



Information Sources and Satisfaction of Cotton Growers of Muzaffargarh District of Pakistan

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Geliş Tarihi: 20.03.2017

Kabul Tarihi: 18.04.2017

Tarım Ekonomisi Dergisi
Cilt: 23 Sayı: 1 Sayfa: 61-68

DOI 10.24181/tarekoder.325620

Abstract

Pakistan has tried many agricultural extension systems and approaches since its birth. In 1988, on the recommendation of National Commission on Agriculture formed by government to look into the poor performance of agriculture, privatization of agricultural extension was started. Currently, more than 500 private companies with public extension departments (multinational, national and generic) with public extension departments are actively engaged in providing extension services to farmers in addition to selling their products. In recent day's world, accountability is very important, without that you cannot evaluate the performance of any sector. Extension service providers should ensure the continuous satisfaction of farmers with the services being provided. In order to increase farmers' confidence and loyalty, extension feedback is becoming important day by day. Generally, evaluation of extension has been focused on farmers, such as behavioral change and also increase in input use, yield and income. Another important factor impacting the success or failure of extension programs may be efficiency and effectiveness with which extension personal deliver extension services. Present study, is aimed at analyzing the satisfaction of cotton growers with public and private extension services. In this regard, data was collected from 95 farmers using pre-tested questionnaire and using the multi-stage random sampling technique from Muzaffargarh district of Punjab province of Pakistan. Collected data were analyzed by using chi square test and frequency and percentages. Most of the farmers in the study area are getting (extension services) from the private sector (pesticide companies). Study concluded that majority of the farmers were not fully satisfied with either the public or private extension services, however, farmers expressed partial satisfaction with private pesticide companies. Following these findings, resolute efforts are needed to improve quality of extension services both by private and public sector. Holistic participatory approaches are required to improve farmers understanding of technology, demand driven and farmers friendly strategies are recommended. Total service package should be applied by private companies rather than just pesticide use and disease identification services.

Key words: Extension Services, Public extension, farmers' satisfaction, Demand-driven, Punjab, Pakistan

Pakistan'ın Muzaffargarh Bölgesindeki Pamuk Üreticilerinin Bilgi Kaynakları ve Yayımın Memnuniyet Durumları

Özet

Pakistan'da kuruluşundan bu yana pek çok tarımsal yayım sistemi ve yaklaşımı denenmiştir. 1988 yılında hükümet tarafından kurulan Ulusal Tarım Komisyonunun önerisi ile tarımsal yayımın özelleştirilmesi süreci başlatılmıştır. Halen 500'den fazla özel şirket (çok uluslu, ulusal ve yerel) kamu yayımı ile birlikte çiftçilere yayım hizmetleri sağlamaktadır. Günümüzde hesap verme sorumluluğu çok önemlidir ve bunun dışında bir sektörün performansını değerlendirmek mümkün değildir. Yayım hizmeti sunucuları çiftçilerin sürekli memnuniyetini sağlamalıdır. Çiftçilerin güvenini ve sadakatini artırmak için geri bildirim yayım için günden güne daha önemli hale gelmektedir. Genellikle yayımın değerlendirilmesi örneğin davranış değişikliği, verim ve gelirdeki değişim ve ayrıca artan girdi kullanımı ile ilgili olarak çiftçi odaklıdır. Yayım programlarının başarısını veya başarısızlığını etkileyen bir diğer önemli faktör yayım elemanlarının sundukları hizmetlerin verimliliği ve etkinliği olabilir. Bu çalışma, pamuk yetiştiricilerinin bilgi kaynaklarını belirlemeyi, kamu ve özel yayım hizmetlerinden memnuniyetlerini analiz etmeyi amaçlamaktadır. Bu amaçla önceden alanda denemesi yapılmış olan anket formları ile Pakistan'ın Pencab eyaletinin Muzaffargarh ilindeki 95 çiftçiden veri toplanmıştır. Elde edilen veriler ki-kare testi, frekans ve yüzdeler kullanılarak analiz edilmiştir. Çalışma alanındaki çiftçilerin çoğu özel sektörden (pestisit şirketleri) enformasyon (bir bakıma yayım hizmeti) almaktadır. Araştırma bulguları, çiftçilerin çoğunluğunun kamu ya da özel sektör yayım hizmetlerinden tam olarak memnun olmadığını göstermektedir. Ancak çiftçilerin özel pestisit şirketlerinden kısmi olarak memnun oldukları saptanmıştır. Elde edilen bulgular, hem özel hem de kamu sektörü tarafından yayım hizmetlerinin kalitesini artırmak gerektiğini göstermektedir. Bunun içinse kararlı çabalara ihtiyaç bulunmaktadır. Bu kapsamda üreticilerin teknoloji kullanımını geliştirmek için katılımcı yaklaşımların önemi yadsınmaz. Talep odaklı hizmet sunumu ve çiftçi dostu uygulamaların yapılması yararlı ve özel yayım kapsamında sektör tarafından sadece ilaç kullanımı ve hastalık tanımlama hizmetleri yerine alanla ilgili tüm konuları içeren genel bir hizmet sunumu uygun olacaktır.

Anahtar Kelime: Yayım hizmeti, Kamu yayımı, Çiftçi memnuniyeti, Talep odaklı yayım, Pencab, Pakistan.

1.INTRODUCTION

Agriculture occupies a key position in the economies of many developing countries, by considering its critical role of providing food security, provision of employment, revenue generation, earnings from export, and provision of raw materials for industrial development. So development of agriculture means economic development and human development as a large proportion of population is directly or indirectly earning their livelihood from agriculture. Majority of the population in Pakistan is also directly or indirectly linked to agriculture, almost 43% of labor force is employed in agriculture (GOP, 2014). To ensure a food and good living standard to such a huge population the development of agriculture is inevitable. Agriculture extension which brings information from laboratory to farmer (scientist to farmer) via extension agent has a vital role towards development of agriculture.

Previously, agricultural extension was perceived as service to extend research-based knowledge to farmers in order to improve their lives. In developing countries, traditional view of agriculture extension was much focused on increasing production, improving yields, training farmers, and transferring technology. Nowadays, understanding of extension services is beyond training to learning, technology transfer to learning, assisting farmers in forming groups, dealing market issues, and partner with service providers and other agencies (Nelson, 2009). Agriculture extension has very important role to play such as spreading information about developments in agriculture and ensuring motivation and harmonization of producers to those developments (Kizilaslan, 2010). These functions of agriculture extension make it very important for farmers and farming. Role of the input supplier as a technology transfer is under discussion as their main goal is business (selling of their own products), while on the other hand the fact is that majority of information providers are input supplier (Özçatalbaş, 2001; Özçatalbaş and Kutlar, 2003). Private sector input suppliers are also naturally present operational and commercial purposes. The extension may disagree with commercial purpose, input suppliers have an important role in the rural area. Input suppliers are also a major information provider in Pakistan for farmers. As a result, input suppliers are regarded as an information provider and therefore the process of providing information was regarded as a private extension in this study.

Approaches to agricultural extension worldwide continue to evolve. Since the Green Revolution and recognition of no more sustainability of training and visit (T&V) programs (Anderson, Feder, and Ganguly 2006; Moore 1984), with its focus on improving productivity via technology transfer, agricultural extension has adopted decentralized, participatory, and demand driven approaches in which accountability is geared towards the users (Birner et al. 2006; Birner and Anderson 2007; Davis 2008; Hall et al. 2000; Kokate et al. 2009; Sulaiman and Hall 2008; Swanson 2009). In Pakistan, Agricultural Extension Service was sole public funded service up to 1988; during this period government tried different models but all failed in achieving desired result of efficiency in production (Riaz, 2010). To provide effective extension services to farmers, Government of Pakistan has employed nearly 2,324 agricultural extension officer and 6518 field assistant. However this alone cannot help to ensure proper and effective delivery of services to farmers. The effectiveness of any agricultural extension services largely depends on its sustainability and farmers' access to services (Swanson and Rajalathi, 2010). Due to top down and supply driven approach nature of the services (same like many other developing countries), the services were ineffective. With failure of all public funded programs in 1988, a commission was formed by government in order to look in the poor performance of agriculture sector. Private sector was directed by the government to provide the total package of plant protection advisory services, consisting of guidance on agronomic, biological and chemical protection practices, in addition to selling their own products according to recommendation of the commission. Currently more than 500 pesticide companies are working and providing plant protection advisory services to farmers in addition to products selling (Ali et al, 2013).

With more than 85% small farms and 60% of farms comprising less than 2 hectare in the country (Ghafoor et al., 2010 and APCAS, 2010) there is an emerging need for stronger advisory structure that can further facilitate information access for diverse smallholder farmers. Increased productivity and efficiency of these farmers can ensure further progress in poverty and food security, which depends on improved and successful delivery of agricultural extension services. Cotton is very important cash crop contributing approximately 10% to GDP and 55% foreign exchange earning of the country. Cotton covers 15% of total cultivable area of the country and 1.3 million farmers cultivate cotton (out of total 5 Million) (GOP, 2014). Between 30 and 40 percent of the cotton is used for domestic consumption, the remaining is exported as raw cotton, yarn, cloth, and garments. Cotton production is stagnant in the country for many of the last years. Factors responsible for this stagnancy can be high temperature at flowering stage, soil and water problems, weather adversaries, improper production technologies and most importantly pest attack. Although Pakistan is the fourth largest producer of the raw cotton but country is still far behind in the productivity per unit area when compared with other major cotton producing countries. Despite public extension agents as well as lot of private pesticides companies providing services to cotton growers, the issues are prevailing.

In many developing countries agricultural advisory services are mainly provided by ministry of agriculture and free of cost due to large number of small farmers which cannot bear consultancy costs. On the other hand public agricultural service providers suffer difficulties like small budgets, rare career development opportunities, lack of transportation facilities to cover large number of farmers, delay in travel and daily payments, and dissatisfaction with promotion procedure (Ahmad et al., 2014 and Qamar, 2011), which further increase in their low performance.

Due to top-down and technology driven approach, without accountability to services recipients and in many cases focuses

on large and medium farmers, extension services are usually unsatisfactory. In now a day's world, accountability is very important, without that you cannot evaluate the performance of any sector. Extension service providers should ensure the continuous satisfaction of farmers with the service being provided. In order to increase farmer's confidence and loyalty, extension feedback is becoming important day by day. While on one hand, the recent developments encourage the local participation, decentralization; client oriented and digitalized structures in extension services in many countries (BOYACI and YILDIZ, 2016). On the other hand, unfortunately in many parts of the world extension staff is unsuccessful in fulfilling the needs of the farmers and impressing them. Many countries in the world has been moved from supply driven to demand driven extension approaches, but in Pakistan until now public as well as private extension agencies are using old techniques. Private extension agents mostly emphasize on extensive use of pesticide rather than judicious use of it (Ali et al., 2013). In a study by Mengal et al., (2012) it was found that public extension staff provide information about application of irrigation and private advice about use of plant protection measures, which shows that there is imbalance between services provision; farmers are not getting what they need but that what is being provided. In 1980s farmers were not satisfied with the performance of field staff of public extension system, that is why private extension was recommended to provide total services package but situation is not very different now a days. Studies show that dissatisfaction of farmers with both sectors prevails. Baloch and Thapa (2014) found that majority of date palm growers in Pakistan are overwhelmingly dissatisfied with services being provided by both sectors. Similarly, Abbas (2005) found that majority of farmers were not satisfied with performance of field staff of private sector.

Purpose and objectives of the study

Mostly studied carried out on agricultural extension in Pakistan has been related to organizational aspects of extension. Despite the fact that world has moved from technology driven services to demand driven, and satisfaction of recipients is becoming more important for service providers. There is lack of studies discussing the issues like growers satisfaction with service being provided. While numerous studies have been conducted discussing farmer access services and suitability of extension services in other countries. Therefore it was deemed necessary to conduct a research covering cotton growers' satisfaction with services provided by both private pesticide companies and public extension agents.

Description of the study area

The major cotton producing provinces in Pakistan are Punjab and Sindh. Approximately 80% of cotton is produced in Punjab and the rest in Sindh. Punjab is the largest province from population perspective and also holds a large portion in agriculture production. Punjab province comprises of 36 districts. The district of Muzaffargarh is located in southern Punjab province at almost the exact centre of Pakistan. The area in the district boundary is a flat, alluvial plain and is ideal for agriculture; cotton, wheat and sugarcane are the main crops grown in the district. Muzaffargarh district is surrounded with two rivers namely Indus and Chenab adding more fertile characteristics to the soil of the district, but these rivers are many times becoming the reason for flood during monsoon season. Muzaffargarh features an arid climate with very hot summers and mild winters. The city witnesses some of the most extreme weather in the country.

2.MATERIALS and METHODS

Muzaffargarh district was selected as study area; the selection of this district as study area is because cotton is cultivated extensively in this area. Multi stage random sampling procedure was employed in selection of cotton farmers for study. At first stage two administration areas out of four were selected. At second stage, 5 villages from each area were selected, and at last stage 10 cotton growers from each village were selected forming a total of 100 respondents, out of this 5 respondents were dropped due to missing information. Survey was conducted by face to face interview and using a pre-tested questionnaire. Farmers' satisfaction with advisory was ascertained by reference to level of stated agreement with 5 statements regarding their recent experience with the services. A standard LIKERT scale was used for each response whereby 1= 'very low' through 5= 'very high satisfaction' with different characteristics of services. Data was analyzed using chi square analysis of association between demographic characters and satisfaction with services, descriptive statistics, frequency, and percentage.

3.RESULTS and DISCUSSION

Data in Table 1 and 3 shows that mean age of the cotton farmers was 39.26 years. Analysis also shows that, 82 percent of farmers are less than are 50 years age. This shows that majority of the cotton farmers are in productive age range in the study area. Mean years of education is 3.34 which is very low. About 12 percent of the cotton farmers had no formal education, while the major part of respondent (40%) has education up to elementary level. This could be due to financial constraints which were probably hurdle in achieving further education. The mean farming experience was 17.72 years, analysis shows that, 29% farmers have farming experience in range of 1-10 years, 35% have 11-20 years, and 22% have 21-30 years. It could be said that, most of the farmers are not very old in the farming profession. Mean farm size in the study area is 3.8 ha, 73% of the respondents have a farm size less than 5 ha, which shows that majority of the cotton farmers are small farmers or have farm are less than sustainable level (considering 5 ha as sustainable farm size).

Table 1. Socio-economic characteristics of the cotton growers

characteristics	Frequency	Percentage
Age		
20-35	41	43.2
36-50	41	43.1
51>	13	13.7
Total	95	100.0
Education		
Illiterate	12	12.6
Elementary	40	42.1
Higher secondary	31	33.5
University	12	12.6
Total	95	100.0
Farming experience		
1-10	29	30.5
11-20	35	31.6
21-30	22	22.0
31>	9	17.9
Total	95	100
Farm size		
1-5 hectare	73	76.8
5 ha>	22	23.2
Total	95	100.0

Results in Table 2 shows that cotton farmers were receiving advisory services from both public extension and private sector extension staff. If we compare percentage of farmers getting service solely from one source than private extension agents have more outreach to farmers than public. This could be due to the fact that public extension agents have low budget and resource problems, while on other hand private extension agents have targets to meet specific number of farmer everyday and also have transport and other resources. Almost 10% of the respondents are those who are not getting services or not approached by either public or private extension agents. Such types of farmers are those who have very small farm size or belong to uneducated category.

Table 2. Distribution of farmers receiving advisory services from different sources

Source	Frequency	Percentage
Public extension	3	3.2
Private	25	26.3
Both	58	61.1
Other	9	9.5
Total	95	100.0

*Other (Input Dealers)

Social participation of cotton growers

Social participation of farmers has significant impact on behavior of farmers towards public and private extension service providers. In the study area good quality of farmers' social participation prevails. According to table 3, sharing new and useful information with others, advising and guiding other to solve their agricultural problems and consulting and helping others to solve their problems ranked first to third respectively.

Table 3. Ranking Social participation of cotton growers

The variables	Mean	Standard deviation	Rank
Sharing new and useful information with others	3.69	.895	1
Advising and guiding other to solve their agricultural problems	3.42	.834	2
Consulting and helping others to solve their problems	3.40	.994	3

Likert scale: very low (1), low (2), medium (3), much (4), very much (5)

Information sources used by cotton growers

The main farming practices used by respondents were land preparation, seed selection, planting time and planting techniques, fertilizer and fertilizing, pest management, irrigation, and harvesting and storing. Information sources used by farmers can be divided into two groups modern (Pesticide companies, fertilizer companies, seed companies, public and private extension agents) and Traditional (pesticide dealers, own farming experience, other farmers) as categorized by Boz and Ozcatalbas, 2010 in their study. Table 4 shows that cotton growers mostly utilize their own farming experience or consult with

other farmers for selected farm practices except seed selection and pest management. For land preparation 42.5% of respondents use modern sources while 57.5% relied on traditional information sources. Farmer's own farming experience dominates when deciding about land preparation. Modern information sources are use by majority (65%) of farmers for seed variety selection and seed companies were mainly consulted, just 35% of farmers depend on traditional sources. In the decision regarding planting time and planting techniques traditional source are dominant (54.25%) and 46.75% of farmers consulted with pesticide or seed companies and public extension agents. Again farmer's own experience or consultation with other farmers contributed more in deciding fertilizer and fertilizing time, 56.25% used traditional and 43.75% used modern information sources. Pesticide companies were major source of information for pest management in the study area, 82% of farmers used modern information sources and 18% used traditional. Decision related to irrigation, harvesting and storing were taken based on farmers' own experience or consulting with neighbors or other farmers mainly.

Table 4. information sources used by cotton growers (95 respondents)

Farming practice and information source		Percentage	Frequency	Information Source Type	Percentage
Land preparation	Pesticide companies	20.79	21	<i>Modern</i>	42.57
	Fertilizer companies	5.94	6		
	Seed companies	4.95	5		
	Public extension agents	10.89	11		
	Other farmers/Neighbors	14.85	15	<i>Traditional</i>	57.43
	Own farming experience	42.57	43		
Total		100.0	101		100.00
Seed selection	Pesticide companies	15.05	14	<i>Modern</i>	65.59
	Seed companies	45.16	42		
	Public extension agents	5.37	5		
	Other farmers/Neighbors	15.05	14	<i>Traditional</i>	34.41
	Own farming experience	19.35	18		
	Total		100.0	93	
Planting time and planting techniques	Pesticide companies	17.02	16	<i>Modern</i>	45.74
	Seed companies	13.82	13		
	Public extension agents	14.89	14		
	Other farmers/Neighbors	11.70	11	<i>Traditional</i>	54.25
	Own farming experience	42.55	40		
	Total		100.0	94	
Fertilizer and fertilizing	Pesticide companies	6.25	6	<i>Modern</i>	43.75
	Fertilizer companies	28.12	27		
	Public extension agents	9.37	9		
	Other farmers/Neighbors	11.45	11	<i>Traditional</i>	56.25
	Own farming experience	44.79	43		
	Total		100.0	96	
Pest management	Pesticide companies	55.17	54	<i>Modern</i>	81.90
	Public extension agents	20.68	24		
	Other farmers/Neighbors	6.03	7	<i>Traditional</i>	18.10
	Own farming experience	9.48	11		
	Pesticide suppliers	8.62	10		
	Total		100.0	116	
Irrigation	Pesticide companies	4.39	4	<i>Modern</i>	25.27
	Fertilizer companies	4.39	4		
	Public extension agents	16.48	15		
	Other farmers/Neighbors	5.49	5	<i>Traditional</i>	74.73
	Own farming experience	69.23	63		
	Total		100.0	91	
Harvesting and storing	Pesticide companies	4.39	5	<i>Modern</i>	22.0
	Public extension agents	17.58	17		
	Other farmers/Neighbors	20.87	22	<i>Traditional</i>	78.0
	Own farming experience	57.14	56		
Total		100.0	91		100.0

From the data respondents' perception of quality of extension services were obtained. Comparatively respondents were more satisfied with timeliness of delivery of public extension agents (together v. satisfied and satisfied 47%) than private (41%). More respondents (39%) were dissatisfied with accuracy of services provided by public extension agents as compared to private (19%), while percentage of respondents satisfied with accuracy of services were almost same for both public and private (29%). Respondents ranked information provided by public extension agents more related to needs of farmers and situation. Cotton growers responded that comparatively it was easier to understand private extension agents than public.

Table 5. Service quality outcome for public and private extension

Service quality		Public(N=61)	%	Private (N=83)	%
Timeliness of delivery	Very dissatisfied	1	1.63	2	2.40
	Dissatisfied	11	18.03	16	19.27
	Neutral	20	32.78	29	34.93
	Satisfied	17	27.86	31	37.34
	Very satisfied	12	19.67	3	3.61
Accuracy of services	Very dissatisfied	10	16.39	2	2.40
	Dissatisfied	14	22.95	14	16.86
	Neutral	19	31.14	41	49.39
	Satisfied	15	24.59	22	26.50
	Very satisfied	3	4.91	2	2.40
Relevance to farmers' needs	Very dissatisfied	1	1.63	0	0
	Dissatisfied	7	11.47	9	10.84
	Neutral	8	13.11	48	57.83
	Satisfied	28	45.90	17	20.48
	Very satisfied	18	29.50	7	8.43

Results in the Table 6 show the relevance of the farmers' basic characteristics with satisfaction from extension services. Although age is very important factor influencing the farmer's attitude, in this study age was found to be insignificant. The possible explanation for this can be that the level of services being provided is very low, so there is no difference between the old and younger farmers satisfaction level. Education, another important factor shaping farmer attitude was close to significance. Farmers with high level of education were getting services and had higher level of satisfaction as compared to less educated or illiterate ones. Farming experience, farm size and income were found to be non-significant.

Table 6. Chi square analysis of socio-economic characteristics and satisfaction with services

Variable	Mean	S.D	Chi square		
			With Public	With Private	Decision
Age	39.26	9.68	.440	.558	Not significant
Education	3.34	1.55	.063	.059	Not significant
Farming experience	17.72	9.69	.509	.283	Not significant
Farm Size	3.8	6.56	.854	.572	Not significant

Table 7 shows the rank order of the each extension service being provided by both public and private extension agents. Results showed that, overall farmers are more inclined towards private services. But, at the same time, the level of satisfaction of farmers with both services does not show strong or very strong satisfaction. Farmers' level of satisfaction is medium with private while it is unsatisfied to medium with public. If we look on rank order, farmers have given highest score to identification of disease service of private and pesticide selection service of public extension agents. Farmers showed dissatisfaction with services like land preparation, planting techniques and fertilizer application rate being provided by private extension companies. While on the other hand farmers have dissatisfaction with almost all of the service of public extension.

Table 7. Distribution of cotton farmers showing the rank-order of satisfaction with the services provided by the extension agents

Service	Weighted mean square (WMS)	
	Public (rank)	Private (rank)
Overall satisfaction	2,63 (2)	3,10 (4)
Land preparation	2,32 (7)	2,34 (8)
Selection of seed	2,47 (6)	3,13 (3)
Planting techniques	2,27 (8)	2,76 (6)
Herbicides	2,57 (4)	3,14 (2)
Fertilizer application rate	2,47 (5)	2,66 (7)
Identification of disease	2,60 (3)	3,20 (1)
Pesticides selection	2,75 (1)	3,08 (5)

4. CONCLUSION

This study focused on the satisfaction of cotton grower with extension services provided by both public and private sector field staff and sources of information used in Muzaffargarh district. Specific objective of the study was satisfaction level of cotton growers with services.

Age, farming experience, and farm size were found to be no significant. No association was found between demographic characters of the respondents and satisfaction with services. Education was near to significance level.

Majority of the farmers are being approached by private extension field staff, while public extension field staff has less out reach.

Respondents showed medium level of satisfaction with private field staff, while dissatisfaction with public field staff.

Private field staff gain highest score on identification of disease and public on pesticide selection.

Results of the study shows that farmers heavily depends on their own farming experience or consult with other farmers in decision related to farming practices except seed selection and pest management for which seed companies and pesticide companies were used as source of information respectively.

Farmers were more satisfied with timeliness of delivery of public extension agents, satisfaction with accuracy of services was low for both, information provided by public extension agents were ranked more relative to farmers' needs than private extension, satisfaction with ease of understanding was higher for private extension providers.

Recommendation

Keeping in view the results of the study following recommendation can be made;

Public extension field staff should increase its outreach to maximum farmers; government should provide enough resources and trainings to increase their access and competence.

Mostly very small farmers are being neglected by both sectors; it is deemed necessary for government to take steps to provide equal services to small farmers like others. At the same time a separate unit in both sectors which just deal with small farmers is recommended.

Private extension field staff has targets to achieve which influence the quality of services, as they advice more pesticide use and recommend usage of their own product rather than what is needed. Technical services should be kept aside from marketing and sales department. It has been seen that private are more concerned to sale of their products. Total service package which was recommended by 1988 commission should be adopted, beyond just plant protection and disease identification.

Traditional sources of information are mostly used by cotton growers, policy targeting on motivating farmers to adopt modern sources of information should be formulated. There were no services for farmers related to harvesting and storing, farmers should be educated about harvesting techniques, timing and storing.

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