

A STUDY OF THE USEFULNESS AND EFFECTIVENESS
OF THE THREE WEEKS POULTRY TRAINING COURSES
AT THE POULTRY RESEARCH INSTITUTE, KARACHI
PAKISTAN

by

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CHAPTER I

INTRODUCTION

Pakistan

Pakistan came into being on August 14, 1947. After the separation of East Pakistan (now Bangla Desh) in 1971, it consists of four Provinces; namely Sind, Punjab, Baluchistan, and Northwest Frontier. It is bounded by the Arabian Sea on the West, Iran on the West-North, Afghanistan on the Northwest, and India on the South and Southeast. Pakistan lies between 23 and 38 degrees North Latitude and 61 and 76 degrees East Longitude. The climate of the Southern and Western part is very dry. In the Southern area average annual rainfall is 5 inches. In the North, however, average rainfall is 16 inches. Temperature varies greatly over this area between summer and winter. Total population is about 43 million and the area is 803,943 square kilometers.¹

The main food crops include rice, wheat, barley, jowar, millet, maize and gram.² Main fruits grown in Pakistan include mango, bannana, grapes, orange, apple, peaches, guavas, papaya, and melons. Almost all kinds of vegetables are grown, including potato, spinach, cabbage, cauliflower, lady finger, peas, cucumber, tomato, green pepper and carrot.

¹Statistical Book of Pakistan, Central Statistical Office, Govt. of Pakistan, 1970. pp. 5, 46.

²Ibid. p. 62.

Wheat is the principal cereal grain consumed three times a day in the form of bread. Grains, pulses, and vegetables form an essential part of the everyday diet of a common man. Sources of animal proteins in the food include: beef, mutton, poultry, fish, milk and eggs.

Pakistan has achieved a substantial increase in the production of grains over the past decade or so. The availability of per capita net annual food supply of cereal origin in Pakistan is 165 kilograms as compared to 87 kilograms in New Zealand, 66 kilograms in U.S.A., 83 kilograms in Netherland, 150 kilograms in Japan, and 136 kilograms in India.³

Protein Problem

Per capita consumption of animal proteins in Pakistan is one of the lowest in the world i.e., 6.9 grams as compared to 75 grams in New Zealand, 65 in the U.S.A. and Canada, 61 in Australia, 18 in Japan, and 15 in Phillipines. The minimum need for the proper nutritional standard is estimated to be 37 grams. A five to six fold increase is required to reach the optimum standard.⁴

There is a shortage of 1,045 million kilograms per annum of proteins in Pakistan for even a static population. Converted into dressed meat, it means a shortage of 4,105 million kilograms

³Masud, M., Shortages in Foods of Animal Origin - Causes, Effects, Remedies, Food Production and Consumption in Pakistan, Vol. 11, West Pakistan Agricultural University, Lyallpur, 1965, p. 8.

⁴Ibid. p. 3.

per annum.⁵

The production of meat, including beef and mutton, is a long term problem involving years. The grave shortage of animal proteins in the country and the ill-effects caused by the deficiency of proteins both on the physical and mental faculties of the human body warrant immediate steps to be taken to bridge the protein-gap. A long term policy of increased productivity is required.

Fisheries in Pakistan are still in their initial stages of development and would require much time before they can substantially contribute to meet the grave situation of animal proteins' shortage. The per capita annual consumption of fish in Pakistan is 1.3 to 2.2 kilograms against the minimum international standard of 10 kilograms.⁶

Poultry

Poultry is the most efficient of farm animals in converting animal feeds into high quality protein for human food. It is probably the only major means of making any immediate improvement in the Pakistan protein-gap because a layer starts laying at the age of 21 weeks and a broiler is ready to be marketed at the age of 8 weeks.

The technology involved in modern poultry production is

⁵Ibid. p. 3.

⁶Qureshi, M.R., Developing Marine Resources to Meet Food Shortage, Food Production and Consumption in Pakistan, Vol. 11, West Pakistan Agricultural University, Lyallpur, 1965. p. 97.

fairly clearly defined. With sufficient drive and direction, there is no reason why modern proven techniques could not be greatly developed in Pakistan.⁷

In 1970, the estimated consumption per head per year of all meat in Pakistan was 3.2 kilograms of which 0.27 kilograms was poultry; egg consumption was estimated to be 0.2 eggs per head per year. In 1968, the consumption of all meat in U.S.A. was 102.45 kilograms per head per year, of which 20.18 kilograms was poultry; egg consumption was 310 eggs per head per year.⁸

The prices of eggs and poultry meat in Pakistan are out of reach of the common man. The cost of a dozen eggs ranges between 50-70¢ as compared to 68-80¢ in U.S.A., similarly the cost of 1 kilogram of dressed bird ranges between \$1.20 to \$1.40 as compared to \$1.20 to \$1.50 in U.S.A. The major factor responsible for the high prices in Pakistan is the short supply of these items.

Poultry Research Institute, Karachi

The Poultry Research Institute, Karachi, was established in October, 1970 at Karachi with FAO/UNDP assistance. The long-range objective of this institute is to increase the per capita intake of animal proteins through increased production and consumption of eggs and poultry meat in Pakistan.⁹

⁷Poultry Industry of Pakistan - A Review, Poultry Research Institute, Karachi, 1971. p. 2.

⁸Ibid. p. 8.

⁹Revised Planning Commission Proforma I, for Poultry Research Institute, Karachi, 1974. p. 2.

The Institute has the following six divisions: pathology, nutrition, breeding and management, housing and environment, economics and marketing, and extension.

The Extension division of the Institute, besides other extension activities (e.g., providing guidance and help to the farmers and others interested, publication of bulletins, leaflets, and guides, etc., and arranging discussions and seminars), has been mainly concentrating on organizing and conducting short courses according to the Training Program of the Institute which includes training for:¹⁰

- (i) National Specialist poultry husbandry staff in one year diploma courses, and field professional and technical staff in 3-6 months certificate courses in practical poultry husbandry, production and health; and
- (ii) Owners, managers and foremen of commercial poultry enterprises, and poultry keepers in the practical aspects of modern poultry production and disease prevention.

The training course for owners/managers was and is of three weeks duration. There have been 24 such courses during the July, 1972 to June, 1976 period. A total of 238 owners/managers of poultry farms have taken this course so far.¹¹

¹⁰ Ibid. p. 8.

¹¹ 3-Weeks Poultry Training Courses Organized at PRI, Report from Project Director, Poultry Research Institute, Karachi, June, 1976.

There is no scientific evidence to determine whether these courses have served the purpose and helped the owners/managers to operate their farms more efficiently.

Purpose of the Study

The purpose of this study was to evaluate the 3-weeks poultry training course on the basis of the field experiences of these trained owners/managers in order to determine:

- (i) the effectiveness and value of the course in their overall poultry operations; and
- (ii) what changes, if any, are needed in the training course to make it more useful for the owner/managers and farmers.

Importance of the Study

Twenty-four 3-week courses have so far been conducted at the Institute. Many such courses shall be conducted in the future as a regular extension function of the Institute. These courses are intended to 'equip' the trainees who volunteer for the course with the knowledge and skills which may enable them to successfully meet the 'challenges' in the field. It is of vital importance, therefore, to determine whether the course is serving its purpose.

This study, and similar studies in the future, besides helping develop better extension programs, will also greatly help in establishing better relationship and understanding between the

institute and its clientele. This is of basic importance in gaining the confidence of the people to be served. Any program, no matter how good and useful it may be, can not be successful without having the confidence of the people and helping them feel it to be their own program.

Maunder (1972) described extension evaluation:

"Evaluation means to appraise carefully and it not only helps to determine the effectiveness of a program but also clarifies what is really being done and how it is done."¹²

¹²Maunder, A.H., Agricultural Extension, A Reference Manual, FAO/UN. Rome, 1972. p. 252.

CHAPTER II

REVIEW OF LITERATURE

Extension Education

The extension education work is performed throughout the world by a variety of organizations. These organizations vary more in form than in function. Maunder (1972)¹ has described extension education as " . . . essentially a process of communication - communication of ideas and skills between and among people. It includes the transfer of technical information from its source to the farmer Technical knowledge is of no use unless it is accepted as authentic, is adapted to the needs of the farmer and is put to use Therefore, an exchange of ideas back and forth between teacher (extension worker) and learner (farmer) is essential."

Axinn and Thorat (1972)² have described three features which are inherent in extension function:

- (1) people of an area to be served,
- (2) extension organization designed to bring about change, and
- (3) individuals involved in initiating these changes.

The success of an organization depends on the winning of the confidence of the people to be served.

¹Maunder, A.H., Agricultural Extension. A Reference Manual, FAO/UN, Rome, 1972. p. 105.

²Axinn and Thorat, Modernizing World Agriculture, A Comparative Study of Agricultural Extension Systems, Praeger Publishers, 5 Cromwell Place, London, 1972. pp. 3-5.

Extension Work in Pakistan

About the extension work in Pakistan, Axin and Thorat (1972) observed:³

"various organizational changes have been tried with the hope that agriculture would be revolutionized. The Agriculture Department, Irrigation Department, Community Development Activity, Cooperative and Semi-autonomous corporations have received primary importance at different times. Despite all these efforts to build agricultural education system, agriculture in Pakistan was more or less stagnant in 1950's. But the picture changed in the 1960's. Gustav F. Papanek reported that for the first time crop production has grown about 6 or more percent per year. Papanek goes on to give the following reasons for success in increasing agricultural production: The government services provided to Agriculture were greatly improved (more water, better pest control, above all more electric power in rural areas) . . . allowing the sale of fertilizers through private dealers . . . increased price guarantees Added to all the above factors was the breakthrough achieved in Pakistan in respect to the new high yielding varieties of wheat and rice All these trends in recent years in the agricultural development of Pakistan lead to the conclusion that the infrastructure of of agricultural extension education is powerless to contribute to agricultural development unless it has appropriate technology to extend. As axinn observed in 1968: A dynamic and effervascent agriculture is crying out for a further 'revolution' in the public agencies which serve it. As those who till the soil and manage the farms evolve dramatically from peasants into scientific businessmen, the demand for an increasing quantity and quality of information flowing to them will compel the Department of Agriculture to become more efficient, and hence more effective. Although the Department of Agriculture is presently providing excellent service in many ways, if it does not change itself in concert with its changing clientele, it will rapidly become obsolete."

³Ibid. pp. 149-150.

Training in Extension

Staff training programs form an essential part of extension education, and can not be isolated from other development programs. The United Nations World Food Conference, 1974, made among others, the following recommendations:⁴

"that priority be given to, and increased resources made available for, the development of agricultural education and training at all levels, in order that the required training programs can be provided - including training of research and extension workers in management techniques. Special, basic, and in-service technical training for graduate and middle level extension personnel, farmers' training aiming at the achievement of an integrated educational system for the rural population within an appropriate political and social framework."

Talking about the potentials of farmer's training for promoting increased output and productivity Mensah said:⁵

"With the current emphasis on the great need for increased 'transfer of technology' in relation to the level of the world's future food supplies, farmers' training will doubtless assume an increasing importance in many regions of the developing world."

In a Seminar in Kenya (1965) the aims and objects of training centres in Africa were described as:⁶

"It is recognized that the aim of any extension service is to teach the farming community improved farming practices. While it is generally accepted that the individual approach is the most effective extension method, it is costly in time and personnel in search of more

⁴Mensah, M.C., Farmer Training in East-Central and Southern Africa. FAO/UN. Rome, 1975. P. iii.

⁵Ibid. p. iv.

⁶Barwell, C., Farmer Training in East-Central and Southern Africa. FAO/UN. Rome, 1975. p. 6.

efficient methods of group teaching, several extension services in Africa have developed various types of farmer training institutions."

Poultry Extension

Training courses in the field of poultry have played a vital role in the development of the poultry industry of U.S.A. as would appear from the following reported by Florea:⁷

"With a program underway to find and organize information, the problem became one of getting it to the people who could put it to use. Three major means were used: 1. Printed materials, circulars, bulletins, newsletters, magazines and newspaper articles, 2. Class room teaching, 3. Extension teaching Short courses were the first formal teaching efforts in many Schools and were continued for decades. These courses lasting from a few days to eight weeks or so, were designed for farmers who wanted 'practical' information but were not seeking a degree and did not want to leave their farms any longer than necessary. Some poultry departments have offered correspondence courses."

Moore (1964) observed:⁸

"Every important poultry producing country of the world has used research to learn how to produce poultry profitably under its economic and climatic conditions. The knowledge from research is used by teachers, students, and extension workers so it reaches Villages, and individual poultry grower. Channeling information to progressive poultry farmers provides the necessary foundation for a successful poultry industry."

Importance of Poultry Training in Pakistan

The need for effective training in poultry for the

⁷American Poultry History (1823-1973). American Poultry History Society, Madison, Wisconsin. 1973. p. 57.

⁸Moore, E.N. Poultry Development in India. I-ICA-KSU, Kansas, 1964.

development of a successful poultry industry in Pakistan is evident from the following observation:

Planning Commissions' (Pakistan) revised proforma 1 (1974)⁹:

The immediate objective should be to solve major problems of diseases, heat stress, quality of feed, trained personnel, and disseminating improved practices to hatcheries, flock owners, feed mill, processors, and rural poultry units.

Hasnain (1974)¹⁰:

One of the major factors limiting optimum productivity of our poultry industry is shortage of trained personnel, both in terms of quality and numbers. This is equally applicable to attendants as well as for Specialists in various aspects of poultry production and health.

Sana (1965)¹¹:

"Lack of technical knowledge and skill may be the first difficulty which a poultry farmer may experience. He has to acquire the technical skill before he takes up this business Modern Poultry Science includes the study of the principles and practices involved in the production and marketing."

Poultry Industry of Pakistan - A Review¹² noted:

"One of the necessities of the developing poultry is the recruitment and training of manpower in all stages, from the farmers and social workers on the one hand to the laboratory technicians, Veterinarians, and Scientists on the other."

⁹Revised Planning Commission Proforma 1 for the Poultry Research Institute, Karachi, 1974. p. 2.

¹⁰Hasnain, H., Trained Manpower for the Poultry Industry. Proceedings of Seminar on Poultry Research and Production. Agr. Res. Council of Pakistan: Karachi, 1975. p. 18.

¹¹Sana, U., Problems in Commercial Poultry Farming. Food Production and Consumption in Pakistan, Vol. 11. West Pakistan Agricultural University, Lyllpur, 1965. p. 54.

¹²Poultry Industry of Pakistan - A Review. Poultry Research Institute, Karachi, 1971. p. 38.

Concept of Training in Extension

Barracclough (1973) discussing the training problems and outlining the causes of training being unsatisfactory in developing countries, made the following observation:¹³

While the training programs can not play a determinant role in changing rural society, they can nevertheless play an important complementary one. That they have failed to do so is in part caused by another misconception. This is that training consists of the mere transmission of skills and knowledge. This concept of training is at best useless Training is the acquisition of the art of utilizing knowledge and skills. The mere mechanical transmission of knowledge and skills without at the same time imparting the art of utilizing them is a waste of time and effort A second reason . . . is that frequently they are not based on an adequate analysis of what kind of training is really demanded or required by the trainees Farmers are taught management methods that are not practical A third error has been to isolate training from other development programs Finally agricultural training programs are often planned from the top down, instead of from the bottom up. The peasants and farm workers are given no participation except as passive students."

Training is one of the important functions of extension, particularly in developing countries. It forms an essential part of many extension development programs. It is a means rather than an end in itself. Training is much more than a mere mechanical transmission of knowledge and skills. It can fulfill its purpose only when it meets the requirements of the trainees, and this necessitates evaluation.

¹³Barracclough, S., Training for Rural Development, Training for Agriculture. FAO/UN. Rome, 1973. pp. 1-3.

CHAPTER III

METHODOLOGY

In determining the procedures to follow in conducting the study reference was made to Selltitz, et.al.¹ who define research as:

" . . . the arrangement of conditions for collection and analysis of a data in a manner that aims to combine relevances to the research purpose with economy in procedure."

They indicate that research design differs according to the specific purpose. They state:²

"Each study of course, has its own specific purpose, but we may think of research purposes falling into a number of broad groupings; (1) to gain familiarity with a phenomenon or to achieve new insights into it, often in order to formulate a more precise research problem or to develop a hypothesis; (2) to portray accurately the characteristics of a particular individual situation, or group (with or without specific initial hypothesis about the nature of these characteristics); (3) to determine the frequency with which it is associated with something else, (usually but not always with a specific initial hypothesis) of a casual relationship between variables."

Selection of the Sample Respondents

The 3-week poultry training course basically aimed at providing knowledge and skills to the owners/managers of poultry farms. This study aims at assessing the usefulness of the course to the owners/managers. Hence these people were selected as the

¹Claire Selltitz, et.al., Research Methods in Social Relations, (New York: Henry Holt and Co., Inc., 1959, p. 50.

²Ibid., p. 50.

group (universe) to be studied.

Of the total of 238 owners/managers who have taken this course, 50 were selected for this study representing 21% of the total population. This selection of 50 was made as follows:

Random samples for 20 owners/managers were drawn from the total population of 238 for personal interviews. Similarly random samples for 30 were drawn for receiving a mail questionnaire.

Organization of the Research

A data gathering instrument was developed to be used both for the personal interview and mailing. A copy of this questionnaire is attached as Appendix A. A letter of explanation was sent to all those who received the mail questionnaire. A copy of this letter is to be found as Appendix B.

The questionnaires were mailed to Dr. Alex Warren, Project Manager (FAO) Poultry Research Institute at Karachi by the author. He was requested to select a suitable person from the Institute staff to conduct personal interviews and mail the questionnaire to those randomly selected owners/managers of poultry farms in and around Karachi. Mr. M.M.K. Rohilla, Research Officer (Extension), at the Institute was assigned to carry out this work for the author by the Project Manager (FAO).

Research Instrument

Young describes a questionnaire:³

³Pauline Young, Scientific Social Surveys and Research, Englewood Cliffs, N.J.: Prentice-Hall, Inc. 1956, p. 303.

"The questionnaire is designed to collect data from larger, diverse, and widely scattered groups of people. It is used in gathering objective, quantitative data as well as in securing the development information of a qualitative nature. Sometimes it is the only instrument used."

Maunder (1972) discussing extension evaluation said:⁴

"The device chosen should fit the project to be evaluated. The devices most commonly used are interview-questionnaire, mail-questionnaire and checklists.

For the purpose of the said evaluation of the 3-week course, a questionnaire, as the only research instrument, was developed and mailed to Karachi (Pakistan) for collection of data from the farmers who had taken the course and were now engaged in poultry farming either as managers, owners or both. Random samples of the farmers were drawn at Karachi both for personal interview (20) and mail-questionnaires (30). A follow-up to the mailed questionnaire produced a 100% response. This total response gives some indication of the importance farmers hold concerning the course and the institute.

⁴Maunder, A.H., Agricultural Extension, a reference manual, FAO/UN, Rome, 1972, p. 254.

CHAPTER IV

RESULTS AND DISCUSSION

The purpose of this study was to determine the value and effectiveness of the 3-weeks poultry training course and make suggestions and recommendations, if required, for its improvement.

The poultry farmers who had taken the course were randomly selected and requested to answer the questions focusing on the following broad areas of the course:

1. Value of subject matter taught,
2. New ideas put into practice,
3. Suitability of the duration of the course and convenience of its timing;
4. Suggestions for course improvements, and
5. Suggestions for Extension improvements.

Type and Size of Farms

Fifty questionnaires - 20 personal interview and 30 mail-questionnaires were completed and returned from Karachi. These 50 farmers included 15 managers, 14 owners, and 21 owners/managers (Table 1).

TABLE 1
CLASSIFICATION OF RESPONDENTS
AS MANAGERS, OWNERS, OR BOTH

Classification	Personal Interview		Mail Questionnaire		Total	
	No.	%	No.	%	No.	%
Managers	4	20	11	36.66	15	30
Owners	8	40	6	20.00	14	28
Both	8	40	13	43.33	21	42
Total	20	100	30	100.00	50	100

Respondents were managing 30 layer farms, 12 broiler farms, and 8 layer/broiler farms (Table II).

TABLE II
CLASSIFICATION OF RESPONDENTS'
FARMS BY TYPE

Type	Personal Interview		Mail Questionnaire		Total	
	No.	%	No.	%	No.	%
Layer farms	14	70	16	53.33	30	60
Broiler farms	4	20	8	26.66	12	24
Both (layer and broiler)	2	10	6	20.00	8	16
Total	20	100	30	100.00	50	100

The flock size of these farms ranged from 260 to 500 birds to more than 40,000 birds. A majority of the farms fell between a 5,000 and 20,000 bird flock size (Table III).

TABLE III
CLASSIFICATION OF RESPONDENTS'
FARMS BY SIZE

No. of Birds	Personal Interview		Mail Questionnaire		Total	
	No. of farms	%	No. of farms	%	No. of farms	%
260 - 500	2	10	1	33.3	3	6
501 - 2000	4	20	3	10	7	14
2001 - 5000	5	25	2	6.66	7	14
5001 - 10,000	6	30	5	16.66	11	22
10,001 - 20,000	3	15	9	30	12	24
20,001 - 30,000	-	-	9	30	9	18
30,001 - 40,000	-	-	1	3.33	1	2
Total	20	100	30	100	50	100

All these farms were started between 1968 and 1976. Sixteen of the 50 were started in 1972 (Table IV).

TABLE IV
YEARWISE STATEMENT OF FARMS STARTED
AND AVERAGE PERCENT INCREASE IN FLOCK SIZE OF EACH
FARM SINCE FARM'S INCEPTION

Year Farm Started	Personal Interview		Mail Questionnaire		Total	
	No. Started	Av. % Increase in Flock Size of Each	No. Started	Av. % Increase In Flock Size of Each	No. Started	% Started
1968	3	580	3	77	6	12
1969	-	-	1	100	1	2
1970	3	59	4	44	7	14
1971	1	66	1	150	2	4
1972	5	31	11	10	16	32
1973	1	100	5	7	6	12
1974	3	31	2	50	5	10
1975	2	90	3	6	5	10
1976	2	no increase	-	-	2	4
Total	20	957*	30	444*	50	100

*overall average percent increase on each of the 50 farms =

$$\frac{957 + 444}{50} = 28.02\%$$

I. Value of Subjects Taught in the Course

The subjects taught in the three weeks course included:
Diseases, Housing, Nutrition, Management, and Marketing.

To determine the value of the subject matter, two questions supporting each other were asked: one about the usefulness of the information gained on different subjects and the other about ranking the subjects in order of their usefulness. A third question involved suggestions for including new subjects in the course.

Diseases

Eighty-four percent of the respondents said the information

gained on diseases was 'very useful'. Sixteen percent said it was 'useful'. None said it was of 'no use' (TABLE V).

TABLE V
RESPONDENTS' OPINION ON MATTER USEFULNESS
OF SUBJECTS TAUGHT IN THE COURSE

Subject Matter	Personal Interview		Mail Questionnaire		Total	
	No.	%	No.	%	No.	%
Diseases:						
Very useful	15	75	27	90	42	84
Useful	5	25	3	10	8	16
Of no use	-	-	-	-	-	-
Total	20	100	30	100	50	100
Management:						
Very useful	14	70	24	80	38	76
Useful	6	30	3	10	9	18
Of no use	-	-	3	10	3	6
Total	20	100	30	100	50	100
Nutrition:						
Very useful	9	45	24	80	33	66
Useful	10	50	5	16.66	15	30
Of no use	1	5	1	3.33	2	4
Total	20	100	30	100	50	100
Housing:						
Very useful	8	40	24	80	32	64
Useful	11	55	6	20	17	34
Of no use	1	5	-	-	1	2
Total	20	100	30	100	50	100
Marketing:						
Very useful	9	45	20	66.66	29	58
Useful	5	25	6	20.00	11	22
Of no use	6	30	4	13.33	10	20
Total	20	100	30	100.00	50	100

Rank order of the subjects indicated that 48% of the respondents found Diseases as 'most useful', 10% ranked it of 'no use', 18% as 'useful', 6% a 'little useful' and 18% 'least useful' (TABLE VI).

TABLE VI
RESPONDENTS' RANKING OF SUBJECTS
TAUGHT IN THE COURSE IN RANK ORDER

Subject in Rank Order	Rank Order	Personal Interview No.	%	Mail Questionnaire No.	%	Total No.	%
<u>Diseases:</u>							
	most useful	12	60	12	40	24	48
	useful	4	20	5	16.66	9	18
a little	useful	-	-	3	10.00	3	6
	least useful	2	10	7	23.33	9	18
	of no use	2	10	3	10.00	5	10
Total		20	100	30	100	50	100
<u>Nutrition:</u>							
	most useful	7	35	6	20	13	26
	useful	3	15	9	30	12	24
a little	useful	3	15	8	26.66	11	22
	least useful	4	20	4	13.33	8	16
	of no use	3	15	3	10.00	6	12
<u>Management:</u>							
	most useful	6	30	7	23.33	13	26
	useful	3	15	4	13.33	7	14
a little	useful	2	10	8	26.66	10	20
	least useful	4	20	4	13.33	8	16
	of no use	5	25	7	23.33	12	24
Total		20	100	30	100	50	100
<u>Housing:</u>							
	most useful	5	25	5	16.66	10	20
	useful	4	20	11	36.66	15	30
a little	useful	4	20	6	20.00	10	20
	least useful	4	20	6	20.00	10	20
	of no use	3	15	2	6.66	5	10
Total		20	100	30	100	50	100
<u>Marketing:</u>							
	most useful	2	10	5	16.66	7	14
	useful	1	5	1	3.33	2	4
a little	useful	3	15	3	10.00	6	12
	least useful	4	20	8	26.66	12	24
	of no use	10	50	13	43.33	23	46
Total		20	100	30	100	50	100

Housing

Sixty-four percent of the respondents said the information

gained on housing was 'very useful'. Thirty-four percent said it was 'useful' and 2% said it was of 'no use' (TABLE V).

Twenty percent ranked the subject 'most useful', 10% of 'no use', 30% said 'useful', 20% a 'little useful' and another 20% as 'least useful' (TABLE VI).

Nutrition

Sixty-six percent of the respondents said the information gained on Nutrition was 'very useful', 30% said it was 'useful' and 4% said of 'no use' (TABLE V).

Twenty-six percent of the respondents ranked Nutrition as 'most useful' to them, 12% ranked of 'no use', 24% 'useful', 22% 'a little useful' and 16% 'least useful' (TABLE VI).

Management

Seventy-six percent of the respondents said the information gained on Management was 'very useful', 18% said it was useful, and 6% said it was of 'no use' (TABLE V).

Twenty-six percent of the respondents ranked the subject as 'most useful', 24% of 'no use', 14% as 'useful', 20% a 'little useful', and 16% 'least useful' (TABLE VI).

Marketing

Fifty-eight percent of the respondents said the information gained on Marketing was 'very useful', 22% said it was 'useful', and 20% of 'no use' (TABLE V).

Fourteen percent of the respondents ranked the subject as

'most useful', 46% ranked it of 'no use', 4% as 'useful', 12% a 'little useful', and 24% 'least useful' (TABLE VI).

Twelve percent suggested 'Farm Accounts' should be included, 6% suggested 'Labor Management', and 4% 'Processing'. Three of four failed to offer suggestions (TABLE VII).

TABLE VII
RESPONDENTS' OPINION ABOUT INCLUDING
NEW SUBJECTS IN THE COURSE

Name of Subject	Personal Interview		Mail Questionnaire		Total	
	No.	%	No.	%	No.	%
No Reply	16	80	23	76.66	39	78
Farm Accounts	3	15	3	10.00	6	12
Labor Management	1	5	2	6.66	3	6
Processing	-	-	2	6.66	2	4
Total	20	100	30	100	50	100

Discussion

The data indicated that a majority of respondents felt the matter covered in the subjects was useful. There was variation between subjects, only a few felt the subject matter was of 'no use' - the subject of Marketing carried the highest (20%) percentage of these respondents.

These results were supported, in general, by the data of rank order of the subjects. However the strength of this support was much lower (14 to 46% : 80 to 100%) than that of subject matter. On the other hand the percentage of respondents ranking the subjects of 'no use' was much higher (10-46% : 2-20%) than those of subject matter. Again the subject of Marketing was ranked of 'no use' by the highest percentage (46%) of the

respondents.

The difference in value judgment by the same respondents on the usefulness of the subject matter and rank of subjects in order of usefulness was important. Ordinarily one would expect more or less similar response to both judgments. A farmer, for example, valuing the information gained on a particular subject as 'very useful' should also rank the same subject as 'most useful', but it was not necessarily so. Perhaps because the basis of his value judgment was not the same in either case. Obviously the rank order of the subjects gave a better picture of value judgment because it was apparently based on the direct experience, of the individual respondents, in the usefulness of the subjects. A farmer could not intelligently rank a particular subject as 'most useful', 'least useful' or of 'no use' unless he had some kind of experience.

The subjects of diseases and management were the highest and second highest respectively both in subject-matter usefulness and rank order of the subjects.

This position of the subject of the diseases was further supported by the data on number of outbreaks on the farms and the mortality caused by these outbreaks during the past one year.

Forty-two percent of the respondents had no outbreak at their farms, another 42% had one outbreak and the remaining 16% had two outbreaks. The total mortality caused by these outbreaks was 7.4% (TABLE VIII).

TABLE VIII
NUMBER OF OUTBREAKS AND TOTAL MORTALITY
CAUSED ON RESPONDENTS' FARMS DURING THE PAST ONE YEAR

No. of Outbreaks	Personal Interview			Mail Questionnaire			Total		
	No.	%	Total mort- ality %	No.	%	Total mort- ality %	No.	%	Total mort- ality %
Nil	10	50	-	11	36.66	-	21	42	-
One	8	40	-	13	43.33	-	21	42	-
Two	2	10	-	6	20	-	8	16	-
			4.1%			3.3%			7.4%
Total	20	100	4.1%	30	100	3.3%	50	100	7.4%

The position of the subject of management was further supported by the data on average mortality at the farms during brooding, rearing and laying stages of the last flock at the farms. Average mortality on all farms during brooding was 1.55%, rearing 3.05%, and laying 5.2%, totaling on an average of 9.62% (TABLE IX).

TABLE IX
PERCENTAGE OF MORTALITY AT BROODING, REARING AND
LAYING STAGES OF THE LAST FLOCK ON
RESPONDENTS' FARM

Stage	Personal Interview % mortality	Mail Questionnaire % mortality	Average % mort- ality
Brooding	1.5	1.6	1.55
Rearing	3.0	3.1	3.05
Laying	4.9	5.5	5.2
Total	9.4%	10.2%	9.62%

Respondents' opinion about the usefulness of the subjects of nutrition and housing was almost close to that of management.

The respondents' judgment on the subject of marketing, both subject matter content and rank order, indicated their dissatisfaction. It could mean that this subject did not help the

farmers in their marketing operations as much as they had expected. It could be that the matter was more theoretical than applied. Marketing is one of the most important considerations in farming. The subject, therefore, needed more attention.

Farm accounts was a small part of the subject of management but did not cover details. Labor management and processing were not included in the course.

Labor management, as such, is a broad subject and no one in the Institute is qualified to teach this subject at this time. Therefore it would be difficult to include it in the course. However, some guidelines could be given about the labor at poultry farms. Processing is still in its very initial stages in Pakistan. A processing plant is being established at the Institute for the purpose of demonstration and training. As soon as this facility is available, those interested in Processing could benefit from it.

II. New Ideas Put Into Practice

The main purpose of the three weeks course is to help the farmers gain information so they can manage their farms more efficiently and economically. The idea is to increase production, lower costs, and raise profit margins. By doing this the national cause of maximizing poultry production and consumption will be furthered. In order to determine how far the course had served this purpose, three questions were asked: one about the identification of the problems at their farms; two, improvement of their

poultry operations; and three, about the cost of production per unit. These questions were supporting each other.

In response to the question, "Did the course help you identify new things at your farm which you were not aware of previously?", 58% of the respondents said it did, 8% said it did not, while 34% did not reply (TABLE X).

TABLE X
VALUE OF COURSE IN IDENTIFYING
PROBLEMS ON THE FARMS

Identified the problems	Personal Interview		Mail Questionnaire		Total	
	No.	%	No.	%	No.	%
Yes	13	65	16	53.33	29	58
No	1	5	3	10.00	4	8
No reply	6	30	11	36.66	17	34
Total	20	100	30	100	50	100

Replying to the question, "How helpful was the course in improving their poultry operations?", 88% of the respondents said it was 'very helpful', 12% said it was helpful. None said it was of 'no help' (TABLE XI).

TABLE XI
VALUE OF COURSE IN IMPROVING
POULTRY FARM OPERATIONS

Helped improve	Personal Interview		Mail Questionnaire		Total	
	No.	%	No.	%	No.	%
very helpful	15	75	29	96.66	44	88
helpful	5	25	1	3.33	6	12
of no help	-	-	-	-	-	-
Total	20	100	30	100	50	100

Answering the question, "If the course helped them bring down the cost of production of the farm", 76% said it helped

'considerably', 20% said 'to some extent' and 4% said 'not at all' (TABLE XII).

TABLE XII
VALUE OF COURSE IN BRINGING DOWN
PRODUCTION COSTS PER UNIT ON RESPONDENT'S FARMS

Cost brought down	Personal Interview		Mail Questionnaire		Total	
	No.	%	No.	%	No.	%
Considerably	13	65	25	83.33	38	76
To some extent	5	25	5	16.66	10	20
Not at all	2	10	-	-	2	4
Total	20	100	30	100	50	100

Discussion

The data of the above three questions were supportive to each other and gave a better picture of the course as a whole. It could be said on the basis of this data that the course was considered quite helpful by the farmers. The most important indicator in this respect was the cost of production per unit which helped 96% of the respondents, in varying degrees, bring down their cost of production per unit. Cost of production, of course, is directly related to the efficiency of management.

This was further supported by the data on the years these farms were started and the average percentage of increase in the flock size of these farms. All the farms were started during 1968 to 1976 period and were not only still in business but also had an average increase of 28.02% in their flock size (TABLE IV).

Data further supporting the value and effectiveness of the course was reaction to the statement, "The poultry training

course should be continued because it is of great value to the poultry producers and managers". Sixty-four percent of the respondents 'strongly agreed' to it, 8% 'agreed', 2% 'disagreed' and 26% were 'undecided' and none 'strongly disagreed' (TABLE XIII).

TABLE XIII
RESPONDENTS' OPINION CONCERNING
CONTINUATION OF THE COURSE

Course be continued	Personal Interview		Mail Questionnaire		Total	
	No.	%	No.	%	No.	%
Strongly agree	14	70	18	60	32	64
Agree	1	5	3	10	4	8
Undecided	4	20	9	30	13	26
Disagree	1	5	-	-	1	2
Strongly disagree	-	-	-	-	-	-
Total	20	100	30	100	50	100

III. Duration and Timing of the Course

The duration of the course has been three weeks and the timing, 8.30-13.30 except Fridays when it was 8.30-10.30. Sundays were off as the Institute was closed.

In order to determine farmers' reaction to duration and timing alternatives, two questions were asked: one about the duration and the other about the timing.

Sixty-two percent of the respondents were in favor of 3-weeks duration of the course, while 38% suggested it should be four weeks (TABLE XIV).

TABLE XIV
RESPONDENTS' OPINION CONCERNING
THE DURATION OF THE COURSE

Duration	Personal Interview		Mail Questionnaire		Total	
	No.	%	No.	%	No.	%
Three weeks	11	55	20	66.66	31	62
Four weeks	9	45	10	33.33	19	38
Total	20	100	30	100	50	100

Regarding the timing of the course, 40% suggested 9.00-13.00, 38% said 16.00-20.00, and 22% suggested 7.30-11.30 (TABLE XV).

TABLE XV
RESPONDENTS' OPINION CONCERNING
THE TIMING OF THE COURSE

Timing	Personal Interview		Mail Questionnaire		Total	
	No.	%	No.	%	No.	%
7.30-11.30	5	25	6	20	11	22
9.00-13.00	10	50	10	33.33	20	40
16.00-20.00	5	25	14	46.66	19	38
Total	20	100	30	100	50	100

Discussion

About two-thirds of the respondents supported the current duration (3-weeks) of the course, while one-third wanted it to be increased by one week, perhaps because they wanted the subjects to be covered in more detail. As long as new subjects were not needed to be included in the course, the duration of three weeks would be appropriate. Sufficient literature could be prepared and made available to those who wanted more information.

A majority of the respondents suggested the timing should

be 9.00-13.00. The timing was quite close to the current timing of the course - 8.30-13.30. However the second majority of the respondents (with the difference of only one i.e. 20:19) suggested 16.00-20.00 hours. This suggestion for evening hours was most probably because of the fact that during morning hours, whole time farmers keep busy in their farm affairs and part-time farmers and others interested keep busy in earning their livelihood. This suggestion, therefore, needed consideration in order to provide opportunity, to take the course, for those who were interested in it and could not afford to spare time for three weeks in the morning hours.

Twenty-two percent of the respondents who suggested the timing 7.30-11.30 were perhaps free in the morning hours and had their own transport. Public transport in Karachi during the peak morning hours is a real problem.

IV. Course Improvements

Based on the idea that the farmers who had taken the course and now engaged in farming were in a better position to suggest improvements, to make the course more useful to the farmers, respondents were asked to offer suggestions.

Sixty-six percent of the respondents indicated that the practicals in the course were inadequate and that there should be more practicals, 56% suggested that audio-visuals should be used more extensively, 38% suggested 'how to plan a poultry farm' should be taught, 18% suggested that lectures needed

improvement, 16% suggested to hold evening classes, 10% said use of poultry waste (a new subject matter waste idea) should be taught, and 10% suggested for arranging farm visits (TABLE XVI).

TABLE XVI
SUGGESTIONS FOR IMPROVING
THE COURSE

Suggestions	Personal Interview		Mail Questionnaire		Total	
	No.	%	No.	%	No.	%
More practicals	10	50	23	76.66	33	66
More use of audiovisuals	7	35	21	70.00	28	56
Planning a poultry farm	7	35	12	40.00	19	38
More literature	5	25	12	40.00	17	34
Better lectures	1	5	8	26.66	9	18
Evening classes	2	10	6	20.00	8	16
Use of poultry wastes	1	5	4	13.33	5	10
Farm visits	1	5	4	13.33	5	10
Total	34*		90*		124*	

*Every respondent has given more than one suggestion.

Discussion

It is the opinion of the author, based on his observations and experience as course organizer, that the suggestions given by the respondents for the improvement of the course are, in general, valid and pertinent.

The three weeks course included in all 24 lectures and 15 practicals, the time for each lecture was one hour and for each practical two hours.

Many trainees had been expressing the need for more practicals in the past also. But the problem was the lack of adequate facilities in terms of room, equipment and staff for more practicals

for a class of 45-60 trainees. However as the Institute has been progressing over the past years, this long-felt need of including more practicals could be considered now.

Now the Institute is better equipped with audiovisuals. Lectures could be complemented with the extensive use of these important communication media.

The subject of management did cover 'how to plan a poultry farm', but it was not discussed as such, rather described as a part of other topics. It would, however, be more beneficial for the trainees if this was presented in an organized way and discussed under the same title. This would not only give the trainees a better understanding of the subject but its title would also catch their attention.

It was the experience of the author that the lecturers, including himself, were more concerned with doing it as their duty than helping the trainees learn. This difference in approach of teachers did make some difference. Although only 18% of the respondents have suggested improvement in lectures, the point appears to be valid.

Holding evening classes would, of course, provide the opportunity to take the course for those who were not free to take it in the morning hours. This is supported by the suggestions of the respondents about the timing of the course. Evening classes i.e., after the working hours of the Institute involve administrative difficulties. But in view of the demand by a fairly good number of farmers, some way to give night classes could be

developed.

The use of poultry waste was covered in the subject of nutrition, but the matter was more or less theoretical. It could be covered in more details so that farmers may make use of it. The use of Dried Poultry Waste (DPW) in the feed could help reduce the cost of feed.

At the beginning the Institute did not have poultry houses ready so there were no birds except a few for experimental purposes. Poultry farmers resisted the visit of trainees because of the risk of infection. So the trainees who had taken the course at that time could not visit farms. Now the facility is available at the Institute.

V. Extension Improvements

Respondents were asked to suggest how the extension service of the Institute could be improved and what new services should be provided.

Seventy-two percent of the respondents did not reply to the question; the remaining 28% gave the following suggestions:

- (1) staff of Poultry Research Institute should frequently visit the farms,
- (2) vaccines should be made available at all times to the farmers,
- (3) more literature should be provided to the farmers,
- (4) more seminars and group discussions should be held, and
- (5) free services of debeaking and vaccination should be provided (TABLE XVII).

TABLE XVII
RESPONDENTS' SUGGESTIONS FOR
EXTENSION IMPROVEMENT

Suggestions	Personal Interview		Mail Questionnaires		Total	
	No.	%	No.	%	No.	%
No reply	15	75	21	70	36	72
Following suggestions:	5	25	9	30	14	28
1. Frequent visits to the farms by staff of the Institute.						
2. Vaccines should be made available to farmers at all times.						
3. More literature on poultry provided.						
4. More seminars and discussions held.						
5. Free service of debeaking and vaccination						
Total	20	100	30	100	50	100

Discussion

More than two-thirds of the respondents did not reply to the questions, perhaps because they did not want to criticise the Institute or its staff.

Whenever a farmer had any problem at his farm, it was visited by the staff of the Institute, and whatever help available at the Institute was provided. It would be almost impracticable for three persons on Extension staff to visit frequently about 300 farms in Karachi. In view of the long distances between the

Institute and poultry farms (ranging from about 12 - 32 kilometers), transportation expenses might well be more than the budget provision for the purpose. Besides, too much time of the Extension staff would be spent on such visits. In spite of all this, the farmer would not benefit from such unnecessary visits. Apart from all these factors, such visits shall make the farmer dependent, rather the Extension should be helping them help themselves and not make them dependent on it.

Availability of the vaccines has been a problem mainly because it had to be imported from the Province of Punjab. A vaccine production centre at the Institute has been preparing some vaccines. As more facilities become available to this centre, it will adequately meet the requirements of vaccines.

As for providing more and recent literature on poultry, Extension needs to give more attention to this matter in order to meet the increasing and changing needs of the farmers.

The demand for more seminars and discussions was indicative of its value to the farmers. Three seminars during the 3-weeks course were part of the course. Seminars at other times were held as and when manageable.

Providing free services of vaccination and debeaking to the farmers would in no way be helping them, rather making them depend on others. Such dependence was most likely to subject them to 'manipulations'. Practicals on the subjects of diseases and management included demonstrations and practice of these two operations.

Suggestions like frequent visits to the farms, free vaccination and debeaking services to the farmers, indicated one very important point to be considered and worked out by Extension, and that was the need for educating farmers about its role as mainly educational. Obviously the farmers seemed to understand that the main function of Extension was to provide services and not to educate people. It could be quite possible that 72% of the respondents who did not give any suggestion for Extension improvement, had such services in mind. But thinking that it might amount to criticising, did not respond to the question. Reserving opinion by such a big majority could mean that they had 'something' in mind but did not want to mention it for some reason.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

The data lead to the following conclusions:

1. The subject matter of the course was, in general, useful to the farmers. The subject of marketing requires more attention for improvement. Other subjects, though, were quite helpful but they could be improved further by making the matter more applied and improving the quality and approach of lectures. Including more practicals would further improve the value of the course.

The course on the whole was very useful and effective in improving farmers' efficiency in farm management.

2. Present duration of the course (3-weeks) and the timing (8.30-13.30) was still suitable and convenient. Evening classes, however, deserved favorable consideration in order to provide the opportunity to take the course, for those who were interested in it but could not make it in the morning hours because of their more important engagements.
3. The Extension division of the Institute could further improve its services by laying more emphasis on arranging seminars, group discussions, meetings, and production and circulation of literature. This would help further stabilize the relations

with the farmers - thus more two-way flow of information.

It seemed that the farmers did not quite understand the role of Extension. It would be of vital importance for Extension, therefore, to explain to its clientele that its role was basically educational, so that mutual understanding and trust could be maintained.

Recommendations

The purpose of this study was to determine the value and effectiveness of the three weeks poultry training course and suggest improvements, if required. The three weeks course was a part of the Training Program of the extension activities of the Institute. The establishment of the Institute, in turn, was a part of the National program of bridging the animal protein gap. Thus the training course although important, was a small link of the whole chain. The strength of the chain lied in the strength of its links and vice versa.

On the basis of this conception the recommendations that follow apply to the 3-weeks course, Extension wing of the Institute, and Extension and animal production.

I. Three-Weeks Training Course

The data presented in the preceding chapter indicated that although the course was effective and helpful to the farmers in their farm operations, there were some aspects which could be improved in order to make the course more useful. A training

course of three-weeks cannot provide all the expertise the trainee needed to run a poultry farm efficiently and economically. The purpose of the course was to help the trainee learn the basics of poultry production so that he may be able to see trouble before it happens. As North (1972)¹ said:

"The poultryman who understands the basics of poultry production and who knows 'how to do things' then puts his knowledge and his 'green thumb' to work to accomplish the best results, is the poultryman who will have a worthwhile enterprise."

With this point in view following suggestions are made.

The matter covered by each subject of the course may be reviewed in the light of its importance as revealed in this survey: applicability under field conditions, easy understandability, and if it can conveniently be covered within the given time. The approach to the subject of marketing should be given close scrutiny. Subjects of the course are closely related and the matter of one often overlaps another. Each subject needs to be more clearly defined, to avoid any duplication as this confuses trainees.

Although it has been difficult to limit the number of trainees per course, it would be more in the interest of the trainees if the number per course were not to exceed twenty. In view of the facilities available at the Institute, this number would be easy to manage, allow more personal attention, and provide the trainees more opportunity to more closely observe demonstrations and practice skills.

¹North, M.O., Commercial Chicken Production Manual. AVI Publishing Co., Inc., Westport, Connecticut, 1972, p. 164.

Lectures should be presented more informally. Verbal communication should be complemented, insofar as possible, by the use of other media like films, slides, transparencies, models, charts, etc. An atmosphere should be created where the trainees will be encouraged to more actively participate in discussions and demonstrations.

II. Extension Wing Of The Institute

The extension division of the Institute consists, at present, of 3 national staff members and an FAO expert. In spite of being a small unit with limited resources, the extension division plays an important role. The areas to be emphasized are:

use of mass media. Mass communication media like radio, television, and the press should be utilized extensively for creating awareness in people about the grave situation of shortage of animal proteins in the country, the importance of proteins in human nutrition, ill-effects caused by its deficiency and the role poultry can play in meeting this challenge - the scope of commercial farming and backyard units. The addition of a home economist on the staff as a nutrition specialist will greatly facilitate this work. People should know the problem and also what poultry can do about and what they can do about poultry. People are generally interested in increasing their income and this interest can be used to approach them.

As Knowles (1973) said²:

" In fact, perhaps the highest expression of the art of the adult educator is skill in helping adults to discover and become interested in their needs. But in order for him to have a chance to practice this art, he has first to reach them through their interest."

Publications

Attractive publications on various topics of poultry production, e.g.; planning a farm, management tips, disease prevention, marketing eggs, housing guides, light program, feeding chickens, investments and returns etc. should be produced and circulated widely. Such publications are being produced now but they fall short of requirements. Moreover these are mostly in English. There should be more literature in local languages so that larger numbers of people can benefit from these.

Coordination

There should be close coordination with the Department of Animal Husbandry. The training of Stock Assistants of this department should be arranged so that they can work for the development of rural poultry units.

Hatcheries, feed mills and pharmaceutical companies have their field advisory services. There are different associations in the poultry industry including farmers' associations. Seminars, discussions and meetings should be arranged as often as manageable to help develop and maintain mutual understanding, cooperation and collaboration between these organizations to

²Knowles, M., Modern Practice of Adult Education, Association Press, New York, 1973, p. 80.

minimize rivalries which is mostly at the expense of farmers. Such gatherings will also allow bilateral flow of information which can be used for better programs.

Housewives can contribute a great deal to increase poultry production. They need to be more actively involved in backyard poultry keeping. This important part of the population should be approached by Extension in collaboration with the Department of Health and Social Welfare and All Pakistan Women Association (APWA). Florea (1971) in the American Poultry History reported³:

"Farm wives were most responsive The poultry flock was almost universally the project of the farm women Above all she wanted her flock to contribute to the family income."

Role of Extension

It is the opinion of the author, based on his experience, that the educational role of extension is not clearly understood either by its personnel or clientele. It is generally understood to be a service-providing agency. This misunderstanding can adversely affect the mutual trust, understanding and relationship between extension and the people it serves.

Maunder (1972) has differentiated between extension and advisory work, he said⁴:

"If the approach is to supply information and help farmers in such a way as to make them dependent on continuing advice, the work is advisory work, where the farmers are educated on how to tackle their problems, where to get information, etc. . . then the work is truly educational and is definitely extension The concept that the broader

³Florea, American Poultry History (1623-1973), American Poultry History Society, Madison, Wisconsin, 1973, p. 3.

⁴Maunder, A.H., Agricultural Extension: A Reference Manual, FAO/UN, Rome, 1972. p. 3.

function of extension work is to help people to solve their own problems through the application of scientific knowledge is now generally accepted. If this be true then extension must be regarded as largely educational."

In light of the above observation the role of extension needs to be more clearly defined and publicised to reduce confusion and misunderstanding.

III. Extension and Animal Production

The author has worked for ten years on the extension activities of the department of Animal Husbandry. His main function was prophylaxis and treatment of livestock with the understanding, this was extension. Animal production work was neglected. In the background of such grave shortages of animal protein in the country, animal production work was not given its due attention. Masud (1965) discussing this matter concluded⁵:

"An important requisite is an awareness of the danger of such low standards of nutrition which are a manace for the health and well-being of the community This awareness has to exist in the country at large and at all levels of the government Time has, however, come for the emphasis to shift from 'doctoring' to the 'production side' This must be expanded and efficient professional men produced/trained who can have the confidence of the farmer and can guide him towards better animal production. . . . such efficiently trained men must exist before any animal production program can be launched."

Animal production is badly in need of immediate attention. If due care and attention is not paid to this important part of animal protein production, the nation will continue to suffer from malnutrition as far as animal protein is concerned. An

⁵Masud, M., Shortages in Foods of Animal Origin-Causes-Effects and Remedies, Food Production and Consumption in Pakistan, Vol. 11, West Pakistan Agricultural University, Lyallpur, 1965, pp. 5-7.

effective extension service is a must for all such programs.

Combs (1972)⁶ observed that the extension services in Latin America, Africa and Asia had just marginal impact on agricultural production and income. Discussing the reasons for this poor record, he said:

"As long as conditions of fragmentation within agricultural education systems exist, and as long as this lack of complementarity between educational inputs and other essential factors and preconditions for development continues, it must be expected that investments in agricultural education and research will produce much lower returns than would be possible under better planning and management."

Pakistan needs to have an efficient and effective extension service, if its agricultural production programs are to be implemented successfully and better results achieved. Describing some of the conditions conducive to the development of effective extension services, Maunder (1972) summarized⁷:

1. A national policy embodied in legislation establishing the educational role of the extension service and the relationship of extension education to other elements of agricultural and rural development.
2. A philosophy of extension education embodying the concept of human resources development as a major goal.
3. Sources of technical information required for the solution of the problems of rural people.
4. Sources of trained people adequate to supply the personnel needed in extension and other related services.
5. Adequate ancillary services without which extension teaching is largely ineffective."

Pakistan is in a position of causing or creating these conditions and thus it can benefit from an effective extension service.

⁶Combs, P.H., Where should Agricultural Education go from here? Training for Agriculture, FAO/UN, Rome, 1972, pp. 2-3.

⁷Maunder, A.H., Agricultural Extension: A Reference Manual, FAO/UN, Rome, 1972, p. 9.

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APPENDIX A
QUESTIONNAIRE

QUESTIONNAIRE

DATE: _____

INSTRUCTIONS: PLEASE CHECK () YOUR ANSWER OR FILL IN THE BLANK.

1. Are you owner, or manager, or both of the farm? _____
2. Your age____(years), Experience in poultry farming____(years)
3. Date of starting the farm (approx):?____, A layer/broiler/
both farm?_____
4. No. of birds at the start of the farm____, present no:_____
5. Month and year you completed the course?_____
6. How did you come to know about the training course? (Please
check only one)
 _____Through advertisement
 _____From friend or neighbor
 _____From someone who had taken the course
 _____From the staff of the Institute
 _____Other: Please note source_____
7. Why did you take the course? (Please check one)
 _____Just for knowledge
 _____Because of interest in poultry
 _____To start a poultry farm
 _____To have a backyard poultry unit
 _____To run my farm better
 _____As a source of getting a job
 _____As a requirement by my employer
 _____Other: Please list_____
8. Did the course help you identify anything new at your poultry
farm which you were not aware of previously?
 _____No _____Yes (If yes, name it)_____

USEFULNESS (Please check () your answer or fill in the blank)

9. How helpful was the course in improving your poultry operations?
 - ☐ Very helpful
 - ☐ Helpful
 - ☐ Of no help
10. How useful was the information you gained on "DISEASES" during the course?
 - ☐ Very useful
 - ☐ Useful
 - ☐ Of no use
11. How useful was the information you gained on "HOUSING" during the course?
 - ☐ Very useful
 - ☐ Useful
 - ☐ Of no use
12. How useful was the information you gained on "NUTRITION" during the course?
 - ☐ Very useful
 - ☐ Useful
 - ☐ Of no use
13. How useful was the information you gained on "MANAGEMENT" during the course?
 - ☐ Very useful
 - ☐ Useful
 - ☐ Of no use
14. How useful was the information you gained on "MARKETING" during the course?
 - ☐ Very useful
 - ☐ Useful
 - ☐ Of no use
15. How many, if any, disease outbreaks have you had at your farm during the past one year?
 - ☐ NIL
 - ☐ one
 - ☐ two
 - ☐ three
 - ☐ more
16. A. What was the total number of birds that died of diseases at your farm during the past one year? _____ (NO.)
 B. What percentage of your average flock numbers was this mortality? _____ (%)
17. Which disease caused most deaths at your farm during the past one year? _____ (Name it)

18. Please give the number of deaths at your farm at the following stages of life of your last flock.
- (a) during brooding: _____ died out of _____
 (b) during rearing: _____ died out of _____
 (c) during laying: _____ died out of _____
19. Did the course help you bring down the cost of production per dozen eggs or per pound of broiler at your farm? _____ Considerably
 _____ To some extent
 _____ Not at all
20. Please rank the following parts of the training course in order of their usefulness to you (use 1 for the most useful, 4 for the least useful, and 'N' if of no use to you).
- _____ Diseases
 _____ Nutrition (feeds and feeding)
 _____ Housing
 _____ Management
 _____ Marketing

COURSE

21. What subjects, if any, were not covered during the training that you now feel are important and should be included in the course? _____
-
22. To properly cover the subject matter, how long should the training course be? (Please check one)
- _____ one week
 _____ two weeks
 _____ three weeks
 _____ four weeks
23. What should be the daily timings, in your opinion, of the course?
- _____ 7:30 to 11:30 in the morning
 _____ 9:00 to 1:00 (morning to afternoon)
 _____ 4:00 to 8:00 (evening to night)
 _____ other: specify timings _____

24. The poultry training course should be continued because it is of great value to the poultry producers and managers.
(Please circle your answer)

Strongly agree Agree Undecided Disagree Strongly
Disagree

25. List three suggestions for making the training course more useful to the farmers:

1. _____
2. _____
3. _____

26. A. We are continually trying to make the Extension wing of the Poultry Research Institute more helpful to poultry producers and managers. Could you give some suggestions as to how these services could be improved?

1. _____
2. _____
3. _____
4. _____
5. _____

- B. What new services should be provided?

1. _____
2. _____
3. _____
4. _____
5. _____

Thank you for taking the time to complete this questionnaire.
The information gained will enable the Institute to provide more effective service.

Please return promptly

APPENDIX B
LETTER

Dear Farmer:

Your help is urgently needed.

The enclosed questionnaire is aimed at assessing the usefulness of the three-week poultry training course you had at the poultry research institute at Karachi. You can help us not only in making this assessment, but also in enabling us to help the farmers better in the future.

You, as poultry producer, are already contributing in meeting the grave shortage of animal proteins in the daily diet of our people. The information furnished by you on this questionnaire shall be a valuable contribution to the national cause of maximizing poultry production. We hope you will take pride as you complete the questionnaire.

The information shall be used for statistical purposes only, and you need not write your name or the name and location of your farm.

It will be very much appreciated if the completed questionnaire will be returned to us within a week in the enclosed self-stamped and addressed envelope.

Thank you very much for your cooperation and help.

Date: _____

Project Director
Poultry Research Institute
Karachi - 19

A STUDY OF THE USEFULNESS AND EFFECTIVENESS
OF THE THREE WEEKS POULTRY TRAINING COURSES
AT THE POULTRY RESEARCH INSTITUTE, KARACHI
PAKISTAN

by

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B. Sc. (Animal Husbandry), Punjab University, Lahore, 1955

AN ABSTRACT OF A MASTER'S THESIS

submitted in partial fulfillment of the

requirements for the degree

MASTER OF SCIENCE

College of Education
KANSAS STATE UNIVERSITY
Manhattan, Kansas

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The purpose of this study was to determine the value and effectiveness of the three-weeks poultry training course of the Poultry Research Institute, Karachi, Pakistan, and to suggest changes, if any, for further improvement.

The participants were representative of the owners/managers of poultry farms of Karachi who had taken this course and were engaged in poultry farming. The questionnaire was designed to measure: the value of the subject matter taught in the course, new ideas put into practice, opinion about the duration and timing of the course, and suggestions for course and extension improvements. The face data of the questionnaire included information on: type of the farm, flock size at start and at present, date farm was started, period course was taken and whether owner, manager or owner/manager. The questionnaires were mailed to Karachi for collection of data from randomly selected farmers. Personal interviews were conducted and mail questionnaires despatched by a staff member of the Institute.

The data, in general, indicated that the information gained by the respondents on the subjects of the course was useful. There were areas, however, which could be improved further to make the course more useful to the farmers. The subject of marketing, in this connection received considerable mention.

The course, as a whole, helped the farmers to improve the management efficiency - the main indicator was cost of production per unit which was brought down by 96% of the respondents.

A majority of the respondents indicated that the present

duration (3-weeks) of the course and the timing (8:30 - 13:30) was adequate. There was, however, a suggestion that evening classes be offered. More than half of the respondents suggested more practicals and greater use of audio-visuals in the course. Other suggestions included improvement in lectures and how to use poultry wastes.

More than two-thirds of the respondents did not reply to questions asking for suggestions to improve extension activities. Other suggestions included a need for more literature on poultry, arranging more seminars and discussions, and free services of de-beaking and vaccination.

The effectiveness of the course could be further improved by making the subject matter more applied, avoid overlapping of subject matter and present it in a better form. By limiting the number of trainees per course to twenty, they could be given more personal attention, opportunity to more closely observe demonstrations and practice skills.