TRAINING NEEDS OF DISTRICT AGRICULTURAL DEVELOPMENT OFFICERS IN NEPAL

by

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MASTER OF SCIENCE

in

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College of Agriculture

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1982

AFFECTIONATELY DEDICATED

to

my late brother

KRISHNA SUNDER SHRESTHA

Dr. S. N. Laharia,
Joint Director Extension
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Hissar

CERTIFICATE - I

This is to certify that this thesis entitled "Training needs of District Agricultural Development Officers in Nepal" submitted for the degree of M. Sc., in the subject of Extension Education of the Haryana Agricultural University, is a bonafide research work carried out by Mr. Shiva Sundar Shrestha under my supervision and that no part of this thesis has been submitted for any other degree.

The assistance and help received during the course of investigation have been fully acknowledged.

S. N. Laha 11/1/82

Major Advisor

CERTIFICATE II

This is to certify that the thesis entitled, "Training needs of District Agricultural Development Officers in Nepal" submitted by Mr. Shiva Sundar Shrestha to the Haryana Agricultural University in partial fulfilment of the requirements for the degree of M.Sc., in the subject of Extension Education has been approved by the Student's Advisory Committee after an oral examination on the same, in collaboration with an External Examiner.

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Hissar
October 11, 1982.

(Shiva Sundar Shrestha)

C O N T E N T S

CHAPTER - I

I N T R O D U C T I O N

INTRODUCTION

Nepal is an agricultural country having 14,93,501 holdings and 23,26,000 hectare land under cultivation with the total area of 1,41,000 sq. kilometres. It is land-locked by Peoples Republic of China in the north and India on other three sides, with an estimated population of 14 million. Physically, the country is divided into three parallel belts, consisting of 16 per cent area in High-hills (Himalayan) belt, 61 per cent area in Mid-hills (mountains) belt and 23 per cent area in plain or tarai belt. It covers 800 kilometres from east to west and ranges from 128 to 240 kilometres from north to south providing a look of a rectangle. There is a great variation in climate, culture, tradition and farming pattern as the altitude varies from 180 to 8848 metres.

The country is divided into five development regions, fourteen zones, seventy five districts and four thousand village panchayats from administration point of view.

Agriculture occupies a key place in the country's economy employing 90 per cent active labour force contributing about 66 per cent to Gross Domestic Product (GDP) and providing 80 per cent earning for the nation. In the last three decades agricultural production increased at the unusual compound growth rate of 1.91 for the food grain production. However, the population increased at a higher rate (i.e. 2.16 per cent), causing a set back in the

availability of food grains per capita. It has become a challenge to agricultural sector to meet the imbalances, between the growth of population and agricultural production. This is more so due to the little scope for the expansion of cultivated area for agricultural production. Presently about 16.49 per cent land of the total area is under cultivation and rest is under forest, pasture, water, residential area and road, waste land and land under perpetual snow.

Considering the overwhelming importance of agriculture in the national development, the Government has created a separate ministry for agriculture at the Centre. The executive head of the organisation in the Department of Agriculture is the Director General (DG). He has full responsibility for the agricultural development including extension and research in the country. He is assisted by four Deputy Director Generals (DDG) and some of the Divisional Chiefs in the centre. In regions, main responsibility lies with the Regional Directors (RD) and at district level, District Agricultural Development Officer (DADO) looks after the agricultural development programmes and activities. He is responsible for overall development of agriculture in his district. The main job of DADO is the transfer of technical know-how to the farmers in different aspects of agriculture such as cultivation of field crops, horticulture, fisheries, plant protection, etc. and other related areas with a view to increase agricultural production on one hand and bring change in their knowledge, skill and attitude on the other hand.

DADOs also play a pivotal role in coordinating other allied agencies for effective implementation of agricultural development programmes in the district. Besides this, they supervise, control and plan the strategy of agricultural development in their districts. Technically, DADOs have to play the role of an expert and a guide, while administratively, they are the captains of the team engaged in effective communication of farm technology to the farmers and thereby, increasing their farm production. He is thus a kingpin in the agricultural development organisation.

Productivity and effectiveness of any worker, including DADOs, depends on number of factors. Among them their technical knowledge, administrative ability and communication skills are of significant importance for the achievement of organisational goal. It is also folly to expect good results from an ill-equipped and ill-trained worker. Though organisations select persons most suitable to them, yet it is essential to mould their knowledge, skill, attitude and aptitude according to the objectives of the organisation and also to keep them abreast with the latest developments in the field. This is true with DADOs also. The Department of Agriculture has been organising on-the-job-trainings from time to time for DADOs to provide them knowledge, administrative ability and to keep them abreast with the new advancements to meet the objectives of agricultural development. Leagans (1958) also emphasized the role of extension workers and

importance of training in personnel development. To quote him:

> "Progress is made by only when someone wonders if there is better way and has courage to try it. Extensions' tomorrow is in the hands of its personnel today. The extension staff must be viewed as occupying the central position in the organisation and conduct of extension worker. Extension workers who attain high professional ability and continue to improve it become more useful, the opposite is true for those who do not. Extensions total training programme rests on this assumption"

The content of training is decided by the organisers on the basis of their work experience, knowledge and ability. But it is not essential that their judgement regarding the selection of topics will be in line with the needs of DADOs, while the studies conducted in the field of training management suggest that trainings must be need based (Sinha and Gill, 1967; Williams, 1971; Jha and Jani, 1977; Mandala,1977; Bhatia, 1979; Richter, 1979; Feeney, 1980 and Lawande, 1980). Lynton and Pareek (1967) also felt that a training which is not oriented to needs and problems of the trainees, is not only sheer wastage of valuable resources, but also sometimes creates frustration and apathy among the trainees.

"Man does not learn anything that he does not love" is an important German saying, and it also emphasizes the importance of designing trainings on the needs of the participants. It is also believed that one learns faster the

subjects which are of interest to him, than the uninterested ones.

There is no empirical study telling us the areas/topics needed and desired by the DADOs for training. Hence, the present study was undertaken to provide information on this aspects.

The specific objectives of the study were as below:

1. To determine the felt training needs of DADOs in Nepal and establish the hierarchy of these needs.
2. To study the relationship between different independent variables (background factors of DADOs) and their training needs.
3. To know the relationship between their attitude towards extension work and their training needs.
4. To know their suggestions on other related aspects of training.
5. To suggest a training strategy for improving the inservice training programme of DADOs on the basis of study.

Scope of the study:

The study has a practical utility as it aims at filling up the existing knowledge gap. The Department of Agriculture is organising trainings, but the topics for lectures/practicals are selected by experts and authorities on the basis of their best possible judgment. The present study would help the planners and the administrators to know the important areas/ aspects of training as desired by the DADOs. This would

certainly help them to chalk out their training programme and design training strategy more efficiently and effectively.

Limitation of the study:

Agriculture is a very broad area and to know their specific interest, it was divided into 70 different topics. However, there is still scope to sub-divide them to determine their interest on minor aspects. The study thus provides a broad spectrum of their training needs leaving a scope for further studies which may be conducted at micro-level. This was otherwise also not possible with the existing resources available to the researcher.

Another limitation of the study is linked with its methodology. Since there were only 93 DADOs, the census approach was adopted. The response was though very high, but 14 per cent did not reply. Further about 10 per cent of the replies were not in usable form. As a result, there is some non-sampling error in the study. Inspite of this limitation, the generalizations are supposed to have high validity as these are based on the replies of more than 75 per cent DADOs.

CHAPTER - II

REVIEW OF LITERATURE

REVIEW OF LITERATURE

Review of literature is of great importance because it provides a foundation for thinking and plan of action. Several studies have been conducted in the field of training in India and abroad, but none in Nepal. A brief resume of the significant findings of the most relevant studies has been presented in this Chapter in three parts. The first part deals with the studies telling the importance of determining the needs of participants in the formulation of training strategy. The second part is devoated on training areas/topics while the last part is on other related aspects of training.

A. Importance of determining training need:

Sinha and Gill (1967) in their study concluded that need based trainings for Extension personnel is quite meaningful and logical.

Singh (1970) also reported that inservice training programme should be organised for Agricultural Extension Officers only after identifying their inservice training needs.

Williams (1971) emphasised that training should be based on a thorough analysis of the training needs of trainees.

Gaikwad (1974) stated that nature of training given to various categories of functionaries in agricultural management should be according to the nature of the task and the training needs of workers.

Mandala (1977) observed in her study that training has a pivotal role to play in changing the attitudes towards positive side of the personnel if conducted according to their training needs.

Bhatia (1979) emphasised that workers as well as managers have to contribute effectively in the management of an organisation. Therefore, for collaborate approach, training in small groups, decision making, interpersonal relationship, intergpoup communication, perception and effective committee meeting be necessary.

Goel and Goel (1979) observed in their study that one of the cardinal principles of manpower planning and career development is that the organisation should classify the various categories of jobs and assess developmental needs in order to provide the need-based training (with reference to jobs that have to be performed, the knowledge and skills required for the performance of jobs and the gaps in the knowledge and skills of the personnel responsible for the job) to the individuals to increase their operational efficiency both for the operational and future needs.

They further emphasized that no matter how carefully men have been selected, or whatever aptitudes they may have for their jobs, a systematic and scientifically devised training is the sine qua non if they are to reach a satisfactory level of job performance.

Gupta (1979) suggested that training needs should be related to both the organisations' demands and the needs of individuals.

Richter (1979) reported that trainings should be given to the personnel working in the fields. The training should be on problem solving under field conditions and related with the need requirements of the trainees.

Charyulu (1980) emphasized that the needs of the target groups are to be assessed through resource and skill surveys. The exercise of the identification of skill gaps and skills demand would enable the development of suitable training strategy.

Feeney (1980) emphasized that training should be directly performance oriented. He further suggested that there should be Performance Improvement Analysis (PIA) to determine the changes in different behavioural aspects of trainees resulting to improvement in their job performance as well as economic pay off of the training.

Lawande (1980) emphasised that identification of training needs helps in designing successful and effective training programmes.

The National Seminar held at New Delhi (1981) recommended that the syllabus for the training programme be developed after ascertaining the training needs and job responsibilities of the trainees and taking into consideration the existing situation and local resources. It should be practical and work experience based. Besides technical subject matter emphasis should be given on extension, communication and motivation.

B. Important training areas/topics:

Vende Berg (1956) reported that Extension workers desired the training on the following areas. Program planning, new subject matter and research data, communication method, annual reports, sources of materials, personal problems, meeting techniques, and project planning technique. The order of preference for courses of study in summer school was: Extension methods, subject matter courses, program building administration, evaluation and extension philosophy.

Cook (1958) observed on the basis of his study that continuation of training in technical subject matter and social sciences was desired by County Agricultural Agents.

Odom (1961) found high need perception for training in Agricultural Economics among agricultural representatives and in home economics among home economists. Home economics had more acute training need in 4-H and adult organisations than the agricultural representatives. Both groups had high need for planning and evaluation the programmes.

He further observed that men and women agents highly needed training in communication media and methods and programme planning.

McCornick (1961) concluded in his study that the County Extension Agents in Ohio State needed the trainings on the following areas in order of preference.

i. Understanding social systems.

ii. Extension organisation and administration.

iii. The evaluation process.

iv. Research and evaluation.

v. Human development.

vi. Technical knowledge.

vii. Communication.

viii. Effective thinking.

ix. Program planning and development.

Price (1961) revealed that County Extension Agents needed training in following areas, written in order of their preference: Program planning and development, understanding human development, communication, effective thinking understanding social systems, the education process, extension organisation and administration, and research evaluation.

Ramos (1961) also reported on the basis of a study conducted in Philippines that Agricultural Extension Supervisors preferred the inservice training in the following areas: Administration, counselling and training personnel, supervision, evaluation, extension teaching activities, program building and about Bureau of Agricultural Extension.

Pisharody (1962) revealed from his study conducted in Kerala that VLWs needed more training on the topics like soil sampling and soil testing, identification of different soil types, soil conservation methods, minor repairs of agricultural implements and modern method of weed control, pests and diseases of crops, seed testing and multiplication.

He further emphasised that training in office management, correspondance, administration and preparation

of village production plans, integrating lectures and practicals and village apprenticeship be given to Village Level Workers.

Rai (1962) reported that VLWs wanted to study following subjects written in order of their preference: Agriculture, Animal Husbandry and Veterinary, Extension, Social Education, Co-operation, Public Health, Horticulture, Panchayat, Industry, Plant Protection and Agricultural Engineering.

Leagans (1964) stressed in a National Seminar held at Khartoum, Sudan that Economic and social growth among village people in any nation depends on the ability to build an adequate staff of properly trained professional people to manage the rural development enterprise.

He further emphasised that all extension workers require special knowledge or competence in a number of broad areas. While each employee has special training needs according to his own job requirement, knowledge and understanding is needed by all in the following areas:

1. Technical subject matter.
2. Extension service organisation of operation.
3. Human development.
4. Program development.
5. The educational process.
6. Social system.
7. Communication.
8. Research and evaluation.

Reddy and Reddy (1966) observed that the first three needs of the agricultural extension officers in regard to their inservice training pertained to:

(i) gaining knowledge (Plant protection, Farm mechanism and Seed technology).

(ii) skill (soil testing, human relations skill and demonstration techniques), and

(iii) attitude (self-confidence and love for extension work).

Singh and Singh (1966) indicated that Agricultural Extension Officers needed inservice training in the following areas in order of their rank:

1. Programme planning and development.
2. Communication.
3. Subject matter in agriculture.
4. Understanding social system.
5. The educational process.
6. Evaluation and reporting.
7. Organisation and administration in extension.

Sharma and Singh (1970) reported training needs of Extension personnel are influenced by their academic qualification, experience previous training, training duration, professionalism, role perception, hospital adequacy and utility perception of college training.

Singh (1970) found following major areas for training on the basis of his study conducted in Bihar:

1. Programme planning and development.
2. Communication.

3. Farmers' training.
4. Subject matter in agriculture.
5. Evaluation.
6. Education process.
7. Local leadership.
8. Human Development.
9. Understanding social system.

US Department of Agriculture (1973) concluded that the supervisors should be trained on the following areas in their inservice training.

1. Role of supervisor.
2. Broad training in technical agriculture, home economics and in their application to current tural problems.
3. Public relations.
4. Personnel selection, interviewing, counselling.
5. Job analysis.
6. Personal management, evaluation and training.
7. Program development and supervision.

The Department recommended that the local extension workers be given inservice training on the following broad areas:

1. Training in applied agricultural and home economics science at a level high enough to merit the confidence of local people.
2. Skills in demonstrating improved farm and home practices.

Halim and Islam (1973) observed in their study conducted in Bangladesh that the Front Level Extension Workers gave much emphasis to include courses on technical subject matter and extension teaching methods in their future inservice training programme.

Perumal (1975) found in a study conducted in Tamil Nadu that the Agricultural Extension Officers were having dominant training need in such aspects as latest agricultural technology, economic use of fertilizers, efficient farm management, organisation of successful demonstrations, extension compaign etc. and maintenance of agricultural impiements and machineries.

Jha and Jani (1977) emphasised that areas like plant protection, communication techniques and crop husbandry need to be given top priority in VLWs training programme. It is very important that before the VLWs are called for the training their needs should be ascertained so that the training syllabi could be accordingly chalked out to make it more meaningful and effective.

Sandhu and Bilang (1977) observed from their study conducted in 116 Blocks of Punjab that there is a need for inservice training for AEOs to make their knowledge adequate particularly in the areas of organisation, service and programme planning.

Murthy (1978) revealed that majority of the Agricultural Assistants needed more inservice training in subject matter in agriculture as compared to other areas, particularly in plant protection measures, soil and water conservation methods and methods of maintaining soil fertility.

Joshi (1979) found that VLWs had highest need for training in the areas of agricultural implements, machinery, weeds and weed control, soil water conservation, and irrigation.

Ganeshan et al. (1980) observed on the basis of a study conducted in Periyakulam and Usilampatti Agricultural Division of Madurai District in Tamil Nadu that Gram Sevakas should be given inservice training in the following areas:

1. Plant protection.
2. Manures and manuring.
3. Soil and soil management.
4. Crop husbandry.
5. Farm management.

They further observed that higher the grade, more was their liking for further inservice training. Those with urban background need more inservice training than those coming from farming background.

Singh (1980) reported that BDOs should be given training, on various areas like HYVs, soil conservation, plant protection measures, manures and fertilizers and agricultural implements and need radical improvement in regard to agriculture and managerial functions for effective agricultural managements, control of field functionaries and contact with farmers.

Vernekar (1980) observed in her study that higher need for training was expressed in the subject matter areas of different foods, their constituents and functions, physical social and psychological aspects of home, selection of clothes, and family planning education.

C. Other related aspects on training:

Vende Berg (1956) reported that extension workers desired the week long intensive recreational laboratory training and one day district conference.

Cook (1958) found that the County Agricultural Agents preferred the workshop as a method of training.

Sharma (1966) reported that Animal Husbandry Extension Officers preferred 3 months' duration of training and it should be imparted in October. He further reported that tour at the end of training for about a fortnight was preferred by them. Both lectures and practicals were desired for effective training.

Singh and Singh (1966) advocated training of one month' duration, at an interval of two years, in January and February for providing inservice training to Agricultural Extension Officers.

Murthy (1978) found that Agricultural Assistants wanted that they should be given training once in every 3 years for a period of 2 months. Joshi (1979) also observed the same for Village Level Workers in Karnataka.

Vernekar (1980) reported that Gramsevikas preferred one month training with field visits at an interval of 3 years.

On the basis of review of literature, it can be concluded that areas/topics of interest differ from one category of respondents to another. There seems to be, however, a consensus that there should be refresher courses at an interval of 2 to 3 years and each course should of 15 days to one month duration. In almost all the studies it has also been stressed that there should be lectures, as well as practical and also field visits.

CHAPTER - III

METHODOLOGY

METHODOLOGY

This chapter deals with the methodology followed to seek the responses from the respondents and the analysis pattern of the data. It has been presented in four parts. The first part deals with the locale and selection of the respondents. Next part is about the instrument developed for collection of data, the third part is on method of data collection and the last part deals with the tabulation and analysis of data.

I. Locale and the respondents:

Locale of study:

The investigator, being a nominee of His Majesty's Government of Nepal, it was considered desirable to conduct the study in Nepal. Further no such study has been done in Nepal. It is believed that the findings may have direct bearing on the planning of training programmes for DADOs and other extension personnel.

Selection of respondents:

Nepal, being a small country, has 75 districts in all. At each district headquarter, there is a post of one District Agricultural Development Officer (DADO). Besides these 75 DADOs, there are some more at the Regional Directorates, Central offices and Projects. Thus, the total population consisted of 93 DADOs. Since the population was not big, the census approach was adopted for the study.

II. Developing the instrument of observation:

Various research studies were consulted and discussions were held with some of the DADOs and the Training Chief of Department of Agriculture, His Majesty's Government of Nepal prior to the development of questionnaire. In-depth study of the roles and the responsibilities of DADOs and working procedures was made. Keeping this in view, the training topics were developed and grouped in a functional order. While editing the items, care was taken to make them specific, concise and clear. In addition to the need inventory, other related aspects with training were also considered and included in the questionnaire.

Before administering any questionnaire, it needs to be pre-tested to work out its suitability and feasibility. It is an essential step in the development and finalization of a questionnaire for any research in behavioural sciences. Keeping this in view, the pre-testing was done with some of the DADOs in Nepal itself. Some minor alterations were made in the questionnaire after pre-testing.

The questionnaire was divided into four sections. The first section dealt with the background information such as age, qualification, service experience, previous training etc. Section II was on training need items which was further divided into 9 parts: (A) General Extension, (B) Communication, (C) Programme Development, (D) Extension methods (E) Administration, management and accounts, (F) Rural Social system, (G) Technical topics, (H) Miscellaneous training areas, and (I)Any other, having blank space for their suggestions.

Section III deals with other related aspects of training, such as nature of training, duration, month, venue, etc. A separate question of ten pairs was developed to find out the motives for attending the refresheer training. The last section was developed to find out their attitude towards extension work.

III. Administration and response:

The questionnaire was mailed to the DADOs with a forwarding letter from the Chairman of advisory committee. The purpose and the importance of the present study was the main content of the forwarding letter. All the respondents were requested to send the filled-in questionnaire from Nepal at their own postal cost. It was done due to non-availability of Nepalese postal stamps with the investigator at the time of posting of the questionnaire.

After 10 days of despatch of questionnaire, a letter was sent by the investigator directly also to the respondents. Some of them were also contacted personally by the investigator during his visit to Nepal. Besides these approaches, some of the Nepalese students studying at Haryana Agricultural University were also requested to contact the DADOs of their respective home districts during their visit to Nepal.

Our request was also got reinforced by a letter from Training Chief, Division of Agricultural Extension and Training HMG, Nepal and Regional Directors to all the DADOs.

Due to all these measures, the response was very much encouraging. Eighty DADOs out of 93 i.e. 86 per cent returned

NEPAL

(ADMINISTRATIVE)

Scale 1:2,000,000

Kilometres 40 20 0 40 80 120 160 Kilometres

FIFTH

FARWESTERN

WESTERN

CENTRAL

EASTERN

MID-HILL

HIGH-HILL

TARAI

CHINA

INDIA

INDIA

BOUNDARY

International, Regional, Zonal, District — BHERI — GULMI

HEADQUARTERS

Capital, Development, Zonal, District

ROAD

Highway, Metalled, Unmetalled. Under Construction

River, Lake, Peak, Pass ▲7205

Published by Survey Department Topographical Survey Branch 1981

the duly filled in questionnaire. However, some of them i.e. nine were found incomplete and information provided by them was not in usable form. Therefore, these nine questionnaires were rejected from the analysis.

It is also worth mentioning that almost all of them returned the questionnaire under registered cover rather than ordinary mail, which shows their keen interest in the study.

The information on the importance of different topics was also obtained from eight senior officers of Department of Agriculture, Nepal, holding supervisory position such as Regional Director, Training Chief, Deputy Director General (DDG) and project chief. They were also selected randomly, who were available at Kathmandu at the time of a meeting.

IV. Analysis of data:

Though our concern was to have a comprehensive picture about the Kingdom, yet considering the wide variation in climate and farming conditions, all the respondents and their replies were also classified into 3 major categories namely High-hills (HH), Mid-hills (MH) and Tarai (T). Besides, analysing the background information, the importance of different topics and training needs of different DADOs was worked out as below:

(a) Determining the Training Intensity Score of Subject areas:

Each topic was got rated on a five point continuum on the basis of its importance for training. The categories were Must include, Should include, May include, Exclude, Must exclude. These categories were given the weightage

of 4, 3, 2, 1 and 0 respectively. The importance of each item was measured in terms of Training Intensity Score (TIS) and was worked out as below:

$$\text{Training Intensity Score (TIS)} = \frac{\sum ASin}{n}$$

where,

$\sum ASin$ = Summation of assigned scores to ith item by n respondents.

n = Number of respondents scoring ith item.

It is the mean score indicating the importance of item for its inclusion in the training schedule. Higher the score more is the importance.

(b) Determining the Training Need Quotient:

The same information was re-analysed to determine the training need of DADOs. First of all the total score of each respondent was worked out as below:

Total Score = $\sum OSnj$ = Sum of observed score of jth individual on n items.

Since all the respondents did not check all the items, the maximum possible score for all the respondents was not the same. Due to this the total score obtained by different DADOs was not comparable as such. To overcome this problem, total score was converted into ratio as below:

$$TNQ = \frac{\sum OSnj}{\sum MSnj} \times 100$$

where,

$\sum OSnj$ = Summation of observed scores of jth individual for n items

$\sum MSnj$ = Summation of maximum possible scores attributable to n items rated by jth individual.

The TNQ value indicates the intensity of training need expressed in the form of percentage. Higher the value of TNQ more is the training need.

(c) Measurement of attitude:

The attitude of DADOs towards Extension work was also measured with a scale developed and administered with Summated Rating Technique (Edwards, 1957). There were 26 items in the scale which were selected after thorough pretesting. The reliability coefficient of the scale with odd-even method is 0.78 which is fairly high. Its content validity was also assessed with the judges as well as with the known-group technique.

(d) Inter-relationship between background factors, attitude and TNQ:

The association between the background factors of DADOs and their training need as well as their attitude towards extension work was assessed by Rank Order Correlation, Tau b, F test, and Chi-square tests. A test was selected considering the nature of data and size of the table. Rank Order correlation was worked out with Spearmans rho test (Kendall, 1962) while Tau b was used with the formula suggested by Loether and McTavish (1980).

(e) Reasons for training motive:

An attempt was also made to find out the important reasons and their motives for attending training. For this purpose five reasons were selected on the basis of earlier research conducted by Sharma (1966).

These reasons were presented to the respondents in ten possible pairs. The importance of each reason was determined in terms of their scale values worked out through Paired Comparison Technique (Edwards, 1957).

The internal consistency of scale values was also checked in the form of A.D.value as suggested by Edwards (1957). The test was applied to determine the truthfulness of the observed scale values.

(f) Ranking of subject areas:

Lastly an exercise was also made to verify the results, derived through rating of different items with their ranking scores. For this purpose all the eight major areas were tested and the respondents were asked to rank three important areas as Ist, 2nd and 3rd in order of their importance. The ranking score of each area was worked out by assigning the weightage of 3, 2 and 1 for Ist, 2nd and 3rd choice, respectively. On the basis of ranking score as well as on the basis of the rating score (TIS), all the eight items were ranked separately from Ist to 8th. The rank order correlation was worked out to find out the consistency in the observation.

CHAPTER - IV

RESULTS AND DISCUSSIONS

RESULTS AND DISCUSSIONS

The data for the study were collected through questionnaire, tabulated and analysed with suitable statistical techniques. The findings are being presented in this chapter under the following sub-headings:

1. Background information of DADOs.
2. Important training areas.
3. The training need intensity of respondents.
4. Attitude of DADOs towards extension work.
5. Attitude towards extension work and the training needs.
6. Motives for attending training.
7. Other related aspects of training.
8. Specific suggestions given by the respondents.

Background information of DADOs:

Prior to discussing the major findings on training areas and training needs of DADOs, it is desirable to give a brief description about their background.

The Table 1, given on the next page, provides the general picture about their background information, which can be summarized as below:

(i) Almost all the DADOs (95.77 %) are young. Majority, however, is between the age group of 30-40 years. Only a few are above 40 years.

(ii) Similarly almost all of them (92.96 %) are married except a few.

Table 1. Background information of DADOs of different regions.

Aspects	Category	Number of DADOs			
		Mid-hills	Tarai	High-hills	Total
Age	21-30 yrs	11 (33.33)	9 (34.61)	4 (33.33)	24 (33.80)
	31-40 yrs	20 (60.61)	16 (61.54)	8 (66.67)	44 (61.97)
	41-50 yrs	2 (6.06)	1 (3.85)	-	3 (4.23)
	Total	33(100)	26 (100)	12(100)	71(100)
Marital status	Married	33 (100.00)	23 (88.46)	10 (83.33)	66 (92.96)
	Un-married	-	3 (11.54)	2 (16.67)	5 (7.04)
	Total	33(100)	26(100)	12(100)	71(100)
Parental occupation	Farming	26 (78.78)	25 (96.15)	10 (83.33)	61 (85.91)
	Service	5 (15.15)	-	1 (8.33)	6 (8.45)
	Business	2 (6.07)	1 (3.85)	1 (8.33)	4 (5.63)
	Total	33(100)	26(100)	12(100)	71(100)
Background	Rural	25 (75.76)	24 (92.31)	10 (83.33)	59 (83.10)
	Urban	8 (24.24)	2 (7.69)	2 (16.67)	12 (16.90)
	Total	33(100)	26(100)	12(100)	71(100)
Qualification.	Graduates	25 (75.76)	17 (65.38)	12 (100)	54 (76.06)
	Post-graduates.	8 (24.24)	9 (34.61)	-	17 (23.94)
	Total	33(100)	26(100)	12(100)	71(100)

Conti.....

Table 1 continued

Aspects	Category	Number of DADOs			
		Mid-hills	Tarai	High-hills	Total
Experience in DOA	Less than 6 years	13 (39.39)	10 (38.46)	4 (33.33)	27 (38.03)
	6-12 yrs	8 (24.24)	8 (30.77)	5 (41.67)	21 (29.58)
	More than 12 years	12 (36.36)	8 (30.77)	3 (25.00)	23 (32.39)
	Total	33(100)	26(100)	12(100)	71(100)
Experience as DADO	Less than 6 years	23 (69.70)	16 (61.54)	11 (91.67)	50 (70.42)
	6-12 yrs	5 (15.15)	5 (19.23)	1 (8.33)	11 (15.49)
	More than 12 years	5 (15.15)	5 (19.23)	-	10 (14.08)
	Total	33(100)	26(100)	12(100)	71(100)
Previous training	Trained	20 (60.61)	14 (53.85)	6 (50.00)	40 (56.34)
	Untrained	13 (39.39)	12 (46.15)	6 (50.00)	31 (43.66)
	Total	33(100)	26(100)	12(100)	71(100)

Figures in parentheses are percentages.

(iii) The parental occupation of most of them (about 86 per cent) is farming and the majority belong to rural area (83 %). It is really a highly satisfying observation as most of them are with rural background and have farming as their parental occupation, which is desirable trait for agricultural extension workers.

(iv) The majority is graduate in agriculture. However, about one fourth of them have Masters degree in one or other branch of agriculture also.

(v) Unlike other aspects, on the basis of service experience in the Department of Agriculture, the group seems to be highly heterogeneous. The proportion of the respondents in all the 3 categories formed on the basis of service experience is almost the same.

(vi) Most of them have 5 to 6 years of experience as DADOs. About 30 per cent of them have experience of more than 7 years.

(vii) More than half of them (56 %) have undergone one or the other type of training either in Nepal or abroad. Among the trained DADOs, 27 respondents had gone abroad for training and rest had their training in Nepal itself. Some of them have attended as many as 4 trainings, however, most of them attended 2 trainings.

It means that though several DADOs had the privilege of attending trainings and enriching their knowledge and skill, yet there are many more who need training.

Important Training Areas:

The training intensity score of each of the 70 items as well as the major areas was worked out as discussed earlier in the chapter of methodology. The Table 2 presents the TIS values of major areas assigned by DADOs of different regions and supervisors.

It is evident from Table 2 and Fig. 1 that maximum importance has been shown on the topics related to programme development and administration and managerial practices. These areas also got top priority and considerable importance for inclusion in training curriculum in many other studies (Vende Berg, 1956; Odom, 1961; Price, 1961; Leagans, 1964; Singh and Singh, 1966; Singh, 1970; Sandhu and Bilang, 1977).

It is surprising that the least importance has been given to the topics on technical aspects and rural social system. Some other areas like communication, general extension and extension methods have been considered more important than these two. Communication, evaluation of agricultural programme, technical subject matter, understanding social system and human development areas were given considerable importance for inclusion in the training programme in some other studies also, such as, Vende Berg (1956), Cook (1958), McCormick (1961), Price (1961), Ramos (1961), Pisharody (1962), Rai (1962), Leagans (1964), Singh and Singh (1966), Sharma and Singh (1970), Singh (1970), Halim and Islam (1973), Perumal (1975), Jha and Jani (1977), Murthy (1978), Joshi (1979) and Ganeshan et al. (1980).

Table 2. TIS of major subject areas and their ranks.

Subject areas	DADOs								Supervisors	
	Mid-hills		Tarai		High-hills		Total			
	TIS	Rank	TIS	Rank	TIS	Rank	TIS	Rank	TIS	Rank
A. General Extension	2.86	V	2.95	V	3.36	I	2.98	IV	2.87	VIII
B. Communication	2.92	IV	3.21	III	3.07	IV	3.05	III	2.90	VII
C. Programme development.	3.33	I	3.43	I	3.12	III	3.34	I	3.51	II
D. Extension Methods	2.64	VII	3.17	IV	3.20	II	2.94	V	3.20	IV
E. Administration, Management and Accounts	3.12	II	3.31	II	2.87	VI	3.15	II	3.61	I
F. Rural Social system	2.76	VI	2.70	VIII	2.69	VIII	2.73	VII	3.16	V
G. Technical topics	2.55	VIII	2.72	VII	2.97	V	2.69	VIII	3.26	III
H. Miscellaneous training areas.	2.93	III	2.88	VI	2.80	VII	2.89	VI	2.92	VI

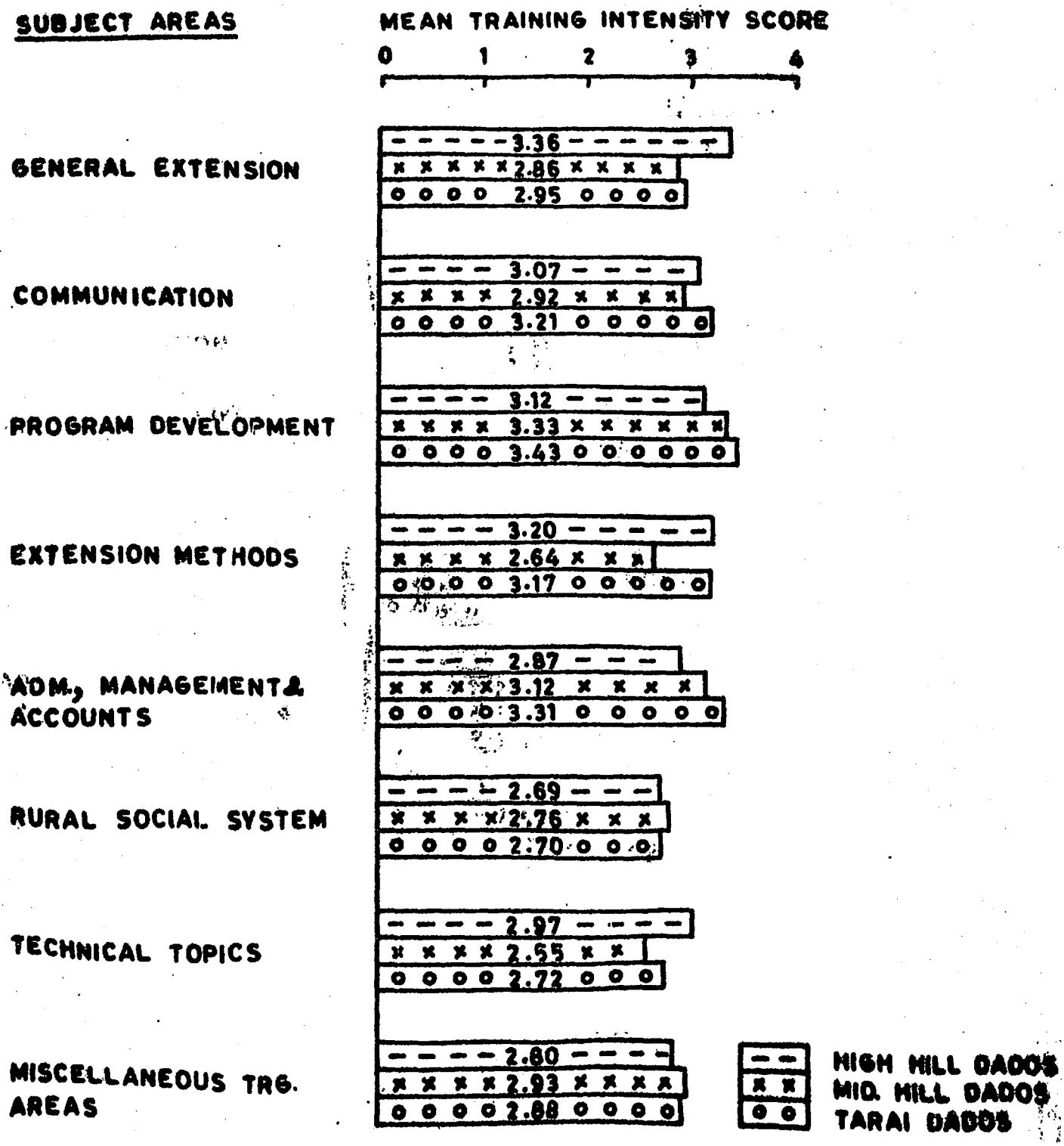


FIG. 1. MEAN TRAINING INTENSITY SCORES OF DIFFERENT SUBJECT AREAS ASSIGNED BY DADOS OF DIFFERENT REGIONS

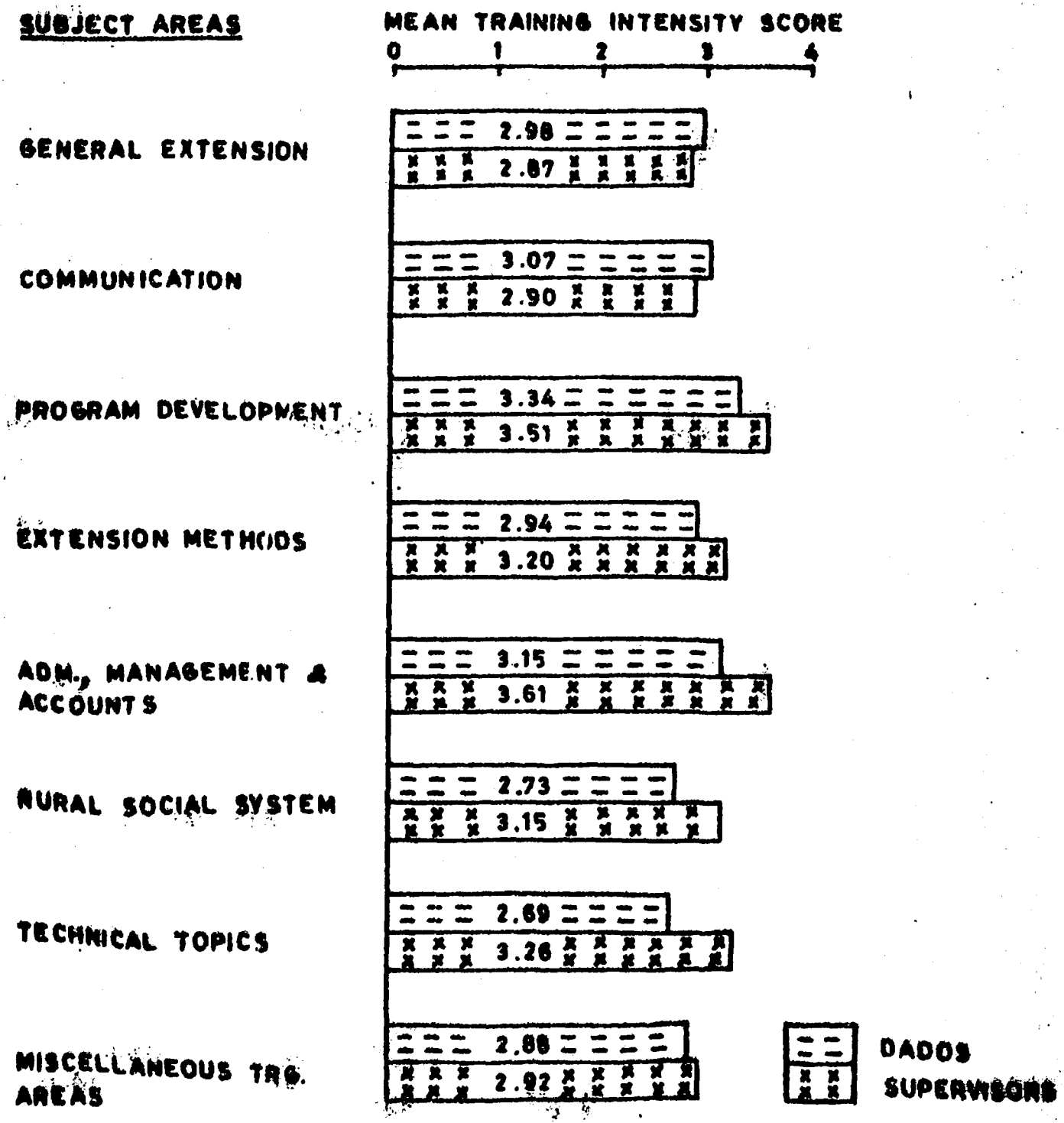


FIG. 2. MEAN TRAINING INTENSITY SCORES OF DIFFERENT SUBJECT AREAS ASSIGNED BY DADOS AND SUPERVISORS

Earlier studies also indicate that those involved mainly in field job needed more training on technical subject matter than the training on theoretical aspects like programme development etc.

A cursory look of the table and Fig 1, 2 also suggest that there is a general agreement among the DADOs of all the regions as well as the supervisors. However, to verify this observation, the rank order correlation was worked out with Spearmans Rho Test.

The tables 2 and 3 show that our assumption was partially true as there is a high degree of similarity in ranking among the DADOs of Mid-hills and Tarai as well as with the average ranking. However, the ranking assigned by the DADOs of High-hills region and that of supervisors has no significant correlation. Inspite of low correlation in 2 cases, broad generalization as drawn earlier seems to hold good, as programme development has been placed at first position by DADOs of Mid-hills and Tarai, 2nd position by supervisors and 3rd position by the High-hill DADOs. Similarly administration and managerial practices got Ist rank by supervisors and 2nd rank by the DADOs of Mid-hill and Tarai regions. Only the DADOs of High-hill placed in a lower position.

Specific topics and their importance:

All the 8 major areas have number of specific topics. The TIS values of each specific item was also worked out. These values are presented in Table 4.

Table 3. Rank-order Correlation Matrix

Regions	Mid-hills	Tarai	High-hills	Total	Supervisors
Mid-hills	-	0.714 (2.498)*	- 0.174 (-0.175)	0.809** (3.371)	0.238 (0.600)
Tarai	-	-	0.452 (1.241)	0.952** (7.618)	0.381 (1.009)
High-hills	-	-	-	0.405 (1.085)	-0.214 (-0.5366)
Total	-	-	-	-	0.238 (0.600)

Figures in parentheses are corresponding 't' values.

* P < 0.05

** P < 0.01.

Table 4. Training Intensity Score of selected items.

Selected topics	DADOs				Super-visors
	Mid-hills	Tarai	High hills	Total	
A. General Extension					
1. Extension systems in some other countries viz. Japan, USA, Israel, India, China etc.	3.18	3.08	3.17	3.14	3.00
2. Principles, Philosophy and objectives.	3.00	3.00	3.42	3.07	3.00
3. Origin, Development and scope of Extension.	2.39	2.77	3.50	2.72	2.62
Mean Score	2.86	2.95	3.36	2.98	2.87
B. Communication:					
1. Process of communication	3.06	3.38	3.50	3.25	3.37
2. Preparation of simple audio-visual aids.	3.03	3.35	3.00	3.14	3.12
3. Diffusion and adoption of innovation.	3.03	3.30	2.83	3.10	3.00
4. Operation, maintenance and handling of audio-visual aids projected/ non-projected.	2.93	3.25	3.12	3.09	2.93
5. Agricultural Journalism (news items, pamphlets etc.)	2.88	3.15	3.08	3.01	2.62
6. Theory and practices of public opinion and propaganda.	2.91	3.12	2.75	2.90	2.62
7. Mass-media (Radio etc.)	2.61	3.04	3.17	2.86	2.62
Mean Score	2.92	3.21	3.07	3.05	2.90

Contd.....

Table 4 continued

Selected Topics	DADOs				Supervisors
	Mid-hills	Tarai	High-hills	Total	
C. Programme Development					
1. Planning and launching of an agril.programme	3.82	3.50	3.92	3.72	3.75
2. Evaluation of extension programme.	3.70	3.69	3.25	3.62	3.62
3. Preparing and production plans at different levels.	3.39	3.58	2.67	3.34	3.62
4. Current Agricultural Programmes, policies and projects viz. IRDP, T&V, SFDP etc.	3.09	3.42	3.42	3.27	3.87
5. Development of local leaders.	3.15	3.60	2.83	3.26	3.25
6. Recent planning techniques such as IQ, PERT, System of analysis.	3.21	3.19	2.92	3.15	3.37
7. Planning, organising and supervising rural youth programme.	2.97	3.23	2.83	3.04	3.12
Mean Score	3.33	3.43	3.12	3.34	3.51
D. Extension Methods					
1. Organising Training for Extension-workers	2.97	3.50	3.09	3.18	3.62
2. Farmers' Training	2.73	3.35	3.75	3.13	3.75
3. Package Programme/ Campaign	2.81	3.15	3.00	2.97	3.37
4. Result Demonstration	2.67	3.27	3.17	2.97	3.25
5. Exhibition	2.56	3.19	3.33	2.92	3.00
6. Method Demonstration	2.48	3.19	3.25	2.87	3.12
7. Farmers' Field Day	2.73	3.08	2.75	2.86	3.25
8. Farm and Home Visits	2.36	3.19	3.33	2.83	3.00
9. Crop competition	2.48	2.88	3.17	2.75	2.50
Mean Score	2.64	3.17	3.20	2.94	3.20

Table 4 continued

Selected Topics	DADOs				Supervisors
	Mid-hills	Tarai	High-hills	Total	
E. Administration Management and accounts					
1. Supervision techniques	3.42	3.65	3.42	3.51	3.87
2. Plan formulation	3.51	3.54	3.08	3.45	3.62
3. Controlling techniques	3.45	3.46	2.83	3.35	3.75
4. General training in administration.	3.06	3.46	3.33	3.25	3.50
5. Leadership techniques	3.27	3.35	2.83	3.22	3.75
6. Public-relations	3.12	3.42	3.08	3.22	3.62
7. Budgeting	3.21	3.38	2.66	3.18	3.87
8. Financial Management	3.15	3.42	2.75	3.18	4.00
9. Interpersonal Relations	3.30	3.04	3.00	3.15	3.62
10. Work-appraisal	3.12	3.40	2.66	3.14	4.00
11. Management of rewards and punishments.	3.06	3.23	2.73	3.07	3.00
12. Store maintenance and supervision	2.64	3.19	2.58	2.83	3.37
13. Written communication	2.76	2.85	2.83	2.78	3.37
14. Resolving interpersonal conflicts.	2.56	3.00	2.08	2.69	3.25
Mean Score	3.12	3.31	2.87	3.15	3.61
F. Rural Social System:					
1. Rural Leadership Pattern	2.88	2.69	2.66	2.77	3.25
2. Organising and Functioning of co-operatives	2.70	2.92	2.50	2.75	3.37
3. Social values - customs traditions and culture	2.82	2.54	2.83	2.72	3.12
4. Knowledge of local caste system.	2.67	2.65	2.75	2.68	2.87
Mean Score	2.76	2.70	2.69	2.73	3.15

Table 4 continued

Selected Topics	DADOs				Supervisors
	Mid-hills	Tarai	High-hills	Total	
G. Technical Topics					
(a) Crops:					
1. Wheat cultivation	2.77	2.90	3.25	2.90	3.43
2. Paddy cultivation	2.75	2.90	3.16	2.88	3.43
3. Maize cultivation	2.74	2.90	3.25	2.88	3.43
4. Pulse crop cultivation	2.49	2.86	3.17	2.75	2.18
5. Soyabean cultivation	2.62	2.63	3.17	2.72	3.18
6. Mustard/Sarson cultivation.	2.49	2.69	3.17	2.68	3.25
7. Sugarcane cultivation	2.34	2.84	2.66	2.57	3.12
8. Millets cultivation	2.48	2.51	2.87	2.56	3.12
9. Jute cultivation	1.86	2.38	2.45	2.27	2.81
10. Tobacco cultivation	2.00	2.28	2.45	2.18	2.81
Mean Score	2.46	2.69	2.96	2.63	3.18
(b) Fruits:					
1. Citrus cultivation	2.94	2.71	3.37	2.92	3.50
2. Apple cultivation	2.57	2.66	3.50	2.75	3.12
3. Other temperate fruits(except apple) cultivation.	2.62	2.55	3.33	2.72	3.37
4. Mango cultivation	2.64	2.84	2.50	2.69	3.56
5. Litchi cultivation	2.52	2.84	2.58	2.60	3.43
6. Banana cultivation	2.43	2.72	2.33	2.53	3.50
7. Pine apple cultivation	2.43	2.63	2.33	2.49	3.25
Mean Score	2.60	2.70	2.81	2.67	3.39

Table 4 continued

Selected Topics	DADOs				Super-visors
	Mid-hills	Tarai	High-hills	Total	
(c) Vegetables:					
1. Potato cultivation	3.03	3.00	3.50	3.09	3.43
2. Cauliflower/cabbage cultivation	2.51	2.94	3.37	2.82	3.18
3. Onion cultivation	2.66	2.77	3.33	2.79	3.18
4. Chillies cultivation	2.62	2.65	2.96	2.69	3.06
Mean Score	2.70	2.84	3.29	2.85	3.21
Grand Mean Score	2.55	2.72	2.97	2.69	3.26
H. Miscellaneous Training Areas					
1. Seed multiplication	3.06	3.23	2.92	3.10	3.37
2. Handling and maintenance of plant protection equipment.	2.96	2.96	2.92	2.96	3.25
3. Post-harvest technology	3.06	2.80	2.75	2.91	3.37
4. Marketing of Agricultural produce.	2.82	2.77	2.75	2.79	2.50
5. Fruit and vegetable preservation.	2.76	2.65	2.66	2.70	2.12
Mean Score	2.93	2.88	2.80	2.89	2.92

The topics on general extension in general have been given a lower importance. However, in this area DADOs expressed more need on knowing the extension systems of different countries and principles, philosophy and objectives of extension in general.

In communication, all of them desired to have training on process of communication. Their need on the preparation of simple Audio-visual aids and diffusion-adoption process were also well evident. Surprisingly, some other topics related to the skill i.e. agricultural journalism, operation and maintenance of A.V.Aids etc. got low TIS.

However, their replies seem to be logically sound as they are more concerned with the policy making due to their higher status in the organisational hierarchy. They want to understand the basic process of communication, its elements, blocks and facilitators in smooth communication of technical know-how from district headquarter to the farmers. Their main concern seems to be on designing an effective communication system after under-going a training on communication process rather than merely knowing the operation of a 16 mm projector or slide projector etc.

In programme development, almost all the topics have been rated very important. The most important one among them is planning and launching of an agricultural programme, followed by their evaluation.

This seems to be true logically also, as an administrator, their major responsibility is of planning and launching of a programme. They also want to equip themselves about the

proper evaluation techniques to know their achievements and pit-falls. It is also note worthy that there seems to be high degree of agreement among the DADOs of all the regions as well as the supervisors. Besides these two topics, they also desire to have training on recent planning techniques, current agricultural programmes and local rural leadership. Considering the importance of these items, it would not be inappropriate to suggest that a specific training should be designed exclusively on programme development.

The next category is of extension methods having topics on result demonstration, method demonstration, training, exhibition etc. Though the category as a whole has been given comparatively less importance than other areas, yet some of the topics in this category like farmers' training, result demonstration and exhibition have been assigned high need scores. Topics like crop competition, farm and home visits, field day etc. can be excluded from the training curriculum as their TIS values are comparatively very low. The lower rating may be due to the fact that this portion is taught very thoroughly in agricultural colleges and universities at undergraduate level. Further, they are not required to conduct result demonstrations, field days etc. themselves personally. On these aspects their role is supervisory. The actual work is being done by the subordinates.

The fifth area is related to administration, management and accounts functions. This has been rated 2nd, next to

programme development. It is obviously valid because the DADOs, being administrators, have major responsibilities of planning, organising, controlling, supervising and directing.. These all are major administrative processes and management functions.

It is a very broad area having 14 different major topics. The maximum emphasis has been placed on supervision, controlling and leadership techniques, interpersonal relations and plan formulation. It is also worth mentioning that supervisors placed maximum emphasis on work-appraisal techniques and financial management, while the DADOs did not consider these areas of that importance.

The last 3 areas namely rural social system, technical aspects such as cultivation of crops, growing of fruit trees, vegetable cultivation and miscellaneous training areas e.g. seed multiplication technology,post-harvest technology etc. have also been given comparatively lower ranking. It means, all the DADOs are well conversant and acquinted with the social system and cultural values of rural people of Nepal. It seems that there is no necessity of devoting more time on this area.

The earlier studies, however, do not provide a consistent picture. McCornick (1961) placed this area on the top, while Price (1961) placed it at fifth position. It also did not find a mention in the first five areas of training for Agricultural Extension Supervisors in Philippines (Ramos, 1961).

It is certainly astonishing that the training intensity scores of various crops are also very low. However, the DADOs of High-hill region comparatively gave more importance to some of the topics in comparison to DADOs of other regions. The difference in their opinion might be due to their regions of posting and climatic variation. It suggests a necessity of having separate training programme for DADOs of High-hill region.

Supervisors, however, assigned more weightage on some technical topics such as wheat, paddy, maize and potato cultivation and cultivation of temperate fruits and mango as compared to DADOs. It seems that these two groups differ regarding the importance of technical topics for inclusion in the training programme.

The studies done in the past indicate that technical subject matter were rated more important for field level extension workers such as VLWs, Agricultural Inspectors, County Agents etc. (Cook, 1958; Pisharody, 1962; Rai, 1962; Reddy and Reddy, 1966; Perumal, 1975; Jha and Jani, 1977; Murthy, 1978; Joshi, 1979; and Ganeshan et al., 1980). On the other hand, for senior level extension workers and supervisors, areas like programme planning, administration, supervision, communication etc. were assigned more weightage (Vende Berg, 1956; Price, 1961; Ramos, 1961; Singh and Singh, 1966; Singh,1970; USDA, 1973; Sandhu and Bilang, 1977).

Other topics which have been mentioned by a number of respondents are seed multiplication and post-harvest technology.

The TIS values of 'Handling and maintenance of plant protection equipments' is also comparatively high suggesting a need for training on this aspect also.

Commonly agreed upon topics:

After finding out the importance of different areas and specific topics, an effort was made to find out the topics having maximum general consensus about their importance. It was found that there were 23 items out of 70 having a consistent rating by all the 4 or at least three categories of respondents. All these items, in order of descending TIS values, are listed in Table 5.

It reveals that "the most important" topic, on which the respondents of all the categories have the highest rating, is 'Planning and launching of an agricultural programme'. It clearly indicates that it is the felt need of the DADOs. It may be due to their nature of responsibility and job specification. It would certainly help them in planning an agricultural development programme more meticulously and effectively and implementing them more successfully. It also suggests to the planners and organisers of training that this topic should not be ignored at any cost. If there is any inservice training, this topic must be included in the curriculum.

Next to this are 'administration process', which refers to an art and skill of management and general rules and regulations of office and financial administration and process of communication. Other important topics having

Table 5. List of items having maximum agreement regarding TIS in different regions.

Items	DADOs				Supervisors
	Total	Mid-hills	Tarai	High-hills	
Most Important					
1. Planning and launching of an agricultural programme.	3.72	3.82	3.50	3.92	3.75
Very Important					
1. General training in administration.	3.25	3.06	3.46	3.33	3.50
2. Process of communication.	3.25	3.06	3.38	3.50	3.37
3. Recent planning techniques.	3.15	3.21	3.19	2.92	3.37
4. Extension systems in other countries	3.14	3.18	3.08	3.17	3.00
5. Seed multiplication technology.	3.10	3.06	3.23	2.92	3.37
6. Diffusion and adoption of innovation.	3.10	3.03	3.30	2.83	3.00
7. Operation, maintenance and handling of A.V. aids.	3.09	2.93	3.25	3.12	2.93
8. Principles, philosophy and objectives of extension.	3.07	3.00	3.00	3.42	3.00
9. Management of rewards and punishment..	3.07	3.06	3.23	2.75	3.00
10. Planning, organising and supervising rural youth programme.	3.04	2.97	3.23	2.83	3.12
11. Agricultural Journalism.	3.01	2.88	3.15	3.08	2.62

Contd...

Table 5 continued

Items	DADOs				Supervisors
	Total	Mid-hills	Tarai	High-hills	
12. Handling and maintenance of plant protection equipment	2.96	2.96	2.96	2.92	3.25
13. Post harvest technology.	2.91	3.06	2.80	2.75	3.37
14. Theory and practice of public opinion and propaganda.	2.90	2.91	3.12	2.75	2.62
15. Mass media	2.86	2.61	3.04	3.17	2.62
16. Marketing of agriculture produce.	2.79	2.82	2.77	2.75	2.50
17. Written communication.	2.78	2.76	2.85	2.83	3.37
18. Rural leadership pattern	2.77	2.88	2.69	2.66	3.25
19. Social values, customs etc.	2.72	2.82	2.54	2.83	3.12
20. Chillies cultivation	2.69	2.62	2.65	2.96	3.06
21. Knowledge of local caste system.	2.68	2.67	2.65	2.75	2.87
22. Litchi cultivation	2.60	2.52	2.84	2.58	3.43

general consensus are recent planning techniques, seed multiplication technology and diffusion and adoption process.

It is evident from table 5 that some of the topics such as written communication (Item no. 17), Litchi cultivation (Item No. 22) etc. have been given higher scores, by the supervisors.

It means in certain cases supervisors and DADOs differ with each other. As a result a training curriculum developed solely on the basis of supervisors may not be fully liked by the DADOs.

TIS range and distribution of items:

The study also revealed that the range of TIS value is more in case of Mid-hill DADOs than other areas. It means, there is more variation in the perception of the importance of topics in case of DADOs of Mid-hill than others. The range of score of different topics in different regions has been given in the following table:

Table 6. Range of minimum-maximum training intensity score of subject matter items in different regions.

Regions/Respondents	Range
Mis-hills	1.86 - 3.82
Tarai	2.28 - 3.69
High-hills	2.08 - 3.92
Supervisors	2.12 - 4.00

An effort was also made simultaneously to find out the number of items which can be considered most important in different regions. Accordingly, 3 class intervals on the basis of maximum possible range were formed and their frequency distribution is shown in the table given below:

Table 7. Frequency of items in different range of training intensity score.

Range	Regions/Respondents			
	Mid-hills	Tarai	High-hills	Supervisors
1.5 - 2.5	12	2	5	1
2.5 - 3.5	55	61	60	49
3.5 and above	3	7	5	20
Total	70	70	70	70

The table shows that DADOs of Tarai region gave higher importance to more items (7) than the DADOs of Mid-hills and High-hills. On the other hand DADOs of Mid-hill region rated several items less important in comparison to the DADOs of other regions. Supervisors on the other hand placed as many as 20 topics in the higher ($\geq$ 3.5) category.

Ranking of broad areas:

Though all the important topics were got rated on a 5 point continuum, an attempt was made to measure the reliability of data by getting the ranking of broad areas in the form of rank scores also. The exercise also provided a useful information about the comparison of rating and ranking techniques.

For this purpose all the 8 broad areas were listed and the respondents were requested to seledt three most important ones and to rank them as Ist, 2nd, and 3rd in order of their importance. They were assigned the weightage of 3, 2 and 1 respectively. After summating the total score the mean rank score of all the eight major subject areas was worked out, which are presented in the table given below:

Table 8. Ranking of the subject areas with rank scores.

Items	D.A.D.O s			Total
	Mid-hills	Tarai	High-hills	
1. General extension	V	V	II	V
2. Communication	IV	III	V	III
3. Programme Development	I	I	I	I
4. Extension Methods	II	II	III	II
5. Administration, management and accounts.	III	IV	VI	IV
6. Rural social system	VII	VII	IV	VII
7. Technical topics	VI	VI	VII	VI
8. Miscellaneous training areas.	VIII	VIII	VIII	VIII

The table indicates the comparison of ranking of the broad subject areas on the basis of ranking scores. The table also shows that there is complete agreement in the ranking of programme development, as it has been placed on

the top by the DADOs of all the three regions. Extension methods have been ranked 2nd by the DADOs from Mid-hill and Tarai, while the DADOs of High-hill placed it on 3rd position. Technical topics and rural social system have invariably been placed at the lower rating by the respondents of all the categories.

The observations were verified by the rank order correlation, which are presented in table 9, below:

Table 9. Rank-order correlation Matrix

Regions	Mid-hill	Tarai	High-hill	Total
Mid-hill	-	0.976 (10.968)**	0.738 (2.678)*	0.976 (10.968)**
Tarai	-	-	0.631 (2.568)*	1.000 (∞)**
High-hill	-	-	-	0.666 (2.933)*
Total	-	-	-	-

* $p < 0.05$ Figures in parentheses are 't' values.
** $p < 0.01$

The correlation values in all the cases are significant showing their agreement in ranking. The ranks assigned by the Tarai DADOs and the total group have perfect agreement. The data also indicate that the ranking of the subject areas by the DADOs of different regions have significant positive correlation in all the cases.

Table 10 provides the comparison of ranking of general areas obtained through two different approaches i.e. TIS basis and as ranking score basis. The table shows that the ranking is nearly the same with both approaches. The 'programme development' area has come out first in all the cases except one. Similarly there seems the generalaagreement about the ranking of 'Rural social system' the area which has been rated the last by almost all the categories of respondents.

Table 10. Ranking of subject matter areas

Items	Mid-hill		Tarai		High-hill		Total	
	Rank TIS	Rank Score	Rank TIS	Rank Score	Rank TIS	Rank Score	Rank TIS	Rank Score
1. General extension	V	V	V	V	I	II	IV	V
2. Communication	IV	IV	III	III	IV	V	III	III
3. Programme development	I	I	I	I	III	I	I	I
4. Extension methods	VII	II	IV	II	II	III	V	II
5. Administration management and accounts.	II	III	II	IV	VI	VI	II	IV
6. Rural social system.	VI	VII	VIII	VII	VIII	IV	VII	VII
7. Technical topics..	VIII	VI	VII	VI	V	VII	VIII	VI
8. Miscellaneous training areas.	III	VIII	VI	VIII	VII	VIII	VI	VIII

To verify this observation, rank order correlation was worked out, which is given in the following table.

Table 11. Rank-order correlation.

Respondents	Rank order correlation values(rho)	't' values
Mid-hill and Mid-hill	0.333	0.8649
Tarai and Tarai	0.833	3.6869*
High-hill and High-hill	0.809	3.3712*
Total and Total	0.738	2.6793*

* P ≤ 0.05

The correlation values in 3 cases namely Tarai, High-hill and total are pretty high and significant. It means ranking of subject areas in three cases is almost the same. In case of Mid-hills, correlation is positive, however, it is not significant. It means, both the approaches lead to the same conclusion. Its interpretation is that the results have high reliability and both the approaches are also valid. Its practical implication is that for a quick appraisal to determine the broad areas of interest, the simple ranking technique may also provide considerable reliable information.

Other items suggested by the respondents:

Besides checking their opinion on structured items, they were also asked to suggest other areas/topics for training. A list of all these topics is given in Table 12.

Table 12. List of training topics suggested by the respondents.

Sr.No.	Topics
1.	Sweet potato cultivation.
2.	Groundnut cultivation.
3.	Grape cultivation.
4.	Cotton cultivation.
5.	Sunflower cultivation.
6.	Sugarbeet cultivation.
7.	Ornamental plant cultivation.
8.	Leafy vegetable cultivation.
9.	Methods and techniques of data collection.
10.	Motivational theories.
11.	Group approach strategies.
12.	Group dynamics for change.
13.	Extension out-reach programme.
14.	Co-ordination approach.
15.	Conducting farmers' tours.
16.	Conducting farmers' conferences.
17.	Organising training for agricultural assistants.
18.	Fish culture and its management.
19.	Livestock management.
20.	Poultry keeping.
21.	Principles and practices of bee-keeping.
22.	Preparation and utilization of compost and green manures.

The perusal of the table reveals that they suggested topics from different areas. Some are related to the technological aspects such as cultivation of sweet potato, grapes, cotton, groundnut, ornamental plants etc. while some are very theoretical in nature e.g. motivational theories, methods and technique of data collection etc.

Though the frequency of DADOs suggesting these topics is very low, yet it is important to consider these topics also for including in the training curriculum.

The Training Need Intensity of Respondents:

The intensity of training need of DADOs was determined in the form of Training Need Quotient (TNQ), as discussed earlier in the chapter of Methodology.

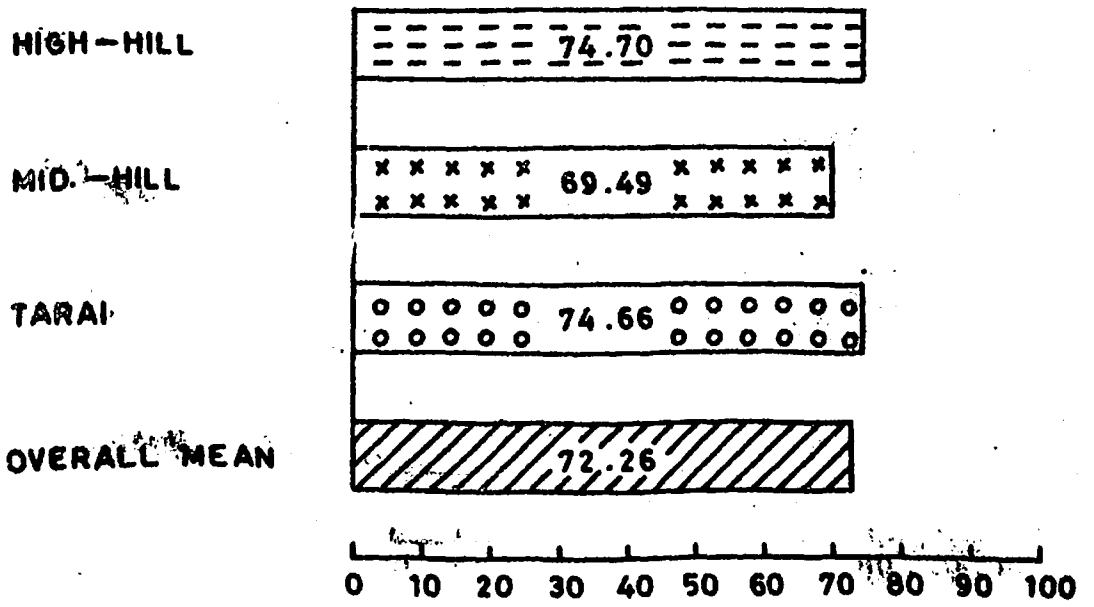
The mean TNQ score of the whole group is 72.26 which is pretty high and indicates a necessity of organising more and more training for them to improve their professional and administrative competency. The table given below presents the mean TNQ of DADOs of different regions and other parameters.

Table 13. Mean TNQ of DADOs of different regions.

Regions	Mean TNQ	Standard Deviation (SD)	Coefficient of Variance (CV)	Range
Mid-hill	69.49	16.48	23.71	21.46-95.10(73.67)
Tarai	74.66	14.77	19.79	38.85-97.55(58.70)
High-hill	74.70	14.99	20.07	40.21-89.66(49.45)
Total	72.26	16.09	22.27	21.46-97.55(76.09)

FIG. 3. MEAN TRAINING NEED QUOTIENT OF DADOS

(A) ON THE BASIS OF REGION OF POSTING



(B) ON THE BASIS OF EDUCATIONAL QUALIFICATION

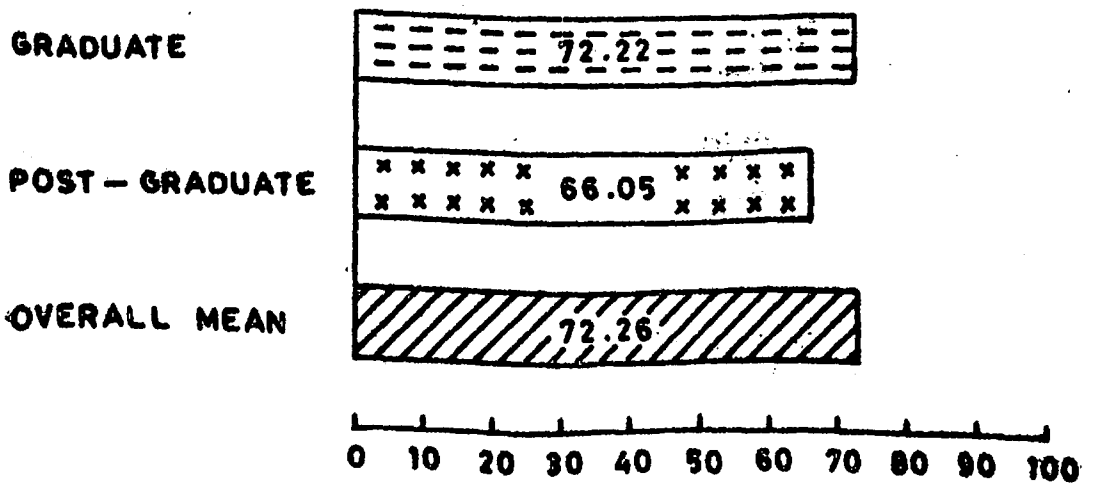
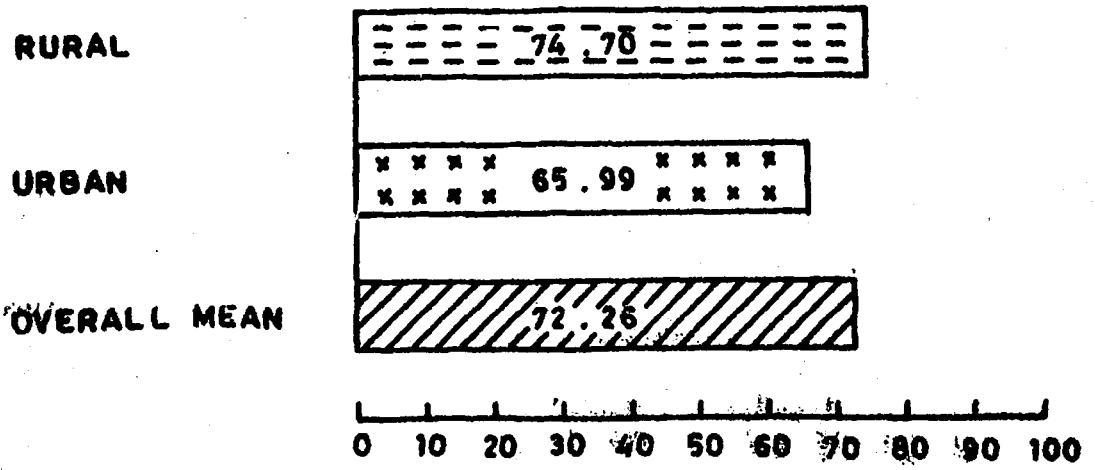


FIG. 3. MEAN TRAINING NEED QUOTIENT OF DADOS

(C) ON THE BASIS OF BACKGROUND



(D) ON THE BASIS OF PARENTAL OCCUPATION

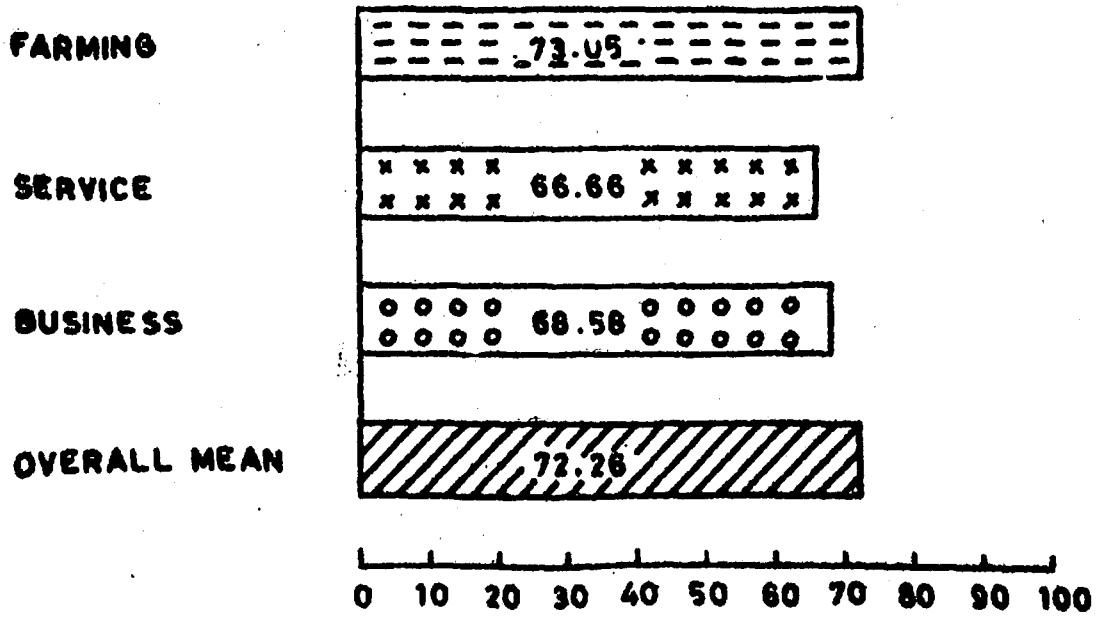
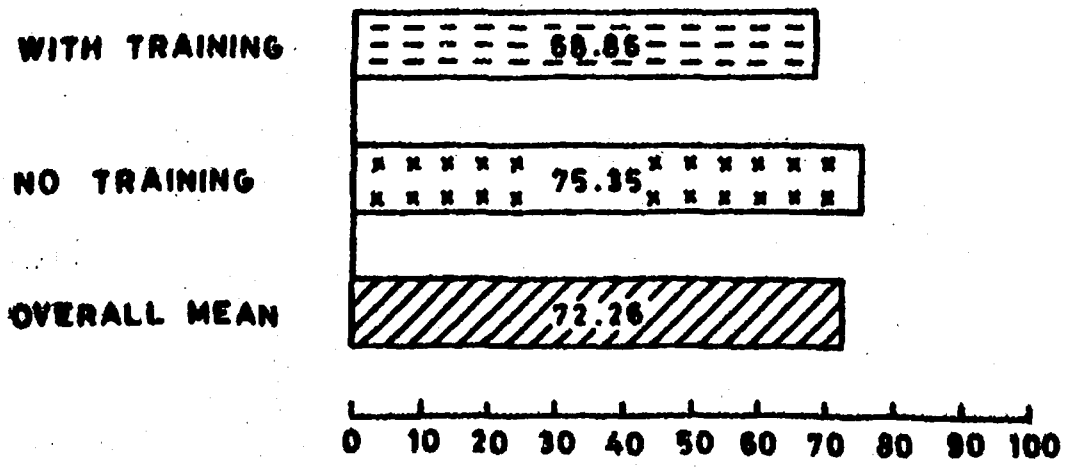


FIG. 3 MEAN TRAINING NEED QUOTIENT OF DADOS

(E) ON THE BASIS OF EARLIER TRAINING EXPOSER



(F) ON THE BASIS OF AGE

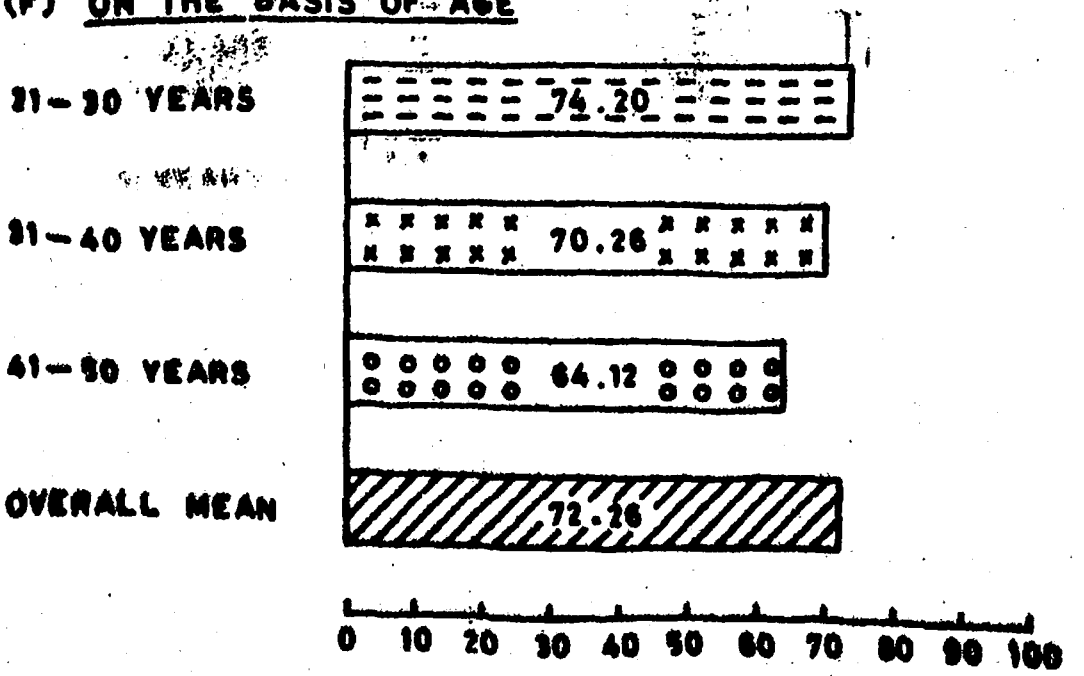
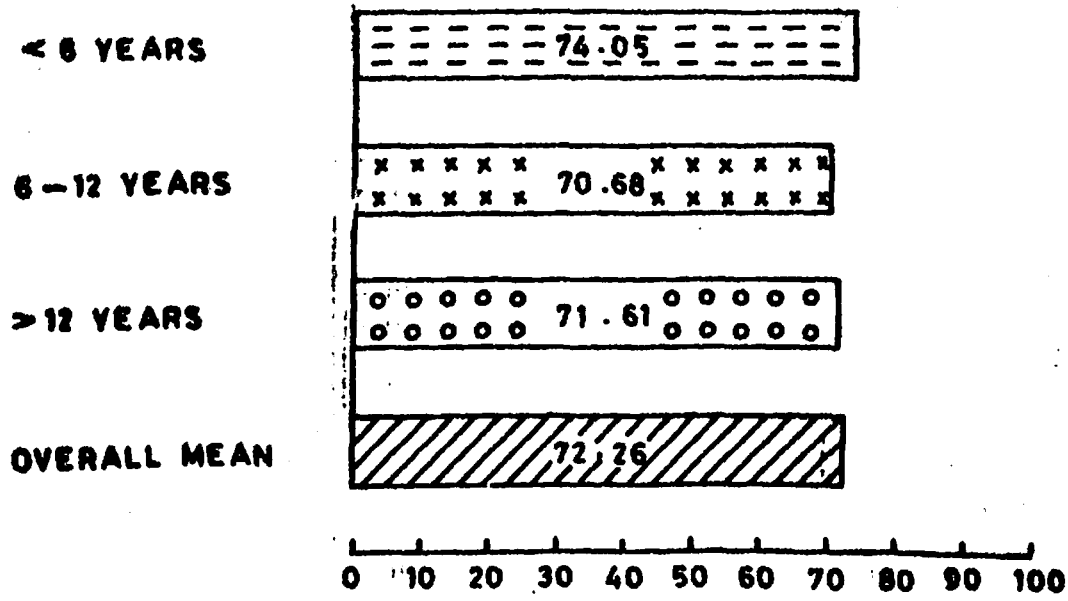
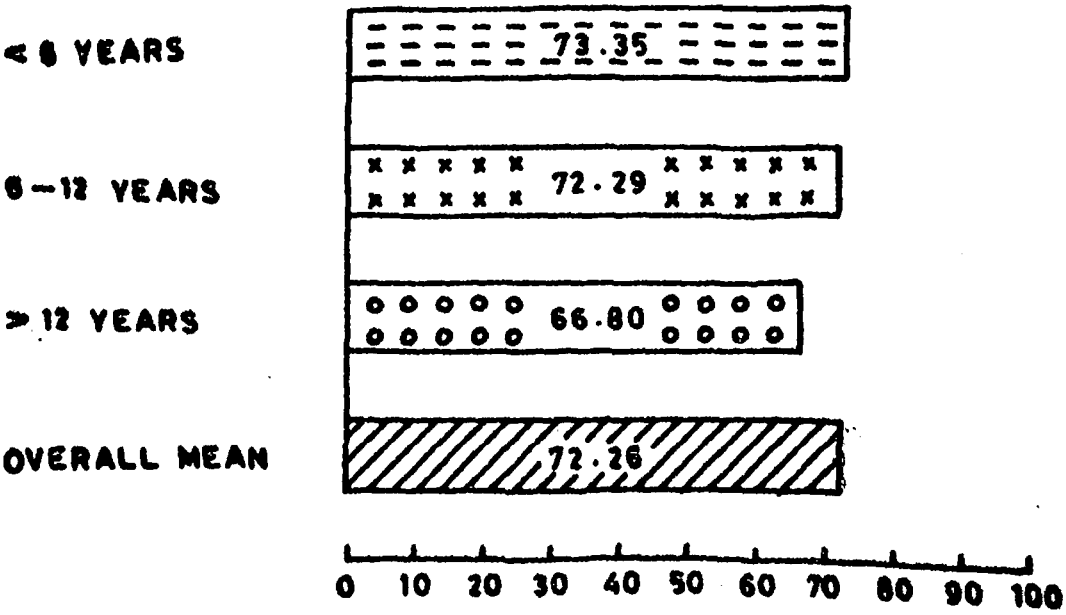


FIG. 3 MEAN TRAINING NEED QUOTIENT OF DADOS

(G) ON THE BASIS OF SERVICE EXPERIENCE IN DEPTT. OF AGRI.



(H) ON THE BASIS OF SERVICE EXPERIENCE AS DADO



The table shows that the TNQ values of DADOs of Tarai and Highhill are more or less same while, Mid-hill DADOs have comparatively low TNQ value.

The SD as well as CV is higher in case of Mid-hill DADOs showing more variation in the group than the DADOs of other regions. It means that on an average, the DADOs of mid-hill are better equipped in terms of professional and administrative knowledge and require less training than the DADOs of other regions. However, heterogeneity in the group is more in respect to their training need.

On the basis of mean and SD values of TNQ, 3 classes i.e. Low, Medium and High were formed. The frequency distribution of DADOs of different regions in different TNQ categories is shown in Table 14.

Table 14. Distribution of respondents of different regions in different TNQ categories.

Category	Range	Mid-hill	Tarai	High-hill	Total
Low ($< \bar{X} - 1SD$)	< 56.17	7	3	2	12
Medium ($\bar{X} \pm 1SD$)	56.17-88.35	22	18	8	48
High($> \bar{X} + 1SD$)	>88.35	4	5	2	11
Total		33	26	12	71

Tau $_b$ = 0.1005

Since the measurement was at the ordinal level, it was thought desirable to apply Tau $_b$ test to measure the degree of association between the region of posting of DADOs and

their TNQ. The Tau $_b$ value in this case is 0.1005 which is very low. It indicates that there is no association between these two variables. It can, therefore, be inferred that the TNQ of DADOs does not vary on the basis of their region of posting.

Association between DADOs background factors and their Training Need:

An attempt was made to find out the association between the TNQ of DADOs and their background factors. The following paragraphs are devoted on this issue.

(a) Relationship between Rural/Urban background and Training Need:

The mean TNQ of rural and urban DADOs and their distribution on the basis of rural/urban background in the 3 categories of TNQ is shown in the following table.

Table 15. Rural/Urban Background and Training Need

Group	TNQ			Total	Mean TNQ
	Low	Medium	High		
Rural	10	38	11	59	74.70
Urban	2	10	-	12	65.99
Total	12	48	11	71	72.26

χ^2 = 2.484 t = 1.74

The mean TNQ score of rural DADOs is higher (74.70) than that of urban ones (65.99). To test the significance of difference, 't' test was applied. The t value is 1.74 which is non significant at 5 % level of significant at 69 d.f. It means, the difference in their TNQ values is not significant and DADOs do not differ in their training need on the basis of their rural/urban background.

To prove the point further Chi-square test was applied to find out any possible association between TNQ of DADOs and their home background. The calculated χ^2 value is also less than the table value confirming the earlier inference drawn on the basis of 't' test that DADOs do not differ in their training need simply due to their rural/urban background. It also suggests that there is no association between their training need and rural/urban background.

(b) Relationship between DADOs Academic Qualification and their Training Need:

To seek the relationship between DADOs academic background and their TNQ, they were classified into two categories - Graduate and Post-graduate as shown in Table 16.

Table 16. Academic Qualification and Training Need

Group	TNQ			Total	Mean TNQ
	Low	Medium	High		
Graduate	8	37	9	54	74.22
Post-graduate	4	11	2	17	66.05
Total	12	48	11	71	72.26

$\chi^2 = 1.09$ $t = 1.87$

It was assumed that the training need of graduate DADOs would be more than the post-graduate DADOs. The table shows that the TNQ of graduate DADOs is though somewhat higher than the post-graduate DADOs, yet the difference is not significant as the 't' value is non-significant (1.87).

The calculated χ^2 value is also less than the table value which confirms the inference drawn on the basis of 't' test that the need for a training does not vary on the basis of academic qualification. The assumption, therefore, that the graduate DADOs need more training does not get support from the data.

(c) Relationship between earlier training and Training Need:

As reported earlier, some of the DADOs had training in one or other aspect of agriculture and administration. There was also several DADOs who had not undergone any type of training. Our premise was that DADOs, who had not attended any training should express more desire for training than who had already undergone training. The Table 17 shows their mean TNQ as well as their distribution.

Table 17. TNQ of the Trained and Untrained groups

Group	TNQ			Total	Mean TNQ
	Low	Medium	High		
With Training	9	26	5	40	69.86
No-training	3	22	6	31	75.35
Total	12	48	11	71	72.26

χ^2 = 1.61 't' = 1.45

The mean TNQ of DADOs who had no earlier training is higher than the one who had attended one or the other training. The difference in their mean TNQ values is, however, not significant as the 't' values is (1.45) lesser than the table value at 5 % level of significance at 69 d.f.

It means DADOs do not differ in their desire for training on the basis of their earlier training experience.

The Chi-square value is also non-significant which suggests that there is no association between these two variables. The inference can be drawn that the need for a training by DADOs has no relation with their earlier training, and they do not differ with one another with regards to their training need on the basis of training exposer.

The findings, however, is not in line with the observation reported by Sharma (1966), where he in a study conducted with Animal Husbandry Extension Officers (AHEOs) in Punjab, found that AHEOs, who had not undergone any training had more training need. It might be due to the fact that in our case the desired areas of training are general in nature rather than the technical ones. On the other hand, in technical areas if one has undergone an earlier training and had acquired a satisfactory level of professional competency he may not like to have another training.

(d) Relationship between the age of DADOs and their Training Need:

As mentioned earlier that almost all DADOs were young and majority was under 40 years. Our assumption was that the young DADOs may need more trainings than aged DADOs. Apparently this seems to be true as TNQ values of the younger group is highest as shown in Table 18.

Table 18. Age and the Training Need

Group	TNQ			Total	Mean TNQ
	Low	Medium	High		
21-30 yrs	3	17	4	24	74.40
31-40 yrs	8	30	6	44	70.26
41-50 yrs	1	1	1	3	64.12
Total	12	48	11	71	72.26

$Tau_b = 0.022$ $F = 2.94(NS)$

F test was applied to check the significance of difference in their mean TNQ values. It was found that the value is non-significant at 8 d.f. It means, though the younger ones are having higher training need than others, yet it is not significantly high.

Tau_b test was applied to find out any association between these variables. The Tau_b value in this case is 0.022, which is very low. It shows that data do not provide evidence that there is any association between the age of DADOs and their expressed training need.

It can, therefore, be concluded that age has no relation with their training need and they do not vary in their training need on the basis of their age.

(e) Relationship between DADOs' parental occupation and their Training Need:

The majority had farming as their parental occupation and DADOs with service or business as their parental occupation were nominal. Their distribution on this dimension is shown in Table 19.

Table 19. Parental Occupation and the Training Need

Group	TNQ			Total	Mean TNQ
	Low	Medium	High		
Farming	10	40	11	61	73.05
Service	2	4	-	6	66.66
Business	-	4	-	4	68.58
Total	12	48	11	71	72.26

$Tau_b = 0.00$ $F = 1.07$ (NS)

The mean TNQ of DADOs with farming background is maximum. The DADOs whose parents are in service expressed minimum training need. It is astonishing that DADOs with business background have slightly higher TNQ score than those with having service background. The difference, is however, not significant as F value is 1.07 at 8 d.f., which is lesser than the table value. The hypothesis that DADOs with different parental occupation differ in their training need, was not proved true.

As discussed earlier, in this case also, to find out the association between these two variables, Tau_b was worked out. It is 0.00, which means there is no association at all between these two dimensions. The data, therefore, do not provide any evidence to support the hypothesis that the DADOs, whose parental occupation is other than farming, have more training need.

(f) Relationship between DADOs service experience in the Department of Agriculture and their Training Need:

On the basis of length of service in the Department, the respondents were grouped in three categories of TNQ as shown in Table 20.

Table 20. Service Experience in the Department of Agriculture and Training Need:

Group	TNQ			Total	Mean TNQ
	Low	Medium	High		
Less than 6 years.	4	19	4	27	74.05
6-12 years	4	15	2	21	70.68
More than 12 years.	4	14	5	23	71.61
Total	12	48	11	71	72.26

$Tau_b = 0.022$ $F = 0.44$ (NS)

The table indicates that the mean training need of less experienced DADOs is somewhat higher than that of experienced DADOs. The difference, however, is not significant, as the F value is 0.44.

The Tau_b value is 0.022 which is very low. This shows that there is no association between service experience of DADOs in the Department of Agriculture and their expressed training need. The common assumption that less experienced DADOs need more training than the experienced DADOs is not supported by the data obtained and is rejected. It means the DADOs do not differ in their training need on the basis of total service experience in the Department of Agriculture.

Similar finding was reported by Sharma (1966) that the service experience and training need of Animal Husbandry Extension Officers had no relationship between these two variables.

(g) Relationship between service experience as DADOs and Training Need:

An exercise was made to determine the relationship between service experience as DADOs and their expressed training need.

Accordingly, they were classified in a two way table on the basis of TNQ and service experience as DADO. The data are given in Table 21.

Table 21. Service Experience as DADO and Training Need

Group	TNQ			Total	Mean TNQ
	Low	Medium	High		
Less than 6 years	8	34	8	50	73.35
6-12 years	2	7	2	11	72.29
More than 12 years	2	7	1	10	66.80
Total	12	48	11	71	72.26

Tau_b = 0.042 F = 3.14 (NS)

The mean TNQ score of DADOs having service experience upto 6 years only, is considerably higher than that of those DADOs who had worked as DADO for more than 12 years. The difference is, however, in this case also not significant, as the F value (3.14) is lower than the table value at 8 d.f. It means DADOs do not differ with one another in their training need due to their service experience as DADOs.

To find out the association between these two variables the Tau_b value was worked out. It is only 0.042 which shows that there is no association, between these two dimensions.

It can, therefore, be inferred that the desire for a training is not associated with their service experience as DADOs.

It is thus evident that neither total service experience in the Department of Agriculture nor as DADOs has any relation with their expressed training need.

Attitude of DADOs towards Extension Work:

All the respondents were requested to express their attitude towards extension work on a scale developed with Summated Rating Technique having 26 statements. The possible range of score was 26 to 130. The mean attitude score of the group was 97.11 which shows that by and large the group has a favourable attitude towards extension work. This is a healthy sign and will certainly prove good for the organisation. Some of the DADOs had, however, very low attitude score. It suggests a necessity of introducing some measures/programmes to boost up morale and make their attitude more favourable towards extension work. Table 22 provides the mean score region-wise as well as other parameters.

Table 22. Mean attitude score of DADOs in different regions.

Regions	Mean Attitude Score	S.D.	C.V.	Range
Mid-hill	94.42	14.49	15.35	48-117(69)
Tarai	98.58	16.31	16.54	63-117(54)
High-hill	101.33	13.22	13.05	66-117(51)
Total	97.11	15.22	15.67	48-117(69)

The table shows that the DADOs of High-hill region had more favourable attitude towards extension work than the DADOs of other regions. Next to them are DADOs of Tarai and Mid-hill regions. The DADOs of these two regions had also high value of SD and CV which suggest that there is more heterogenity in these groups on the basis of this dimension.

Three categories of attitude scores were formed on the basis of mean attitude score and S.D. in the similar fashion as it was done in case of TNQ. The frequency distribution of DADOs of different regions in different attitude categories is shown in Table 23.

Table 23. Distribution of respondents of different regions in different attitude categories.

Category	Range	DADOs			Total
		Mid-hill	Tarai	High-hill	
Less favourable ($< \bar{X} - 1SD$)	Less than 81.89	4	4	1	9
Favourable ($\bar{X} \pm 1SD$)	81.89-112.33	24	17	9	50
More favourable ($> \bar{X} + 1SD$)	More than 112.33	5	5	2	12
Total		33	26	12	71

$Tau_b = 0.097$

The table shows that there were only 9 DADOs having attitude score less than 81.89. It is also evident by the table that the proportion of DADOs having high favourable attitude is more in High-hill region than the other two.

The Tau $_b$ test was applied to check the association between these two dimensions i.e. regions and distribution of DADOs on the basis of their attitude scores. It is, however, not significant as the Tau $_b$ is very low (0.097).

Association between DADOs background factors and attitude towards Extension work:

Data were also analysed to work out the association between DADOs attitude towards Extension work and their background factors. The detail is given below:

(a) Relationship between rural/urban background and attitude:

From table 24, it is clear that the majority of the respondents were with rural background. The mean attitude score in case of DADOs with rural background is slightly more than that of urban DADOs.

Table 24. Background and Attitude.

Group	Attitude			Total	Mean Attitude Score
	Less favourable	Favourable	More favourable		
Rural	7	43	9	59	97.37
Urban	2	7	3	12	95.83
Total	9	50	12	71	97.11

$\chi^2 = 1.53$

The Chi-square value is 1.53, which is lesser than the table value for 2 degree of freedom at 5 per cent level of significance. It indicates that data do not provide any evidence to support the hypothesis that DADOs with rural background have more favourable attitude towards extension work than the DADOs with urban background.

(b) Relationship between academic qualification and attitude:

The respondents were grouped in 2 categories on the basis of their academic qualification as shown in Table 25.

Table 25. Academic qualification and attitude score.

Group	Attitude			Total	Mean Attitude score
	Less favourable	Favourable	More Favourable		
Graduate	7	40	7	54	96.13
Post-graduate	2	10	5	17	100.23
Total	9	50	12	71	97.11

$\chi^2 = 2.98$

It was assumed that the DADOs having Masters degree may have more favourable attitude than the DADOs holding graduate degrees only. The χ^2 value is 2.98, which is non-significant. It indicates that there is no association between the DADOs' qualification and their attitude towards extension work.

Though these two variables are not significant statistically but the mean scores shows a trend that Postgraduate DADOs have more favourable attitude towards extension work.

(c) Relationship between previous training and attitude score:

Table 26 shows that more than half of respondents had undergone one or the other training. Chi-square test was applied to determine the association between their attitude towards extension work and their earlier trainings. The χ^2 value is 1.851 which is lesser than the table value indicating

no association between these two variables.

Table 26. Attitude towards extension work of Trained and Untrained group.

Group	Attitude			Total	Mean Attitude Score
	Less favourable	Favourable	More favourable		
With training	5	26	9	40	99.62
No-training	4	24	3	31	93.87
Total	9	50	12	71	97.11

$\chi^2 = 1.851$

The table also indicates that the trained DADOs have slightly more favourable attitude than the untrained DADOs.

(d) Relationship between service experience in the Department of Agriculture and attitude score:

The respondents were classified into 3 categories on the basis of their experiences in the Department of Agriculture as shown in the table given below:

Table 27. Service experience in the Department of Agriculture and attitude towards extension work

Group	Attitude			Total	Mean Attitude score
	Less favourable	Favourable	More favourable		
Less than 6 years	3	23	1	27	93.70
6-12 years	2	14	5	21	100.48
More than 12 years	4	13	6	23	98.04
Total	9	50	12	71	97.11

$Tau_b = 0.119$

It shows that all the three groups formed on the basis of experience have more or less same proportion of respondents. The Tau $_b$ value here, is 0.119 which is very low. This shows that there is no association between DADOs' attitude towards extension work and their service experience in the Department of Agriculture. It means freshers as well as experienced DADOs, both have more or less similar attitude towards extension work.

(e) Relationship between service experience as DADOs and attitude:

Table 28 shows that about 70 per cent of the respondents had less than 6 years service experience as DADOs, thus most of them are not much experienced as DADO.

Table 28. Service experience as DADO and attitude.

Group	Attitude			Total	Mean Attitude score
	Less favourable	Favourable	More favourable		
Less than 6 years	6	38	6	50	96.34
6-12 years	2	7	2	11	94.09
More than 12 years	1	5	4	10	104.30
Total	9	50	12	71	97.11

Tau $_b$ = 0.127

The Tau $_b$ value is 0.127, which indicates that there is no association between their attitude towards extension work and the service experience as DADO. It can be interpreted that service experience as DADO has no influence in their attitude towards extension work.

(f) Relationship between age of DADOs and their attitude towards extension work;

The Table 29 shows the distribution of DADOs into different age groups and in different attitude categories.

Table 29. Age and the attitude towards extension work.

Group	Attitude			Total	More Attitude score
	Less favourable	Favourable	More favourable		
21-30 yrs	2	21	1	24	96.17
31-40 yrs	6	27	11	44	98.18
41-50 yrs	1	2	-	3	89.00
Total	9	50	12	71	97.11

$Tau_b = 0.066$

The mean scores indicates that the younger DADOs have somewhat more favourable attitude towards extension work than that of aged DADOs. However, Tau_b value is 0.066, which is very low. It indicates that there is no association between the age of the respondents and their expressed attitude towards extension work.

It can be inferred that both young as well as aged ones have similar attitude towards extension work.

(g) Relationship between DADOs' parental occupation and attitude:

The respondents were also classified into 3 classes on the basis of their parental occupation. The distribution is presented in Table 30.

Table 30. Parental occupation and the attitude

Group	Attitude			Total	Mean Attitude Score
	Less favourable	Favourable	More favourable		
Farming	9	42	10	61	97.06
Service	-	5	1	6	94.50
Business	-	3	1	4	101.75
Total	9	50	12	71	97.11

$Tau_b = 0.112$

From the above table, it is evident that the Tau_b value does not provide evidence that there is association between DADOs' parental occupation and their attitude towards extension work.

The premise that, DADOs' whose parental occupation is farming, have more favourable attitude towards extension work does not hold good.

Attitude towards extension work and the training need:

On the basis of TNQ and attitude score, a two way classification of all the DADOs was made as shown in Table 31. This was done to find out association between these two variables.

Table 31. Attitude towards extension work and Training Need:

Attitude	TNQ			Total
	Low	Medium	High	
Less favourable	1	7	1	9
Favourable	9	32	9	50
More favourable	2	9	1	12
Total	12	48	11	71

$Tau_b = -0.04$

Tau $_b$ value is -0.04 which is negligible and suggests that there is no association between these two variables. The hypothesis that higher the training need stronger the attitude towards extension work or vice versa has not been proved valid by the existing data. It might be due to the fact that all the DADOs in general are having high TNQ scores as well as high attitude scores. It would be recalled that the general topics like programme planning, administration and supervision were given top priority, while these areas/ topics are general in nature and their utility is not only limited to the extension work, but also in other field of service. It means a DADO having even unfavourable attitude towards extension work may need training in general areas like programme planning, administration and supervision. It might be, therefore, another reason for no association between these two variables.

Motives for attending training:

We were also interested to find out the motives of DADOs for attending the trainings. For this purpose 5 important reasons were selected on the basis of earlier studies. The ten possible pairs of these reasons were formed, which were administered and analysed through Paired Comparison Technique.

Unfortunately, only 57 respondents replied this part of the questionnaire fully. Accordingly, the incomplete replies of 14 DADOs were excluded from the analysis. The Table 32 presents the list of all the five reasons and their scale values.

Table 32. Motives for attending training.

Sr.No.	Motives	Scale value
1.	To increase professional knowledge	1.962
2.	To have a change from routine work	0.782
3.	To avail training-tour	0.781
4.	To meet their colleagues	0.194
5.	Just to obey the orders	0.000

From Table 32 it is evident that most of the DADOs want to attend the training to increase and enrich their professional knowledge, ability and competency. Other two important reasons for attending training are 'to have a change from routine work' and 'to avail training tour'. It means some of them have no academic and professional aim to attend training. They come just to have a break or to enjoy trip. The other two 'to meet their colleagues' and 'just to obey the orders' are of least significance as their scale values are negligible.

Overall the picture is satisfactory as majority comes with a strong interest and keen desire to learn.

Internal Consistency:

Edwards (1957) suggested a system to measure reliability between the observed scale values and the theoritical scale values. The absolute average discrepency in this case is -0.0186 for five motives for attending training which is slightly smaller than the values usually observed, when motives were scaled by 'Paired Comparison Technique'. It can

therefore, be inferred that the internal consistency of our observed scale values agree with those of the expected one.

Other related aspects of training:

Nature of the Training:

Perusal of the table 33 reveals that 50 out of 71 respondents i.e. 70.42 per cent desired that the training should be organised separately on individual subject matter rather than a comprehensive one. It might be due to their liking for short duration and specific training.

Table 33. Nature of Training.

Category	DADOs			Total
	Mid-hills	Tarai	High-hills	
Comprehensive training.	10 (30.30)	8 (30.77)	3 (25.00)	21 (29.58)
Separately on individual subject training	23 (69.70)	18 (69.23)	9 (75.00)	50 (70.42)
Total	33(100)	26(100)	12(100)	71(100)

Figures in parentheses are percentages.

Liking of Foreign Instructors in the Training:

About 43 per cent respondents desired that foreign trainers should also be invited for some topics in the training programme. However, the proportion is much less in case of High-hills DADOs.(Table 34).

Table 34. Liking of Foreign Instructors in the Training.

Aspect	Category	DADOs			Total
		Mid-hills	Tarai	High-hills	
Should we invite foreign instructors?	Yes	15 (45.45)	13 (50.00)	3 (25.00)	31 (43.66)
	No	18 (54.54)	13 (50.00)	9 (75.00)	40 (56.34)
Total		33(100)	26(100)	12(100)	71(100)

Figures in parentheses are percentages.

The information regarding the background of DADOs, expressing their willingness for foreign instructors, was analysed separately and has been presented in Table 35.

To find out the association between DADOs' background factors viz. education, home place, marital status, previous training, TNQ, attitude and their parental occupation and their liking of foreign trainers, χ^2 test was applied. The chi-square values were non-significant in all the cases which indicate that none of these aspects is associated with their liking of foreign instructors. However, DADOs belonging to urban areas, having foreign trainings and business or service as parental occupation and medium level training need expressed more desire for foreign instructors.

Ideal month for Training:

The majority preferred February for training. The National Conference on Extension Teaching held at Hyderabad (5-9th July, 1966) also recommended February for conducting training for extension officers. The probable reason seems that February is relatively a sleak month from agricultural operation point of view besides having pleasant weather.

Table 35. Association between DADOs' background and their liking of Foreign Instructors in the training.

Aspect	Category	Yes		No		χ^2 value
		Frequency.	Percentage.	Frequency	Percentage.	
Education	Graduates	24	44.44	30	55.56	0.056
	Post-graduate	7	41.18	10	58.82	
	Total	31	43.67	40	56.33	
Background	Rural	28	47.46	31	52.54	2.04
	Urban	3	25.00	9	75.00	
	Total	31	43.67	40	56.33	
Marital status.	Married	29	43.94	37	56.06	0.029
	Unmarried	2	40.00	3	60.00	
	Total	31	43.67	40	56.33	
Previous training	With foreign training.	15	55.56	12	44.44	2.50
	Without foreign training.	16	36.36	28	63.64	
	Total	31	43.67	40	56.33	
Training Need Quotient.	Low	7	58.33	5	41.67	2.32
	Medium	18	37.50	30	62.50	
	High	6	54.54	5	45.45	
	Total	31	43.67	40	56.33	
Attitude towards extension work.	Less favourable.	5	55.56	4	44.44	0.56
	Favourable	21	42.00	29	58.00	
	More favourable	5	41.67	7	58.33	
	Total	31	43.67	40	56.33	
Parental Occupation.	Farming	28	45.90	33	54.10	0.957
	Service	2	33.33	4	66.67	
	Business	1	25.00	3	75.00	
	Total	31	43.67	40	56.33	

March was the second choice by most of them (29.58 %). The data are given in Table 36.

Table 36. Ideal month for Training.

Month	DADOs			Total
	Mid-hills	Tarai	High-hills	
January	7(21.21)	3(11.54)	5(41.66)	15(21.13)
February	17(51.51)	10(38.46)	3(25.00)	30(42.25)
March	13(39.39)	7(26.92)	1(8.33)	21(29.58)
April	3(9.09)	6(23.07)	1(8.33)	10(14.08)
May	-	4(15.38)	-	4(5.63)
June	-	-	-	-
July	-	-	-	-
August	4(12.12)	-	-	4(5.63)
September	4(12.12)	1(3.84)	1(8.33)	6(8.45)
October	4(12.12)	2(7.69)	2(16.66)	8(11.27)
November	5(15.15)	6(23.07)	2(16.66)	13(18.31)
December	4(12.12)	7(26.92)	2(16.66)	13(18.31)
Any month	-	1(3.84)	1(8.33)	2(2.82)

Figures in parentheses are percentages.

It can, therefore, be recommended that training should be organised preferably in February and March.

Venue for Training:

The respondents were requested to express their choice about the venue for training. Most of them preferred "Central Research Centre" as venue for training (Table 37).

Table 37. Venue for Training

Venue	Score			Total
	Mid-hills	Tarai	High-hills	
1. Central Research Centre	103	83	41	227(34.50)
2. Regional Research Centre	83	68	34	185(28.12)
3. Department of Agriculture.	57	52	23	132(20.06)
4. Regional Directorate.	54	42	18	114(17.33)

Figures in parentheses are percentages.

Their second choice was the Research Station of the region. It might be due to the fact that Central Research Centre provides a best learning situation. Besides having interaction with the scientists of different areas, they can also see the on-going experiments and demonstrations. On the other hand administration offices do not have these facilities. It is, therefore, recommended that the training should be preferably organised at research stations.

Preferred Training Duration:

Training duration is an important consideration in organising any training programme.

Table 38 shows that most of the DADOs liked two weeks duration for training and one month is their second choice. A short duration training for a week long also was preferred and was placed at their third choice.

Table 38. Training duration and academic background factor and training need quotient (TNQ).

Duration	Graduate				Post-graduate				T.N.Q.						Total	
	Rural		Urban		Rural		Urban		Low		Medium		High			
	Frequency	%	Frequency	%	Frequency	%	Frequency	%	Frequency	%	Frequency	%	Frequency	%		
One week	8	13.56	1	8.33	2	3.88	2	16.66	1	8.33	10	20.83	2	18.18	13	18.30
Two weeks	17	28.81	3	25.00	6	10.17	2	16.66	5	41.66	18	37.50	5	45.45	28	39.43
Four weeks (one month)	14	23.73	1	8.33	1	1.69	1	8.33	3	25.00	11	22.92	3	27.27	17	23.94
One and half months	2	3.38	1	8.33	-	-	1	8.33	-	-	4	8.33	-	-	4	5.63
Two months	2	3.38	-	-	-	-	-	-	1	8.33	-	-	1	9.09	2	2.82
Three months.	4	6.79	-	-	1	1.69	-	-	1	8.33	4	8.33	-	-	5	7.04
Four months	1	1.69	-	-	1	1.69	-	-	1	8.33	1	2.08	-	-	2	2.82
Total	48	81.36	6	50.00	11	18.64	6	50.00	12	100.00	48	100.00	11	100.00	71	100.00

The reason for a short duration training may be that DADOs cannot make themselves free from district activities for a longer period. The training, therefore, should be of specific and of short duration in nature.

The earlier studies do not provide a coherent picture on this issue as Vende Berg (1956) reported that extension worker should be given a week long training, while Singh and Singh (1966) reported that Agricultural Extension Officers preferred one month's period. Sharma (1966) found that 3 months training for Animal Husbandry Extension Officers was desirable, while Murthy (1978) and Joshi (1979) reported 2 months training for Village Level Workers. It shows that the different categories of respondents desire different duration for refresher trainings.

Specific suggestions given by the respondents:

The respondents were also requested to give their suggestions to make the training programme more attractive, interesting and effective.

About 55 per cent gave one or the other suggestion to improve the quality of training, while rest of them did not mention any. Some of them mentioned only one suggestion while a few mentioned as many as five suggestions. However, majority had given two suggestions. These are listed in Table 39, in descending order of their importance.

The most important suggestion is that training should be need based. It has been given by 15 DADOs out of 39.

Table 39. Specific suggestions given by the respondents for organising trainings.

	Suggestions	Mid-hill(20)		Tarai(13)		High-hill(6)		Total(39)	
		Frequency	%	Frequency	%	Frequency	%	Frequency	%
1.	Training should be need based	6	30.00	6	46.15	3	50.00	15	38.46
2.	Trainers should be well qualified	2	10.00	7	53.85	2	33.33	11	28.20
3.	Emphasis should be on practicals	2	10.00	5	38.46	1	16.66	8	20.51
4.	Provision of lodging and boarding facilities to trainees.	3	15.00	-	-	4	66.66	7	17.95
5.	Field visits in the training schedule.	2	10.00	3	23.08	1	16.66	6	15.38
6.	Proper teaching at training centre.	3	15.00	1	7.69	-	-	4	10.26
7.	The objective of training should be clear and specific.	1	5.00	2	15.38	1	16.66	4	10.26
8.	Trainees group should be homogeneous.	2	10.00	-	-	1	16.66	3	7.69
9.	Latest technical know-how should be included in training.	1	5.00	2	15.38	-	-	3	7.69
10.	Training programme should not be tight.	2	10.00	1	7.69	-	-	3	7.69
11.	Training should be on farmers' problems.	2	10.00	-	-	-	-	2	5.13
12.	A.V.Aids should be used.	-	-	-	-	2	33.33	2	5.13
13.	Continuous training by rotation should be imparted to all.	-	-	1	7.69	-	-	1	2.56
14.	Proper environment to maintain interest	-	-	1	7.69	-	-	1	2.56
15.	Ascertain knowledge level of trainees before curriculum development.	-	-	1	7.69	-	-	1	2.56
16.	Discussions on the experiences of trainees in the training.	1	5.00	-	-	-	-	1	2.56

Other important suggestions are that the trainers should be competent and emphasis should be on practical aspects.

Some suggestions like discussion on the experiences of trainees, ascertaining the knowledge level of trainees before curriculum development etc. have been pointed out by a few only, yet these seems to be very important. It is, therefore, proposed that these suggestions should also be kept in view while planning and developing training strategy.

It also highlights the scope of follow up study to know the opinion of DADOs on these suggestions.

CHAPTER - V

SUMMARY AND CONCLUSION

SUMMARY AND CONCLUSION

Training is an important means for increasing ones professional competency and, thereby, increasing his/her performance and productivity. Every organisation has a provision of training as a part of personnel development. This is also true with the Department of Agriculture, HMG Nepal. It organises trainings for District Agricultural Development Officers (DADOs) to improve their skills and productivity. There are various factors which affects the effectiveness of training. One of them, and also very important, is the training curriculum. The earlier studies conducted in the field of training management suggest that the training should be need based. It is, therefore, essential that the needs of trainees should be known to the organisers of the training to make them more effective, useful and interesting. Keeping this fact in view, the study was conducted with the following specific objectives:

1. To determine the felt training needs of DADOs in Nepal and establish the hierarchy of these needs.
2. To study the relationship between different independent variables (background factors of DADOs) and their training needs.
3. To know the relationship between their attitude towards extension work and their training needs.
4. To know their suggestions on other related aspects of training.
5. To suggest a training strategy for improving the inservice training programme of DADOs on the basis of study.

Research Methodology

The present study was conducted in Nepal. There were only 93 DADOs in all. Hence, the census approach was adopted for the study. The data were collected through mailed questionnaire which was divided into four sections. First section was on backgroumd information, second dealt on training need areas, while other related aspects of the training were dealt in the 3rd section. The last part was designed to measure the DADOs' attitude towards extension work.

Eighty DADOs returned the questionnaire, however, 9 questionnaires were incomplete and hence were excluded from the analysis.

The importance of an area/topic was measured in terms of Training Intensity Score (TIS). For this purpose, the respondents were asked to judge each topic on a 5 point continuum ranging from "Must include" to "Must exclude", having a weightage of 4 to 0, respectively. The same information was re-analysed to determine the training need of respondents individually in terms of Training Need Quotient (TNQ). It is the ratio of obtained score and maximum possible score, expressed in percentage.

A scale was developed to measure attitude with Summated Rating Technique. To find out the motives for attending training 'Paired Comparison Technique' was used.

Inter-relationship between background factors, TNQ and attitude was determined by Rank Order Correlation, Tau $_b$, Chi-square, F and 't' tests, wherever applicable.

Results

The maximum importance has been shown on the topics related to programme development, administration and managerial practices, while the least importance was assigned to technical topics and rural social system. Communication, general extension and extension methods have also been given an important place for the curriculum.

Topics like planning and launching of an agricultural programme, general training in administration, process of communication, recent planning techniques, seed multiplication technology, diffusion and adoption of innovation and operation, maintenance and handling of audio-visual aids are some important areas which had consistent rating by all the four categories of respondents (Table 4). It revealed that the most important topic on which the respondents of all the categories assigned the highest rating is "planning and launching of an agricultural programme". It can, therefore, be considered as their felt need and should not be ignored at any cost. However, the supervisors of DADOs placed the highest stress on financial management and work appraisal. It is living example of different perception about the necessity of a topic for its includion in the training programme.

The respondents were also requested to rank the eight broad areas on the basis of their importance. The correlation values in all the cases are significant showing their agreement in ranking irrespective of their region of posting.

An exercise was made to compare the ranking of general areas obtained through two different approaches i.e. on the basis of T.I.S. and ranking scores. The ranking of subject areas in three cases is almost the same as the correlation value in Tarai, High-hill and overall mean are pretty high and significant. In only one case i.e. Mid-hill the correlation was positive, but was not significant. Its practical implication is that for a quick appraisal simple ranking technique may also provide considerable reliable information.

The mean Training Need Quotient (TNQ) score for the sample is 72.26, indicating a need of training to improve their professional and administrative competency. The Mid-hill DADOs had lower training need than the DADOs of other regions, which indicates that they are comparatively better equipped in terms of professional and administrative knowledge. The respondents were classified into three classes on the basis of mean and SD, i.e. having low, medium and high TNQ. The relationship between their TNQ and back-ground factors viz. previous training, home place, parental occupation, education, service experience in Department of Agriculture and as DADO etc. was worked out with the help of chi-square, 't' test, F test and Tau $_b$ test and in no case the relationship was found significant. It can, therefore, be inferred that the background factors have no association with their training needs and they do not differ on this aspect simply due to their background factors.

The region of posting of DADOs also had no association with their expressed training need.

Attitude towards the assigned work is an important psychological aspect to have more work-efficiency and productivity of any worker. The mean attitude score of DADOs was found to be 97.11 in the possible range of 26-130, which shows that by and large the group had a favourable attitude towards extension work. This is a healthy sign and one can expect better extension work from them. The DADOs of High-hills had more favourable attitude (101.33) than the DADOs of other regions.

The analysis further revealed that the majority (70%) had the favourable attitude towards extension work, falling in the range of 81.89 to 112.33 score. About 14 per cent respondents had more favourable attitude towards extension work, while only 12 per cent had less favourable attitude suggesting a necessity of introducing some measures to boost up morale and make their attitude more favourable.

Association between DADOs' background factors viz. age, home place, education, earlier training, service experiences etc. and their expressed attitude was worked out with the help of chi-square and Tau $_b$ tests and no association was found between these dimensions. The study also revealed that there is no association between DADOs' TNQ and their attitude scores.

To know their motive for attending a training, five important reasons were presented to them with Paired Comparison Technique. The maximum scale value (1.962) was

assigned the reason 'to increase professional knowledge' it means most of them come to attend training to increase and enrich their professional knowledge. Some other reasons like 'to meet their colleagues' and 'just to obey the orders' got very low scale values, hence these are not the important reasons at all. The other two important reasons for attending training are 'to have a change from routine work' and 'to avail training tour'.

They were also asked about the nature of the training whether it should be specific one on individual topic or a general and comprehensive one. The study revealed that they were in favour of specialized training. Only about 30 per cent preferred general type of training.

Regarding the choice of instructors from foreign countries, the group was equally divided, however, having a little tilt towards unwillingness the foreign instructors. About 43 per cent of them desired that instructors from foreign countries should be invited for some selected topics.

They were also asked to tell the suitable period for conducting training. February got the maximum preference (42.25 %) followed by March (29.58 %). It suggests that training should be organised in the month of February-March. The least desired months are May, September and October.

Regarding the venue of training about 2/3rd of them desired that training should be organised at research centre. Only 37 per cent preferred the headquarter of Department of Agriculture and Regional Directorate for training.

It was also reported by most of the DADOs (80 %) that training should be of short duration i.e. 15 to 20 days.

The DADOs were also requested to give their suggestions to make the training more effective. About 55 per cent of them gave their suggestions to improve the quality of training. The most important suggestion was that the training should be need based. Other important suggestions were that the trainers should be competent and emphasis should be on practical aspects. They also desired that there should be discussion on their work experiences. It was also suggested that the present knowledge level of trainees should be ascertained before curriculum development.

CONCLUSIONS

On the basis of the study following conclusions can be drawn.

1. The most important area for training is programme development. Other important areas are administration and management, communication and extension methods.

2. The DADOs expressed their least desire for their training on technical topics like cultivation of different crops, fruits and vegetable cultivation. They also did not express any necessity of training on topics related to rural social system.

3. The study reported that there is no significant variation about the importance of topics from region to region (High-hills, Mid-hills and Tarai).

4. All the eight broad areas were also got ranked by the DADOs. On the basis of ranking scores also, 'programme development' was placed on the top.

5. Rank Order Correlation between ranking scores and TIS of the major areas was positive and significant in almost all the cases. It is, therefore, concluded, that simple ranking system of major areas may also provide a satisfactory reliable information for inclusion of training areas in the training curriculum.

6. There was a difference in the need perception of some topics among supervisors and DADOs. Topics on administration and management functions were assigned maximum importance by the supervisors. They also emphasised training on technical aspects, while DADOs felt them less important. On the other hand, supervisors ranked the communication area at the lower level, while it is one of preferred areas by DADOs.

7. The respondents have high level of training need. There is no variation in their training need desire on the basis of their region of posting. It means that DADOs of all the three regions (Mid-hills, Tarai and High-hills) had almost same level of training need.

8. The study revealed that there was no association between DADOs' background factors viz. age, parental occupation, home place, service experience in the Department of Agriculture and as DADO, education and previous training and their expressed training needs.

9. The study also revealed that the DADOs have a favourable attitude towards extension work. DADOs of High-hills had more favourable attitude towards extension work than the DADOs of other regions. Heterogeneity in respect of attitude scare was in case of DADOs of Mid-hills.region.

10. There was no association between DADOs training need and their attitude towards extension work. The assumption that the DADOs with more favourable attitude towards extension work will have more training need does not hold good.

11. There was also no association between their attitude towards extension work and training need and their background factors such as education, home place etc.

12. It was pointed out by most of them that they come to attend training to increase their professional knowledge.

13. The majority desired that training should be organised on specific topics rather than a general one.

14. Most of them preferred February for Training. March was their second choice.

RECOMMENDATIONS:

On the basis of the study, the following recommendations are made for consideration:

1. Since the DADOs have a strong need for training, the HMG should take steps to have a vigorous training programme to increase and improve their existing professional knowledge and ability.

2. Trainings should be specific and of short duration.

3. The most important areas/topics of training are:

(a) Planning and launching of an agricultural programme.

(b) Evaluation of extension programmes.

(c) Supervision techniques.

(d) Plan formulation.

(e) Controlling techniques.

(f) Preparing production plans at different levels.

(g) Current agricultural programmes, policies and projects.

(h) Development of local leaders.

(i) General training in administration.

(j) Process of communication.

4. Training should be organised at central/regional research stations.

5. Trainers should be well qualified in their areas of specialisation. Besides local instructors, some of the trainers may also be invited from foreign countries.

6. Training should be organised preferably in February. Another desirable month is March.

7. The most important motive pointed out by the DADOs for attending the training was to increase their professional knowledge and skill, and therefore, efforts should be made to make the training more purposeful.

8. Training should be organised on specific topics/areas rather than having a general one.

9. Though most of them have favourable attitudes towards extension work, yet there is a scope to further strengthen their attitude towards extension work.

10. Priority for participation in training should be given to those DADOs who have never attended any training.

AREAS FOR FUTURE RESEARCH:

Some more intensive studies can be undertaken to assess their specific training need on each minor aspect. Present study for example determined their opinion on broad categories like paddy cultivation, programme development etc. Now a separate study may be conducted in minor aspects for example in paddy cultivation their training need should be determined on specific topics like preparation of land, seed treatment, plant protection measures etc.

In the present study training needs were not associated with their performance, it suggests a necessity of another study to know the relationship betweenntheir training need and their performance in the field.

*

CHAPTER - VI

B I B L I O G R A P H Y

BIBLIOGRAPHY

Agricultural Information Section (nd) Glimpses of Nepalese Agriculture, Department of Agriculture, HMG, Nepal.

Alexander, Brawn (1979). Assessing Supervisory Training Needs and Evaluating Effectiveness. Training and Development Journal. Feb p:3.

Batten,T.R. (1963). Training for Community Development - A critical study of method: Oxford University Press, London pp. 1-50.

Bhatia,O.P. (1979). Training for Effective Participative Management. Indian J. Training and Development. Vol. IX(2):6-11.

Charyulu,U.V.N. (1980). Training for Human Resources Development. Kurukshetra Vol. XXVIII, 13:27-28.

Cook, B.D. (1958). Comparative Analysis of Training Needs of County Agricultural Agents in Texas. Ph.D.Thesis University of Wisconsin. Research in Cooperative Extension Work,April.

Dahama,O.P. and Bhatnagar,O.P. (1980). Education and Communication for Development. Oxford and IBH Publishing Co., New Delhi.

Dalal,R.S. (1979). Agricultural Development Officers' Knowledge and Attitude Towards Benor Systeme of Agricultural Extension in Haryana. M.Sc.Thesis. Haryana agric. Univ., Hissar.

Department of Food and Agricultural Marketing Services (1977). Agricultural Statistics of Nepal. His Majesty's Govt. of Nepal.

Edwards,A.L. (1957). Techniques of Attitude Scale Construction Vakils, Feffer and Simons Pvt. Ltd.,Bombay. pp:21-46.

Extension Development Around the World (1973). Federal Extension Service U.S.Department of Agriculture and Agency of International Development, U.S.State Deptt.

Feeney, Edward,J. (1980). Twelve Ideas Towards Effective Training. Training and Development Journal,Sept.pp:14-16.

Gaikwad,V.R. (1974). Training and Research Needs for Agricultural Management. Indian J. Pub. Adm. XX(1):56-72.

Ganeshan,R.; Knight,A.J. and Perumal,G. (1980). Subject matter Training Needs of Gram Sevakas. Indian J. Ext. Edu. Vol. XVI (1&2):51-54.

Goel,S.L. and Goel,B.B. (1979). Personnel Training in a Co-operative Organisation - A case study. Indian J. Pub. Admn. Vol. XXV(2):416-434.

Gupta,S.P. (1979). Training and Development of Managers. Indian J. Training and Development, Vol. IX(5):10-13.

Gupta,S.P. (1980). Statistical Methods. Sultan Chand and Sons., New Delhi.

Halim, Abdul and Islam, Serajul (1973). Attitude of the Front Line Extension Workers Towards Inservice Training Programme. Indian J. Ext. Edu. Vol. IX(1&2):108-114.

Jha, P.N. and Jani,H.N. (1977). Inservice Training Need Hierarchy of Village Level Workers in the New Strategy of Agril. Production. Indian J. Ext. Edu. Vol. XIII(1&2): 57-60.

Joshi,R.S. (1979). A critical Analysis of Inservice Training Programme of VLWs in Karnataka State (M.Sc.Thesis). Thesis Abstract Vol. 7, Haryana agric. Univ.,Hissar.

Kelsey,L.D. and Hearne,C.C . (1963). Co-operative Extension Work. New York:Comstock Publishing Associates,pp.65-95.

Kendall, Maurice,G. (1962). Rank Correlation Methods. Charles Griffin and Company Ltd. London pp:1-13.

Laharia,S.N. (1978). A Study of Personal and Organisational Variables Influencing the Productivity of Agricultural Scientists. Ph.D.Thesis, Haryana agric. Univ, Hissar.

Latif, T.A.A. (1977). Training for Management. Sterling Publishers Pvt. Ltd., New Delhi. pp.1-22.

Lawande,K.N. (1980). Identification of Training Needs and Design of Training Programmes. Indian J. Training and Development, Vol. X(1):34-37.

Leagans,J.P. (1958). Developing Professional Leadership in Extension Education. Comparative Extension Publication No.3, State College of Agriculture, Cornell University, Ithaca, New York.

Leagans,J.P. (1961). Extension in Community Development, Kamath (Ed). Directorate of Extension, Ministry of Food and Agriculture, New Delhi.

Leagans,J.P. (1964). Criteria for an Effective National Policy for Training and Extension Staff. A paper presented in the National Extension Seminar at Khartoum, Sudan held in April.

Loether,Herman,J. and McTavish, Donald,G. (1980). Descriptive and Inferential Statistics. An Introduction. Allyn and Bacon, Inc. USA.

Lynton, Rolf, P and Pareek,Udai (1973). Training For Development. D.P.Taraporevala Sons & Co. Pvt. Ltd., Bombay, pp. 1-27.

Mago,Saneh Lata (1973). Training Needs of Functional Local Women Leaders in Haryana. M.Sc.Thesis, Haryana agric. Univ. Hissar.

Mandala,M.K. (1977). Training for Effective Participative Management. Indian J. Training and Development, Vol. VIII(1):19-22.

Maunder,A.H. (1973). Agricultural Extension - A Reference Manual, FAO, Rome.

*McCornick,R.W. (1961). An Analysis of Training Needs of County Extension Agents in Ohio, Ph.D.Thesis, University of Wisconsin, Review of Extension Research, July.

Murthy, H.H. Narasimha (1978). An Investigation into Inservice Training Needs of Agricultural Assistants (M.Sc.Thesis). UAS, Bangalore - Thesis Abstract, Vol.4, Haryana agric. Univ, Hissar.

National Seminar on "Challenges of Extension in Eighties (1981). Proceedings and recommendations. Indian Society of Ext. Edu. held at New Delhi on Nov. 26-28.

*Odom,W.C.Sr. (1961). A Study of Professional Improvement Acitivities and Needs of Negro Extension Agents in Alabama; M.Sc.Thesis. University of Wisconsin, Review of Extension Research, July.

Otto,Calvin,P. and Glaser,Rollin,O. (1970). The Management of Training - A Handbook for Training and Development Personnel, Addison-Welsey Publishing Company, London. pp. 3-71.

Pareek,Udai and Rao,T.Venkateswara (1974). Hand Book of Psychological and Social Instruments. Indian Institute of Management,Ahmedabad.

Perumal,G. (1975). A study of Job Performance, Psychological Characteristics, Communication behaviour and Training Aspects of the Agril.. Extension Officers of Tamil Nadu, Ph.D.Thesis, Div. of Agril. Ext. IARI, New Delhi.

Pisharody,T.N.P. (1962). Suitability of Training of Village Level Workers in Relation to their job in Kerala State. M.Sc.Thesis, Div. Agril. Ext. IARI, New Delhi.

Price,R.E. (1961). An Analysis of Educational Needs of Arkansas Extension Agents, Ph.D.Thesis, University of Wisconsin, Review of Extension Research, July.

Rai,K.N. (1962).A Study of the Training Needs of Village Level Workers in Relation to Community Development Programme. M.Sc.Thesis, Review of Recent Research in Extension (1957-1962). Bihar agric. College, Sabour.

Ramos,F.T. (1961). An Analysis of the Inservice Training Needs Identified by the Provincial Extension Supervisors in the Philippines. M.Sc.Thesis, Cornell Univ. Ithaca, Review of Extension Research, July.

Reddy, A.A. and Reddy,K.J. (1966). Criteria for the Training Needs of Extension Officers. Indian J. Ext. Edu. 2 (1&2):59.

Richter,L.E. (1979). Integrated Rural Development: Training for Effective Implementation - Rural Extension, Education and Training Abstracts, Commonwealth Agri. Bureaux, Farnham Royal, Slough SL 23 BN UK. Vol.3

Sandhu,A.S. and Bilang,K.S. (1977). Training Needs of Agril. Extension Officers. Indian J. Ext. Edu. Vol. XIII (3&4):71-79.

Satish Chander (1975). Building System Based Training Model for the Agricultural Officers of Nationalized Bank. Ph.D. Thesis, Haryana agric. Univ.,Hissar.

Sharma,S.N. (1966). Study of Felt Training Needs of Animal Husbandry Extension Officers in Punjab. M.Sc.Thesis Punjab agric. Univ., Ludhiana.

Sharma,S.N. and Singh,Y.P. (1970). A Study of the Selected Factors Affecting the Training Needs of Animal Husbandry Extension Officers in Punjab. Indian J. Ext. Edu.Vol. VI(1&2):24-33.

Siegel,Sidney (1956). Non Parametric Statistics for the Behavioural Sciences. International Student Edition, McGraw Hill, Kogakusha Ltd. pp.68-75 and 175-179.

Singh,A.P. and Singh,B.N. (1966-67). How, Where and When of Agril. Extension Officers' Inservice Training - The Journal of Bihar agri. College, Sabour: Vol.16, pp.27-28.

Singh,A.P. (1970). An Analysis of Training Needs of Agril. Extension Officers working in IADP Blocks of Bihar. Ph.D. Thesis. Div. of Agril. Ext., IARI, New Delhi.

Singh,B.N. and Singh,A.P. (1966). Inservice Training Needs of Agril. Ext. Officers. Indian J. Ext. Edu. Vol.2 (3&4):17-21.

Singh,K.M.P. (1980). A Study of Training Needs of Block Development Officers for Effective Agril. Management in Tribal Areas of Bihar. Ph.D.Thesis, Div. of Agril. Ext., IARI, New Delhi.

Sinha,P.R.R. and Gill,S.S.(1967). Training Needs of VLWs with Special Reference to Agril. Subjects. Indian J. Ext. Edu. Vol. III(3&4):82-89.

Snedecor, George,W. and Cochran, William,G. (1976). Statistical Methods (Sixth edition). Oxford & IBH Publishing Co.,New Delhi.

Talukdar,R.K. (1976). Farmers' Perception of the Utility of Farm Broadcasts from All India Radio, Gauhati. M.Sc.Thesis, Punjab agric. Univ., Ludhiana.

Vende Berg, G.L. (1956). Professional Improvement for Extension Workers in Wisconsin, Summary of M.S.Essay, Cornell University: Review of Extension Research,May.

Vernekar,V.Y. (1980). A Study on the Analysis of Inservice Training Needs of Gramsevikas of North Karnataka. M.Sc.Thesis, Thesis Abstract Vol. 6, Haryana agric. Univ., Hissar.

Williams,S.K.T. (1971). Training of Agril. Extension Officers.in Nigeria - Indian J.Ext. Edu. Vol.VII(1&2): 42-48.

*Original not seen.

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APPENDICES

Training Needs of DADOs : An Empirical Study

Part I

1. Your date of birth : _____

2. Your marital status : (Check)

   Bachelor _____, Married _____ Widower _____

3. Your father's/guardian's occupation:_____

4. Your home place : Village_____, Town_____, City_____

5. Your early edudation upto SLC or equivalent:

   In a village school for_____year(s)

   of/and

   In a city school for_____year(s).

6. Academic qualification:

Educational level	Name of Degree/ Certificate	Major subjects	University/ Board	Year of completion
Matric				
Intermediate				
Graduation				
Post-Graduation				

7. Total service experience_____years.

8. Service experiences in the Department of Agriculture _____years.

9. Experience on the present post of DADO_____years.

10. Name of the district where you are working presently_ _____.

11. Details of training (s) attended by you:

Sr. No.	Training Title	Institution	Duration	Year
1.				
2.				
3.				
4.				
5.				

12. Would you like to undergo any professional training ?

Yes_____/ No_____

If no, why? (Please mention at least 3 important reasons)

i)

ii)

iii)

PART II

Supposing you have to attend a refresher training course in which the following major topics may be covered for the professional development of DADOs. Please give your opinion on the basis of your need whether a topic should be included or excluded from the training program. Please express your opinion by placing a check mark (✓) against each topic in one of the five columns provided.

TOPICS	FOR TRAINING				
	Must include	Should include	May include	Exclude	Must exclude
A. General Extension					
1. Origin, Development & scope of extension.					
2. Principles, philosophy and objectives.					
3. Extension systems in some other countries viz. Japan, USA, Israel India, China etc.					
B. Communication					
1. Process of Communication.					
2. Mass media(Radio etc)					
3. Agril.Journalism (news items,pamphlets writing for news).					
4. Operation, maintenance & handling of audio-visual aids. Projected/Non-projected					
5. Preparation of simple audio-visual aids.					
6. Diffusion & adoption of innovations.					
7. Theory & practices of public opinion and propaganda.					

TOPICS	FOR TRAINING				
	Must include	Should include	May include	Exclude	Must exclude
C. Programme Development					
1. Planning & launching of a program.					
2. Current agril. program policies & projects viz. IRDP, T&V, SFDP etc.					
3. Recent planning techniques such as IQ, PERT, systems analysis					
4. Preparation of production plans at different levels.					
5. Evaluation of Ext. Programs.					
6. Planning, organising & supervising rural youth programs.					
7. Development of local leaders.					
D. Extension Methods Theory & Methods of Conducting:					
1. Result demonstration					
2. Method demonstration					
3. Farm & home visits					
4. Exhibition					
5. Crop-competition					
6. Package program/ campaign.					
7. Farmers' training					
8. Organizing training for extension workers					
9. Farmers' field day					

TOPICS	FOR TRAINING				
	Must include	Should include	May include	Exclude	Must exclude
E. Administration, Management and accounts:					
1. Supervision techniques					
2. Controlling techniques					
3. Interpersonal relations					
4. Written communication					
5. Financial management					
6. Store maintenance & supervision.					
7. Resolving inter-personal conflicts.					
8. Management of rewards and punishments.					
9. Plan formulation					
10. Budgeting					
11. Work-appraisal					
12. Leadership techniques					
13. Public relations					
14. General training in administration(rules & regulations).					
F. Rural Social System					
1. Knowledge of local caste-system.					
2. Social values-customs traditions & culture					

TOPICS	FOR TRAINING				
	Must include	Should include	May include	Exclude	Must exclude
3. Rural leadership pattern.					
4. Organising & functioning of co-operative.					
G. Technical Topics: Latest developments & technical knowhow on the cultivation of:					
(a) Crops:					
1. Paddy					
2. Wheat					
3. Maize					
4. Millets					
5. Sugarcane					
6. Jute					
7. Tobacco					
8. Pulse crops					
9. Soyabean					
10. Mustard/Sarson					
(b) Fruits:					
1. Apple					
2. Other temperate fruits					

TOPICS	FOR TRAINING				
	Must include	Should include	May include	Exclude	Must exclude
3. Citrus fruits					
4. Mango					
5. Litchi					
6. Banana					
7. Pine-apple					
(c) Vegetables:					
1. Potato					
2. Onion					
3. Cauliflower & Cabbage					
4. Chillies					
H. Miscellaneous training areas:					
1. Handling & maintenance of plant protection equipments.					
2. Post harvest technology					
3. Marketing of agricultural produce.					
4. Fruit & vegetable preservation.					
5. Seed multiplication technology.					

TOPICS	FOR TRAINING				
	Must include	Should include	May include	Exclude	Must exclude
I. Any other: (Please mention & check(✓) in the appropriate column against that)					
1.					
2.					
3.					
4.					

PART III

PLEASE FEEL FREE TO EXPRESS YOUR FEELINGS

1. Nature of the training:

   (A) Whether it should be only one comprehensive covering all the aspects.

   OR

   (B) Separately on different (individual) aspects,

   please check [A] OR [B]

2. What is an ideal duration for training _____ days.?

3. What are the ideal month(s) for organising the training?

4. Given below the broad ideas for training. Please rank them in order of their importance to you as I, II, III and so on, and also mention of time to be devoted in each area.

Sr. No.	Main area	Importance, rank	% of time to be devoted in training.
A.	General Extension		
B.	Communication		
C.	Program Development		
D.	Extension methods		
E.	Administration, Management and accounts.		
F.	Rural social system		
G.	Technical topics		
H.	Miscellaneous training areas.		

5. Given below are the 4 possible venues for organising trainings. Please mention your preference by writing I, II, III & IV.

i) At Central Research Centre._____.
ii) At Department of Agriculture_____.
iii) At Regional Research Farm_____.
iv) At Regional Directorate_____.

6. Should we invite instructions from outside the country for training?

Yes _____OR No_____

If yes, please mention the topic/area/field and the country/university/institution where from you propose to invite instructors.

Sr. No.	Topic/Area	Name of the University institution(If you suggest)	Name of the Country
1.			
2.			

7. Please mention other specific suggestions, which the organiser should keep in the mind while organising sugh trainings:

i)

ii)

iii)

8. DADOs come to training for various reasons. Some reasons have been arranged in the following ten pairs. Please check(✓) one reason from EVERY PAIR which you think is more appropriate reason for an officer to come for the refresher course. (You can check the same reason more than once if you like, because reason repeats).

1. ( ) To have a change from routine work.
   ( ) To avail training tour.

2. ( ) To increase professional knowledge.
   ( ) To meet their colleagues.

3. ( ) Just to obey the orders.
   ( ) To have a change from routine work.

4. ( ) To avail training tour.
   ( ) To increase professional knowledge.

5. ( ) To meet their colleagues.
   ( ) Just to obey the orders.

6. ( ) To increase professional knowledge.
   ( ) To have a change from routine work.

7. ( ) To meet their colleagues.
   ( ) To avail training tour.

8. ( ) Just to obey the orders.
   ( ) To increase professional knowledge.

9. ( ) To have a change from routine work.
   ( ) To meet their colleagues.

10. ( ) To avail training tour.
    ( ) Just to obey the orders.

Kindly make sure that every pair has been checked and has only one check (✓) mark.

PART IV

Written below are some statements. Please express your opinion/feeling by placing a tick mark (✓) against each statement in one of the five columns provided. Nothing is right or wrong. We are concerned with your feeling only. Be sure, your reply would be kept strictly CONFIDENTIAL. Hence, kindly feel free to express your opinion.

STATEMENT	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
1. Extension work is very frustrating.					
2. There is no sense to be in extension. The sooner I get out of extension, the better it is.					
3. Extension is an ideal job, in comparison to those requiring the same level of ability in research and teaching.					
4. I get more personal satisfaction from extension work than anything else that I could have done.					
5. I would recommend extension career to my all the friends.					
6. Honestly speaking, I abhor extension job.					
7. Extension work is like service to God.					
8. Extension work is the need of the hour.					
9. The government should make some extension work compulsory for every district level officer.					

STATEMENT	Strongly agree	Agree	Neither agree nor disagree.	Disagree	Strongly Disagree
10. I am trapped in extension profession.					
11. The future of the nation lies only in extension work.					
12. If I have to live my life again, I would still remain in extension job.					
13. Extension Officers are considered second class citizen.					
14. I am not really interested in extension as a career.					
15. I do not enjoy being in extension and feel no loyalty to the profession.					
16. An extension officer has high social prestige.					
17. AS DADO, I don't get due recognition and respect from other district level officers.					
18. Even if I am given a promotion in teaching or research, I would prefer DADO's post/Extension job.					
19. I really enjoy meeting farmers and doing extension work.					
20. Extension work is not rewarding.					
21. Extension work is nothing more than clerical work.					

STATEMENT	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
22. I have poor status in the eyes of my relatives only because that I am working as a DADO.					
23. The Government should at least double the budget for extension work.					
24. I would never advise to any one for extension job.					
25. Money spent in extension work is sheer wastage of funds.					
26. I am proud of my job and post of DADO.					

KINDLY SEE ONCE AGAIN THAT NO QUESTION REMAINS UNANSWERED.

THANKS !

APPENDIX II

DEPARTMENT OF EXTENSION EDUCATION
HARYANA AGRIL. UNIVERSITY
H I S S A R (HARYANA)

liva Sundar Shrestha,
Sc(Final)

Dated:

Dear friend,

I think you might be aware that I have taken admission here in M.Sc.(Extn.Education). Due to an inner urge to increase our efficiency and productivity by improving our knowledge and skill, I have planned to work on "Training needs of DADO's". I believe its findings will help each one of us as well as the Organisation. To secure valuable suggestions, opinion and recommendations, a questionnaire was developed, which has already been sent to you a few days back through the Chairman (Dr.S.N.Laharia), of my Advisory Committee. I hope, you might have received it.

I request you kindly to return the questionnaire after answering all the questions and filling in all the columns as early as possible. Your free, frank and sagacious suggestions will be of immense value to us.for this study. I assure you that the information given by you would be kept strictly confidential and would be used only for study purpose.

Your early reply will help me in completing the programme in time. I again, therefore, earnestly request you to please oblige me by returning the questionnaire at an early date.

With best regards,

Yours sincerely,

(S.S.Shrestha)

P.S

Please return the questionnaire on the following address:

Dr.S.N.Laharia,
Assoc.Professor,
Department of Extn.Education,
Haryana Agril.University,
Hissar,Haryana (INDIA)-125004