their own independent set-ups (Riaz, 2010). Private sector constitutes mainly by pesticide companies, fertilizer companies, national and multinational seed companies, processing companies i.e. tobacco companies, maize and sugarmills etc.

The present study focused on the role of the pesticide companies which represents the largest segment of private extension system. At present, about 500 pesticide companies are working in private sector (Riaz, 2010). These companies should provide the total agri. technology package to the farmers and not just the sale of a specific input (Government of Pakistan, 1988). Regarding pesticide companies, agri-technology package means total plant protection and production/agronomic services in addition to pesticide products. So, the question

is that whether these companies are focusing on total package services or simply sell their products for profit motives? In this regard, literature is either silent or scanty concerning the performance of private extension with special reference to pesticide companies. Little work seems to have been done in this regard. For example Abbas (2005) concluded that majority of the respondents were not at all satisfied with the role of private sector. But Imran (1991) reported that 32% of the respondents adopted pesticides/insecticides due to the extension services provided to them by pesticide companies. Hence, it is imperative to investigate that whether these companies providing total technology package to the farmers or simply marketing their products? By considering this issue, the present study was designed to identify the role of private extension system in providing various types of extension services to the farmers in the Punjab province.

MATERIALS AND METHODS

The study was conducted in the Punjab province. A cross-sectional research design was used for the study. The Punjab province comprises five cropping zones, namely cotton-zone, barani-zone, central-mixed-zone, semi-irrigated zone and rice-zone (Younis *et al.*, 1990). The Barani Zone comprises 6 districts namely Rawalpindi, Chakwal, Jehlum, Attock, Gujrat and Mandi-Bahauddin; The Rice Zone of the Punjab also comprises 8 districts viz-a viz Gujranwala, Hafizabad, Sialkot, Narowal, Sheikhpura, Nankana-Sahib, Lahore, and Kasoor; The Central Mixed Zone comprises 8 district namely Faisalabad, Jhang, Sargodha, Khushab, Toba-Tek-Singh, Okara, Sahiwal and Pakpattan; The Semi Irrigated Zone comprises 6 districts namely Mianwali, Bhakar, Muzafargarh, Leiyya, Dera-Gazi-Khan, and Rajanpur; and the Cotton Zone of the Punjab comprises 7 districts Multan, Lodhran, Khanewal, Vehari, Bahawalpur, Bahawalnagar, and Rahim-Yar-Khan. Three zones i.e., cotton, rice and central mixed zone, were selected through purposive sampling technique. Since, in these zones major crops have been grown and private sector is actively engaged in these zones. During first stage three districts i.e. Rahim Yar Khan, Faisalabad and Gujranwala (One from each zone) were selected by using simple random sampling (SRS) technique. At a second stage, from each selected district one tehsil was selected by using SRS technique. Then, four villages were selected from each tehsil. A sampling frame was designed by listing the names of farmers residing in selected villages. A sample of 408 farmers was drawn by using Fitzgibbon table (Fitzgibbon and Lynn, 1987). All (408) respondents were asked about types of extension services provided to them by the private sector. Similarly, a pesticide company (i.e., Syngenta) was also selected to know the perception of private sector. Syngenta was

selected as a bench mark due to its comparative better performance among farming community. Sixty field staff was selected randomly through Fitzgibbon table from the population of 71. Same questions were asked from the field staff personnel about types of extension services to identify the difference of opinion through t-test (if any) about the same inquiry. The data were collected through personal interviews with the help of pre-tested and validated interview schedule. The data, thus collected were analyzed by using computer software (SPSS) and interpreted.

RESULTS AND DISCUSSION

Response of farmers regarding type of services: Respondents were asked about the type of advisory services provided by the private companies. All (408) respondents were asked about the services but only 260 respondents reported that they received advisory services. The data regarding this aspect are presented in table 1.

Table 1 Frequency and percentage of respondents regarding various types of advisory services delivered to them by private sector

Type of advisory service		Type of advisory service	
a) Agronomic practices	Yes	b) Plant protection	Yes
soil analysis	8.5	Identify weed problems	90.0
Seedbed preparation	13.1	Weed control	91.5
Selection of crop varieties	11.9	Identify disease problems	87.3
Sowing time	13.5	Disease control	88.8
Sowing methods	16.9	Identify insect/pests problems	98.5
Seed treatment	20.4	Insect/pests control	98.5
Spacing and seed rate	17.7	c) Irrigation	54.2
Manures and fertilizers	33.1	d) Post –harvest handling	17.7
		e) Marketing	
		Marketing information	3.1
		Marketing assistance	3.1

Table 1 indicates that overwhelming majority of the respondents reported that they got advisory services from the personnel of private sector with respect to plant protection i.e., identify weed problem, weed control, identify disease problem, disease control, identify insect/pest problem and insect/pest control. While majority of the respondents negated the provision of advisory services with respect to agronomic practices, post harvest handling and marketing. This might be due to the fact that private sector mainly involved in the business of pesticide rather than extension services. That's why their field staff only promotes the sale of their products and provides the services regarding their use.

Private sector generally ignores the equally important services i.e., agronomic practices; because they have no benefit directly in the provision of these services. Almost similar results were reported by Ahmad (2004) who found that 94 and 100% of the respondents received messages from private extension field staff regarding identification of insect-pest and their control, respectively. About 53% of the respondents received services regarding irrigation. He further reported that 81.4% of the respondents were aware that private sector provides extension services to the farmers regarding

manure and fertilizers. He added that 90.6% of the respondents suggested that companies should also provide the services relating to agronomic practices in addition to plant protection services.

Response of field staff of private extension system regarding type of services: The respondents were asked that what type of agronomic, plant protection and other services they deliver to the farmers. The data were collected and presented in table 2.

Table 2 Frequency and percentage regarding different type of advisory services delivered to farmers as reported by the private extension field staff

Type of advisory service		Type of advisory service	
a) Agronomic practices	Yes	b) Plant protection	Yes
soil analysis	0	Identify weed problems	100
Seedbed preparation	83.3	Weed control	100
Selection of crop varieties	83.3	Identify disease problems	100
Sowing time	83.3	Disease control	100
Sowing methods	83.3	Identify insect/pests problems	100
Seed treatment	83.3	Insect/pests control	100
Spacing and seed rate	83.3	c) Irrigation	100
Manures and fertilizers	100	d) Post –harvest handling	6.7
		e) Marketing	
		Marketing information	95.0
		Marketing assistance	21.7

Table 3. Evaluation of the mean difference in the responses of the two groups by using t-test

Kind of advisory service	EFS (n=60)	Farmers (n=260)	Status
a) Agronomic practices	SD	SD	
Soil analysis	0.00 ± 0.00	0.11 ± 0.36	*
Seedbed preparation	0.77 ± 0.43	0.13 ± 0.34	*
Selection of crop varieties	0.77 ± 0.43	0.12 ± 0.32	*
Sowing time	0.77 ± 0.43	0.15 ± 0.40	*
Sowing methods	0.77 ± 0.43	0.18 ± 0.43	*
Seed treatment	0.77 ± 0.43	0.20 ± 0.40	*
Spacing and seed rate	0.83 ± 0.38	0.19 ± 0.43	*
Manures and fertilizers	0.97 ± 0.18	0.33 ± 0.47	*
b) Plant protection			
Identify weed problems	1.00 ± 0.00	0.90 ± 0.30	*
Weed control	1.00 ± 0.00	0.92 ± 0.28	*
Identify disease problems	1.00 ± 0.00	0.87 ± 0.33	*
Disease control	1.00 ± 0.00	0.89 ± 0.32	*
Identify insect/pests problems	1.00 ± 0.00	0.98 ± 0.12	NS
Insect/pests control	1.00 ± 0.00	0.98 ± 0.12	NS
c) Irrigation			
d) Post –harvest handling	1.00 ± 0.00	0.54 ± 0.50	*
e) Marketing	0.37 ± 0.49	0.18 ± 0.38	*
Marketing information	0.80 ± 0.40	0.03 ± 0.17	*
Marketing assistance	0.18 ± 0.39	0.03 ± 0.17	*

NS = Non-significant * = Significant (P<0.05)

The data presented in table 2 show that 100% of the field staff reported that they provided advisory

services to the farmers regarding plant protection technology i.e., identify weed problem, weed control,

identify disease problem, disease control, identify insect/pest problem and insect/pest control. Similarly, regarding agronomic practices, 100% of the respondents reported that they provided advisory services for manure and fertilizer application. Other agronomic advisory services i.e. seed bed preparation, selection of crop varieties, sowing time, sowing method, seed treatment, spacing and seed rate were provided to the farmers as reported by the 83.3% of the respondents. With respect to soil analysis, post-harvest handling and marketing assistance. Field staff reported that they generally did not provide these services to farmers.

The data displayed in the table revealed that the main focus of private extension system was on plant protection, manure and fertilizer.

A t-test was run to find out if there was any difference in the mean value of the responses given by the two groups of the respondents regarding kind of advisory services. T-values regarding identification and control of insect/pest was non-significant ($P > 0.05$) while t-values regarding all remaining items were significant depicting the difference in opinion between the responses of farmers and field staff. It means farmers and field staff agreed on the point that private extension system helping the farmers regarding identifying insect/pest and its control. While, regarding all remaining items, the claim of the field staff that they provide extension services regarding items under discussion was rejected by farmers and significant difference appeared in t-values in this regard.

Conclusion: Private extension system is playing important role in disseminating agri. technology as 64% farmers (260 out of 408) reported that they --- somehow or in the other way---received extension services from private extension field staff. But private extension field provide services to farmers only related to the use of their products instead of providing whole technology package i.e., plant protection and agronomic practices. This selective approach is not in the benefit of the farmers and against the real spirit of extension work. It is suggested that private extension system should provide a total technology package to farmers rather focusing on insect/pest control. Private sector should provide services regarding agronomic practices; soil analysis, seed bed preparation, selection of crop varieties, sowing time, sowing methods, seed treatment, spacing and seed rate in addition to post harvest handling, marketing, soil and water testing services. It is, further suggested that private extension system should use holistic approach rather than selective approach in providing extension services to the farmers.

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