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Impact of Training Approaches to Reduce Knowledge and Skills Gap in Cotton Crop: A Case Study Taluka Sinjhero District Sanghar, Sindh

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Abstract

Cotton is important fiber crop which is used to grow for commercially purpose. It's growing all over the world, like India, USA, Russia, China, Brazil, Pakistan, Egypt, Turkey, and Sudan etc. Cotton is cash crop and Pakistan known as 'white gold', cotton contributes 23.60 percent of value added and 4.45 of the total GDP of the country (GoP, 2021). Two third exports earning of the country are from the cotton made-up and textiles, it add \$2.5 in national economy while country textile mills and ginning factories are also depends on cotton (Rani *et al.*, 2017). Study objectives Identify and compare the training methods for cotton production perceived by cotton farmers, determine the effectiveness of various training methods on cotton farmers' knowledge and skills & Identify barriers to applying knowledge and skills by farmers. Total sample size were 100 cotton growers purposely were selected from study area. Data collection were collected through well design research questionnaire and data analyzed through (SPSS) statistical software. It was observed that overall training program had very positive impact on farmer's knowledge and skills because farmers became aware about filed issue and they started practical work their field to get maximum yield from cotton crop. Public organization may be need for improvement for facilitation and capacity building of famers. Farmers awareness session increase their knowledge and work for more production.

Keywords: Cotton, training, approach, effectiveness Sindh & Sanghar

Introduction

Cotton is important fiber crop which is used to grow for commercially purpose. It's growing all over the world, like India, USA, Russia, China, Brazil, Pakistan, Egypt, Turkey, and Sudan etc. Cotton is cash crop in Pakistan its known as 'white gold' cotton contributes 23.60 percent of value added and 4.45 of the total GDP of the country (GoP, 2021). Two third exports earning of the country are from the cotton made-up and textiles, it add 2.5\$ to national economy while in the country textile mills and ginning factories are also depends on cotton (Rani *et al.*, 2017). Pakistan is 4th largest producer of the cotton overall the world with average production of 1610 thousands metric ton (ZEITIR, 2019) unjab produce 85% of cotton in Pakistan and Sindh produce 15% of cotton of the country (Shuli, *et al.*, 2018). After India and china Pakistan has 3rd largest spinning capacity in Asia (Staafgard & McClay 2018). In 2017-18 cotton crop

production was 11.935 million bales which increased 11.8% from last year production, 10.671 million bales cotton production were recorded on same period of last year. In year 2016-17 cotton crop was cultivated on an area of 2489 thousands hectares, compare of last year in 2017-18 cultivation of cotton crop increased till 8.4% cotton crop was cultivated on an area 2,699 thousands hectares in year 2017-18. This production of cotton increased because of better economics returns received during last year, government also promoted cotton crop through different campaigns, and inputs were also available on subsidized rate (GoP, 2018). Pakistan Bureau of Statistics has reported that in the past 10 years cotton production has almost halved from 13.6 million bales in 2011/12 to about 7 million in 2020/21. The State Bank of Pakistan (SBP) has also reported that the crop area of cotton has significantly reduced to 2.2 million hectares, the lowest since FY82 (Imran, 2022).

Area: Production and Yield of Cotton

Year	Area		Production		Yield	
	000 Hectare	%Change	000 bales	%change	(Kgs/ha)	%change
2016-17	2,489	-	10,671	-	729	-
2017-18	2,700	8.5	11,946	11.9	753	3.3
2018-19	2,373	-12.1	9,861	-17.5	707	-6.1
2019-20	2,517	6.1	9,148	-7.2	618	-12.6
2020-21	2,079	-17.4	7,064	-22.8	578	-6.5

Source: Pakistan Bureau of Statistics (Pakistan Economic Survey 2020-21)

In Pakistan farmers are getting good cotton crop yield but they are not focusing on the quality control standard of cotton. Cotton is unclassified guarding because of some reasons, a) farmers picking cotton improperly, b) use pesticide in extra quantity, c) pesticide residues, d) no proper timing of irrigation, and e) improper way of picking cotton, all these factors affecting on the price of cotton, to fill up this gap farmers need good quality of training approaches which help farmers to improve their skills and farmers will also improve their knowledge about new techniques used in Agriculture (Antwi-Agyej & Stringer 2021) many reasons behind agricultural production, almost 85 to 90% farmers have very small land (Raza, 2017) they are facing financial problem, so most of them they cannot purchase inputs timely and proper knowledge of crop and weather is also factor for less production, . So government must bring changes in their extension services and focus on small farmers (Raza, *et al.*, 2016). Rural women in Pakistan are playing very important role in agriculture. They are participate activities which are related to Crop production and Livestock management. Rural women are often busy in Agricultural practices like pre harvest and post-harvest and live- stock management from sun rise to sun set. Their participation in agriculture is spread over wide range but not highly mentioned due to insufficient data to show their important in various agriculture activities. National commission must established any formal way which expose the participation of rural women at national and international level, and also established women training wings which will be supervised by district level officers, who work to train the rural women on different aspects of crop and Livestock production, so that women take part in the betterment of country economy (Afrad *et al.*, 2019).Farmers had very low knowledge about the mustard production technology, mainly they were unaware about plant protection practices, how much and how to use fertilizer and how to prepare the field for the cultivation of crop (Rahaman, *et al.*, 2018). So it was needed that start farmers training programs to improve their field knowledge about crop production and other all activities which will improve the yield of mustard farmers (Pandey, *et al.*, 2015). From 2000 to 2004 Food and Agricultural Organization (FAO, 2021) of United State was supporting Farmers field school project on IPM training program in different countries of Asia.

(Van Den Burg, 2020) The main purpose of his project was to control on pest through different strategies, and replace the through other environment friendly cotton production practices. Farmers urged to hold training section on integrated farming system, integrated pest management. And provide them different techniques through which they protect their soil and conserve the water on large scale, while the training demand on nursery management were on top in horticulture field, the demand to provide knowledge to the farmers on the raring of piggery was high in animal sciences. Rural women also expressed to train them on the value addition with the support of it the increase the house income and change their family living standard (Sajeev, *et al.*, 2012). Almost 55% respondents are getting information about their field from different deal- ers and sealers in different part of the Bangladesh. Farmers want training programs on inte- grated pest management, train farmers about the better use of irrigation water and the way through they can conserve the irrigation water, to make farers aware about the use of bio- control of different pests, farmers also demanded to train them about the marketing and transporting system. So its need to organize training programs on those areas through which farmers improve their skill and farm production (Rahman, *et al.*, 2018).

Objectives of the study:

Identify and compare the training methods for cotton production perceived by Cotton Farmers
 Determine the effectiveness of various Training methods on cotton farmer’s knowledge and skills
 Identify barriers in applying knowledge and skills by farmers

Material and Methods

Sampling procedure: This study was conducted in 5 union councils of taluka Sinjhor. Purpose of this study was to analysis the impact of training approaches to reduce knowledge and skill gap of cotton farmer in taluka Sinjhor.

Population of the study: The main target of this study of cotton farmers who had received any cotton training programs from any organizations.

Sampling procedure: The data were collected from 100 cotton farmers who participated in different training programs. Random sampling technique was used to conduct this study, five union councils were purposively selected from out of 12 union councils of Taluka Sinjhor district Sanghar

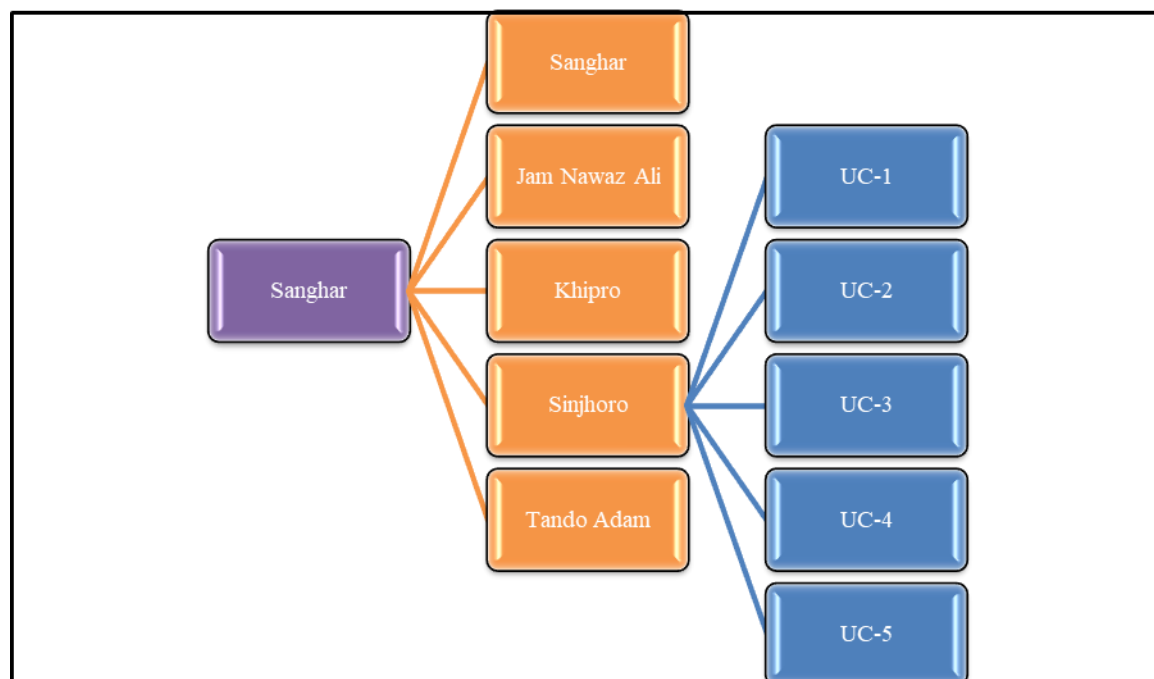


Figure-1: Data collection strategy

Development of Questionnaire: The questionnaire was developed with the help of supervisor committee and other field experts. That questionnaire covers some information such as Educational level of farmers, farming experience, which training methods were used and what are the effective training methods among them, after development of questionnaire data were collected

Data collection: Data were collected only from those farmers who ever received cotton training by Public and Non-governmental organizations. Before collection of data farmers took in confidence that this data will be used for their betterment.

Data analysis: After the compilation of data collection procedure, the collected data were analyzed in Statistical package for social sciences (SPSS), Mean, frequency, percentage, scale rating

and others.

Result and Discussion

In this section of the research we described the results of different characteristics. The present study was carried out to analyze the impact of training approaches to reduce knowledge and skill gap of cotton farmer in Taluka Sinjhoru district Sanghar.

Land tenure system: In technology adoption process in agriculture, the land tenure is also considered as an important factor to influence the decision making and adoption process. The owner farmers who are independent in decision making may adopt improved practices more easily as compared to tenants who are not sure to adopt improved farm operations because of risk factor. Table-4 shows the information regarding the type of tenure such owner, tenant and owner cum tenant.

Table-1: Farmer distribution according their land

Particulars	Frequency	Percentage
Owner	46	46.00
Tenant	18	18.00
Owner cum tenant	36	36.00
Total	100	100.00
Land holding (acre)		
Up to 12.5 (Small)	67	67.00
12.5 to 25 (Medium)	24	24.00
25 to and above (Large)	6	6.00
Overall	100	100.00

In Table.1 indicate that farming tenure were highlighted and it shows that majority of 46% farmers were owner they had their own land, while 36% were owner cum tenant and 18% growers were tenant. Farmer were categories in three category small 12.5

acres was 67 percent major portion, while medium farmers were 24 percent and large category only 6 percent of farmers were observed in study area.

Area under cotton crop cultivation: Cotton is important cash crop of the Pakistan and in studied area majority of the farmers grow cotton crop. The

purpose behind to collected the information regarding area under Cultivation was to be aware the

situation of studied area that how many acres a farmer was cultivating the cotton crop.

Table. 2: Farmers distribution on the basis of area under cotton crop cultivation

Area under cotton cultivation	Frequency	Percentage
Up to 12.5 (Small)	66	66.00
12.5 to 25 (Medium)	18	18.00
25 and above (Large)	16	16.00
Total	100	100.00

Table. 2 shows that majority of 66 percent farmers cultivated cotton crop up to 12.5 acres, while 12.5 to 25 acres cultivated 18 percent cotton crop. Further 25 and above farmers cultivated 16 percent cotton crop in their field respectively.

Organization arrangement regarding training program: In studied area different organization were working on cotton crop, such as public extension services, private extension and Non-governmental-organization (NGO) all those organization providing knowledge to the farmers on different field related issues on the basis of information were collected that which organization

among them mostly arranged training program for the farmers. Public extension, private extension and NGOs brief description given below for clarity.

- Public Extension: Agriculture Extension, Agriculture Research and Academia
- Private organization: Fauji Fertilizer Company, Fatima Fertilizer Company, FMC, Syngenta, Tara Group and other fertilizer and pesticide companies.
- Non-government organization: CABI, Thardeep, Sukkur Foundation, RDF and other NGO.

Table. 3: Information regarding farmers trained for cotton crop by different organizations

Particulars	Public extension organization		Private extension organization		Non-governmental-organization	
	F	P	F	P	F	P
Yes	12	12%	64	64%	100	100%
No	88	88%	26	26%	00	00.00

F = frequency and p = percent

Result indicated that out of 100% respondents only 12% respondents said yes that worker of public extension service visited to them and providing them field knowledge on regularly basis and 64% respondents said yes that the agent private extension services visit- ed to them and aware them about filed problems, while 100% respondents said yes that the field facilitator of NGOs (Non-

Governmental-organization) regularly visit to the farmers field and providing them training about the concern field issues.

Training received by farmers : Information was gathered from respondents that on which filed of area they received training by different organization

Table. 4: Farmers trained for different crop stages of cotton crop.

S. No	Statements	Yes		No	
		F	P	F	P
1	Land management	100	100.00	00	00.00
2	Cotton seed varieties	100	100.00	00	00.00
3	Utilization of impressed implements and material	100	100.00	00	00.00
4	Seed and sowing methods	100	100.00	00	00.00
5	Fertilizer application	100	100.00	00	00.0
6	Irrigation application	100	100.00	00	00.00
7	Insect scouting	100	100.00	00	00.0
8	Application and use of chemical	100	100.00	00	00.00
9	Precaution in using insecticide/pesticide	100	100.00	00	00.00
10	Plant protection	100	100.00	00	00.00
11	Irrigation requirement	100	100.00	00	00.00
12	Intercultural operation	100	100.00	00	00.00
13	Cotton picking	100	100.00	00	00.00
14	Harvesting and marketing	100	100.00	00	00.00

Table 4. portrays that majority of farmers got training in almost all field related activities land

management, cotton seed varieties, Seed and sowing methods, Fertilizer application, Irrigation application, pest scouting chemical usage,

Precaution in using insecticide/pesticide, Cotton picking and Harvesting and marketing and others

Table 5: Farmers contacted through different techniques.

Particulars	Rating scale										Mean	S. D
	Not at all		Sometime		Often		Almost		Always			
	F	%	F	%	F	%	F	%	F	%		
Farm visit	00	00.00	00	00.00	00	00.00	00	00.00	100	100.00	5.00	.000
Home visit	00	00.00	00	00.00	18	18.00	54	54.00	28	28.00	4.100	.674
Office call	00	00.00	00	00.00	15	15.00	60	60.00	25	25.00	3.100	.627
Personal letter	00	00.00	16	16.00	39	39.00	35	35.00	10	10.00	3.390	.874
Telephone call	00	00.00	30	30.00	44	44.00	26	26.00	00	00.00	2.950	.770

Scale 1= Not at all, 2= Sometime, 3= Often, 4= Almost Always, 5= Always

Table.5. Farmers were asked regarding usage of individual training methods used by training organizations, farmers indicated that farm visit was always used, whereas office call and home visit were almost always used by training organizations and telephone calls and personal letter were often used by training organizations.

Table 6: Farmers trained through different techniques.

Particulars	Rating scale										Mean	S. D
	Not at all		Sometime		Often		Almost always		Always			
	F	%	F	%	F	%	F	%	F	%		
Group Methods												
Internal group	00	00.00	09	09.00	52	52.00	39	39.00	00	00.00	3.300	.627
External group	00	00.00	09	09.00	72	72.00	19	19.00	00	00.00	3.100	.522
Demonstration	00	00.00	00	00.00	00	00.00	26	26.00	72	72.00	4.740	.440
Meetings	00	00.00	00	00.00	00	00.00	31	31.00	69	69.00	4.690	.464
Group discussion	00	00.00	00	00.00	18	18.00	35	35.00	47	47.00	4.290	.756
Seminar	00	00.00	21	21.00	57	57.00	22	22.00	00	00.00	3.010	.658
Lecture technique	00	00.00	00	00.00	12	12.00	62	62.00	26	26.00	4.140	.603
Tour and field trips	00	00.00	00	00.00	00	00.00	42	42.00	58	58.00	4.580	.496
Field days	00	00.00	00	00.00	17	17.00	25	25.00	58	58.00	4.410	.766

Scale 1= Not at all, 2= Sometime, 3= Often, 4= Almost Always, 5= Always

Table. 6. Respondents were asked to the usage of group training methods which were applied by training organization, and they indicated that demonstration, meetings, tour and field trips, field days and group discussion methods were always used by training organizations, whereas lecture technique was almost always used and external group, seminar and internal group were often used as a source of training.

Table 7: Farmers trained through different mass media tools

Particulars	Rating scale										Mean	S. D
	Not at all		Sometime		Often		Almost always		Always			
	F	%	F	%	F	%	F	%	F	%		
Mass media												
Books	22	22.00	47	47.00	31	31.00	00	00.00	00	00.00	2.090	.726
Pamphlets	00	00.00	09	09.00	53	53.00	38	38.00	00	00.00	3.290	.624
Journals	62	62.00	27	27.00	11	11.00	00	00.00	00	00.00	1.490	.688
Radio	74	74.00	20	20.00	06	06.00	00	00.00	00	00.00	1.320	.583
Television	63	63.00	19	19.00	18	18.00	00	00.00	00	00.00	1.550	.783
Video	81	81.00	19	19.00	00	00.00	00	00.00	00	00.00	1.190	.394

Scale 1= Not at all, 2= Sometime, 3= Often, 4= Almost Always, 5= Always

Table. 7. Respondents expressed that among pamphlets were often used as source of training, while books were sometime used and video aids, radio, television and journals were not at all used by training organizations.

Table. 8: Farmers training effectiveness communication

Particulars	Rating scale										Mean	S. D
	Not at all		Satisfactory		Moderate level		Effective		Very Effective			
	F	%	F	%	F	%	F	%	F	%		
Individual methods												
Farm visit	00	00.00	00	00.00	00	00.00	00	00.00	100	100.00	5.000	.000
Home visit	00	00.00	00	00.00	31	31.00	21	21.00	48	48.00	4.170	.876
Office call	14	14.00	23	23.00	32	32.00	31	31.00	00	00.00	2.800	1.034
Personal letter	62	62.00	27	27.00	11	11.00	00	00.00	00	00.00	1.490	.688
Telephone Call	00	00.00	40	40.00	32	32.00	28	28.00	00	00.00	2.880	.819

Scale 1= Not at all, 2= Satisfactory, 3= Moderate, 4= Effective, 5= Very effective

Table.8. According to the farmers that home visit and farm visit were very effective training methods, and office call was moderate level effective training technique for them, while telephone call was satisfactory effective for farmers and personal letter was not at all effective training method for the farmers.

Table. 9: Farmers training effectiveness through different techniques

Particulars	Rating scale										Mean	S. D
	Not at all		Satisfactory		Moderate level		Effective		Very Effective			
	F	%	F	%	F	%	F	%	F	%		
Group Methods												
Internal group	00	00.00	06	06.00	42	42.00	34	34.00	18	18.00	3.640	.847
External group	00	00.00	09	09.00	30	30.00	37	37.00	24	24.00	3.760	.922
Demonstration	00	00.00	00	00.00	00	00.00	40	40.00	60	60.00	4.600	.492
Meetings	00	00.00	00	00.00	18	18.00	40	40.00	42	42.00	4.240	.740
Group discussion	00	00.00	00	00.00	16	16.00	38	38.00	46	46.00	4.300	.731
Seminar	00	00.00	17	17.00	57	57.00	26	26.00	00	00.00	3.090	.652
Lecture technique	00	00.00	20	20.00	29	29.00	37	37.00	14	14.00	3.500	.967
Tour and field trips	00	00.00	00	00.00	00	00.00	36	36.00	64	64.00	4.640	.482
Field days	00	00.00	00	00.00	00	00.00	13	13.00	87	87.00	4.870	.338

Scale 1= Not at all, 2= Satisfactory, 3= Moderate, 4= Effective, 5= Very effective

Table. 9 Respondents were asked about the effective training methods among group training methods and farmers responded that demonstration, meetings, group discussion, tour and field trips, field days, were very effective methods whereas external group and lecture technique were effective methods for farmers, while internal groups and seminar were moderate level effective group training techniques for them.

Table-10: Farmers training effectiveness through mass media tools

Particulars	Rating scale										Mean	S. D
	Not at all		Satisfactory		Moderate level		Effective		Very Effective			
	F	%	F	%	F	%	F	%	F	%		
Mass Media												
Books	57	57.00	32	32.00	11	11.00	00	00.00	00	00.00	1.540	.687
Pamphlets	62	62.00	30	30.00	8	8.00	00	00.00	00	00.00	1.460	.642
Journals	72	72.00	28	28.00	00	00.00	00	00.00	00	00.00	1.280	.451
Radio	66	66.00	22	22.00	12	12.00	00	00.00	00	00.00	1.460	.702
Television	54	54.00	30	30.00	16	16.00	00	00.00	00	00.00	1.620	.749
Video	84	84.00	16	16.00	00	00.00	00	00.00	00	00.00	1.160	.967

Scale 1= Not at all, 2= Satisfactory, 3= Moderate, 4= Effective, 5= Very effective

This table.10 shows that Mass media (print media and electronic media) tools such as pamphlets, journals, radio, televisions, and videos were not at all effective training methods for the farmers.

Table. 11: Farmers faced barriers regarding inputs.

Barriers	Rating scale										Mean	S.D
	Not at all		To some level		Moderate level		Serious level		Very serious level			
	F	%	F	%	F	%	F	%	F	%		
Input and resources												
High price of fertilizer and pesticide	00	00.00	00	00.00	18	18.00	39	39.00	43	43.00	4.250	.743
Inadequate credit for purchase of inputs	00	00.00	00	00.00	00	00.00	42	42.00	58	58.00	4.580	.496
Adulteration of pesticide and seeds	00	00.00	00	00.00	00	00.00	00	00.00	100	100.00	5.000	.000
Non availability of quality seeds and fertilizer	00	00.00	00	00.00	00	00.00	29	29.00	71	71.00	4.710	.456
Non availability of inputs at village level	00	00.00	24	24.00	56	56.00	20	20.00	00	00.00	2.960	.665

Scale 1= Not at all, 2= to some level, 3= Moderate level, 4=Serious level, 5= very serious level

Table.11. Farmers were asked regarding barriers faced by the farmers related to inputs and re- sources and farmers indicated that adulteration of pesticides and seeds, non-availability of quality seeds and

fertilizers, inadequate credit for purchase of inputs and high price of ferti- lizer and pesticide were very serious level of barriers and non-availability of inputs at village level was moderate level problem for the.

Table-12: Low production factors in cotton crop

Barriers	Rating scale										Mean	S.D
	Not at all		To some level		Moderate level		Serious level		Very serious level			
	F	%	F	%	F	%	F	%	F	%		
Production Aspects												
Failure of crop due to unfavorable- weather condition	00	00.00	00	00.00	11	11.00	25	25.00	64	64.00	4.530	.688
Inadequate insect pest control	00	00.00	00	00.00	00	00.00	79	79.00	21	21.00	4.210	.409
Non availability of improved implements	00	00.00	00	00.00	35	35.00	47	47.00	18	18.00	3.830	.711
Non availability of labor	00	00.00	00	00.00	24	24.00	33	33.00	43	43.00	4.190	.800
Lack of irrigation	00	00.00	00	00.00	00	00.00	26	26.00	74	74.00	4.740	.440

Scale 1= Not at all, 2= to some level, 3= Moderate level, 4=Serious level, 5= very serious level

Table 12. Respondents were asked regarding barriers related to production aspects, farmers said that Lack of irrigation, Failure of crop due to unfavorable weather condition, Non-availability of labor were

very serious level barriers while Inadequate insect pest control, Non- availability of improved implements were serious level barriers for them.

Table. 13: Farmers faced problems regarding marketing of cotton crop

Barriers	Rating scale										Mean	S.D
	Not at all		Some level		Moderate level		Serious level		Very serious level			
	F	%	F	%	F	%	F	%	F	%		
Marketing constraints												
Low support price	00	00.00	00	00.00	22	22.00	42	42.00	36	36.00	4.140	.752
Lack of guidance for proper marketing	00	00.00	26	26.00	64	64.00	10	10.00	00	00.00	2.840	.581
Lack of warehouses	19	19.00	45	45.00	26	26.00	00	00.00	00	00.00	1.970	.744
Faraway lo- cation of market from village	00	00.00	62	62.00	38	38.00	00	00.00	00	00.00	2.380	.487

Scale 1= Not at all, 2= to some level, 3= Moderate level, 4=Serious level, 5= very serious level

Low support

Table. 13. Respondents were asked regarding the barriers related to marketing, farmers responded that

price was serious level barrier whereas Lack of

guidance for Proper marketing was moderate level, while Faraway location of market from village. Lack of warehouses were to some level barriers for th

Table. 14: Farmers faced problems regarding technical aspects of crops

Barriers	Rating scale										Mean	S.D
	Not at all		To some level		Moderate level		Serious level		Very serious level			
	F	%	F	%	F	%	F	%	F	%		
Technical Constraints												
Lack of technical guidance on application of pesticide	00	00.00	00	00.00	17	17.00	47	47.00	36	36.00	4.190	.706
Financial constraints	00	00.00	00	00.00	00	00.00	33	33.00	67	67.00	4.670	.472
Lack of knowledge about banking system credit Facility	10	10.00	40	40.00	38	38.00	12	12.00	00	00.00	2.520	.834
High cost of agrochemical	00	00.00	00	00.00	00	00.00	43	43.00	57	57.00	4.570	.497
High cost of seed	00	00.00	00	00.00	00	00.00	43	43.00	57	57.00	4.570	.497
High cost of fertilizer	00	00.00	00	00.00	00	00.00	42	42.00	58	58.00	4.580	.496
High cost of labor charges	00	00.00	00	00.00	00	00.00	41	41.00	59	59.00	4.590	.494

Scale 1= Not at all, 2= to some level, 3= Moderate level, 4=Serious level, 5= very serious level

Table. 14. Growers were asked regarding barriers related to technical aspects, farmers said that financial constraints, high cost of labor charges, high cost of fertilizer, high cost of seed and agro chemical were very serious level barriers whereas Lack of technical guidance of application of pesticide was serious level barrier and lack of knowledge about banking system credit facility were to some level for them

Conclusion

This study concluded that public extension workers were not contacted with farmers properly, while field facilitator of private extension and NGOs active their facilitation for farmers regarding arranged training program for farmers. Farm visit, demonstration, meetings, group discussion, tour and field trips and field

days training methods were arranged for capacity building of farmers. While mass media tools such as television, radio magazine and printed materials given by private organization It was observed that overall training program had very

Positive impact on farmer's knowledge and skills because farmers became aware about filed issue and they started practical work their field to get maximum yield from cotton crop. Farmers awareness session increase their knowledge and also provided platform for betterment of famers.

Recommendations / Suggestions

- Government may could jointly work with private organization for the capacity building of farmers
- Demonstration plots established in each area of Sindh province for the betterment of farmers
- Input prices should decrease and easily availability for farmers
- Provide credit facility to the small farmers on easy conditions.

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