EVALUATION OF IN-SERVICE AGRICULTURAL TRAINING INSTITUTES IN PUNJAB, PAKISTAN

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Pakistan is an agricultural country. The welfare and well being of its people and the national economy depends upon a sound vibrating agriculture. The development of agriculture is a complex phenomenon, which depends upon many factors including agricultural education/training. There are three agricultural training institutes working in the Punjab, Pakistan, which provide training to frontline extension workers involved in conducting extension work in rural areas. This study explores the bottlenecks in these institutes for not producing well training extension field staff. In this study all 346 randomly selected out of 429 students of these institutes were contacted to acquire information. Results indicated that teachers need to be trained /motivated to pay special attention towards maintaining the self respect of the students. The teachers were found competent regarding lecture delivery. The competencies in which teachers had least abilities were: use of charts and maps in teaching, use of television in teaching, explain with the help of models, use of Internet, and computer in teaching as reported by majority of the students. It indicates that teachers need to enhance their abilities in above mentioned least competent areas.
Keywords: Agricultural training institutes; academic environment; professional competency

INTRODUCTION

Pakistan is an agricultural country. The welfare and well being of its people and the national economy depends upon a sound vibrating agriculture. This sector provides food, fiber, forage, energy and raw material. Its share to GDP is about 22% and employs 44.8% of the total workforce. It also contributes a lion's share to country's export in the form of raw material and value added products (Govt. of Pakistan, 2006). Development in agriculture in Pakistan means the well being of about 150 mullion people living in more than 45,000 villages. The development of agriculture is a complex phenomenon, which depends upon many factors. There are three institutional components involved in the development of agriculture in the Punjab, i.e. Agricultural Research; Agricultural Education; and Agricultural Extension.

Agricultural research is the main fountainhead responsible for improving agricultural productivity through the evolution of high yielding crop varieties and improved production technologies appropriate for soil and climatic conditions. The research stations/ institutes involved in agricultural research in the Punjab include: Horticultural Research Station, Sahiwal; Cotton Research Station, Rahim Yar Khan; Cotton Research Station, Multan; Fodder Research Institute, Sargodha; Ayub Agricultural Research Institute (ARRI), Faisalabad; Nuclear Research Institute for Agriculture and Biology, Faisalabad; and Rice Research Institute, Kala Shah Kacoo

At present the higher agricultural education in Pakistan is delivered through five agricultural universities and six colleges. Among the total, Punjab is having two universities and two colleges of agriculture. The intermediate level education is offered by three agricultural training institutes in the Punjab namely In-Service Agricultural Training Institute Sargodha, Barani Agricultural Training Institute Dahgal, and In-Service Agricultural Training Institute (IATI) Rahim Yar Khan, which offer two-year diploma courses for Field Assistants under the supervision of provincial agriculture department. For the Field Assistant diploma course, matriculates (10^{th} grade pass persons) are admitted without a job assurance. The curricula of these institutes have not been significantly revised and the emphasis is mainly on theoretical training i.e. lecturing agricultural extension acts as link between research and farming community. It is responsible for translating, processing, packaging and taking the scientific knowledge from the research to the farmers and provides feedback to the research scientists (Idress, 2003). In the Punjab, the Department of Agriculture (Extension) under the supervision of Director General (Extension and Adaptive Research) is playing its role in the dissemination of agricultural technologies among the farming community. Directorate of Agriculture (Extension and Adaptive Research) constitutes three components: Adaptive research; Extension; and Training.

Adoptive research is the re-verification of research trials which are conducted on different stations for example, Sargodha, Shekihupura, Vehari, Rahim Yar Khan, Gujranwala, Jehlam and Laya (cror lal isan) adaptive research farm, etc. Extension wing is responsible for the implementation of government policies at the field level. In order to train manpower in the discipline of agricultural extension, the Govt. of Pakistan has been and is striving hard and has taken many concrete steps toward this end, such as establishment of IATIs in addition to agricultural colleges and universities (Govt. of Punjab, 1995).

In addition to UAF, different In-service agricultural training institutes (IATIs) were also established in the different areas of the Punjab. For example, during the year 1961-62 IATI at Sargodha, during the year 1952-53 IATI, Rahim Yar Khan (R.Y.K) and during the year 1978-79 IATI, Rawalpindi were set up to impart two years training in agriculture to the students after matriculation (Govt. of Punjab, 1996a; Govt. of Punjab, 1996b; and Govt. of Punjab, 1996c). In the year 1961, the agricultural training institute, Sargodha was commissioned just after winding up the defunct Village AID training institute (Govt. of Punjab, 1996a). The young matriculates with agricultural and rural background were imparted training to meet the challenges of ever changing agricultural technology. They served as front line extension workers in agricultural extension and research wings of the department of agriculture. Their services were also being utilized in semi autonomous bodies, University of Agriculture, Faisalabad, and private sector (ibid). In the year 1966, a one year duration training course was extended to two years duration keeping in view the improvements, advancement and diversity in agricultural technology that was not keeping up pace with the changing time. The curricula/syllabi were revised and efforts were made to fit into the changing requirements. Additional staffs as well as facilities were also provided (ibid).

From 1971-76, the pre-service training of Field Assistants was discontinued at this institute, whereas the efforts were concentrated on in-service training of functionaries of agriculture and sister departments. As the demand for trained field assistants increased with the passage of time due to expansion of agriculture department and other organizations, the pre-service classes were, therefore, again started from 1977-78. Consequently, a new scheme namely Third Education Project was started with the assistance of World Bank and additional facilities were provided (ibid). The objective of third education project was to improve the existing training facilities to cope with the ever-increasing demand of field assistants. In addition to continuing the in service courses like that of extra assistant directors of agriculture, agriculture officers, field assistants, crop reporters, lady field assistants and mali classes; farmers training remained a regular feature of this institute. In order to improve the standard of the diploma course of pre service classes, this institution was affiliated with respect to examination with University of Agriculture, Faisalabad w.e.f. 1979. After qualifying Ist and 2^{nd} year examination the successful candidates are awarded diploma in agriculture by the University of Agriculture, Faisalabad.

Due to lack of trained manpower, the Barani (rainfed) area was being managed at extremely primitive level of technology. For the socio economic uplift of the barani areas, the agricultural extension workers were indispensable due to lack of trained manpower. Consequently upon the recommendation of Barani Areas Development Agency, the Barani Agricultural Training Institute was established in the year 1978-79 to provide trained Field Assistants in agriculture sector. To train lady field workers regarding home gardening and vegetables etc. was also an important feature of this institute (Govt. of Punjab b, 1996). This training institute was established in the year 1952-53 at Khanpur for imparting training to 50 Field Assistants each year leading to one-year certificate in agriculture. In year 1961, the Old Village Aid Program was wound up and entire staff along with other assets was transferred to the Department of Agriculture. The Department shifted the Agriculture Training Institute from Khanpur to Rahim Yar Khan and revised the intake of trainees from 50 to 100 per year (Govt. of Punjab c, 1996). Since then this institute is imparting training to the young matriculates (10^{th} class pass) with rural background in the field of agriculture to equip them with agricultural technology so that they may act as front line workers in extension and research wings of agriculture department.

As mentioned earlier there are three training institutes working in the Punjab, Pakistan, which provide training to frontline extension workers involved in conducting extension work in rural areas. The extension services continue to lack quality and working practices (Hussain, 2004) and the same is happening after the decentralization of extension system under the Devolution Plan 2001 (Govt. of Pakistan, 2001). The question is that what are the bottlenecks in these institutes for not producing well-trained extension field staff. This question is largely unanswered. It is imperative to know on scientific lines that what are the

deficiencies or constraints with which these institutes are combating. What can be done to overcome the problems faced by them, if any? What strategy can be adopted to develop them for furthering the performance of IATIs in the Punjab, Pakistan?

MATERIALS AND METHODS

The population of this study was the students of these In-Service Training Institutes. In this study all 346 randomly selected out of 429 students of these institutes were contacted to acquire information. Those who indicated their willingness to participate in this study were requested to fill in the questionnaire which was developed by the researcher. The sample size was determined by using Table for determining sample size from a given population (Fitzggibbon *et al.,* 1987). The researcher personally visited the three institutes. Questionnaires were distributed to the respondents after briefing about the objectives of the study and research instrument. The researcher had to visit again to get data from the respondents, which were absent in the first visit. The data were analyzed by using descriptive techniques using computer software "Statistical Package for Social Scientists (SPSS)". The statistical techniques used were: frequencies, percentages, means, standard deviations and rank orders.

RESULTS AND DISCUSSION

Various questions were asked to the students regarding the academic environment of the institutes. The respondents answered/rated each question according to the scale indicated in Table 1.
The data presented in Table 1 indicate that the mean responses of most of the students regarding statements except the one indicated at the end i.e. "Teachers care about the self respect of student" were

Table 1. Students' response regarding academic environment of IATIs

n = 346

Statement	Never (0)	Some time (1)	Often (2)	Always (3)	R	X	SD
Teachers are helpful in students problem solving	7	52	124	163	1	2.28	0.79
Teachers are friendly with the students	7	61	137	141	2	2.19	0.79
Teachers arrive in time in class	7	60	149	130	3	2.16	0.78
Teachers attitudes are positive towards students	17	60	128	141	4	2.14	0.87
Teachers are ambitious in teaching	23	54	122	147	4	2.14	0.91
Students understand lesson easily	6	59	167	114	5	2.12	0.75
Teachers teach to the students after full preparation	18	60	135	133	6	2.11	0.87
Teachers teach clearly	17	60	148	121	7	2.08	0.85
Teachers are always ready to help the students	16	88	127	115	8	1.99	0.88
Class assignments are helpful for the learning of students	32	78	119	117	10	1.93	0.96
Assigned homework is helpful to teach the relevant subject	26	80	138	102	11	1.91	0.91
Teachers care about the self respect of student	40	196	50	60	12	1.38	0.90

*R = Rank or

above 1.90. Teachers were very less frequent in caring about the self respect of the students. It means that they need to be trained/motivated to pay special attention towards maintaining the self respect of the students. It was indicated in the qualitative discussions that when teachers talk to students, many times they (teachers) talk in a tune as students are their personal servants. They talk in a rude and disrespectful manner. There is lack of politeness in their routine conversation with students. According to the [perception of more than 77 (22.25%) field assistant class students, the teachers/instructers were never or some times helpful, clear or prepared. According to them the class or home work was also never or sometimes helpful. These aspects need to be taken care of while developing strategies to improve IATIs.
The students were asked about the teaching methodology used to teach them by the teachers. The data regarding these aspects are presented in Table 2.

Table 2. Frequency of use and effectiveness of the teaching methodology used by teachers to teach the students

n = 346

Teaching method/AV aid	Frequency of use			Effectiveness		
	R	X	SD	R	X	SD
Lecture	1	2.62	0.73	7	3.36	1.01
Class discussion	2	1.92	1.08	1	3.84	1.59
Result demonstration	3	1.71	1.02	3	3.63	1.75
Method demonstration	4	1.64	1.02	4	3.49	1.74
Question answer session	5	1.38	0.81	5	3.45	1.54
Group assignments	6	1.36	0.83	6	3.36	1.41
Practical work	7	1.28	0.85	2	3.63	1.54
Small group discussion	8	1.27	0.87	8	3.10	1.73
Individualized learning	9	1.14	0.79	9	3.07	1.69
Drama	10	.92	.88	11	2.35	1.98
Visits/tours	11	.87	.77	10	2.62	1.91
Use of television	12	.57	.93	12	1.14	1.62
Use of tape recorder	13	.21	.60	13	.39	1.07
Use of computer	14	.20	.67	14	.27	.89

Scale: (frequency) 1 = sometime; 2 = often; 3 = always
Scale (effectiveness) 0 = never; 1 = very ineffective; 2 = ineffective; 3 = average; 4 = effective 5 = very effective *R = Rank order

Table 2 indicates that various teaching methods were used by the teachers to teach the students. Out of 14 teaching methods, lecture was the most frequently used method as reported by the students. It was ranked 7th according to effectiveness (Mean= 3.36 and SD = 1.08). A similar study conducted by Martin and Odubiya in 1991 revealed that regarding frequency of use lecture-discussion was most frequently used method in teaching but regarding effectiveness it ranked at 4th position. The other five most frequently used teaching methods were: class discussion, practical work, demonstrations, question-answer session and group assignments. However the teaching methods which were considered as most effective by the student were: class discussion, small group discussion, result demonstration, method demonstration, question- answer session and teaching through group assignments. The teaching methods/ techniques which were very rarely used included: drama, visits/tours, use of television, use of tape recorder and use of computer. (Mean ≤ 0.92). Consequently these methods/ techniques were perceived as less effective due to non availability; high cost factors; and incompetence of teachers to properly handle these techniques/ aids.

Respondents rated the competencies of teachers. Their responses are presented in Table 3

The data presented in Table 3 indicate that the teachers were most competent regarding delivering lectures as reported by the overwhelming majority (95.7%) of the students. They ranked this competency at the top followed by “realize teaching as noble profession” at second position in ranking. The competencies with respect “to teach on questions answer basis, arrange discussions, conduct examination, satisfy the students, motivate students regarding learning were at next positions in ranking as reported by majority of the students. The competencies in which teachers had least abilities were: use television in teaching, explain with the help of models, use Internet in teaching, and use computer in teaching as reported by majority of the students. It indicates that teachers need to enhance their abilities in above mentioned least competent areas. A study conducted by Wardlow and Johnson in 1999 revealed

that teaching faculty perceived relatively high levels of skills in traditional classroom teaching areas such as lecture and discussion methods.

Tale 3. Professional Competency of teachers as perceived by the students

Competency statement The ability to	Response				
	Yes		R	No	
	f	%		f	%
Deliver lecture	331	95.7	1	15	4.3
Realize teaching as noble profession	312	90.2	2	34	9.8
Teach on question answer basis	302	87.3	3	44	12.7
Arrange discussions	302	87.3	3	44	12.7
Conduct examination	293	84.7	4	53	15.3
Satisfy the students	287	82.9	5	59	17.1
Motivate students regarding learning	276	79.8	6	70	20.2
Encourage creative abilities	269	77.7	7	77	22.3
Prepare question papers	265	76.6	8	81	23.4
Encourage the students	264	76.3	8	81	23.7
Arrange visits/tours	248	71.7	10	98	28.3
Enhance leadership abilities in students	236	68.2	11	110	31.6
Appreciate the students in sanitation matters	231	6.8	12	115	33.2
Arrange parent–teacher meetings	226	65.3	13	120	34.7
Teach by giving assignments	208	60.1	14	138	39.9
Use charts and maps in teaching	191	55.2	15	155	44.8
Use television in teaching	176	50.9	16	70	49.1
Explain with the help of models	108	31.2	17	238	68.8
Use internet in teaching	69	19.9	18	277	80.1
Use computer in teaching	62	17.9	19	284	82.1

*R = Rank order

CONCLUSIONS AND RECOMMENDATIONS

It can be concluded from the above discussions that the teaching staff of the IATIs in the Punjab, Pakistan are regular in taking classes; ambitious towards their profession; and helpful in students' problem solving. Some of them were not fully prepared for teaching. They lacked clarity of subject matter and readiness to help students; their class or home assignments were less helpful for enhancing students learning. They were not caring to maintain the ego and self respect of the students. They perceived them as their subordinate or personal servants. The teaching methods, which were most frequently used by them included; class discussion, practical work, demonstration, question-answer session and group assignments. Whereas visits/tours use of television, use of tape recorder and use of computer were very rarely used. The students perceived that the most effective teaching methods were; class discussion, practical work, demonstration, question answer session and group assignments. It is recommended that the teachers may be trained through in-service training programmes in which they lack competence. The government should provide funds to make facilities available to the students such as computers, AV aids, television sets and other related AV aids materials. The management of the institutes needs to take the special measures to monitor and evaluate teachers' behavior towards students. No teacher should be allowed to treat students as his personal servants.

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