

PART I

CONCEPT AND TYPES OF EDUCATION

CHAPTER 1

CONCEPT AND TYPES OF EDUCATION

The general notion of education a few thousand years ago was that of someone assigning lessons to a group of young people and punishing them for their mistakes. But now with the introduction of several communication media in transferring the sophisticated knowledge into simple and understandable form and with substantial changes in the educational norms as well as the norms of the teachers, the system of education is moving towards a speedy evolution.

WHAT IS EDUCATION ?

Education is the process of bringing desirable change into the behaviour of human beings. It can also be defined as the process of imparting or acquiring knowledge and habits through instruction or study. When learning is progressing towards goals that have been established in accordance with a philosophy which has been defined for, and is understood by the learner, it is called 'Education'.

If education is to be effective it should result in changes in all the behavioural components (Fig. 1.1).

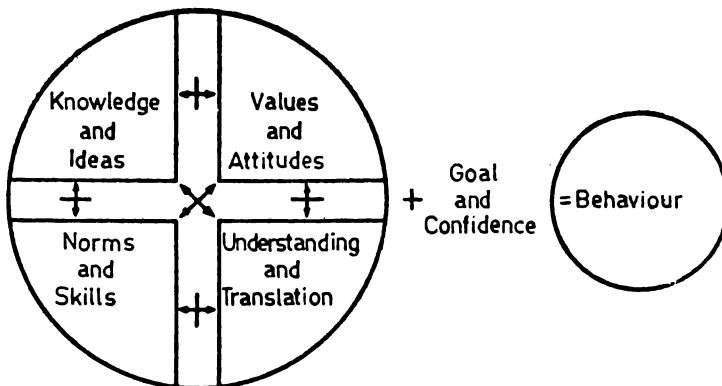


Fig. 1.1. Behavioural components

The behavioural changes must be directed towards a desirable end. They should be acceptable socially, culturally and economically, and result in a change in knowledge, skill, attitude and understanding. Thus, in education, the greatest emphasis should be placed on the behavioural component of an individual.

Behaviour

The behaviour of an individual, in a broad sense, refers to anything the individual does. This is goal-oriented, it includes the goals one selects and the means one chooses to achieve these goals and, as such, it is action-oriented.

Parsons and Shils (1965) proposed a theory of action which could serve as a conceptual model for the analysis of human behaviour. They say that:

(i) Behaviour is oriented to the attainment of ends or goals or other anticipated state of affairs;

(ii) It takes place in a situation;

(iii) It is normatively regulated; and

(iv) It involves expenditure of energy or effort or motivation.

According to Leagans (1961), behaviour refers to what an individual knows (knowledge), what he can do (skills—mental and physical), what he thinks (attitudes) and what he actually does (action).

Behaviour is, therefore, a function of the person in interaction with the situation. The factors motivating behaviour either in the person or situation, are:

(i) An environmental determinant;

(ii) The internal urge, wish, feeling, emotion, drive, instinct, need, want, desire, demand, purpose, interest, aspiration or motive which gives rise to the action; and

(iii) The incentive or goal which attracts or repels an organism.

When the relationship between environmental and behavioural components are not identifiable, some hypothetically intervening variable is postulated to account for the behaviour. Thus, individual variations do exist in the learner's behaviour. His behaviour is extremely difficult to predict.

In the experimental analysis of human behaviour, three fundamental problems arise:

(1) Determining the significant factors which influence the behaviour under investigation;

(2) Determining how these factors determine the behaviour; and

(3) Deciding the ways in which these factors react.

In order to bring about an all-round development in the personality of a student, a trainee or learner, a farmer, or a homemaker, etc., the teacher, or extension worker must devote attention to change in knowledge, skills, attitudes, beliefs, etc. Merely increasing knowledge or perfecting skills will not make a man educated.

THE NEED OF EDUCATION

As society develops, it becomes imperative that the cumulative experience and the knowledge necessary for political, economic, social and other development should be passed on to new generations, or to the people who need this knowledge. The accepted customs, norms, values, skills, which are required to be preserved need to

be passed on to successive generations. It is the need for education that gradually gave rise to a philosophy of education.

Education as a learning experience has several facets. Before these facets are examined, the basic proposition that education is a learning experience needs some examination. Education comprises instruction, teaching, information gathering, knowledge gathering and transmittance, study and reflection, discussion, demonstration and the formulation of pilot programmes. What is common to these several forms of education in which one individual confronts another or several others, or in which an individual is placed face to face with a book, film, museum or experiment, is that they are means of acquiring knowledge and/or information. In these various forms, it is possible to distinguish between the bits and pieces of knowledge and information acquired, and the process of acquiring them. The former is intellectual baggage and the latter is what is termed the learning process.

Learning has several objectives. At the highest and most idealistic plane, learning entails becoming a whole and complete man, physically, mentally and spiritually; learning how to create a pathway to knowledge which continues to evolve throughout the course of one's life is yet another grand objective. Defending oneself against exploitation by the dominant classes, understanding the conflicts in and between societies and the utilising of collective action by those who are powerless and hungry are the other facets of the new education.

Learning also has a more specific, and relevant objective, namely, **To Do, By Doing, and For Doing**. Learning To Do refers to two interrelated activities, learning and doing. They comprise: (a) the formation of new ideas or new combinations of existing ideas, which we call learning; and (b) purposeful activity, leading from one overriding purpose to another, which may be called doing. These activities are interrelated for the union of learning with doing results in the socialisation of the ideas and the purposes of the activity. Learning To Do, unlike learning *per se* cannot be self-centred, and, unlike doing along, cannot be wasteful or self-serving.

Learning To Do permeates all forms and types of education. In adult education as well as in all out-of-school and out-of-college education, the work situation through which learning is acquired is there at hand.

The main task is to design the curriculum around the concepts and resultant skills that conform to the various forms of work. This is a hard exercise because it is innovative, individual and informal. It is innovative because there are no prior models that can be copied or adopted. It is individual because the learning programme for each new case will be different from the others. It is informal because it does not have the pomp and paraphernalia surrounding formal degrees and diplomas and their false promises of attractive employment and rewarding remuneration.

TYPES OF EDUCATION

With the development of society, education has taken many shapes, such as: (a) Child Education, (b) Adult Education, (c) Technical Education, (d) Education in the Humanities and Social Sciences, (e) Education in the Arts and Crafts, (f) Health Education, (g) Physical Education, and several others. The other broad classification

of education could be: (1) Formal Education, (2) Non-formal Education, and (3) Extension Education, which will be discussed in succeeding parts of the book.

Formal education

Formal Education is basically an institutional activity, uniform and subject-oriented, full-time, sequential, hierarchically structured, leading to certificates, degrees and diplomas.

Non-formal

Non-formal Education, is *not formal*, which means:

It is flexible.

It is life, environment and learner-oriented.

It is diversified in content and method.

It is non-authoritarian.

It is built on learner-participation.

It mobilises local resources.

It enriches human and environmental potential.

Extension education

This new term Extension Education combines both adult education and informal education. It is concerned with educating adults, i.e., farmers or homemakers, not in the letters and alphabet, grammar or language, but in the techniques of raising better crops, better animals, better fruit trees, managing the home in a more efficient way, rearing children scientifically, taking care of the nutrition of the family, etc.

The areas of our concern can be defined thus:

(a) Agricultural Extension—extending knowledge to the agriculturists;

(b) Veterinary and Animal Husbandry Extension—extending knowledge about breeding, managing, feeding and care of animals, and birds, etc;

(c) Agricultural Engineering Extension—extending knowledge about agricultural machinery such as tractors and pumps, the levelling of land, water use, soil conservation, etc;

(d) Home Science Extension—extending technical knowledge to farm wives, or ladies in urban and rural areas on food, child care, home decoration, kitchen gardening;

(e) Industry Extension—extending knowledge on the managing and running of industries.

Similarly it can be sanitation and health extension, or any area which seeks to extend technical and scientific knowledge to a client system or the audience or the people who are to be educated along the lines of the innovations developed in the respective technological disciplines.

CHAPTER 2

NON-FORMAL EDUCATION

Mere reliance on Formal Education cannot cover all the educational needs in India, and it is disproportionate both to the growing quantitative requirements and to the increasing demands for greater relevance of education. Therefore, the Central Advisory Board of Education endorsed this proposal and made the following recommendations:

(1) The exclusive emphasis on the formal system of education should be given up and a large element of Non-formal education should be introduced within the system. Multiple-entry and programmes of part-time education have to be adopted in a big way. At the secondary and university stages, part-time and correspondence education should be developed and all encouragement given for programmes of self-study.

(2) Programmes of adult education are of great significance for the success of the programme of universalisation of elementary education, as well as for securing the intelligent participation of the people in all programmes of National Development. They should, therefore, be developed on a priority basis. In particular, the Board recommends that the Functional Literacy Programme which represents the single largest on-going effort of intensive Non-formal Education linked to a developmental activity, should be strengthened and expanded; and that similar functional literacy programmes should be developed in relation to other developmental schemes appropriate to rural and urban situations. The Board further recommends that adult education programmes should form an in-built part of every developmental activity whether in the rural or urban, public or private sector, and that every Central and State Ministry/Department should make appropriate provision in the respective schemes.

(3) Adequate financial allocations should be made in the State Plans for non-formal education for the age group 15-25 on the basis of well-defined norms set up by the State Governments (Broad guidelines on the subject may be given by the Government of India).

(4) The programme should be flexible, diversified and functionally related to the needs and interests of youth and should equip them for participation in developmental activities.

(5) During the year 1974-75, all efforts were made to begin the programme in.

(a) one district in each State with Central assistance, and (b) at least one additional district with State funds.

(6) By the end of the Fifth Plan efforts were made to cover at least six to seven million illiterates in this age group.

For whom is it intended?

Non-formal education is intended for all age groups and sections of society—children, youth and adults; working men and women; the unemployed and those with leisure; the illiterate, semi-literate, literate or educated; urban or rural people. This means that all categories of people if and when they need, if and when they want—should be in a position to have access to non-formal opportunities for learning. Those who are in formal education or who have benefited from it, may also need non-formal education for personal fulfilment, professional growth, or deeper understanding.

For whom first?

First priority is now being given to those who have been neglected for a long time, the group of out-of-school youth for whom practically no learning facilities are available, but whose potential for the country's development is most precious and vital.

The emphasis in the Fifth Five Year Plan, therefore, is on providing non-formal education opportunities to youth in the 15-25 age group. Of the 90 million youth in this age-span, nearly 50 million are illiterate and another 20 million are semi-literate; a large proportion of them live in rural areas under deprived and under-privileged circumstances.

This programme is now being started in one district of each of the 24 States/Union Territories with Central Government funds. State Governments are also starting the same kind of programme in one or more districts with their own funds.

Where, when, how and for how long?

Non-formal Education Programmes can be organised wherever it is most convenient to learners.

The classes could be held whenever possible—in the mornings, afternoons, late evenings or on holidays. The courses could be continuous, extending over a long period with a shorter duration each day, or for a shorter term with longer hours each day, or as a recurrent course spread out over two or three summers or at convenient intervals. The exact timings and the length of the classes should be governed by the environmental conditions as well as the learners' work and occupational schedule, also important is the interest, need and will of the learners. The duration of classes may be prolonged or cut short as required.

What is its content?

By its very nature, the content of the Non-formal Education Programme is related to the specific social, cultural, economic and environmental needs of each learner group.

This means that the curriculum is flexible, diversified and responsive to contem-

porary national problems, current community issues and prevailing learner concerns. In any case, it should present a fair balance of major national, community and individual goals and interests.

As it is inter-disciplinary and since it is made up of several elements according to the environmental and learner requirements, no person can handle the programme single-handed. The programme, therefore, envisages the mobilisation of resources and persons drawn from various disciplines, as well as the use of multi-media. Instructors would include employed and unemployed educated youth, skilled workers and technicians, educated and progressive farmers, social workers, retired persons, educated housewives, university, college and school teachers and students, personnel from teacher training colleges, craftsmen and artisans.

What are the learning processes?

Learning in a Non-formal Education Programme takes place through:

- Democratic discussion and dialogue
 - Critical analyses of factors in the environment
 - Self-analysis and reflection leading to understanding
 - Autonomous selection of information and cognizance
 - Acquiring of new communication potential such as reading, writing and calculating capabilities
 - Action programmes and community activities
 - Training in practical skills
 - Sharing experiences
 - Relating education to life, social and work experiences.
- In short, it should be an exciting, revealing and profitable experience. Non-formal education should not be:
- Authoritarian and imposed
 - Abstract and theoretical
 - Mechanical and routine
 - Unrelated to the concerns and interests of learners.

Where does it lead to?

Non-formal education processes and programmes should, in the long run, lead to:
Creating an awareness, in individuals and society, of the prevailing environmental situations and the need for and direction of change.

Cultivating a rational, objective and scientific temper.

Enriching human potential and thereby increasing community resources, and promoting individual and group creativity.

Increasing the functional relevance of learning both to the learners and to the community.

Achieving a greater degree of individual, social, cultural and economic development through democratic action and active participation.

Building a learning environment in which every individual shall have equal opportunity for continuing self-learning.

A better sharing of opportunities and social wealth and particularly, a more equitable and just distribution of knowledge among various sections of society.

Who can help?

The answer to this is that everyone can help.

Legislators *by* political action;

Administrators *by* planning and implementation;

Developmental agencies *by* integrating education with development;

Industry and business *by* offering physical and material facilities;

Professional bodies *by* exploration of new methodologies;

Institutions for formal education *by* opening their doors to the non-formal education of the community;

Mass media *by* giving motivational and follow-up support;

Educated men and women *by* donating their time and labour;

Teachers and students *by* teaching, mobilising resources, organising classes, guiding and assisting the learners; and

Educational institutions and specialists *by* preparing teaching/learning materials.

MAIN SCHEMES OF NON-FORMAL EDUCATION

The Fifth Five Year Plan's educational strategy was built on the assumption that formal and non-formal education should be correlated and integrated. Since in a country like India with its enormous educational needs, formal education through full-time and institutional education alone cannot be sufficient for the achievement of major educational objectives. However, non-formal education should not follow the same pattern and methods as the formal systems but should adopt new flexibility and adaptations to real learning needs. It must be developed for all categories of learners and at all levels of education. The main emphasis will be laid on the following programmes:

- (1) Non-formal education for non-school going children in the age group 6-14;
- (2) Non-formal education for youth in the 15-25 age group;
- (3) Functional literacy linked with development schemes.

(1) Non-formal education for Non-school-going children in the age group 6-14*Part-time programme and multiple point entry*

The universalisation of primary education is certainly one of the major, if not the major, national goals in the whole educational sphere.

Indian primary education, both for the 6-11 and for the 11-14 age groups, has its bright sides and shadows:

(a) Although the enrolment in elementary education rose between 1950 and 1973, from 22.3 million to 78.8 million, there are many millions of children still to be enrolled in primary schools;

(b) Although a very large percentage of children start elementary education, a considerable number of drop-outs, even at a rather early stage, is decreasing the positive effects of primary schooling; and

(c) Although the network of primary schools has practically covered all areas,

there are millions of children who for various reasons (mainly socio-economic, but educational as well) are missing elementary education.

In spite of the availability many children are not enrolled in primary schools for reasons like the necessity to work (numerous children are not only working at home or on the family farm, but are also employed in handicrafts, industries, shops etc.) or (particularly in the case of girls) the need to take care of younger children in poverty-stricken families.

Many other children are not enrolled or leave school at an early stage because there are prejudices against formal schooling. Many pupils, as well as their parents, have the feeling that the existing curriculum is neither relevant to their needs, nor suitable to their interests, and, in addition, the ways of formal education are often unattractive and even loathsome to them. Parents, particularly in families where the children are the first generation of learners, often cannot perform their educational and motivational roles.

Therefore, universalisation of primary education necessitates economic measures, social promotion, improvement of the existing school education, parents' education and the search for new educational alternatives in order to attract non-school-goers and early school-leavers. Here we are concerned only with the last aspect.

Basic objectives

The basic objective is to offer elementary education to children who cannot afford it under existing circumstances and modalities, particularly through: (1) Part-time instruction for children who cannot follow full-time programmes; (2) The possibility of multiple entry into primary schools at later stages (at the age of 9, 11 or even 14); (3) Remedial programmes for so-called drop-outs. There are already interesting experiences in this respect ("Three-hour Schools", or evening classes for "Working Children", or schools functioning as "Community Centres", etc.) which should be studied, popularised and utilised on a large scale.

Beneficiaries

Different categories of children and youngsters may benefit from these different programmes and facilities:

- (a) Children in the age group 6-11 who are not in a position to follow full-time, regular primary school instruction;
- (b) Children in the age group 6-11 who have left primary education after a few years of schooling;
- (c) Illiterate children in the age group 11-14, who have not had the chance to be enrolled in the primary schools, or have left them after one or two years only; and
- (d) Literate children in the age group 11-14 who for various reasons, after having completed class V, are not continuing their education through the formal system.

The educational needs of these children may vary. Some may be interested in returning to educational institutions and continuing their regular education, others may be more inclined towards receiving some basic additional knowledge and know-how, as well as acquiring a broad understanding of different aspects of work life so as to prepare for it. Various methods of non-formal education for children in these

age groups should be devised, so as to meet the educational needs of all these categories.

Programmes

The programme for the beneficiaries in the 6-14 age group cannot be uniform as there is diversification of interest and concern in the group. They should be adapted both to the different children's groups and to the varying environments. There are, in reality, two main categories of programmes:

(1) Part-time primary education, meant to enable out-of-school children to join the main stream of formal education. These programmes will practically follow the same curriculum as in regular schools, with a shorter duration due to the children's age, maturity and experiences; and

(2) Non-formal education, meant to cover the various educational needs of non-school going children or "drop-outs". These programmes will need to be differentiated, based on conditions prevailing in various environments and oriented to help children improve their work, earnings, health, family life, understanding of the natural and social surroundings, etc. These programmes should be of various durations, using different learning and instructional materials and methods.

Instructional materials

A portion of the learning and teaching materials can be the usual textbooks and other aids utilised in formal primary education. But, the need will gradually arise for new types of didactic materials as the content of learning for this age group has to be enlarged and made more practical, and also adapted more to the psychological and mental traits of working children, drop-outs, etc.

Agencies

Community support will come through the provision of learning facilities as well as through the adaptation of the programme to community needs. The agencies will be the same as for formal education: primary and middle schools, primary school teachers and existing supervisory machinery at the State and District levels.

(2) Non-formal education programme for young people in the age group 15-25

This scheme is of paramount importance and had a priority role in the Fifth Five Year Plan period. Its implementation should be the joint effort of the Central Government, State Governments and voluntary organisations.

The problem

The largest portion of the youth in the 15-25 age group which is illiterate or semi-literate have either not got involved in the primary schools at all, or have left primary school at an early stage. The members of this group play a very important role in society. They are often engaged in economically productive occupations and not only render socially useful services, but are involved in many community activities as well. Most young people get married and make a home and start a family in this

age span and they are thus in the most dynamic stage, imbibed with both the potential and the thirst for learning.

Past experience has shown that a programme which is based purely on, and limited to, literacy does not attract and hold the attention of the illiterate. Past experience has also shown that, particularly in rural areas, out-of-school educational activities should not be developed in isolation, but in close correlation with family and community life, as well as with various development programmes. It is, therefore, essential to relate the educational content to the needs, interests and environment of the persons for whom it is intended to make it as functionally relevant as possible and also to link such a programme to the other social and economic inputs in a rural or urban community. It should form the "Educational Component" in schemes such as food production, water supply, agrarian reform, resettlements, employment programmes, generation of self-employment, family planning, small scale industry, sanitation, various minimum needs programmes, etc. This will be a departure from the previous literacy courses, in the sense that it will be a composite programme of non-formal education, including literacy.

Motivation and encouragement

Motivation should be intrinsic, based on the internal and practical needs of young people. This is why: (a) programmes should be diversified, in order to correspond, as much as possible, to the different environments, interests and needs of various categories of boys and girls; (b) starting from a general framework and proto-type learning material, adaptation of the curriculum should be founded on a survey of each environment.

This type of non-formal educational programme needs a lot of encouragement, both before (political and moral support, psychological preparation, etc.), and during the implementation of the programme (use of attractive methods, cultural and outdoor activities, excursions, etc.). The learners involved in non-formal educational programmes should get some priority treatment such as employment, job promotion, credit facilities, fertiliser distribution, new seed varieties, etc.

There is another type of motivation which is certainly advisable. This is the opportunity to be provided to non-formal learners (the best of them) to gain admission (on the basis of a test or other examination) to formal education or higher types of vocational, professional, non-formal, training facilities. For the time being, in the Indian system, the interlink between the formal and non-formal is practically non-existent and at best marginal. A lot of improvement and innovation has to be done in this respect.

Agencies

In the implementation of this programme there is a role for a variety of institutions and agencies—schools, vocational institutions of all categories, Nehru Yuvak Kendras, Youth Clubs, Agricultural Training Centres, Industrial Training Institutes, Institutions for Health Education, Family Planning Centres, various voluntary organisations, Village Literacy Centres, Farmers' Functional Literacy Project Centres, local skill training facilities, social service schemes, libraries, local non-governmental schemes for rural

development or social welfare, and many other “potential” institutions and individuals whose contribution to such a vast and multifaceted programme is essential.

Contents

It is evident that the content of the programme has to be complex:

- (a) It has enabled the participants to get the basic understanding of the social and environmental structure around them, based on an elementary scientific knowledge and mode of thinking;
- (b) It must encourage a positive set of attitudes towards themselves, their fellow-men, and their society;
- (c) Equally, it should enable them to participate in the local economy through employment or self-employment, and also improve their way of living; and
- (d) Finally, it has to equip them mentally and functionally to raise a family and run a household.

The emphasis of the learning-teaching process is not so much on accumulation of knowledge or skills, but more on aptitudes and attitudes for problem-solving, and for active participation in the surrounding environment.

Curriculum

The curriculum will contain:

- (a) Information and knowledge about the living environment and the development process in the country;
- (b) Basic knowledge for understanding various social, economic, scientific and technological changes in the midst of which the youth has to live and work, and to which he has to adjust in terms of knowledge and skill, in order to play a fully contributory role;
- (c) Elementary principles of health and hygiene, child care and nutrition;
- (d) Basic skills in reading writing and arithmetic, correlated with attitudinal changes and aptitudinal promotion; and
- (e) Introductory occupational/vocational skill programmes to prepare him for employment and self-employment.

The learner should be brought up to a level where a habit of continuing education or self-education could start.

Methods

The basic principles for methods used in the scheme are:

- (a) That the educational process should be a dialogue about problems stemming from life;
- (b) That the methods should be active, in order to involve the learner as a true participant;
- (c) That such methods should be attractive to young people;
- (d) That the methods should be based on facilities existing predominantly in the local environment; and
- (e) That in communicating the programme, the method should be largely audio-visual media based.

Types of programmes—extensive vs. intensive

With as large a target as six million to be reached in a period of five years, it is essential to mount a programme on as wide a base as possible, covering all the districts in the country. Although this means an extensive effort and coverage, the programme is more of an intensive nature, from the standpoint of its educational objectives, its broad curriculum and the methods to be used.

Incentives to student volunteers

Student volunteers who participate in the non-formal education programme could be awarded certificates of honour on the successful completion of their assignments. A certificate required to be provided by the village school headmaster to the effect that during the given period, the student volunteer appointed for the purpose has discharged his functions and imparted the non-formal education programme to the given number of students.

Follow-up

Follow-up is very important for the continued success of the programme of non-formal education. The responsibility in regard to the follow-up action may be taken up by the local school, or through a mobile library service, or through other available agencies. An intensive programme may be launched with the assistance of the local school teacher, who may be given a suitable honorarium for the purpose. An adequate follow-up programme will have to be devised and tested. It should include the production of literature, local journals, discussion forums, various community activities, etc., in order to maintain the literacy skill reached and to prevent relapse into illiteracy. This follow-up action will apply to all the three patterns.

(3) Functional Literacy Programme linked with Development Schemes

The Farmers' Functional Literacy Programme is the biggest on-going country-wide programme of out-of-school adult education. It is in reality a complex non-formal education system at its initial stage. Its implementation is the responsibility of the Central Government, and the scheme is classified as a Central Sector Programme.

The problem

There are many development schemes and projects in the country whose efficient implementation is hampered by the low level of educational attainments. This is particularly true of the enormous scheme of High Yield Crop Varieties, since the modernisation of agricultural practices has to be accompanied and supported by a programme of man-power development.

The farmers' training and functional literacy programme, an inter-ministerial project implemented jointly by the Ministries of Agriculture, Education, and Information and Broadcasting, is an attempt to get a qualified answer to this fundamental challenge. The basic idea behind the project is that there is a direct correlation between the physical and human ingredients in agriculture, between agricultural inputs and the upgrading of human resources. In other words, this is an integrated approach to a comprehensive rural development programme, to the "Green Revolution". The

main goal of the scheme is to support and strengthen one of the basic national objectives; self-sufficiency in food, increase in crop production and growth of agricultural productivity. It is an attempt, and the first one on such a scale, to place educational activities in direct relation to one of the major development purposes.

The functional literacy component was not only viewed in correlation with other developmental objectives but from the very beginning was conceived as, more than a literacy programme, a method of training for development purposes, a comprehensive non-formal educational programme and an opening to continuing education.

Expansion of the approach

The basic approach will be expanded during the Fifth Five Year Plan in three directions:

(a) The number of districts where the Functional Literacy Programme is functioning in relation to the HYCV Schemes will be increased;

(b) The number of farmers involved in functional literacy courses will be increased in each of the districts, particularly those from the poorer sections of the rural population for whom this development scheme is intended, but who do not benefit from it adequately; and

(c) The functional literacy component will be included in several other development schemes—such as dryland farming, water supply schemes, small and marginal farmers' programmes, programmes of industrial development, public enterprises family planning programmes, sanitation, child care, cultural development, civic participation, etc.

Planning

The first aspect of the programme planning concerns the expansion of the farmers' functional literacy to additional HYV Districts in coordination with programmes of the Ministry of Agriculture. Based on plans for agricultural development and modernisation, the selection of districts, as well as the selection of village centres in each district will be made, by an interministerial group, in close consultation with State authorities.

The second aspect of the programme planning consists of the identification of environmental needs and problems in each district as well as of the main trends and problems encountered in rural and agricultural development. Based on these findings, the programme content and learning material (prepared by the Directorate of Adult Education) may be adapted, modified and complemented. For this purpose, an interdisciplinary and interdepartmental group has to be established in every district.

The third aspect of the programme planning concerns the development of functional literacy programmes linked with social and economic development purposes other than HYV, such as those mentioned earlier. The most important and difficult task consists in selecting well-suited development schemes for this purpose, and building an educational "component" around them. In other words, there will be a certain number of non-formal educational programmes, diversified in their nature, based on and linked with environmental needs, developed round the interests of potential clientele groups, differentiated in content and methods, and selective in approach. Proposals for these types of programmes will have to be initiated by State authorities and/or voluntary organisations.

Type of Programme—Intensive/Selective

Bearing in mind the general objectives of the programme, it has to be both intensive and selective. Having overcome the mere goals of literacy skills the programme has to be intensive regarding its educational pattern, methods and results, and selective regarding the environments and areas chosen for operational work, clientele to be served and messages and content to be acquired.

Duration and timing

The duration of the programme for each group of learners would be eight to nine months, divided in two or three programme cycles.

The timing of the programme, i.e., beginning and closure, need not be uniform, but rather linked closely with the “cycles” of the development programme itself, the production cycle in a factory, the agricultural calendar in rural areas, etc.

Content and curriculum

The content and curriculum have been well formulated at the beginning of the programme, and have been constantly revised and improved.

The emphasis will now be placed on:

- (1) A better implementation of the curriculum; and
- (2) Closer adaptation to local needs, environmental circumstances and learners' abilities.

Learning materials

The learning material for the programme (linked with the utilisation of seeds of high yield crops) has been prepared and issued in Hindi (revised already four times), and adapted and translated into Assamese, Bengali, Gujarati, Kannada, Marathi, Oriya, Punjabi, Tamil and Telegu.

Thirty-two booklets, on different subjects linked with the “Green Revolution”, have been produced in six languages.

The main tasks during the Fifth Plan period are the following:

- (1) Enriching learning materials for functional literacy groups (providing a complete set consisting of at least eight items: primer, reading booklets, content sheets, newsletter, charts, other visuals, film strips for learners and teachers' guide for the group leader);
- (2) Up-dating reading materials (by organising, in as many districts as possible, the production and circulation of a monthly newsletter, or local newspaper, or a page in an existing newspaper with news, lectures, texts, answers to farmers' queries, etc.); and
- (3) Diversifying learning materials according to the variety of programmes and clientele, but basing them on the same methodological approach as for HYVP.

Methods

There is already a basic understanding of learning methods to be used in Farmers Functional Literacy Programme.

Nevertheless, there are three additional points which need to be emphasised:

- (a) The learners are neither sufficiently involved as active participants, nor has there

been a real dialogue and a common search for solutions established on a sufficiently large scale;

(b) Practical agricultural work is not yet generally included in the curriculum. Village centres for functional literacy are rarely equipped with seeds, fertilisers, tools, etc., to serve as learning equipment which will aid in increasing the know-how of learners; and

(c) Different activities organised by agricultural departments or farmers training centres, such as national demonstrations, agricultural extension work, dissemination of agricultural information through printing or broadcasting, etc., are seldom integrated with the teaching process in functional literacy centres.

Administration and coordination

The programme has to be implemented through machinery whose main "wheels" are:

(1) The respective unit in the Union Ministry of Education, for planning the general lines of the scheme, for the allocation of financial resources, for basic supervision and general guidance;

(2) One unit in the Directorate of Adult Education for technical and professional guidance and coordination;

(3) An officer of a small unit for non-formal education and functional literacy at the State level, in the Department of Education;

(4) A full-time project officer in each district who will be responsible for the two programmes (non-formal education for young people in the 15-25 age group and the functional literacy programme linked with development schemes);

(5) A professional, full-time, supervisory machinery in every district; and

(6) Coordinating committees at the central, state and district or local levels.

CHAPTER 3

EXTENSION EDUCATION

A dynamic and flexible type of education is one which serves the people wherever they are, whatever they are. It assists in the development of the individual as well as all categories of the constituents of society. These characteristics and qualifications are well suited to the discipline of Extension Education.

Lewis Jones says: "Invention of Extension Teaching was so original, so far in advance of conventional educational practice, that it has been little understood or even noticed by the main body of education."

Sohal has remarked: "On account of its simple but generic nature, extension education is taken for granted to be thoroughly and completely understood in its entirety by each and every person concerned directly or indirectly with it. But whereas it can be admitted that one or a few aspects of this subject can be expected to be known extensively, yet there are only a few individuals with professional insight into the subject who really know all of its varied facets."

Concepts of extension education

There are as many definitions as those who define. Shukla¹ (1972) collected and studied several prevailing concepts of extension education using psycho-physical methods to find out the comparative attitudinal positions for these concepts. The findings of his study are given as follows:

Rank Order of the Concept	Concept
I	Extension education is an applied science consisting of contents derived from researches, accumulated field experiences and relevant principles drawn from the behavioural sciences, synthesised with useful technology, in a body of philosophy, principles, contents and methods focussed on the problems of out of school education for adults and youths (Leagans, J.P.).

¹Shukla, A.N. (1972) "The Concept of Extension Education: A Study in Psycho-physical Methods," *Studies in Extension Education*. (Ed.). PRR Sinha. NLCO, Hyderabad.

Rank Order of the Concept	Concept
II	Extension is an education and its purpose is to change the attitude and practices of the people with whom the work is done. (Ensminger. D.)
III	Extension education is defined as an educational process to provide knowledge to the rural people about the improved practices in a convincing manner and to help them to take decisions within their specific local conditions. (Dahama, O.P.).
IV	Agricultural extension is concerned with agricultural education aimed at assisting rural people to bring about continuous improvement in their physical, economic and social well being, through individual and cooperative efforts. It makes available to the villages, scientific and other factual information and training and guidance for the solution of problems of agriculture and rural life.
V	Extension education is the act of putting across to the people, in an understandable manner, new ideas and improved technology of practical utility and to enable them to put them into practice so as to improve their general standard of living through their own realisation and efforts.
VI	Extension education is a science which deals with various strategies of change in the behavioural patterns of human beings through technological and scientific innovations for the improvement of their standard of living.
VII	Extension is a continuous process designed to make the rural people aware of their problems and indicating to them the ways and means by which they can solve them. It involves not only educating rural people in determining their problems and methods of solving them but also inspiring them towards positive action in achieving them.
VIII	Agricultural extension is a bridge that fills the gap between agricultural research stations on the one hand and the farming population on the other by establishing a suitable teaching organisation at various levels of administration.
IX	Extension education is an applied behavioural science, the knowledge of which is to be applied for desirable change in the behavioural complex of the people.
X	Extension is defined primarily as an educational process aiming at the development of individuals; through this process the villagers are helped to become discontented with the present conditions and are helped by extension workers to improve their conditions of living.
XI	Extension is to teach a person how to think, not what to think, and to teach people to determine accurately their own needs to find solution to their own problems and to help them acquire knowledge and develop convictions in that direction.
XII	Extension is an out-of-school system of education in which adults and young people learn by doing. It is a partnership between Government, the Land Grant Colleges and the People, which provides services and education designed to meet the needs of the people.
XIII	Extension or agricultural extension is a method, or a series of methods, by which the technical know-how of science is carried to and included in the practices of the cultivators.

Rank Order of the Concept	Concept
XIV	Extension education is the education of the people as to what more to want as well as how to work out ways of satisfying them. Informing people not to remain content with their present lot and inspiring them to work vigorously towards fulfilment of their self-created, increased wants or desires.
XV	Extension is the education of the rural adults outside the school in matters of their choice and interest. It is education for freedom, which seeks to help persons to use the liberty of action with which democratic society is constructed.

From the above definitions, the following basic questions have emerged:

1. What category of science is it?
2. What is its subject matter?
3. What is its relationship with technology and the other sciences?
4. Who are the clients of this discipline?
5. What are its methods, contents, principles and philosophies?

Precise, valid and objective answers to the above questions have been attempted in the succeeding part of this chapter. However, the following definition, which covers the various components will give an answer to the questions raised above.

“Extension education is a Behavioural Science following a continuous, persuasive and discriminating educational process. It aims at affecting the behavioural components of people in a desirable direction, through conviction, communication and diffusion, by its proven methods, principles and philosophies resulting in learning-involvement of both client and change-agent systems.”

Philosophy of extension education

Philosophy, in the original and wider sense, is the pursuit of wisdom, or knowledge of things and their causes, both theoretical and practical. It is also defined as moral wisdom. Philosophy is an attempt to answer ultimate questions critically after investigating all that makes such questions puzzling and after realising the vagueness and confusion that underlie our ordinary ideas.

The philosophy of extension education has been described and interpreted in different ways by different authors and a clear picture cannot be drawn due to the very complexity of its nature. All one can do is try to gain a comprehensive idea by examining the view points of various authors.

Kelsey and Hearne (1955) state that the philosophy of extension work is based on the importance of the individual in the promotion of progress for rural people and for the nation. Extension educators work with the people to help them to develop themselves and achieve superior personal well-being. Together they establish specific objectives, expressed in terms of everyday life, which lead them in the direction of overall objectives. Some will make progress in one direction while others will do so in another direction. Progress varies with individual needs, interests and abilities. Through this process the whole community improves, as a result of cooperative participation and leadership development.

According to Ensminger (1962), the philosophy of extension can be expressed in the following lines:

- (1) It is an educational process. Extension is changing the attitudes, knowledge and skills of the people;
- (2) Extension is working with men and women, young people, boys and girls to answer their needs and their wants. Extension is teaching people what to want and ways to satisfy their wants.
- (3) Extension is "helping people to help themselves";
- (4) Extension is "learning by doing" and "seeing is believing";
- (5) Extension is development of individuals, their leaders, their society and their world as a whole;
- (6) Extension is working together to expand the welfare and happiness of people;
- (7) Extension is working in harmony with the culture of the people;
- (8) Extension is a living relationship, respect and trust for each other;
- (9) Extension is a two-way channel; and
- (10) Extension is a continuous, educational process.

Dahama (1965) gives the following points as the "Philosophy of Extension".

- (a) Self-help;
- (b) People are the greatest resources;
- (c) It is a cooperative effort;
- (d) It has its foundation in democracy;
- (e) It involves a two-way channel of knowledge and experience;
- (f) It is based on creating interest by seeing and doing;
- (g) Voluntary, cooperative participation in programmes;
- (h) Persuasion and education of the people;
- (i) The programme is based on the attitudes and values of the people; and
- (j) It is a never-ending process.

Mildred Horton has described four principles which make the philosophy of extension education. They are:

- (1) The individual is supreme in a democracy.
- (2) The home is the fundamental unit in a civilisation.
- (3) The family is the first training group of the human race.
- (4) The foundation of any permanent civilisation must rest on the partnership of man and land.

Shukla, while supporting the philosophy of Horton, emphasised—"Extension programme revolves around the individual, the cultivator, and we have to bring change in his attitude, knowledge, skill, understanding, capacity and ability through persuasion by educational means."

Rudramurthy (1966) has linked the philosophy of extension work with the Vedas, the Upanishads, the Gita as well as the orthodox and unorthodox schools of philosophy. This is based on the concept of man and the values which are worthy of human pursuit.

Bhatnagar (1971) perceives extension to be the activities of the State Governments (with, or without, the help of Central Government, or other agencies) which provide the farmers with technical know-how as a guide to improved methods, in order to bring desirable changes in their behaviour with the aim of attaining higher production.

In this sense, the extension activities relate closely to the activities in research and education.

Principles of extension education

Understanding of principles

Before taking up the discussion of the Principles of Extension it will be worthwhile to examine what is meant by the word "principle". "A principle is a statement of policy to guide decision and action in a consistent manner" (Mathews).

Its meaning will be clear when we try to understand the sequence of generalisation. When something is put forth as a point of view, or an assumption, and its proof is not known, it is called a hypothesis. When a hypothesis is put to a test and the point of view, or the assumption, turn out to be acceptable, it is called a theory. When a theory is put to several rigorous tests, under different settings, by different individuals and the findings are found to be in substantial agreement, then it is given the name of a principle. Thus, a principle is a universal truth that has been observed and found to be true under varying conditions and circumstances. A principle is a fundamental truth and a settled rule of action.

Importance of principles in extension work

It is usually believed that the knowledge of the principles is of no value to an extension worker. These principles are considered to be of academic interest for the students taking advance courses in extension. Leagans, however, holds out clearly on the need for a sound knowledge of the principles for the extension workers. He points out that without this knowledge extension workers either keep on labouring under some handicaps, or make grave mistakes, particularly in the initial stages. Further, if an extension worker aspires to become an administrator or a supervisor, it will be all the more necessary for him to possess a sound knowledge of the principles of extension.

Relative sequence of extension principles

The principles of extension are relative and not necessarily fixed in importance or sequence. Generally, however, it is also true that all the principles are important. It may also be relevant to point out that it is never possible to prepare a complete and final list of the extension principles. The principles discussed below are those which are either fundamental in nature or widely accepted in literature on the subject.

(1) Principles of interest and needs

To be effective, extension work must begin with the interests and needs of the people. Many times the interests of the rural people are not the interests of the extension worker. Even though he sees the needs of the people better than they do themselves, he must begin with the interests and needs as they (the people) see them.

In this way only can the extension agency mould the needs and interests of the people into realistic needs. Needs that can satisfy the individuals, groups, community and national interests, needs that can be fulfilled with the available resources, and the needs that should be fulfilled first.

(2) Grass-roots principle of organisation

For extension work to be effective and real, it has to be a synthesis of democracy obtained at the level of the family and more particularly at the village level. Things must spring from below and spread like grass.

At the same time, modern science calls for an advanced stage of organisation and a wiser coordination of thinking and action than is feasible in a single family or a single village. A higher level of living means wider specialisation in a village. This calls for the corresponding organisation of different professions and vocations. These will have to be woven together at the level of the enlarged family at the village community level. The Panchayats, as social institutions, have also to be established at the Block and the District levels. Thus, the establishment of the three-tier system namely, Village-Panchayat, Block-Samiti and Zila-Parishad, followed by State Legislatures and Parliament satisfies the grass-roots principle of organisation in the extension.

(3) Principle of cultural differences

In order to make extension programmes effective, the approach and procedure must be suited to the culture of the people who are taught. Different culture require different approaches. A blue-print of work designed for one part of the globe cannot be applied effectively to another part, mainly because of the cultural differences. These differences can be perceived in the way of life of the people, their attitudes, values, loyalties, habits and customs.

(4) Principle of cultural change

Because changed ways must be learnt and because all learning must be grafted on what is already known, it is obvious that the change agent who works personally with the villagers must know what the villagers know and what they think. With this in mind and with an attitude of mutual respect and receptiveness, the worker must seek to discover and understand the limitations, the taboos and the cultural values related to each phase of his programme, before it is introduced, in order that an acceptable approach may be selected.

This principle can be summed up in the words of Earl Moncur:

“As each culture is unique and each particular situation within which a change is occurring, or is to be made, is unique, it is not possible to lay down prescription for what to identify and to describe the process which occurs so that each particular individual or team charged with responsibility for planning, execution or adjusting to some type of change, may be able to act in terms of the process.”

(5) Principle of cooperation and participation

In an attempt to involve a great number of persons in achieving desired common ends, there seems to be no acceptable alternative but to let them choose the ends, and then aiding them to organise their self-help efforts successfully to do the things they want to do. Most members of the village community will willingly cooperate in carrying out a project which they helped to decide to undertake. It has been the experience of many countries that people become dynamic if they are permitted to take decisions concerning their own affairs, exercise responsibility for, and are helped to carry out projects in their own villages.

The participation of the people is of fundamental importance for the success of any educational endeavour. People must share in the development of a programme and must feel that it is their own programme.

(6) Principle of applied science and democratic approach

Applied agricultural science is not a one-way process. The problems of the people are taken to the scientists who do the experimentation necessary to find out the solutions. The extension worker translates the scientific findings of the laboratories in such a way that the farm families can voluntarily adopt them to satisfy their own needs.

However, extension work is democratic both in philosophy and procedure. It aims to operate through discussion and suggestion. Facts about a situation are shared with the people. All possible alternative solution are placed before the participants, and their merits are highlighted through mutual discussions. Ultimately, the people are left free to decide their line of action, the methods to be adopted in the local situation with their own resources and available government assistance.

(7) Principle of learning by doing

In extension work, farmers should be encouraged to learn new things by doing and by direct participation. As Dr. Newman (1889) said—"Farmers, like other people, hesitate to believe and set on theories, or even facts, until they see with their own eyes the proof of them in material form. We must, in some way, bring this work to their personal attention. We must carry it home to them."

The motive for improvement must come from the people, and they must practice the new ideas by actually doing them. It is learning by doing, which is most effective in changing people's behaviour and developing the confidence to use the new methods in future.

(8) Principle of trained specialists

It is very difficult for a multi-purpose extension worker to keep himself abreast with all the latest findings of research in all the branches of science he has to deal with in his day-to-day activity. Trained specialists have to be provided, who keep themselves in touch with their respective research institutes on the one hand, and extend to the extension worker, meaningful terms, the latest scientific developments, which have scope for adoption in particular areas.

(9) Adaptability principle in the use of extension teaching methods

No single extension teaching method is effective under all situations. Reading material is for those who can read, radio-programmes for those who have radios, meetings for those who can attend, demonstrations of recommended practices are for those who can come to the farms where the demonstrations of recommended practices are laid. Farm and home visits are, by far, the most valuable, but they take up considerable time. New situations also arise where a special combination of method is necessary.

Extension agents have found that they need a large number of teaching methods out of which they can select and revise the one effective for the purpose and best suited

to the culture of the people. At times, new methods must be devised to meet new situations and changing conditions.

Further, the use of teaching methods must have flexibility to be adopted to the members of a community who differ in age, education, economic status, sex and proneness to change, etc.

(10) *Principle of leadership*

A good rule in extension work is "Never do anything yourself that you can get someone to do for you." This calls for the development of local voluntary leadership.

The involvement of leaders in extension programmes is the one single factor that determines the success or failure of those programmes. Local leaders are the guardians of local thought and action and can be trained and developed to best serve as interpreters of new ideas to the villagers.

There is no dearth of local leaders. All communities have leaders or potential leaders; it is a question of searching them out and creating an environment which will permit and encourage their development and performance.

In the promotion of change however, it is neither right nor wise to disregard old organised groups and leaders. Old leaders, if they are trusted can open—as well as close—the gates to new types of community action. If such leaders are converted to new functions, the multiplication of new things to be done will almost certainly lead or drive them to share the role of leadership with others.

(11) *Whole family principle*

The family is the unit of any society. All the members of the family have to be developed equally by involving all of them. This is because of the following reasons.

- (a) The Extension programme affects all members of the family.
- (b) The family members have great influence in decision-making.
- (c) It creates mutual understanding.
- (d) It aids in money management.
- (e) It balances farm and family needs.
- (f) It educates the younger members.
- (g) It provides an activity outlet for all.
- (h) It unifies related aspects, such as the social, economic and cultural, of the family.
- (i) It assures family service to the community and society.

It is not difficult to adopt this type of approach in extension programmes. There is much work in the field for the men and at home for the women. The 4-H clubs play a remarkable role in this regard so far as young boys and girls are concerned. A comparative study has shown that the young 4-H club members have greater confidence in scientific information than the non-members.

(12) *Principles of satisfaction*

Satisfaction of the people is very essential in extension work. Unless the people are satisfied with the end product of any programme, it is not going to be able to run. In democratic societies people cannot be made to move like machines. They must continue to act out of their own conviction and that is possible only when they

derive full satisfaction through adoption of innovations well suited to their needs and resources.

Difference between formal education and extension education

Formal Education	Extension Education
1. Formal education starts from a theoretical or conceptual framework and leads to practical or actual field work.	Extension education is practical, field and farmer's problem-oriented, thus it starts from a practical and develops into a theoretical or basic understanding.
2. In this type of education there is a fixed or pre-decided curriculum.	In extension education there is no fixed curriculum. It has also possible flexibilities depending on the needs of the learners.
3. The audience in this type of education is homogeneous with common goals.	The audience is heterogeneous and have diversified goals.
4. Teaching is vertical and curriculum-centred.	Teaching is horizontal and mostly need-based and problem-oriented.
5. Strict adherence to institutional norms and no free choice for the learners.	Freedom and choice of subject matter left to the learners.
6. This education is of a specialised nature, i.e., class-oriented, subject-centred and degree-oriented.	Informal, with some elements of formal education in class teaching, but not degree oriented.
7. Learners are taught directly by the teachers.	Local teachers are used for training and dissemination of knowledge.

EXTENSION EDUCATION—A DEVELOPED DISCIPLINE

A widely accepted and well recognised view regarding Extension is "Extension is education and its aim is to bring the desirable changes in human behaviour." Whether one wishes to understand or improve human behaviour, it is necessary to know a great deal about the nature of Extension Education as a developed discipline. The distinguishing characteristics are:

(1) Emphasis on theoretically significant empirical research

Until the beginning of the new era of scientific and empirical application to extension education, those who were curious about the nature of extension education relied primarily upon their personal experience and historical record to provide answers to their questions. Not being burdened by the necessity of accounting for carefully gathered empirical data, writers in this speculative era devoted their energy to the creation of a comprehensive theoretical treatment of extension education.

By the second half of this century an empirical rebellion had begun in the social sciences. Instead of being content with speculation about nature of human behaviour,

a few people began to seek out facts in an attempt to distinguish between objective data and subjective impressions. Although, initially rather simple questions guided this research, a fundamentally new criterion for evaluating new knowledge about human behaviour in the field of extension education was established in the late 1950's. Extension education began to emerge as an identifiable field, the empirical rebellion was moving the lines of social psychology and sociology. Thus, at the outset, the extension education discipline, closely related to psychology and sociology, could employ the research methods characteristic of an empirical science. In fact extension education is to be distinguished from the earlier intellectual endeavours in the social sciences primarily by its basic reliance on careful observation, quantification, measurement and experimentation. But one should not identify extension education too closely with extreme empiricism.

(2) Interest in the behavioural aspect of inter-dependence of phenomena

Although the phrase, "Extension Education" specifies extension as the objective of study, it also focuses attention more sharply on the "education" aspect of human life. The student of the extension education discipline is not satisfied with just a description of the properties of extension, or events associated with it, nor he is content with a classification of human groups and form of associations only. He wants to know how the phenomena he observes depend on one another, and what new phenomena might result from the creation of conditions never before observed. In short, he seeks to discover general principles concerning what conditions produce what effects. This search leads us to the reality of the interdependence of phenomena and reveals the fact about our success in applying the inter-disciplinary approach.

(3) Inter-disciplinary relevance

It is important to recognise that the studies and researches in the extension education have not been associated exclusively with any one of the social science disciplines. Various scientists from different fields helped further the cause of the growth of the discipline of extension education. Rural sociologists have, of course, devoted great energy to bringing out the factors of human life related to extension education behaviour. Psychologists have directed their attention to the study of individuals in group functioning by studying the attitudes behaviour and personality characteristics. Anthropologists, while investigating many facts as sociologists and psychologists, have contributed data on groups living under conditions quite different from those of modern industrial society. Political scientists have extended their traditional interest in large institutions to include studies of the functions of administrative, political and related aspects in rural areas. Economists have come close increasingly to collect and analyse data, so as to guide in decision-making regarding expenditure of savings at the farm and family levels, and also to make predictions about the economic consequences of methods and practices used or advocated. Group dynamics, communications, social psychology education and home science disciplines have significantly contributed and continue to contribute to the growth of extension education as a discipline.

Potential applicability of findings to social practice

Everyone, who feels the responsibility of strengthening the efforts of extension educators, must view his action in the light of the total programmes and practices under the extension education discipline. The professionalisation of the discipline has brought about a conscious desire to improve standards and establish the requirements for proper training. The major universities now have professional courses and divisions to provide such training at the highest level. It should not be surprising, therefore, to find that courses in extension education are becoming more and more common in professional schools, that people trained in extension education are being employed by agencies concerned with professional practices; and that extension education research is often carried out in connection with the work of such agencies. This has great potentialities.

Thus in short, it is proposed that extension education should be defined as a discipline, dedicated to advancing knowledge about the effect of the extension education approach in bringing about desirable change in human behaviour, and the laws of governing their development and their interrelations, etc.

Conditions fostering the rise of discipline

Extension education as a discipline has its historical roots in the USA, where people made a significant contribution to both research and theory in extension education. They also established the first organisation devoted explicitly to research in extension education.

The time and place of the rise of Extension Education were, of course, not accidental. The American Society of "Cooperative Extension Service" provided the kind of conditions required for the emergence of such an intellectual movement. Over the years, since that time only certain countries have afforded a favourable environment for its growth. Today, extension education has taken firm root in both the USA and in India. Three major conditions seem to have been necessary for its rise and subsequent growth (Fig. 3.1):

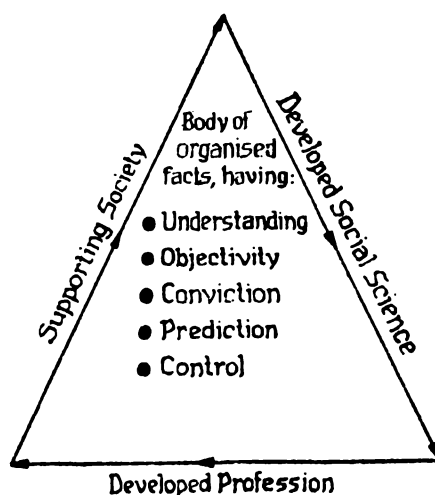


Fig. 3.1. Conditions for rise of discipline.

- (a) A supporting society;
- (b) Developed profession; and
- (c) Developed social science.

The publication of "The Journal of Cooperative Extension Service" in the USA, and "The Indian Journal of Extension Education" in India, revolutionised thinking and led to the organising of the development of professionals in India and the USA. The incentive to work for the growth of this discipline was no longer seen as simple and unitary but rather as infinitely varied, complex and dynamic. The new view opened the way for, and demanded, more research and new conceptualisations to handle the problems.

The controlled observations on social interaction, which was initially developed to provide objective and quantitative data concerning behaviour, subsequently has been used extensively in researches in extension education.

With the coming up of Agricultural Universities and Extension Education Institutes in India, the growth of this discipline was carried forward at a faster rate. Student researches and staff research projects opened new vistas in the development of the discipline.

Thus, it may be suggested that extension education has become an academic discipline and a field of study, as it fulfils Skinners' Criteria with the following achievements:

- (a) The focus of extension education on human organisation has resulted from observation and investigation.
- (b) It is a body of facts or information that has resulted from observation and investigation.
- (c) This body of knowledge can be summarised, or generalised into principles or theories.
- (d) Extension education uses social research methodology and statistics by which investigations are made, information is discovered, hypotheses are tested and theories are derived.
- (e) This use of methodology is useful in arriving at the solution of educational problems, as they present themselves.
- (f) This information, this knowledge, these principles, and the methodology used, constitutes the substances of extension education which provides a base for educational theory and educational practice. The aforesaid conditions fostering the rise of the discipline are presented in Fig. 3.1.

Aims of Extension Education Discipline

The general aim of extension education discipline is to provide a body of organised facts and generalisations that will enable teachers, researchers, extension workers and administrators to increasingly realise both cultural and professional objectives.

An analysis of general aims reveal many specific aims. Some of the most important are listed below:

- (1) To develop a conviction and general realisation of the fact that growth can be promoted, learning acquired, social behaviour improved, and personality adjustments effected. The realisation of this objective will produce an increasing appreciation of what extension education contributes to the teacher or extension educators.

(2) To assist in defining and setting up extension educational objectives and standards in terms of desirable behaviour for bringing them about.

(3) To aid in developing an impartial but sympathetic attitude towards clientele, so that their behaviour will be regarded objectively.

(4) To assist in achieving a better understanding of the nature and importance of human relationships and the methods of developing these in clientele as well as such modes of functioning as getting along with others, participation in group efforts and cooperation.

(5) To provide a body of facts and principles that can be used as problem-oriented and project-directed solutions.

(6) To aid in affording the extension educators a better perspective for finding both the results of his own efforts and the practices of others.

(7) To furnish the teachers with the necessary facts and techniques for analysing behaviour—both his own and that of others—to the end that normal adjustment may be facilitated and growth effected.

(8) To assist in defining, maintaining and combining progressive extension methods, procedures and techniques for the dissemination of sophisticated technologies in a simple and understandable form.

Professional growth of the discipline

We possess a strong conviction that as a promoter of rapid development and, what Sinha terms, 'a complex of many disciplines'; the fundamental purpose of extension education is to provide an educational experience for the people with whom we are privileged to work. This is set down by Clark (1976) and Singh (1967) as a professional responsibility. It follows that teaching becomes the major profession. In other words, extension education, as a branch of instruction or education, or a department of knowledge, is solely responsible for teaching its clientele. Such educational tasks are the task for professionals. This raises the need for the clarification of the concept of profession.

(1) *Criteria for a profession*

Webster defines a profession thus: "A calling in which one professes to have acquired some special knowledge used by way of either instructing, guiding or advising others or of serving them in some act."

The famous English economist Tawney, gave a comprehensive definition of profession: "It is a body of men who carry on their work in accordance with rules designed to enforce certain standards both, for the better protection of its members, and for the better service of the public".

A well recognised fact is that the educational task of extension is a task for professionals. Let us examine how this claim best fits in with the criteria evolved by Clark and Singh. These are:

(a) Members fulfil established requirements of personal and academic qualifications for admission into the profession.

(b) Its members adhere to a high standard of ethical conduct.

(c) They exhibit self-discipline and self-direction.

(d) The group attains self-fulfilment through public service.

(e) Members attain professional growth through continual research teaching and extension.

(f) It has a rapidly growing body of knowledge with both tools and techniques well developed.

(g) Periodic evaluation of an objective nature in an attempt to improve self-efforts and the efforts of others.

(h) Its members organise associations through which they act collectively to maintain and improve the service.

The authors of these criteria have very rightly claimed extension education to be a profession. Prasad says: "In fact, extension education with its applied value has grown into a profession". At another place he warns the professionals that they have: "an obligation to see that it rapidly and systematically grows and does more good to the public. Profession is made by people who dare, and we have to dare if we want to thrive professionally".

In fact, because of the very nature of extension education, its discipline and profession have nearly the same connotations.

In the beginning, the mushroom growth of extension education in the form of institutions and organisations, a highly heterogeneous group of professionals and the teaching of the discipline by unskilled and untrained staff hampered the professional growth of the discipline in India. But the untiring efforts, zeal and enthusiasm of the academicians of the discipline who demonstrated through their studies and researches and virtually 'educated the educated masses', were able to bring the discipline on a par with other well recognised ones.

(2) Recent breakthrough

Recent breakthrough in revolutionising and developing the professional leadership in the extension education discipline begin with:

(a) Establishing of the Indian Society of Extension Education on 22nd June 1964 and publication of the World's Second Journal of Extension Education.

(b) The opening and developing of a chain of agricultural universities in various states.

(c) The integration of resident teaching, research and extension in and about agricultural universities.

(d) The organising of a production unit and farm advisory services, with a team of subject-matter specialists in the integrated unit department, by the divisions of agricultural extension.

(e) Post-graduate teaching leading to doctoral programmes in such universities served as the breeding ground of highly skilled, field-oriented and sufficiently disciplined professionals.

(f) The rapidly growing body of knowledge with appropriate kinds of techniques.

(g) The continual process of evaluation, self-checking and self-directing.

(h) Lastly, the matching efficiency of the discipline to bridge the gap between morning invention of sophisticated technology and the evening diffusion of such innovation.

A Lacuna: But a lacuna of a very serious nature does exist. It has been found that some members, as teachers in the discipline, do not fulfil the established requirements of

temperamental, personal and academic qualifications for admission into the profession. Barring this, we can easily claim that extension education, both as a discipline as well as a profession, are developing fast and providing a desirable leadership.

EXTENSION EDUCATION AND ITS RELATIONSHIP WITH OTHER SOCIAL SCIENCES

Extension Education—an Applied Behavioural Science

In the earlier part of this chapter it was firmly established that extension education is a discipline. This rising discipline has all the three ideals of science that is, understanding, prediction and control. It has been amply illustrated that extension education is a social science, different from Natural Science and Biological Science. Halayya has classified all the sciences in three groups:

- (a) The physical sciences;
- (b) The biological sciences; and
- (c) The social sciences.

He has further classified the social sciences into following three levels:

- (a) The purely social sciences;
- (b) The semi-social sciences; and
- (c) The sciences with social implications.

Accordingly, the place of extension education is in the category of semi-social sciences. Because the pure social sciences continue to be the concern of the intellectual aristocracy, the sciences with social implications are still standing at the gateway of the social science category.

Guilford has given a very interesting diagrammatic structure of the sciences, which depicts all the sciences as forming a solid structure, with a broad foundation, two columns, a capstone or a superstructure. To this the authors have added extension education as an arch at the top (Fig. 3.2).

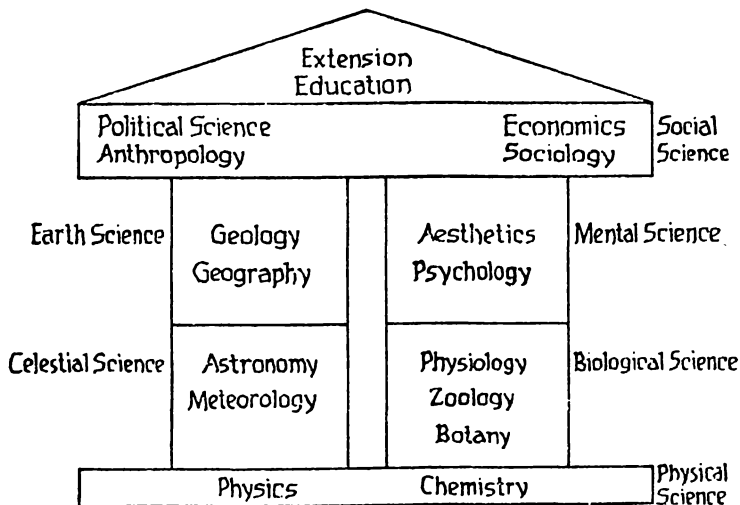


Fig. 3.2. Place of extension education in structure of sciences.

At the base are Physics and Chemistry which are regarded as the foundation of all the other sciences. The column at the left represents those physical sciences that study the universe and, in particular, the earth as the home of man (sciences of the environment). The column at the right represents a very logical sequence from the lowest living forms to the highest, leading step-by-step from the physical sciences to the social sciences (sciences of life). In the same column, along with the psychology, Aesthetics is also listed (Mental Science). The social sciences rest on both the columns of our symbolic structure. Anthropology, Economics, Political Science, Sociology and Extension Education have been grouped together as the social sciences (Social Sciences).

Among all the social sciences only extension education deals primarily with the *whole individual*.

Relationship with other social sciences

The student having a career interest in extension education is interested in acquiring knowledge about the various other disciplines, especially the social sciences and their inter-relationship with Extension Education. Let us examine this:

Extension education and sociology

Extension education and Sociology both study groups from nearly the same angle. The immediate purpose of sociology is to study the structure, function and organisation of the groups, while that of extension education is to study human behaviour in groups and also individual life, and how desirable changes can be introduced into them. But it is clear that neither extension education nor sociology can achieve this goal unless and until they seek the help of each other.

Extension education and rural sociology

Extension education and rural sociology are extremely close to each other. At this stage it is very difficult to distinguish between them, because both sciences are greatly oriented to the study of rural life. They are wedded to the cause of each other and reap the advantages of each other's association.

Extension education and general psychology

Extension education and general psychology are closely related because human behaviour in society cannot be studied unless and until a thorough study of the individual behaviour is made.

Extension education and social psychology

Extension education and social psychology are ultimately related, as both join hands in making a study of individual behaviour in a social situation. This shows that the fields of extension education and social psychology overlap each other.

Extension education and cultural anthropology

No doubt, cultural anthropology studies only the group behaviour. It is most often concerned with the individual but it is also true that from many anthropological studies our attention is directed towards many of those problems which extension education has to face.

Extension education and ethics

The ethical norms are framed in relation to the society. How these norms affect the individual behaviour is of great interest in extension education.

Extension education and economics

Again, the two sciences of extension education and economics work closely together with reference to economic conditions prevailing in a particular group, or a particular individual. Many of the problems of economics are the problems of extension education.

Extension education and political science

In spite of the fact that many of the problems of political science and extension education are common in the fields of individual and group behaviour and in institutions of administration it should be remembered that both the subjects are not identical but help in each others growth.

Extension education and abnormal psychology

The study of Abnormal Psychology is helpful in understanding the anti-social behaviour of people. Extension education gets help in understanding those abnormalities of individual behaviour which have social, economic or political origin.

Extension education and home science

Home science, the science of home, also deals with education through which desirable changes are brought about in family living. Extension education, which works with almost every institution and all individuals who come from these families or home fronts, has a very happy relationship with the Home Science discipline. Yet in certain countries like India, because of cultural and other reasons, the Home Science wings could not help extension education to the desirable extent.

Symbiosis with other social disciplines and practices

The secret of how to get along with others, and how to direct or influence their behaviour, depends upon the knowledge of extension education. The various fields of modern life in which knowledge and application of extension education is important will be viewed briefly:

(a) *Education:* Some fields attempt to change individuals for the better to make them more effective and happy. The educational field is the birth place of extension education, but the mother field derives a lot from the various extension methods and the available resources in planning and executing the educational programme so as to be more realistic and field-oriented.

(b) *Social Work:* Social work exerts its efforts both on the environment and the individual in his endeavours. Extension education helps social workers to plan socially-oriented, educational activities.

(c) *Medicine, Law and the Police:* Medicine, law and the police deal with human nature and its mental aspects as affected by socio-biological factors. As a preventive measure and as a cure of all, the above fields take the help of principles, practices and methods extension education.

(d) *Business, Banks and Industry*: A large number of disciplined extension educators are absorbed by the public and private sectors, in business, banks and industries. Extension educators, through their knowledge and training, know the technique of attracting customers and are proving efficient salesmen. They can work satisfactorily in any difficult situation.

(e) *Journalism and Public Service*: Journalism and extension education have a common aim, to disseminate information from the source of origin to the ultimate users. They are benefited by each other's efforts in providing the best service to the public.

(f) *Family planning*: Much earlier in foreign countries, but at a late stage in India, the programme of family planning and extension education are associated with each other. There exists a great demand for extension educators to help and boost up the Family Planning Programme.

(g) *Administration*: Administration, according to Newman, is the "guidance, leadership and control of the efforts of a group of individuals towards some common goal". In a democratic country the role of "executive" is changing to "extension" in the administration of human affairs. Administrators trained in extension education prove better than those who do not have this background.

Sources and contributions from various disciplines

In order to understand and appreciate the contributions received and utilised by the extension education discipline from various sources, it is imperative to go deep into this aspect.

It is well known that people coming to extension education from different disciplines bring with them the special vocabularies of these disciplines and certain assumptions, theories and principles about the relative importance of various aspects of human life. Thus a sociologist and a rural sociologist may emphasise, in studying human behaviour, their laws for the development of society. An anthropologist may stress the importance of culture, a psychologist may maintain that cognitive, effective and behavioural aspects are of greater significance; a psychoanalyst and social psychologist may be deeply interested in group psychotherapy and proving the effectiveness of interactions upon the individual's thoughts, feelings, conditions and habits. An economist may believe, by nature, that in extension education the dominant determinants are economic resources and technological skills.

Still there exist a number of disciplines such as Political Science, Ethics, Home Economics and other social sciences which rightly claim that their point of view need to be injected into the theoretical orientation and methodology so as to enrich the discipline of extension education.

Biological and natural scientists also have a significant contribution to make, and they rightly serve as the reservoir for the subject-matter concerned with the growth and successes of the discipline.

The various circumstances surrounding the conduct of teaching, research and extension in the discipline of extension education generate a diversity of terminologies, and a variety of conceptions, as to what the important determinants of human behaviour are. Many of the more obvious disparities in terminology, deriving from the special languages brought to the discipline, will undoubtedly be eliminated as

research techniques become more standardised, and as people from different disciplines become accustomed to communicating with each other about the same research material.

Conclusion

Extension education has a long and distinguished history as a discipline, profession and an applied behavioural science. It has achieved great respect and confidence in the entire rural community. It has successfully helped the field workers and academicians in the growth of various disciplines, as well as in programmes of activities related to human improvement. Yet, recently, the extension educational activities, methods, resources, organisations and institutions have been called into question. While such questions are being raised, extension education is also being asked to expend still greater efforts in almost every activity occurring in, or related to, the agricultural community and certain parts of urban life.

Extension education is needed not just as an extension, it is an intimate part of an entity, a force much greater than itself. This force is of a very dynamic nature and that is why it has established a deep-rooted and happy relationship with the majority of the biological and social sciences. It is an excellent example of the application of an inter-disciplinary approach and social research techniques.

Inkeles very aptly emphasised: "Any attempt to set limits to a field of intellectual endeavour is inherently futile. The danger is really not too great if we keep in mind that any boundaries we establish are an aid to understanding. They should serve as a loose cloak to delimit from and not as a rigid suit of armory which is endlessly constraining no matter how useful for fighting off those from other disciplines making claims to the same territory".

All sciences freely borrow and incorporate ideas from other fields. Extension educators are often criticised for their use of jargon, their apparent predilection to develop new words while, at the same time, giving new and often strange meanings to old and familiar terms. The charges are rarely justified and this itself speaks for systematised knowledge, scientific communication and stability of the discipline of extension education.

CHAPTER 4

HISTORY OF EXTENSION ACTIVITIES

EXTENSION ACTIVITIES IN INDIA—EARLY ATTEMPTS

Attempts in the pre-British period

Because the villagers were self-contained, self-sufficient and self-governed units, there was little need for social welfare. The social system provided these in times of need. This was disturbed by the invasions of foreigners and Mughal rule when people felt the need for rural reconstruction work. The Panchayat system provided some of these facilities but the development of centralised seats of the government made these unimportant.

Efforts by British Government

Till the last quarter of the 19th century, nothing was done by these foreign rulers. But the series of famines, from 1875 to 1901, numbering 18 out of a total of 33 during the whole 19th century, forced the Government to appoint some Commissions. They recommended rural development work. There followed certain acts like: Land Improvement Loans Act, and Agricultural Loans Act of 1888, Cooperative Act of 1904 and then the amendment in the Cooperative Act in 1912, establishment of Development Departments like Agriculture, Animal Husbandry and Veterinary, Irrigation, etc. Some irrigation projects were also taken up to control famines. In 1935, the rural development work was transferred as a provincial subject and as a result of this, several provinces established their Rural Construction Departments or Village Uplift Boards. These Departments started some rural development activities and obtained funds from the Central Government for this work.

But these Development Departments could not take up any comprehensive programme. Their activities were not based on detailed studies of programme planning, or the needs and resources of the people. It never emphasised the people's participation, cooperation and involvement. It never tried to create confidence in the people through an educational approach but mostly the work remained that of a supply agency and the approach of the extension agents was the approach of bosses and not guides, or teachers.

EXTENSION BY VARIOUS AGENCIES AND ORGANISATIONS BEFORE 1952

Work at Shantiniketan

In 1908, Shri Rabindra Nath Tagore, under his scheme of rural development work, started youth organisations in the villages in the Kaligram Pargana of his Zamindari. He tried to create a class of functionary workers who could learn to identify themselves with the people. In 1921, he established a Rural Reconstruction Institute at Shantiniketan. A group of eight villages was the centre of the programme. The activities of the institute were development of agriculture, cooperatives, industries and education through village organisations.

Objectives of the Programme: (a) To create a real interest in people for rural welfare work; (b) to study rural problems and to translate conclusions into action; (c) to help villagers develop their resources, and (d) to improve village sanitation.

These objectives were desired to be achieved by: (a) creating a spirit of self-help, (b) developing village leadership, (c) organising village scouts called Brati Balika, (d) establishing training centres for handicrafts, and (e) establishing a demonstration centre at Shantiniketan.

Under its agricultural programme, the institute conducted demonstrations on farmers' holdings on improved practices; established a dairy to supply pure milk and better animals to the farmers for breeding; and established a poultry farm for the same purpose. The students and workers from the institute trained weavers, organised their cooperatives and provided facilities for training in tanning, pottery, embroidery, tailoring, etc. The institute now have a library which has a mobile unit for villagers, runs night schools, arranges film shows, meetings, etc. in the villages.

The institute could not get much help from the government and it could not conduct research work, so its work remained limited to the eight villages only. It has now been recognised as an important centre.

Gurgaon experiment

Rural uplift movement on a mass scale was first started by Mr. F. L. Brayne, Deputy Commissioner in the Gurgaon district of the Punjab, adjacent to Delhi. Under his programme, a village guide was posted in each village who was to act as a channel through which the advice of experts in various departments could be passed on to the villagers. The programme of introducing improved seeds, implements, improved methods of cultivation, etc., was started throughout the district. As these village guides were not technical men, very little of permanent value was achieved.

The work again gathered momentum after 1933, when Mr. Brayne was appointed Commissioner of Rural Reconstruction in the Punjab. In 1935-36, the Govt. of India granted Rs. 1 crore for distribution in various provinces for rural reconstruction work which acted as a stimulus. After that the work in the Punjab was transferred to the Cooperative Department and better living societies were organised to take up this work in villages.

Servants of India Society, Poona

At Mayapur village, in Madras, this organisation started a centre to impart training

in agriculture and cottage industries to village boys and girls. It also started centres in U.P. and M.P. and published booklets on subjects like basic education, labour problems, indebtedness, etc.

Sir Daniel Hamilton's Scheme of Rural Reconstruction

In 1903, Sir Daniel Hamilton formed a scheme to create model villages, in an area in Sunderban (Bengal), based on cooperative principles. He organised one village of this type and set up one Cooperative Credit Society which functioned upto 1916. In 1924, he organised a Central Cooperative Bank and Cooperative Marketing Society and established a Rural Reconstruction Institute in 1934. The Institute provided training facilities in cottage and subsidiary industries.

Rural Reconstruction Work by Christian Missions

The activities of these Missions can be accounted under three heads: (1) Education, (2) Medical Service, and (3) Rural Reconstruction.

(1) *Education*: The aim of their education system has been to impart education which is in harmony with the rural environment and site. Their system has in view character-building, the raising of the standard of general intelligence, spread of literacy, recreation, cultural activities and instruction in subsidiary and constructive employment. The educational institutions run by these Missions, number about 2000 elementary schools, 325 high schools, and 38 colleges. In order to impart both theoretical and practical training to the students and to equip them for life, Central Institutes, attached to Rural Reconstruction Centres, have also been established.

Even the colleges, though situated in urban areas and imparting higher education, have not failed to take interest in village welfare work. The Christian College, Lahore (now in Pakistan), had a well-defined Department of Rural Life Research and Extension. Allahabad Agricultural Institute, typical of its type in India, has started a training centre for extension workers in its Agricultural Economics section. There is a separate Block attached to it for the extension work. The Christian College, Nagpur, has organised a rural extension service in order to relate the college to the life of the rural community.

(2) *Medical*: There are Mission Hospitals spread throughout the country which have become effective centres for imparting training in medicine, nursing, compounding and midwifery and many students, after receiving training in these institutions, have established themselves in villages to carry on their work.

(3) *Rural Reconstruction*: Several agricultural demonstration centres at Marthandam, Ramnathpuram, Patanchery, and the other Y.M.C.A. and Y.W.C.A. institutions have been doing useful work in rural areas.

Marthandam

It was set up under the auspices of Y.M.C.A. (Young Men's Christian Association) in Travancore. It was intended to symbolise the three-fold development of spirit, mind and body and evolved a five-sided programme, representing a development, not only spiritual, mental and physical, but also economic and social. The pioneer in this work was Dr. Spencer Hatch, an American agricultural expert. The essential technique

of the centre was 'self-help with intimate expert counsel'. From the demonstration centre at Marthandam, about hundred villages were covered through Y.M.C.A. centres in villages. The extension secretary supervised the work.

Marthandam was in a strategic position to serve the villages. It kept prize bulls and goats, model bee-hives, demonstration plots for improving grain and vegetable seeds, poultry runs with prize laying-hens, a weaving shed, etc. Inside the centre, there was equipment like honey-extractors, health charts and the items needed for other cottage vocations. At the Centre, cottage vocations were taught and agricultural implements tested.

The emphasis throughout was on self-help and cooperation. The most successful projects was the Egg-Selling Club. By 1939, the egg-selling cooperative society became a self-governing body. Another co-operative society was the Honey Club, where the villagers were taught the use of modern bee-hives and extracted honey scientifically. The honey brought by the villagers was cured and marketed cooperatively. There were Bull Clubs, Weavers' Clubs, etc. The Centre had extensive social activities which could meet the mental, physical and spiritual needs of the villagers. It arranged exhibitions, lectures and had a wide range of health programmes.

Gandhian Constructive Programme

People know Gandhiji not only as a Mahatma, or a political agitator, but also as a social and economic reformer. He made people knew that India lives in village and that the common man's uplift is the uplift of the country. He wrote:¹ "*If the village perishes India will perish too. India will be no more India, her own mission in the world will be lost*".

Regarding development work in the country, he emphasised that, the "*Salvation of India lies in Cottages*". The key-words of his Economy are: (i) Decentralised production and equal distribution of wealth, (ii) self-sufficiency of Indian villages; equal distribution of wealth brought about not by the cruel process of extermination but through the hearts of the owners by persuasion and appeal to the better sense of man. He laid emphasis on the self-sufficiency of Indian villages as (a) he wanted to eradicate the class of middlemen exploiters so that the former could get the full price for his produce, (b) he wanted that the tiller should be able to consume his own products like fruits, milk, vegetables, etc.

For the emancipation of villagers he formulated an 18-point programme, which included the promotion of village industries basic and adult education, rural sanitation, uplift of backward tribes, uplift of women, education in public health and hygiene, propagation of national language, love for the mother-tongue, economic equality, organisation of *Kissans*, labour and students, and so on.

He sought to make the villagers self-sufficient and to develop in them that moral stamina which was essential to stand up against oppression and injustice.

The important institutions, which were organised to foster his ideas, were:

All-India Spinners Association, All-India Village Industries Association, *Go-Seva Sangh*, *Khadi Vidyalaya* at Sewagram, *Gandhi Ashram* at Tiruchungodi, *Gandhi Niketan*

¹*The Harijan*, July 1936.

at Kallupatti, *Gandhi Gram* at Dindigal, *Gandhi Sewa Sadan* at Porur (Malawar), *Kasturba Ashram* in Trichur, etc.

Truely speaking, the Gandhian constructive programme was a movement of the people, by the people and for the people. His small works became big organisations and institutions, and the simple ideas of that time became philosophies. His emphasis on Khadi became the Charkha movement and then, the All-India Khadi and Village Industries Board. His thought, against untouchability and the caste system, resulted in the organisation of Harijan Sewak Sangh. Similar mention may be made of Hindustani Prachar Sangh, Sarvodaya, Bhudan Movement, etc. He created leaders like Vinoba, Nehru, Jayaprakash Narayan, Mira Ben, etc., who came from common stock, but got inspiration from Gandhiji. The Satyagrah Ashram at Sabarmati, and later Sewagram in Wardha, became not only places of training but of pilgrimage.

All those engaged in the constructive programme developed, in large or smaller measure, a missionary zeal, and, at whatever point they worked, they felt the inspiration that their work was needed in a great programme for their country's reconstruction. They were soldiers of the Grand Army of the Father of Nation; they were builders of a new society and torchbearers of a new civilisation in this great country which, due to their efforts, has again been recognised as an important country. That was the spirit and vision behind his constructive programme.

Etawah Pilot Project

The idea of starting this project was conceived and born in 1947. It was put into action with headquarters at Mahewa village about 17 miles from Etawah (U.P.), in September, 1948. First, 64 villages, which were then increased to 97, were covered under it. Lt. Col. Albert Mayer of USA, who came to India with the American forces in 1944, was the originator of the Project. He started it with the aim of introducing intensive work on the rural reconstruction front.

The Government of U.P. helped him in setting up machinery at the district level and with extra staff for the Project. The Point-4 Programme of America also provided finances.

The main objectives of this project were to see what degree of production and social improvement, initiative and cooperation could be obtained from an average area.

A review of the experiment showed that it had a widespread effect on educating the villagers and broadening their mental horizons. The experiment proved not only that the material was mouldable, but that the saying that the villager is ignorant, conservative and incapable of improvement, was an outmoded one.

The rural problem under the project was tackled by: (a) efforts to broaden the mental horizon of the villager so that he might accept new and tested ideas which might then become self-generating and self-perpetuating. (b) dealing with the villager's land, his tools, and his surroundings. The method of approach was educative and persuasive rather than coercive. For this it was essential that the extension workers live in the villages prove themselves to be friends of the villagers and win their confidence.

The Pilot Programme included introduction of improved agricultural and animal husbandry practices, public health education, literacy campaigns, improvement of

cottage industries, training in repairing and evolving simple agricultural implements, in short a general awakening of all-round village-uplift activity so that the Panchayats get on a sounder footing.

The most effective achievement was that the entire area was under improved wheat crops. The area under vegetables was extended and diseases like Rinderpest and Haemorrhagic Septicaemia controlled. The other programmes taken on were the construction of roads, soak pits, adoption of improved agricultural practices, etc. All these resulted in improving the economic conditions of the villagers.

Adarsh Sewa Sangh, Pohri (Gwalior)

This plan of rural reconstruction was put into operation in 232 villages, falling in the Jagirdari of Col. Shitole. It aimed at increasing the per capita income of villagers. In each village, a Village Reconstruction Society was formed and the important items of work were compost making, deep ploughing, improved breeding and management of cattle, etc. The Sangh published a monthly journal "*Rural India*" which was devoted to Planning and Community Projects.

I.V.S. (Indian Village Service)

Its founder was Mr. Arther T. Mosher of New York, and Shri B.N. Gupta who established it in 1945. The objectives of this organisation were to assist village people to realise the best in their own villages by developing individuals, volunteer leaders and local agencies, and enabling them to be effective in helping themselves and others. The object was to assist the Government in developing villages.

For the realisation of the above objectives, the organisation adopted techniques like, personal contacts, informal group discussions, use of volunteers, demonstrations, use and production of visual aids, exhibitions, tours and trips, dramas, books and periodicals, etc. It was financially supported by contributions and donations. The organisation had branches in Lucknow and Etah (U.P.) and was affiliated to the Presbyterian Church in the USA. Residents of 15 villages were the beneficiaries of this organisation.

Sarvodaya Programme²

It was a Gandhian concept and evoked great enthusiasm in Bombay State. The main features were simplicity, non-violence, sanctity of labour and reconstruction of human values. It aimed at raising the standard of living, scientific development of agriculture, promotion of cottage industries, spread of literacy, medical and health facilities and the development of Village Panchayat.

Firka Development Scheme of Madras State

It was Government-sponsored and aimed at the attainment of the Gandhian ideal of Gram Swaraj by bringing about not only educational, economic, sanitary and other improvements in villages, but also by making the people self-confident. The scheme was launched in the last quarter of 1946 in 34 Firkas throughout the State, and on April 1, 1950, it was extended to another 50 additional Firkas, at the rate of two

²Rambhai, B: *The Silent Revolution*, Jiwan Prakashan, Chawri Bazar, Delhi, India, 1958.

Firkas for each district. The selection of the Firkas was based on considerations of the general backwardness of the area and the possibilities for initiating the production of handloom cloth and other cottage industries.

The scheme, which aimed at attacking the rural problems as a whole, as well as in parts, consisted of short-term plans for the development of rural communications, water supply, formation of Panchayats, organisation of cooperatives and programmes for sanitation, as also long-term plans to make the area self-sufficient through agricultural, irrigational and livestock improvements, and the development of Khadi (hand-made cloth) and other Cottage Industries.

The Collector, who was primarily responsible for the successful working of the scheme in the district, was assisted by a rural welfare officer of the rank of Naib Tehsildar, who was put in charge of 2-3 selected Firkas. Each Firka was divided into 5 to 10 groups of villages which were put in the charge of Gram Sewaks³ who were of the rank of Revenue Inspectors. Each Firka or group of Firkas was provided with special staff like agricultural fieldmen, administrative officers, Mistries⁴, P.W.D. Supervisors and minor irrigation overseers. To associate the people with the implementation of the programme, Development Committees, consisting of officials and non-officials, were constituted in each Firka. At the State level, there was a State Rural Welfare Board comprising the heads of the Departments and influential and constructive social workers. It was this Board that drew up the comprehensive plan of Firka Development in October, 1947.

In order to effectively stimulate healthy competition between the official and non-official agencies, the Government of Madras decided to entrust the development schemes to non-official agencies engaged in doing constructive work. Five non-official agencies were actually selected and paid grants for doing Firka development of:

- (1) Rural Reconstruction,
- (2) Drinking water facilities,
- (3) Sanitation,
- (4) Agriculture, and
- (5) Khadi and other village industries.

It was later realised that these efforts were restricted in scope and lacked coordination. They proved ineffective owing largely to lack of direction, support and encouragement from the central authority.

Nilokheri Experiment

It was originally started to rehabilitate 7000 displaced persons from Pakistan and later integrated with the 100 surrounding villages into what came to be a rural-cum-urban township. It was built round the vocational training centre that was transferred from Kurukshetra, in July, 1948 to the 1100 acres of swampy land on the Delhi-Ambala highway. The central figure of this Project was Shri S.K. Dey, later Union Minister for Community Development and Cooperatives upto 1965. The scheme called "Mazdoor Manzil" aimed at self-sufficiency for the rural-cum-urban

³Gram Sewak is village level worker.

⁴Mistry is a word used for mechanic.

township in all the essential requirements of life. The colony had school, an agricultural farm, polytechnic training centre, dairy, poultry farm, piggery farm, horticulture garden, printing press, garment factory, engineering workshop, soap factory, etc.

EXTENSION NEED OF INTENSIVE EFFORTS AT NATIONAL LEVEL

The policy of the British rulers was such that it resulted in the exploitation of India to enrich their own industries in Britain. This exploitation continued until India attained Independence, when there prevailed the problems of widespread poverty, ignorance, disease, etc. The Partition of India further increased these problems. The first year of our Independence faced with many extraordinary problems of floods and droughts. Then there was the problem of rehabilitating 9 million refugees from the Pakistan area. Our per capita income during this period was only Rs. 225 (\$ 34) and 86% of our people were illiterates, the percentage in villages being 92%.

In 1949, the Constitution of India pledged to the people: social, economic and political justice, liberty of thought, belief, faith and worship, equality of status and opportunity and to promote among them all fraternity, assuring the dignity of the individual and the unity of the nation. The main aim was to create a welfare state. This created the need for community development. In 1951, India prepared its First Five Year Plan. As a part of total planning came the Scheme of Community Development Projects on October 2, 1952, the birthday of Mahatma Gandhi, the great leader who helped India achieve political independence.

The programme was not new

The Community Development Programme was a novel idea. The beginning was made in 55 selected projects. In 1952, each such project covered an area of about 500 sq miles, with 300 villages and a population of about 0.2 million. In 1953, the C.D. programme was extended to additional areas with a plan to cover the entire rural area of the country. Under this new scheme, new blocks of about 100-150 villages, covering an area of about 150-200 miles and a population of 60 to 70 thousand people were created. Each block was divided into Village Level Workers' circles.

Organisation upto 1958

Under this new approach, in 1953, a Central Office under the administrator for C.D., which later on became the Ministry for C.D. and Panchayati Raj and Cooperatives, was created. Shri S.K. Dey, who formerly worked as Project In-charge at Nilokheri, was appointed to it. In each State, a post of Development Commissioner was created to coordinate the activities of the various Development Departments like Agriculture and Animal Husbandry, Health, Education, P.W.D., etc. At the district level, the Collector was given the job of coordinating the activities of various District Development Officers. At the Block level, a team of various subject-matter specialists in Agriculture, Animal Husbandry, Cooperatives, Cottage Industries, Health, Social Education, and Panchayats was created. For using their technical advice was the village level worker who was a first-aid man trained for the job. Formerly, his training was for six months, then it was raised to one year, then to 1½ years and

after 1958 to two years. The specialists were employees of various subject-matter Departments of the State. A post of Block Development Officer for each Block was created under the Development Department. The VLW was also an employee of the Development Department.

Organisation between 1958-65

Stages of the Programme: From April, 1958, the programme had three phases: (1) Pre-Extension Phase which was for 1 year, confined to agricultural development with a budget of Rs. 18,000. (2) Stage I: This was for intensive development for five years with a provision of Rs. 1.2 million. (3) Stage II. For another five years with an allocation of Rs. 0.5 millions. After the completion of Stage II, the Block was supposed to become the permanent unit of planning and development and an established channel for developmental expenditure. Where this was not achieved to any substantial extent, the State Government provides Post Stage II Blocks with a minimum outlay of Rs. 0.1 million a year.

The second major change was democratic decentralisation through Panchayati Raj as recommended by the Committee on Plan Projects.

Coverage. On January 1, 1965 there were 18 Pre-Extension Stage Blocks, 270 Stage I, and 2511 Stage II and Post Stage II Blocks thus totalling 5238 Blocks covering a population of 40.46 crores, living in 6.7 lakh villages. Andhra Pradesh had 445 of all types of Blocks, Assam 160, Bihar 575, Gujarat 224, Jammu & Kashmir 52, Kerala 142, Madhya Pradesh 416, Madras 375, Maharashtra 425, Mysore 268, Orissa 307, Punjab 221, Rajasthan 232, West Bengal 341, Himachal Pradesh 38 and Delhi 5.

INTENSIVE AGRICULTURAL DISTRICT PROGRAMME

The Intensive Agricultural District Programme was popularly known as a package programme. This name was given because of the collective and simultaneous application of all improved practices. These practices were improved seeds, irrigation, fertilisers, plant protection, implements, credit etc.

How this programme came to be: The agricultural production team comprised a group of experts, sponsored by the Ford Foundation in 1954, who were to study the agricultural problems of India and suggest ways and means to achieve self-sufficiency in food. This team, in its report, suggested intensified development efforts in selected areas so that rapid increase in production could be made.

Where started: The programme was started in July 1960 in 7 selected districts in various States. These were: (1) West Godavari (A.P.), Shahabad (Bihar), Tanjore (Madras), Raipur (M.P.), Ludhiana (Punjab), Pali (Rajasthan) and Aligarh (U.P.). The selection of the places was made on the basis of their high potentiality for increasing the yield in a shorter time. They were assured of irrigation facilities, were exposed to a minimum of natural hazards and did not have a drainage problem or soil conservation problem. They had well developed Panchayats and Cooperatives.

Extended to other places

Upto June 1963, the programme covered 120 blocks of those districts 45% of the

villages and 30% of the total cultivated area in the seven districts. In many States, the programme had not been extended to other districts. The newly covered districts were Surat in Gujarat, Alleppey and Palghat in Kerala, Mandya in Mysore, Sambelpur in Orissa, Burdwan in West Bengal, Bhandra in Maharashtra, six blocks in Jammu & Kashmir, Cachar in Assam and two districts in M.P. (Balaghat and Narsinghpur).

Financing

About Rs. 9 crores for the farmers of the first seven districts and Rs. 8.5 crores for other districts were estimated to have been spent. This was shared by the Central Government, State Government and Ford Foundation. This was supposed to provide facilities for additional staff, implement workshops, soil testing laboratories, information units, training of workers etc.

Objectives

The short-term objective was, by providing the wherewithal for production, to aim at augmenting production to the extent of 50-60% in the districts covered by the programme, simultaneously developing good livestock and poultry. The long-term objective was to evolve a dynamic pattern of productivity which could be extended to other places and help the rural economy grow on its own strength and resources.

I.A.D.P. versus General Community Development

(1) I.A.D.P. made intensive efforts to make use of improved seeds and fertilisers in the entire cultivated area and to encourage adoption of improved farming techniques and agricultural implements. (2) The cultivators were provided with all supplies and services at the appropriate time and in adequate quantities. (3) Under the General Community Development Programme, credit was offered only to credit-worthy farmers, while in I.A.D.P. districts all farmers, who had production plans and participated in the programme, were offered this facility. (4) Marketing and storage facilities were developed within bullock-cart distances. (5) Technical assistance was provided in preparing production plans.

Farm production plans

The process of change from traditional farming to scientific farming, from subsistence to commercial farming, from extensive to intensive and from low income to high income enterprises warranted a phased development of farm planning. The I.A.D.P. envisaged three stages in this process.

(1) First phase: This consists of implementing simple but scientifically prepared farm production plans which involve the use of a package of improved and tested agricultural practices on important crops.

(2) Second phase: It comprises further elaboration of the process and its application to all crops raised on a farm.

(3) Third phase: It envisages long-term planning and the most economic utilisation of the farm resources so as to earn the maximum net income. This involves further research in farm management.

Demonstrations

Demonstrations on improved practices of important crops were conducted on farmers' holdings to show how new techniques were applied to crops, and to indicate levels to which the production could be stepped up, if all the recommended practices were adopted simultaneously, the economics of improved techniques was worked out in order to show the net profits and to stimulate others. The measures under this programme included (1) Advance arrangement for timely supply of seeds, fertilisers, pesticides, implements, spraying and dusting equipment and other requirements. (2) Wide publicity so that a greater number of farmers could see the methods and results at various stages. (3) In addition, demonstrations were arranged in every crop season to display the use of improved implements, plant protection equipment, etc., and to show the visible effects of new things and practices. (4) The schedule of practices for each crop and each tract was prepared for the I.A.D.P. district jointly by the research and extension staff, based on the results of trials conducted previously and also on the experiences of progressive farmers. One VLW was in charge of 4-5 composite demonstrations in each crop season.

Supply of credit

The increase in the area under improved practices called for additional credit to the farmers. The package programme strived to meet the requirements of credit for productive purposes. For this, cooperative societies were organised in these districts. To enable the primary cooperative societies to play their role effectively, the Cooperative Banks were strengthened and the rules regarding the sanction and disbursement of loans were simplified.

Cooperative marketing and storage facilities

In addition to credit facilities, efforts were also made to organise cooperative marketing and storage facilities.

For the certification of quality seeds, seed testing laboratories were set up in each such district. Agricultural implement workshops costing about five lakhs of rupees were established in every district. These had tested and developed prototype implements and also trained village artisans for their repair and upkeep. These workshops developed implements, manufactured prototypes, serviced implements and vehicles and trained artisans and farmers' sons. Such workshops had been set up in each such district. Other services included plant protection, soil testing, water use and management.

A case study of Raipur I.A.D.P.

The programme started from June 1961 with 16 blocks, which had covered 24 blocks. These blocks comprised 2947 villages and a population of 1.192 millions. The total cultivated area under the programme was 1.478 million acres.

Objectives

- (1) To prepare the farm plans of farmers for loans in kind and cash,
- (2) To supply the chemical fertilisers, improved seeds, insecticides and pesticide.

(3) To bring the cultivated area under package programmes like a, b, c, d packages.

(a) Improved Biasi (paddy cultivation) with 20N+20P, 5 gm agrosan, 20 kg BHC, loans of Rs. 100 per acre.

(b) Japanese Method: 60N+60P, 5 gm agrosan, 20 kg BHC, loans of Rs. 150 per acre.

(c) Wheat: 10N+10P+5 gm agrosan, 20 kg BHC, loans of Rs. 50 per acre.

(d) Groundnut: 10N+10P+10K, loans of Rs. 50 per acre.

(4) Organising cooperative societies and encouraging members to obtain loans.

(5) To conduct demonstrations of improved agricultural practices on farmers' holdings.

(6) Crop-cutting experiments were conducted to know the average yield of the crop.

(7) Introduction of improved implements for paddy cultivation.

(8) To bring the area under soil conservation activities.

(9) To collect soil samples and analyse the soil before sowing and applying the fertilisers.

(10) To lay out input and output demonstrations on cultivator's plots.

(11) To take plant protection measures.

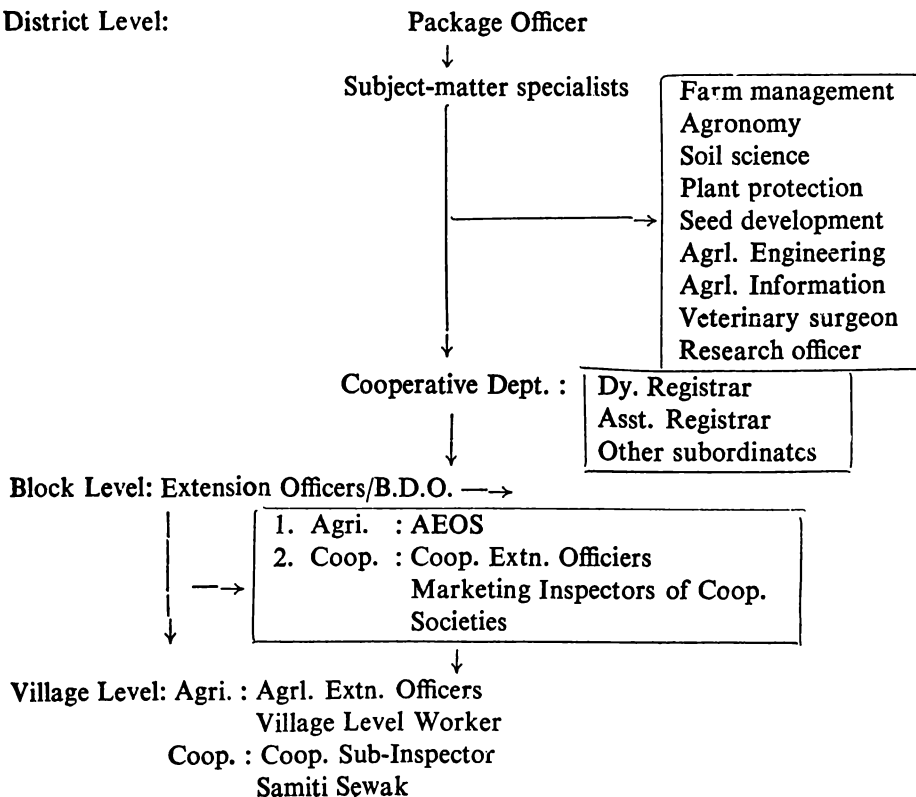
(12) To improve cattle by better breeding and feeding programmes and introduce fish farming.

Organisation

The Headquarters of the Package Programme was located at Raipur. The officer in-charge of the programme was called Package Officer. He was to work in cooperation with the Collector of the district and other subject-matter specialists at the district level (see chart given on p. 50).

EXTENSION IN MADHYA PRADESH—A CASE STUDY

Madhya Pradesh is the largest State of India. It has about 40 million hectares of land and about 37 million people. Out of the total area, only about 18.7 million hectares are cropped in a year, thus giving about 0.58 hectares per head of population, which places this State second to Rajasthan State which is mostly a desert area. About 1/3rd of the land of the State is covered by forests in this respect it occupies the first position in India. About 7 million hectares of cultivable area in the State is still lying uncultivated. The State receives about 45 inches of rainfall in a year, which is not being properly utilised because it occurs mostly during a three month period. This requires training in water management. The levelling of the cultivable waste land requires training to farmers in land levelling. Only 7 per cent of the cultivated area has some irrigation facilities and in 93 per cent dry farming methods have to be used. The average yield of important crops like paddy, wheat, maize, sorghum, peanuts, etc., are below 5-6 quintals per hectare. This requires training the farmers in the use of high yielding varieties, cultural practices such as the use of fertilisers, placement of seed, sowing distances, cropping pattern, sequences or crop rotations and package of practices, as advocated by the research workers and the extension workers of the

District Level:

Agricultural University and the State Department of Agriculture. The State has in some respects, very rich resources, but it lags behind in the use of technology in agriculture. This is because its communication channels or flow of technology are not so well developed and the audience, i.e., the farmers are mostly illiterate which include 22 per cent population of tribals in some areas.

State agriculture department

The Headquarters of the Department are at Bhopal in T.T. Nagar. The Head of the office is the Director of Agriculture assisted by the Additional Director. They have some Joint Directors to share their work in Soil Conservation, Farm Machinery, Horticulture, etc. The State is divided into seven Divisions called Commissioners, namely—Bhopal, Jabalpur, Raipur, Rewa, Gwalior, Indore, and Bilaspur. Each of these Divisions is headed by a Joint Director. In each Division there are Deputy Directors or District Agricultural Officers. Each district is divided in Blocks (about 10-15)—each block is again sub-divided into the Village Level Worker's Circles. Each such circle has about 10 villages, depending on the population. At each Block Headquarters there is a Block Development Assistant. Administratively he is under the Sub-Divisional Officer of the Revenue Department. But for his help there is one Agricultural Extension Officer, and some other Extension Officers in cottage or other industries, cooperatives, animal husbandry and veterinary, etc. They belong to the Subject-

matter Departments of the State but work under the Development Assistant of the Block. The village level worker is under the Agriculture Department. He has education up to matriculation, with some special training for two years in agriculture and other areas so that he acts as a *first aid man* at village level. He is the key man. There may be a lady village level worker for helping village women in home science work.

The job of the extension staff of the State Agriculture Department is divided as: General Agricultural Development including introduction of high yielding varieties, demonstration of improved practices, plant production, storage, use and demonstration of machinery; soil conservation; management and supervision of Government farms maintained for multiplication of improved seeds; helping farmers in getting the finances and credit from banks and other financing agencies and starting Intensive Area Development Programmes as in Raipur district called the IADP Block or Package district with the help of the Ford Foundation, etc.

(1) *Under the general agricultural development:* (a) they conduct trials of high yielding varieties; (b) recommend dry farming practices like:

- (i) Urea spray on crops 5 to 20 per cent concentration.
- (ii) Demonstrate the use of various cultures in pulses, it costs about Rs. 3 per acre.
- (iii) Recommend water harvesting methods, of course not so popular now.
- (iv) Plant protection to spray and dusting. For this purpose there are plant protection units with each Joint Director in each division. Even aerial spray have been organised.
- (v) Introducing soybean on farmers' holdings through intensive work, as in Tikamgarh and Jabalpur, in collaboration with the Agricultural University.
- (vi) Demonstrating the utility of growing oil seed crops like sesamum, peanuts.

(2) *Irrigation development:* For major schemes projects like Barghi, Bansagar and Beegh Ghat were set up. Great emphasis was placed on minor projects like (a) well-digging schemes. For the expenses on digging wells, installing pumping sets, etc., loans were given to farmers through cooperative and commercial banks. The agricultural Reorganisation Corporation helped in this work in Sagar, Rewa, Khargon, Gwalior, Tikamgarh and Sindhi districts. About 10,000 wells were then dug under this scheme. Up to September, 1970, 709 tube wells had been completed. Up to September end 53,469 water pumps were provided electricity.

Collecting water in tanks, utilising small rivulets, etc., were other schemes for developing irrigation.

(3) *Marginal holding development scheme:* In this State about 37 per cent farm holdings are less than two acres. So to help such farmers in the districts of Durg, Raissen and Sehore this scheme was started. Farmers were helped to get loans from various sources. Some small industries were also started to help remove unemployment.

(4) *Small farmers development agency:* To help farmers having holdings of less than 10 acres this scheme was started in four districts—Chhindwara, Bilaspur, Ratlam and Ujjain. About 130 thousand farmers were benefited by it. An amount of Rs. 16.6 million was provided.

Dairy development and cattle improvement

Just like the agriculture department there is a parallel animal husbandry and veterinary department at all levels in the State. Their main work is to provide: (1) Veterinary service hospitals. (2) Key village scheme centres which provide service in artificial insemination, castration of scrub bulls. (3) Running of Gosadans where useless and unproductive animals are maintained in forest areas, so that they may not breed further. (4) The Small Farmers Development Agency provides money upto Rs. 5000 for the purchase of milch animals and Rs. 3000 per family for poultry house and day old chicks. (5) Milk supply scheme. To help urban people in getting good milk, such schemes are operating in different cities in the State. The farmers got loans for purchase of milch animals, etc. Now the State has the M.P. Dairy Development Corporation.

Extension service of Jawaharlal Nehru Agricultural University, Jabalpur

The Headquarters of the University is at Jabalpur and it has six agricultural colleges at Jabalpur, Sehore, Raipur, Rewa, Indore, Gwalior; two veterinary colleges at Jabalpur and Mhow (near Indore); and, one agricultural engineering college at Jabalpur. This University is working on the Land Grant College pattern of the USA and has adopted the Trimester System. It is working in collaboration with the University of Illinois, USA.

It has a Director of Extension and a Head of Department of Extension Education and Rural Sociology at the Headquarters. There are some whole-time subject matter specialists in plant protection, horticulture, animal husbandry and home science. At each agricultural college there is a team of subject matter specialists drawn from various disciplines, namely, agronomy, soil science, horticulture, plant pathology, entomology, agricultural economics, plant breeding, botany, dairy and veterinary science and agricultural engineering. Their controlling officer is the Associate Dean of the college and the Coordinator is the Head of the Section of Extension Education. There is one lady extension teacher at each college and also at the Pawarkhera, wheat research station of the University.

I. Objectives of the extension service of JNKVV (Jawaharlal Nehru Krishi Vishwa Vidyalaya)

(a) To keep the extension personnel of the State Department of Agriculture, Veterinary Science and Animal Husbandry abreast of the latest technology in their respective fields. For it in-service courses, seminars, etc., were conducted and research stations maintained in the University in different regions.

(b) To communicate to the farmers useful and practical information on agriculture, veterinary, animal husbandry, and home science; to maximise production from land and animals by adoption of technology.

(c) To educate the farm wives in home science and agriculture.

(d) To promote welfare and development of youth—boys and girls in rural areas, who will be the future farmers to adopt technology.

(e) To work with farmers organisations with a view to developing leadership, initiative and participation on the part of the farming community.

(f) To coordinate research and extension education activities within the University

on the one hand, and, with the State Department of Agriculture and Animal Husbandry on the other.

II. Functions

To achieve the above objectives their functions are:

- (a) Farm advisory service;
- (b) Training of workers and farmers;
- (c) To collect information and process it at the communication centre and communicate it;
- (d) To work with farm organisations; and
- (e) Coordination.

III. Activities

(A) Farm advisory service

(1) *Working with adopted farmers*: The farm advisory service first works with selected farmers, and after two or three years shifts to a whole-holding programme, and then by adopting more and more farmers every year takes up the whole village. The approach is through organising film shows, exhibitions, talks from the SMS. The undergraduate and postgraduate students are also involved in demonstrating the practices and organising the work as part of their training.

(2) *Demonstrations*: (a) National Demonstrations. This is an All-India Scheme for which the Indian Council of Agricultural Research provides the money and the Agricultural Universities operate the scheme. These include demonstrations in dry farming and irrigated farming. Size of the plot has to be about one acre, and an amount of Rs. 550 per year (200 for *kharij*, 200 for *rabi* and 100 for summer crop and Rs. 50 for Board, etc.) is provided by the ICAR. The package of practices, seed variety, etc., is decided by the Directorate of Extension and the SMS locally. (b) Maximisation Demonstrations. These are conducted by the SMS and students to show to the farmers the yield potential possible under their conditions by using the recommended package or practices. A little finance for fertilisers or plant protection is provided in the initial stage.

(3) *Farmers' days and field days*: To show the farmers the results of the latest technology through these demonstrations, and also the work being done at college farms and research plots, such days are organised at important stages of crops so that differences may be seen. Exhibitions of specimens and of other things of interest are also arranged to educate the visitors in the new techniques.

(4) *Farm women's programme*: The lady extension teachers work with farm women on projects like: kitchen gardening, use of plant protection material, use of fertilisers in kitchen gardens, control of household pests, home making, nutrition, sowing, knitting, child care, health and hygiene, fruit preservation, making of jellies and jams, pickles, etc. The extension education department of the University admits girl candidates with bachelors degrees in home science, these girls take up some home science projects and theses work in the surrounding areas and help the lady extension teachers in their project.

(5) *Youth work*: On the lines of 4-H clubs of the USA, the Bal Vikas Mandal Youth Clubs have been organised. Their projects are raising calves,

poultry birds, kitchen gardening, sowing, knitting, etc. Their pledge and emblem have also been decided on the lines of 4-H clubs. The students of undergraduate and postgraduate classes of the college, also work with these clubs as part of their practical work.

(6) *Poultry project*: The University finances some poultry farmers for two years under a scheme of developing poultry in the villages. Now the SMS at veterinary college Mhow, the SMS at Jabalpur and the SMS at regional agricultural colleges and research centres help in its development. The students with B.V. Sc. degree who join M. Sc. Extension Education at Jabalpur in the Department of Extension Education also take up survey, development and research on poultry units.

(7) *Popularising soybeans*: Because soybean has been introduced in this State very recently and people did not know much about its cultivation and consumption, about 30 demonstrations on this crop were laid out in different areas of the State. The Directorate of Extension and the Director of Research have brought out some publications on this crop and its use.

(B) *Training of Workers and Farmers*

The extension directorate and the department of extension education of the University, in collaboration with the State agriculture and animal husbandry department conducts training of the State staff, farmers and farm women and other interested parties as follows:

(1) *Working out package of practices for high yielding varieties*: Twice a year a workshop of the research staff of the University, the subject matter specialist and the staff of the State Agricultural Department and some progressive farmers is organised. Two bulletins—Package of practices for *kharif* (rainy season crops) and *rabi* (winter crops) in M.P. are being printed in Hindi. A separate publication on plant-protection “Guide Lines for Plant Protection Workers” has been printed. Other similar publications are Legume Inoculation, Organic Manures, Green Manures and their Long Term Effects, and Weed Control in M.P.

(2) *Plant protection seminar*: Once in a year a plant protection seminar of the plant protection workers at the State, divisional and district-levels is held. Manufacturers and distributors of insecticides and plant protection equipment are also invited to participate in this workshop.

(3) *Training-cum-workshop for animal husbandry staff*

(4) *Senior army officers' training programme*

(5) *Training in irrigation water use and management*: The experts from agricultural engineering college, Jabalpur, and the experts from the State department are available for this training.

(6) *Orientation of I.A.S.* (trainees for Indian Administrative Service) *Probationers*.

(7) *Apprenticeship training scheme for agricultural graduates*: Graduates in Agriculture are provided the facility of staying and working with progressive farmers for a period of one year. The University pays a stipend of Rs. 225 to them each month. The farmer provides other facilities.

(8) *Information workshop*: A workshop for the information officers of the State Department of Agriculture working at divisional level is organised. The duration is one week. Experts in communication from the University helps in this programme.

A communication centre for such facilities exists at Jabalpur. It produces teaching aids and other communication media.

(9) *Communication seminars:* To train the staff of the University and its constituent colleges, seminars are organised. The staff of the State Agriculture and Veterinary Departments also participates.

(10) *Ad hoc training programme:* Specialised training for farmers and workers in the cultivation of high yielding varieties of soybeans; management of poultry; fruit and vegetable preservation; management of large livestock farms, etc. is arranged from time to time.

(C) *Information Service*

(1) *Radio programmes:* The Indore-Bhopal station of All-India Radio runs a weekly radio programme, on every Sunday at 7 P.M., deals with the seasonal problems of farmers. This is a special feature prepared by the senior officials and specialists of the Vishwa Vidyalaya.

(2) *Arrangement of agricultural exhibitions, flower and vegetable shows.*

(3) *Publications.*

(4) *Organising trips to colleges for farmers from various parts of the State.*

(D) *Working with Farm Organisations*

The University helps organisations like the Progressive Farmers Association of M.P., All-India Farmers Forum, Krishak Samaj and other such organisations to become effective channels for developing agriculture. The 23rd session of All-India (Bharat) Krishak Samaj session was held at Jabalpur from 14th to 16th March, 1970.

(E) *Coordination*

There is an extension education council in the University and State-level coordination committee to deal with coordination within the University and between the State agricultural and animal husbandry departments and the University. Ad hoc meetings of the heads of the departments in the University are also held.

(F) *Communication Centre*

A communication centre has been established at Jabalpur. The centre has a media production section which prepares posters, slides, transparencies, charts, graphs, maps, etc., for the use of extension workers. This section also produces display material for exhibition.

The radio section of the communication centre plans, organises and executes radio features, talks, discussions, interviews and warning capsules for the benefit of the farmers and the extension workers. One programme is regularly broadcast on every Monday from all the stations of All-India Radio in Madhya Pradesh.

The communication centre also publishes a magazine 'Krishi Vishwa', in Hindi, for the benefit of the farmers and extension workers. In addition to the magazine, the centre publishes folders, bulletins, leaflets, etc. A circular letter to acquaint the extension workers of agriculture and veterinary departments with the latest research findings is also published every month.

(G) *Correspondence course for farmers*

A correspondence course for young *bona fide* farmers has been started. The main objective of the correspondence course is to acquaint interested young farmers with scientific knowledge in agriculture. The syllabus of the course consists of 25 lesson plans which are mailed to the farmers. After every fortnight, the performance of the participating farmers is judged on the basis of periodical evaluation and tests.

(H) *Training of students under village conditions*

Students enrolled in the Vishwa Vidyalaya need to develop competence in solving problems of village people. It is, therefore, necessary to expose them to the village conditions wherein they can actively participate and become acquainted with village problems. A compulsory course, both at undergraduate and postgraduate levels, has been introduced for the students of all the three faculties. The students are required to work on various projects in adopted villages for six hours a week.

EXTENSION ABROAD

The Extension and C.D. programme of India has uniqueness and some originality and is one of the major experiments of the 20th century in the world. But, the rate of progress has been very low. The growth rate in Japan, Israel, Taiwan and the USA has been very high. For this purpose it is necessary that we study the extension service and their role in the development of these countries.

USA

About 170 years ago nearly 75 per cent of the population of the USA depended on agriculture, as is the situation at present in India. Their farmers also used animals for farm power and their tools and implements were as primitive as our farmers still use in India. The Farmers' Museum at Cooper's Town in New York State has all these machines and appliances to prove how technology and extension service changed the face of the USA.

In the USA between 1910 to 1955 the number of tractors increased from 1000 to 4.4 million and horse-power decreased from 24.2 million to 5 million during the same period. This decrease in the number of horses as farm power, as it was uneconomic, helped the farmer to complete the operations in time, and this resulted in the increased output per man hour. One bushel (about 34 kg) of maize, which took 100 minutes to produce in 1910, now takes only eight minutes. This means that the efficiency of a farmer, due to mechanisation, has increased by 12 times. The investment on farms in machinery, livestock, etc. which was only 2700 dollars is at present over 27,000 dollars i.e., an increase by ten times.

The increase in the output from farms raised the standard of living of the farmers. They purchased farm machines, household appliances like refrigerators, vehicles for transport, etc., and this gave rise to industrialisation. When the industries gave profitable employment their purchasing power per hour of work increased.

When the work in industries became profitable the surplus farm population started shifting from farming to other occupations. From 1800 to 1850, the decline in farm

Table 4.1.
An hours's wages of a worker bought

	1910	1970
Oranges	4	48
Eggs	8	48
Milk (in litres)	2	12
Bread	4	15

population was 2 per cent per decade and 6 per cent per decade from 1850-1875. This brought the farm population to only 50 per cent of the total of the USA. By 1920 the figure came down to only 25 per cent depending on farming. During 1950 to 1970 there has been a great fall (from 1950 to 1958 at 4 per cent per year), and it has come down to only 7 per cent depending on agriculture. The size of holdings increased as people sold their farms and shifted to industries and other occupations.

The economic size of holdings, the use of machinery in place of bullocks, farm investment, balancing in farming and adjustments in crop patterns and the technology provided to the farmers by their extension agency, etc., has brought about a rise in their standard of living. In 1940 only 33 per cent of the farm households had electricity, 18 per cent had piped running water and 15 per cent mechanical refrigerators, in 1970 every farmer had these things and also television and telephones.

One farmer in the USA, who could produce food for only 5 persons in 1850, produces now for 35 persons, 14 of the USA and 21 of other countries.

Much of the credit for improved technology, and its adoption by the farmers at such a rapid pace goes to the land grant colleges and the integrated service-cooperative extension service. The Universities provide solutions to the problems of the farmers and the integrated approach of Local, State and Federal Governments with the staff of the agricultural universities has helped to minimise the gap between the best known technology and the technology actually used by the farmers.

Cooperative Extension Service

In the USA, the extension service is called the cooperative extension and home economics service. It has the word cooperation because it ties together the local people or County Government, the State through its college of agriculture (land grant college) and the Federal Government through a special unit in the U.S. department of agriculture. The cooperative extension service is a branch of the Land Grant Institution. The levels at which the government may give authority and funds to the various parts of the service, is as in Table 4.2.

Organisation of Extension Work

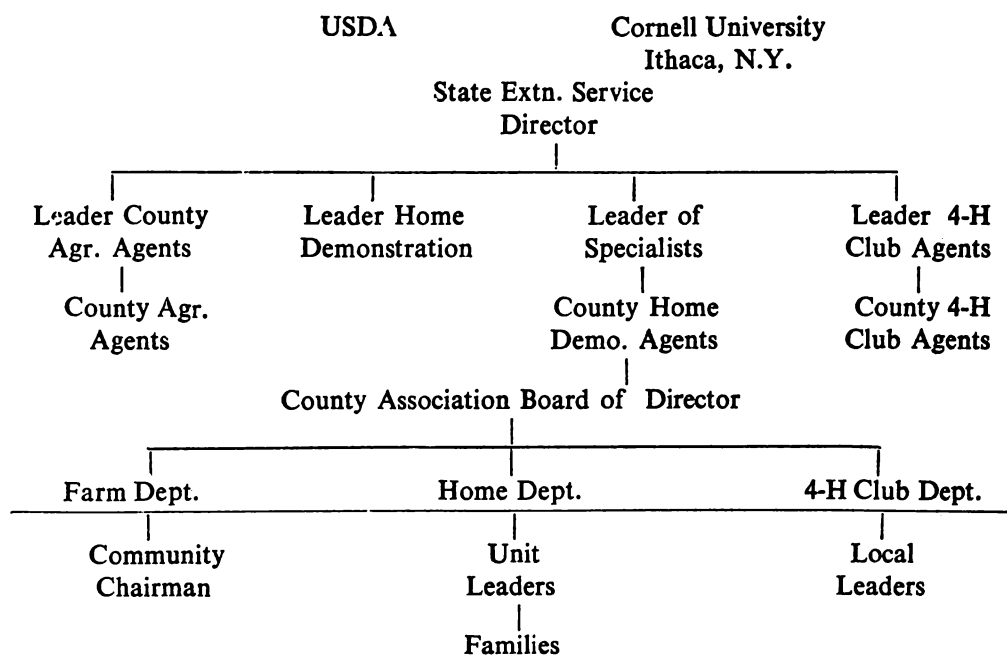
The organisation differs from State to State. In some States there may be more staff for one particular branch while in others the agricultural agent may also take up the 4-H Club work and so on. The number of counties¹ may also vary on the size

¹County: A big areager than a 'Tehsil' in India.

Table 4.2

Federal Congress	U.S. Department of Agriculture, Secretary, Director of Extension (One of many Divisions in the Department)
State Legislature	Land Grant Institution, President of the Governing Board, College of Agriculture, Research, Teaching and Cooperative Extension Service (a) Director of Extension (b) Supervisors and Specialists Other Colleges like Home, Eco., Vet., Mechanics, etc.
County Government	County Sponsoring Organisation, County Extension Service, County Extension Agents

and intensity of work in the State. The State of Missouri has 114, N.Y. 56 counties while Texas has 253 counties. As an example, we give the organisation in State of New York.



Organisation at Tompkin County: In Tompkin County, Ithaca, N.Y. State, there is one executive committee, elected from amongst the people of the county, consisting of ten persons—one President and nine members. They meet at least once a month. The important jobs of this Committee are the appointing or firing of an agent, control of finances, etc. It has Community Committees which have their separate programmes. They have combined meetings when needed and discuss general problems. The Chairman of each of the three Executive Committees namely, the Agriculture, Home Demonstration and 4-H Clubs make a Central Committee. In other States, the terminology

in use may be different. In Illinois State, the County Agent is called an Advisor. Similarly, the word Chairman may be used in place of President in some States.

New York State has two State colleges of agriculture doing cooperative extension work, but the Director of extension is one. Subject to the authority of the Deans of colleges of agriculture and home economics, the Director of extension has overall administration of the extension programme of both colleges. He is appointed to represent both the State and the Federal Governments in handling this responsibility. He is assisted by several administrative specialists and State leaders. All fiscal records are handled by the Director of finance of the State colleges of agriculture.

There are three State leaders for each type of agent in the counties, i.e. State leader of county agricultural agents, State leader for home demonstration agents, and State 4-H club leader. Each of these leaders has four or five assistants whose work is often assigned on a regional or district basis. The assistants also have certain Statewide responsibilities in the division of labour that is required in relationships and subject-matter—the woman dealing with home economics and the recruitment of women agents and the men having similar responsibilities in agriculture. They make their headquarters at the colleges and not in the field, as district agents do in many States. They are supervisors of agents and work on relations, programme building, selection and training, and maintenance of personnel in the counties.

All specialists are attached to their respective subject-matter departments and are responsible to the head of the department for the technical matter they teach. In the college of agriculture, all extension specialists are scheduled through the extension specialists scheduling office, and, in this respect, are also responsible to the Director of extension. In the college of home economics the specialists arrange their own schedules with the counties, working closely with the State leaders who supervise the Counties. Specialists in 4-H club work are employed by each college according to the various needs.

The activities like editorial, news, radio, visual aids, motion pictures, photography are handled by the department of extension teaching and information. This department is also responsible for all publications, such as bulletins, and their distribution to counties, to individuals and for correspondence courses. Undergraduate training of prospective extension workers is done through this department, by credit courses in the college of agriculture.

How the county office serves the farmers? In each village, there are community leaders who have literature and are well-informed farmers. The farmer who needs some information, may call on the telephone, or he may see the county agent, or may inform him by phone or letter. The county agent manages to supply him the necessary guidance or may even call at his farm or home. If the farmer needs very technical advice, the county agent arranges this through the experts from the Research Station or University.

County agents: The county agent is generally an undergraduate of an agricultural college with special training, experience, ability to express ideas well, and able to advise farmers and cattle-breeders. Whenever there is a vacancy, the county committee requests the State Office to suggest a few names of persons for the post. The selection and removal of a person is entirely in the hands of the Local Committee.

Care is taken that the person should not be a resident of the same county and that his near relatives and wife are not employed in the same county office. Their salary is also decided by the local committee. It generally varies from \$ 4000 to \$ 7000 a year with facilities like a car for transport.

Local leaders. The county agent prepares a list of local leaders through election. These leaders play a very important role. They are unpaid and are supposed to be leading farmers or home-makers. They hold meetings in their communities and serve in county as regards 4-H club work, home demonstration work or farm demonstrations, etc.

Home economic agents: In each county office, there is one lady home agent exclusively responsible for extension work among women. At some places, there may be separate agents for rural and urban work or even separate agents for white and coloured Americans. About 5000 trained agents assisted by about 0.7 million volunteer local leady leaders, are carrying out work through about 70,000 clubs with a local membership of about 2 million women. This service helps the women in solving their farm and home problems.

4-H clubs: This is an organisation of boys and girls from 10 to 20 years of age with a definite programme of farm and home development and personal and social development. It is a part of the national agricultural extension system. One 4-H club agent or at some places two separate agents for boys and girls organise the clubs and look after the projects of individual and clubs. It has been given the name 4-H club because the club members are expected to have four Hs, the first H stands for HEAD, second for HEART, third for HANDS and the fourth H for HEALTH.

Organisation set-up

The organisation has three sets of principles; (1) Creed, (2) Pledge and (3) the Motto.

(1) *The National 4-H Club Creed*

(a) I believe in the 4-H Club work for the opportunity it gives to me to become a useful citizen.

(b) I believe in the training of my HEAD for the power it gives me to think to plan and to reason.

(c) I believe in the training of my HEART for the nobleness it gives me to become kind, sympathetic and true.

(d) I believe in the training of my HANDS for the dignity it gives me to be helpful and skilful.

(e) I believe in the training of my HEALTH for the strength it gives me to enjoy my life, to resist disease and to work efficiently, and

(f) I believe in my Country, my State and my Community and in my responsibility for their development.

In all these things, I believe and I am willing to dedicate efforts towards their fulfilment.

(2) *The 4-H Club Pledge*

Each member has to take a pledge before an authorised person.

I Pledge

My head to clear thinking,
 My heart to greater loyalty,
 My hands to larger service,
 My health to better living for,
 My club, my community and my country,

(3) *The 4-H Club Motto*

"To make the better best".

Objectives of 4-H Club: The 4-H Club Youth Organisation has eight distinctive educational objectives which are as follows:

(1) To help rural boys and girls to develop desirable ideals and standards for farming, home-making, community life and citizenship and a sense of responsibility for their attainments.

(2) To offer rural boys and girls technical instruction in farming and home-making so that they may acquire skill and understanding, and a clear vision of agriculture as a basic industry and of home-making as a worthy occupation.

(3) To provide rural boys and girls an opportunity "to learn by doing" through conducting certain farm and home enterprises and by demonstrating to others what they have learned.

(4) To instill in the minds of rural young people an intelligent understanding and appreciation of nature and of the environment in which they live.

(5) To teach rural boys and girls the value of research and to develop in them a scientific attitude towards the problems of farm and home.

(6) To train boys and girls in cooperative action with the idea that they may increase their accomplishments and, through associated efforts, assist better in solving rural problems.

(7) To develop in rural boys and girls habits of healthful living, to provide them with information and direction in the intelligent use of their leisure and to encourage them to continue to learn, in order that they may live worthier and richer lives.

(8) To teach and to demonstrate to the rural boys and girls methods designed to improve practices in agriculture and home-making with the object that farm incomes may be increased, standards of living improved and the amenities and life satisfaction enhanced.

Programme of work: The programme of work consists of:

- (1) Farm and home project work
- (2) Health improvement.
- (3) Club activities—every-day courtesies, first aid, prevention of accidents, etc.
- (4) Recreation—such as singing, games, play, etc.
- (5) Parliamentary procedure, in order that they may conduct good business meetings.

The agricultural projects include raising of livestock, dairy animals, poultry, vegetables and fruits, soil conservation, agricultural engineering, handicrafts, etc. Similarly, in home-making, the items are food preservation, preparation of garments, etc. The county and State and federal offices arrange to hold annual competitions at various levels. The winners of county competitions at the annual county fair are

sent to compete at State fairs and similarly, the winners of State competitions are given chance to compete in national fair. It is very interesting to see the young boys and girls preparing their exhibits, for competition and presenting them to the Judges. The winners are given badges of different colours according to the place of their standing in the competition.

Financing of the organisation: For its financing no fee is levied but collected from sources like the provisions made by parents, sale of articles prepared by some members while learning, donations, running tea stalls or cafeterias at county or State fairs, etc. At the Stockton county fair in Kansas State, where author stayed for a couple of days. August 1960, the 4-H Club cafeteria was being run very nicely by the members.

National 4-H Club Foundation: It is a non-official organisation serving the 4-H club through a variety of activities. Its Board of Trustees selected from the cooperative extension service and the land grant colleges and Universities, comprises eight members. It is financed by the 4-H builder's council, a citizenship group, comprising leaders of the business community, which seeks to develop continued support for work of the foundation. Additional support is received from concerns like the Ford Foundation, American Express Co., etc.

Other Youth Organisations in the USA

Other youth organisations are: (1) Future Farmers of America (F.F.A.). (2) Future Home-Makers of America. High School girls studying Home Economics are eligible to become its members (F.H.A.). (3) The Farmers Union, Farmers' Bureau and National Grange have their own Youth Organisations.

These are all organised on the lines of 4-H Clubs and the members compete with other youths. The county office help them in the same way as 4-H Clubs.

Farmer's Organisation: The farmers of the County are organised into various State and National Organisations for the development of their farming programmes.

Federal Farm Bureau: All the State Farm Bureaus were integrated into it in 1920. It assists in formulating the National Agricultural Policy on the legislation regarding farming. It also watches over the policies of the Department of Agriculture. It has its State branches and runs the Cooperative Marketing Societies of the farmers as well as handles Agricultural Insurance.

National Grange: Organised in 1867, it is one of the oldest farmers' organisations. It is a family organisation and adults, women and children all can become its members. It arranges for special talks on farm and home problems, takes the results from agricultural research stations to farmers holdings, helps the agricultural colleges and the research institutes, arranges for farm loans, helps in checking soil erosion, organises agricultural exhibitions and helps in improving the recreational centres, etc.

National Farmers' Union: It is organised on the lines of the National Grange.

Home Demonstration Clubs: These are organised by enrolling 12 to 25 home-makers or ladies to make a local club. They elect their office-bearers and arrange for lectures from outside experts and for training, etc. These small clubs are organised into State Organisations and from State and National Federations. They help in improving the home conditions, kitchen gardening preserving food, recreation, etc.

Other Farm Services in the USA

Besides the agricultural extension service, the following services play an important part in the overall development of farm people of the States.

- (1) The farm credit association.
- (2) The farmers' home administration.
- (3) Rural electrification board.
- (4) The forest service.
- (5) The soil conservation service.
- (6) The production and marketing administration.
- (7) The commodity credit corporation.
- (8) The federal crop insurance corporation.
- (9) The commodity exchange authority.

Development of American Agriculture and the Cooperative Extension Service

If we go through the history of the development of extension service in the USA, we find that the professional people who became involved in this educational work also "Learned by doing". There were no pre-trained personnel. The individuals who found the ways to get the job done became leaders, but there was a great area of trial and error and experimentation. The important events can be given as follows:

1785—For the first time in 1785, a society for promoting agriculture was organised in Philadelphia to disseminate agricultural information through publications, newspapers, articles and lectures, and to foster local organisations.

1796—In this year, the First President of the U.S., George Washington, suggested to the Congress the establishment of a National Board of Agriculture.

1811—The Berkshire Agricultural Society (Massachusetts) organised agricultural fairs, sale of farm products, competitive exhibits, programmes in agricultural education. Mr. Elkanah H. Watson founded it.

1852—The U.S. Agriculture Society was founded with representatives of 23 different States.

1854—Farmers' Institutes started by the Massachusetts State Board of Agriculture. During the next 50 years, these institutes became the principal means of providing rural people with agricultural information.

1862—The Morrill Act established Land Grant Colleges. As the Congress granted an endowment in terms of federal land and a grant of 5,000 dollars per year, these colleges were known as Land Grant Colleges. Some of these colleges have now become full-fledged Universities. The main object with which these colleges were established was to acquire and diffuse among the people of the United States, useful information on agriculture. Later on, experimental farms were started on the college campuses. It was thought that class-room teaching alone was not sufficient for bringing rapid change in agriculture so they employed top publicity men, arranged for lectures in villages and these professionals took tours to various places where they were invited by the farmers.

1867—The Grange Organisation was formed.

1884—Bureau of Animal Husbandary was organised.

1887—The Hatch Act established experiment stations.

1900—13 Clubs to work with rural boys and girls were developed in many States.

1902—A National Farmers' Union was organised.

1903—Teaching by demonstration started by Seaman Knapp and community Demonstration Farms were established in Texas.

1904—Farm demonstration on cotton boll weevil control started in Texas and 24 special agent were engaged to help Dr. Knapp.

1906—First county agent appointed in Texas. Knapp further expanded the extension organisation and was successful in getting about 157 associates to undertake the extension work. By 1914, about 700 counties were able to have county agents.

1914—Smith Lever Act coordinated extension work nationally.

1917—Smith Hughes Vocational Education Act.

1920—American Farm Bureau Federation organised.

1923—Agricultural Credit Act.

1935—Soil Conservation Service Established.

1953—Congress amended Smith Lever Act.

1955—Extension Law (Public Law 360)—Rural Development Act—provided appropriation for cooperative extension to give "assistance and counselling to local groups in appraising resources for capability of improvement in agriculture, or introduction of industry designed to supplement farm income", and do this in cooperation with other agencies and groups.

Balanced Farming under the State Extension Programme

In some States, the agriculture extension service provides aid to farmers in planning a balanced farming system and putting it into operation. It involves planned farming in which each farm family can analyse the resources available, and develop a system for more profitable farms and better family-living. Under this programme, a plan is set out by each individual family with the help of its county extension agent. Every item in farm improvement is scheduled. Resources such as land, labour and capital determine the extent of the plan. Several alternative plans are considered before selecting one which seems most suitable. Every farm is supplied with a balanced farming work-book. In this book, records are maintained for checking the profitability of each system and item. The system adapts to any farm regardless of its size and type.

ISRAEL¹

The agency responsible for the agriculture extension service is the "Joint Centre for Agricultural Extension", run jointly by the Government (Ministry of Agriculture) and the Settlement Department of the Jewish Agency. The representative of the Government works as the head of the extension service. The main sections of the Centre are: (a) Training or guidance section in new settlements, (b) Publications Division, (c) Audio-Visual Aids, (d) Home Economics, and (e) Auxiliary farms.

(a) Training and guidance in the new settlements

As there has been much immigration after 1948 and as the country had very few

¹Based on 'An Agro-Economic Survey of Israel' by the Author (Dahama) under UNESCO Plan in 1956.

agricultural graduates, the Centre decided to meet the situation in the following ways: (1) By engaging volunteer farmers to act as instructors in the new villages; (2) by training the new instructors; and (3) by providing facilities for in-service training.

(1) *Volunteer Farmers:* The movement of taking young people from well-settled villages who, with their families, settled in the new villages and worked as instructors, solved the problem, partially.

(2) *Training of New Instructors:* Arrangements were made at the Rupin agricultural college in which departmental instructors and even new persons, were trained to act as instructors in the new settlements.

With the cooperation of U. S. O. M. (United States Operation Mission), one training centre for training farm managers and branch managers at Ibim farm has been started. The aim of the course of farm management is to make the trained understand techniques of economic production. The trainees for the farm managers course have to study for four months devoting three days a week to practical work and three days to lectures on six subjects, including vegetables, industrial crops, orange groves, irrigation, mechanisation and farm management.

(3) *In-service Training of Instructors:* Every instructor has to get this training in order to refresh his knowledge and to get more basic knowledge. It is of 14 to 18 days duration. Some days are devoted to training and others to demonstration work.

Courses in writing: There is an agricultural institute for it, where lectures are prepared and sent to the instructors. The instructors are given question papers to be answered with the help of the postal lectures. An instructor can subscribe to this course, when he passes it. Seventy-five per cent of the expenditure incurred on the course is repaid by the Government. There is one library for this purpose at the agricultural research institute, Rehovot.

(b) Working of the publications division

This section publishes four types of publications: "leaflets" for the new settlers; "bulletins" for the old settlers; and advanced publications like "Farming Instructors News Sheet" (Alon Lamadrich Hachaklai); and advanced publications.

The leaflet is meant for the new settlers, who are not expected to know anything of agriculture. It is short, concise and in simple Hebrew language. The sentences are very small, paragraphs are short and it has many coloured pictures. Such publications have been on corn, peas, manures, goats, onion, horse, tobacco, peanuts, potato, pastures, etc.

The bulletins are meant for old settlers and are sort of books giving more detailed information.

Farming Instructors' news sheet: It is a monthly publication and its intention is to give the village instructor some instructions in his day to day work as well as seasonal news.

Advanced publication are more complete studies on the subject with a research background.

(c) Audio-visual aid section

The U. S. O. M. under the point four plan has supplied equipment for the preparing the recorded talks and coloured slides. They have special visual cars and with the cooperation of the General Information Bureau of Israel, they go to the villages. The slides and talks cover topics like preparation of compost, grading of vegetables, etc., and due consideration is given to variation in climate, irrigation, types of soil, cultural methods, etc. Different lectures are prepared for different regions.

Other activities

(1) *Evening Discussions with Farmers:* The instructor gives the villagers talks in evening which are recorded. These talks, to make them more impressive, are sometimes aided by slides or pictures on agriculture. The farmers ask questions. Persons specialised in the particular subjects are often invited to give talks in the villages.

(2) *Demonstration Plots in the Villages:* Three or four plots of the farmers are selected for demonstration, under the village conditions in each village, where the farmers carry on operations according to the guidance of the experts. The cost is met by the Joint Centre.

(3) *Organising Village Exhibitions*

(4) *Contests and Awards of Prizes*

(5) *Agricultural Excursions:* The farmers of a settlement are taken to well-developed settlements. It gives an idea about the drawbacks in their own system

(d) Home economics section

This section is for the purpose of training the women to take care of home, family, child, cooking, etc. There is one Advisory Council consisting of representatives from the Ministry of Agriculture, the Jewish Agency, the W.I.Z.O. and the National Organisations of the different types of settlements. The council decides programme for the villages. It has extension workers in home economics who are professionals but volunteers from the old settlements.

For training the instructors, in-service courses and study days are arranged where training is given in utilising the surplus vegetables by making tomato sauce, tomato juice, and preservation of fruits. After learning it, the instructors demonstrate it in the villages where they work.

They prepare model houses to show how a woman can make her house a nice one without much cost. The women from villages are brought and shown the utility of material, like citrus boxes, making of curtains from *talpatti*, and how to make beds, clean utensils, and prepare food, etc.

Recorded lectures, slides, charts, maps and pictures showing the use of tomatoes, kitchen gardening, care of babies, preparation of family budgets, vitamins in vegetables and fruits, balanced diet, hygiene, etc., are arranged.

(e) Auxiliary farms

Under this scheme, non-agriculturists or persons having some area in their compounds, are persuaded to grow vegetables and fruits, maintain some poultry, etc. It has five objectives behind it:

(1) *National Education:* As many of the immigrants who come to Israel are not

agriculturists hence in order to create a just contact between these families (especially among their children and women) and to awaken in them love and care for the soil, this system was introduced. This is called the national educational objective because, after the working hours, the inhabitants of small towns or of housing estates work on the plots by the side of their houses and thus become agriculture minded.

(2) *Economic*: It gives them livelihood, partial employment and ensures a varied supply of fresh agricultural produce in all seasons, and thus reduces the household expenses on these items. If there is a surplus, the family can sell it.

(3) *Health*. It brings the urban workers, the artisans, factory workers, clerks, or any type of such indoor workers out into the fresh air and enables them to exercise for at least one hour a day.

(4) *Aesthetic*. Changes the landscape by covering it with flowers, fruits, vegetables and gives it an attractive appearance.

(5) *Training for agricultural settlement*: It has been experienced that many immigrants who formerly did not like to accept agriculture as their occupation and had no interest in agriculture, after receiving training by working on their auxiliary farms, resolved to settle in villages as farmers.

Planning of auxiliary farms

Under this the area is one-third to half acre, varying according to the size of the family, the health of the members, and the inclination towards work. It should be protected from theft and stray cattle and should be situated near the house. As many branches as can be conveniently handled like vegetable, poultry, raising of fruits and crops, can be organised. Water arrangement is necessary.

The Government provides loans varying from IL 125 to IL 425, according to the size of the farm.

To provide agricultural extension service to the auxiliary farms, instructors are employed. The experience shows that the women instructors are more successful, and so 90 per cent of the instructors are women.

The programme of agricultural schools includes a special subject, "Instruction on Auxiliary Farms". All the students in the elementary schools are given training in elementary practical agricultural work and in their spare time, they do the work of their own farms. It has been noticed that the majority of the auxiliary farms are being run by boys of 10 to 14 years of age. The average annual net income per farm amounted to IL 579 (IL 1037-IL 458=IL 579) in 1955-56 in 18 years.

A comparative study

Extension service improved agriculture and gave a higher standard of living to the people of Israel, which has very poor natural resources. This is because its people accepted scientific ways of farming (Table 4.3). This country became independent in 1948, i.e., one year after India, and their population has increased from 5 lakhs in 1948 to 20 lakhs in 1966, i.e., 400 per cent increase in 18 years.

Exports

Exports of agricultural products amounted to 1/3 of their total of goods worth

Table 4.3
A Comparative study of farming in India and Israel

	<i>In Israel</i>		<i>In India</i>
	<i>Average</i>	<i>In best villages</i>	
Area in sq miles	7872		Jabalpur Narsingpur District 7491
Population in 66 (Lakhs)		20	20.5
Rainfall in inches (annual)		20 (2/3 desert)	56 Jabalpur
Temperature in F		40-110 F	46-106"
Milk production in litre			
per milch cow	5840	7320	150 India
per sheep	300	400	20
Eggs per laiyng hen	210	250	70
Citrus fruit per capita	10 mds.	—	—
Cotton (Lint)	13 mds.	23 mds.	1 md, M.P.
Groundnut	32 mds.	—	6½ mds.
Wheat	38 mds.	74 mds.	6 mds.
Jowar (Unirrigated)	25 mds.	60 mds.	6½ mds.
Irrigated	76 mds.	120 mds.	—

₹ 391 in 1965. These included citrus 7 million dollars, other foodstuffs 32.3 million dollars. Agricultural products 13.5 million dollars, per capita exports from such a small country amount to Rs. 1,500 per capita of population per year which is about five times the average income per capita in India.

TAIWAN

Taiwan has about 14,000 sq miles of area and a population of 12 million, which gives it a density of 860 persons per sq miles. This is more than 2½ times that of India. The rapid progress made by this country since 1948 gives an illustration at how an underdeveloped country can make strides in agricultural production through extensive extension efforts and planning.

Here extension work is undertaken by the farmers' associations. An agreement was signed in 1957 by the Provincial Department of Agriculture and Forestry (PDAF), the Provincial Farmers' Association (PFA), and the Chinese American Joint Commission on Rural Reconstruction (JCRR). It specified that a unified system of extension was to be carried out by P.F.A.; under the sponsorship of P.D.A.F. and with financial and technical assistance from J.C.R.R.

The farmers' associations in Taiwan are organised on three levels: provincial, country, (HSIEN) (22) and township (317). About 85 per cent of the farm families on the Island belongs to these associations. Each association serves on the average 2,500 farms or 15,000 farm population. Agricultural extension is financed by associations with subsidies from government agencies and JCRR. Since extension supplies like seeds, fertilisers implement, etc., are provided by the associations, extension work is mainly educational. Up to the end of 1959, 3,500 4-H Clubs with 40,000 members, and 1,230 Farmers' Discussion Groups, 420 Home Improvement Clubs, had been

organised.

At the State level, there is an advisory committee composed of representatives from various Government agencies, training institutes and private bodies with the Commissioner of PDAF as Chairman and the General Manager of PFA as Secretary. Pre-service and in-service training of Extension personnel is given great emphasis.

J.C.R.R.

The joint commission on rural reconstruction created by the Government of the Republic of China and the U.S.A. in 1948, is mainly responsible for this rapid growth. The development of agriculture has been the main focus of JCRR activities, but it also operates in such related fields as marketing and rural public health. Though the agricultural 4-year plans are drafted at the Centre, they are revised in consultation with Farmers' Associations and local Governments. The typical pattern is period of study followed by an action programme managed by the JCRR or the Central Government, then the farmers take over full or partial management. The Rat Control Programme for example, was studied for 3 years (1950-52), launched in 1953, managed from the Centre until 1959, and is now managed locally. Other examples are programmes of renewing rice seed, nursery improvement, introduction of machinery and implements, all of which are partially managed by farmers. All public health including family planning is conducted in partnership with local institutions. The prime burden of extension work has been assumed by the farmers themselves. Extension agents are hired by the Farmers' Association, which bears 2/3 of its cost, the rest is paid by the Government and the JCRR. The extensive farmers' cooperatives employ about 13,000 persons, many of them trained by the JCRR.

The lesson of Taiwan and JCRR is that agriculture is capable of rapid growth, but only if all the necessary factors are present. This underlines the importance of governments of underdeveloped countries and aid-giving nations alike, investing in the physical and human infrastructure that made Taiwan's success possible.

Natural resources of Taiwan

The climate is sub-tropical. The Island is mountainous with less than 1/3rd area arable. Of the 9 lakh hectares of cultivated land, 5.4 lakhs are paddy fields and the remaining are dry lands. The yearly rainfall is between 80-100 inches. Most of the lands are sloping and much water can not be retained.

Multiple cropping

It is common for the farmers to obtain four crops in a year, from the same plot, two of rice and one cash crop, harvested before each transplanting of rice seedlings. Tobacco, rape seed flax, maize, jute, sweet potato, peas, melon, sorghum, soybean and a number of vegetables are raised.

Sugar and rice were the predominant products in 1952, making up 81 per cent of the total production. Products for export now include bananas, canned vegetables, and fresh preserved fruits. Cash crops accounted for 76 per cent of the total value of agricultural exports in 1968.

If we take 1911-15 as the base year, the index number of crop production has gone

up to 396 in total agricultural production in 1961-65. In crops, this figure was 386, and in livestock, 386 (1911-15=100). From 1951-55 to 1961-65 the annual growth rate of crop production has been three times faster than the annual growth rate in land area. During this period the annual growth rate of crop production per cultivated hectare was 3.5 per cent.

CHINA

History of extension

The first attempt was made by the National Committee of the Chinese Y.M.C.A. Around 1915, it sponsored a popular lecture tour on afforestation. The programme was conducted for nearly two years. In 1918, Dr. John H. Raisner, the Dean of the Agriculture College of the University of Nanking introduced the extension system to improve cotton production in China. A cotton specialist from U.S.A. was invited to conduct this work.

Mr. Y.C. James Yen took up a campaign to eliminate illiteracy. As a priority the first programme was literacy, the second Agriculture and Economic Reconstruction, the third was Rural Health and the last was Citizenship Education.

The second private group was the Lt. Chun Christian Rural Service Union. It took up a programme of tackling rural problems by the combined efforts of the Christian Church and the local Government.

Efforts by colleges and universities

The College of Agriculture of the National S. Eastern University took up work on cotton. A number of research stations were established in different cotton-producing provinces. Next was the Nanking Agriculture College in 1924 where a division of extension was established. In church-related institutions, training in agriculture extension was also started. Lingnan University of Canton did outstanding research in seed selection, fruit culture, soil analysis, insect control, crop rotation and home economics. Fukien Christian University in Foochow Fukien Province pioneered in 1934 the organisation of a Rural Service Centre.

National extension service

In 1924, a rational committee of agriculture extension service was organised. The Ministry of Agriculture and Forestry was the central agency responsible for the planning and administration and operating it on national level. There were three important bodies for scientific research.

In 1943, the Chinese Agriculture Association drafted a preliminary outline for post-war agriculture reconstruction in China. It recommended the creation of nine Bureaus in the Ministry of Agriculture, one of which the Central Extension Office, was to serve as the general headquarters of all agriculture extension activities in the country. It had four divisions:

(1) *Agricultural cooperation*: Covering agricultural production, processing, marketing, distribution and farm insurance.

(2) *Land use*: It dealt with planning and development, farm implements and irrigation.

(3) *Information division*: For disseminating information on improved practices

and ways of living.

(4) *Coordination and Assistance*: It had travelling demonstration teams, each composed of subject-matter specialists, who kept close contact with different extension offices throughout the country.

The People's Republic of China

It was proclaimed independent in 1949 and began extension work as under:

China's First Five-Year Plan (1953-57). It aimed at laying a preliminary foundation for agriculture as a socialist enterprise. Agricultural production was to be raised by 23 per cent during the period and half of the 120 million peasant householders were to be incorporated into producer's cooperatives. Grain output was to be increased by 18 per cent, cotton 25 per cent and soybeans 18 per cent. Livestock was to be increased by—cattle 30 per cent, horse 36 per cent, dogs 54 per cent, sheep and goats 83 per cent.

Second Five-Year Plan: In September, 1956, the 8th Congress of the Communist Party of China adopted a directive for the development of the national economy in the period of 1958-62, which was considered as a Second Plan of China.

JAPAN

History

As early as 1870, the liberated farmers organised discussion meetings and invited lecturers. In 1881, the farmers' discussion meeting was held at the national level in Tokyo. In 1885, the Bureau of Agriculture started itinerant farm instruction. The first experimental farm was set up in 1886. During World War II, the Farmers' Association, Stock Raising Association, Sericulture Association and the like, were all united into the Imperial Agricultural Association. The post-war situation favoured a new system which started in 1948 when the U.S. system was adopted with little change. The organisational chart can be seen as on the next page.¹

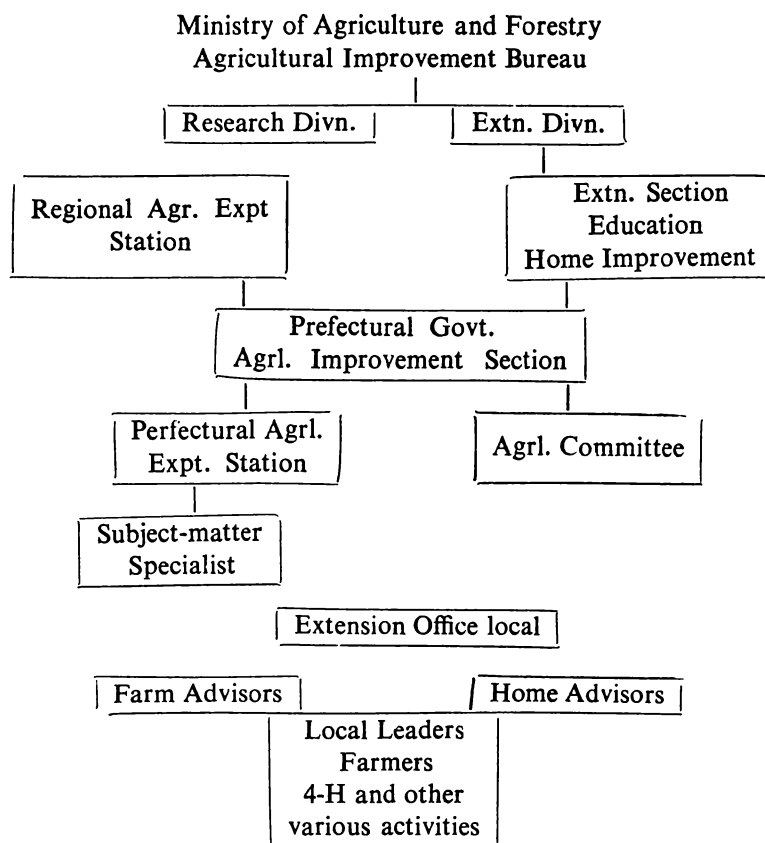
Local. The farm advisors and home advisors are local government officers. They are paid half by local and half by national funds. The subject-matter specialists are also local government officers but are paid from the national budget in the form of grants-in-aid. They belong to one of the 23 special fields like rice, soil, livestock, etc.

They are the link between the farmers, farm advisors and the experimental stations.

Prefectural level. They administer their local work.

National level. The Extension Division in the Ministry of Agriculture and Forestry has 3 sections: (1) Extension, (2) Extension Education, and (3) Home Improvement Bureau. The extension division takes charge of affairs such as the qualifying examinations for subject-matter specialists, production of slides and films, radio programmes and evaluation of the local work. The main task of the extension education section is pre-service and in-service training and also rural youth programmes. The home improvement section covers food, clothing and home management problems.

¹Term Paper in class RE 227 April, 1960 read by Akira Hosokawa, page 4a, Cornell University, Ithaca (N.Y.), U.S.A.



Advisory and Cooperative Organisation by farmers

Prefectural regulations make provisions for the extension to work with the prefectural agricultural committee in order to reflect farmers' needs in the extension programme. The committee expresses its opinions at the Governor's request.

The village local leaders are selected to be the promoters of the extension work.

Main features of extension in Japan

Due to the high rate of literacy, extension teaching is readily accepted by the farmers.

Close cooperation between research and extension at all levels of administration helps to make the work of both more meaningful and useful.

Farm advisors, are stationed in groups of 7 to 9 people, in each of the local offices. Each person serves on an average, about 600 farm households in a rather compact area. This permits a close contact between the farm advisors and the villagers. By working together as a team, they can discuss problems of common concern and receive inspiration and help from each other.

Rural boys and girls, after completion of their nine years' compulsory education, may enter one of the 54 youth training farms for one or two years of practical training in farm and home work. After graduation, they go back to their parents' farms, and may become youth club leaders, and, in time, leaders in their home committees.

PHILIPPINES

The extension programme in this country has a very prominent place in the Asian and Far-East countries. It is given the authority to consolidate, coordinate and expand agricultural extension work in the country. It is organised on national, provincial and municipal levels. The central office has seven divisions for administration, public relations, evaluation and training, specialists' services, agricultural programme, and rural club programme.

At the municipal level, there are about 850 agriculturists and 230 home demonstrators to work in about 22,000 villages (Barrios). About 50 per cent of the agriculturists and 10 per cent of home demonstrators are graduates of agricultural vocational schools and the remainder are all agricultural college graduates.

In-service training is given more emphasis. All regional and provincial extension workers are given 3-5 days in-service training four times a year at the regional offices. The municipal workers are given similar training at the provincial offices. In addition, each of the field staff is given 6 weeks of intensive training every five years in the summer. Extension work is mostly carried out through local organisations, e.g., Farmers' Extension Clubs for farmers, Rural Improvement Clubs for the women, and 4-H Clubs for the rural youth.¹

REPUBLIC OF KOREA

The present agricultural extension service in this country was established in 1957, after the promulgation of the agriculture extension law. In June 1957, under the Ministry of Agriculture and Forestry, a National Institute of Agriculture was created by transforming the former Agricultural Technical Institute of Suwon. The institute of agriculture consists of two bureaus namely: Bureau of Agricultural Research and Bureau of Agricultural Extension, thus bringing both under one administration. Similarly, nine provincial institutes of agriculture were also established.

The extension work covers all fields like farm improvement, home demonstration, youth training, etc., and is concerned with all branches of farming. It is organised on national, provincial and county levels. In 1959, 937 people were employed for extension work—189 subject-matter specialists and 713 county agents and their assistants. In 1959, there were 3,730 4-H Clubs with a membership of 142,600 boys and girls.

Increasing attention is being given to training of extension personnel. In-service training facilities are provided to the staff at each level.²

¹Sison O F. (Mrs.) Asstt. Prof. U.P. College of Ag. Philippines used as Resource person, 1960.

²Choi Sun Jung, Director Training Centre for Community Development in Republic of Korea Resource person. Visited Cornell University class RS 218 in Spring 1960, Ithaca, N.Y.

NEPAL¹

Nepal, a country covering an area of 56,000 sq miles, lies between India and Tibet. It has a population of about 9 million. The annual rainfall is about 60" varying between 50-100 inches. Being a hilly tract, it has transportation difficulties. About 95 per cent of the population lives on agriculture, and it was done by hand and in a traditional way. Important crops are paddy covering 6.6 million acres, maize and millets 2.9 million acres, wheat 0.77 million acres and then come potatoes, oil seeds, tobacco, jute, etc. Customs and traditions, etc., are just like in India.

Planning

First Five-Year Plan of the country was launched in 1956 with a total outlay of 33 crores of rupees for five years. Second Plan in 1961 and now they have entered their Fifth Five-Year Plan.

Village Development Programme

It was started in 1952 with the aid of the Government of U.S.A. through an agreement signed in 1951. Its organisation is on the Indian lines.

It has three levels of administration—National, District and Village. They have formed development blocks each covering approximately 100 villages and 66,000 people. The objectives and philosophy of the organisation is just the same as that of India. Until now, there are 36 blocks covering about two-fifth of the country. About 25 more were added. The programme is aided by the U.S. Government, India and His Majesty's government of Nepal. The country is divided into 3 divisions—Eastern, Western and Central. There are 3 section officers one in charge of each division including 10-12 districts and 10-15 blocks. At the block level, Block Development Officers are assisted by assistant B.D.O.'s. Besides, there are technical specialists and workers. In each block, there are 10-15 Village Development Workers (V.D.W.'s). There is a separate Development Department headed by a Director at the national level. The main programme consists of free demonstrations of improved methods of cultivation, subsidised services and loan services. There are three training centres for training V.D.W.'s and one for lady V.D.W.'s. These are just like India's training centres. Senior specialists are graduates in their branches. The B.D.O. is the coordinating person.

BURMA

Agricultural extension work in this country was started in 1927. It is now organised on national, divisional, district, township and village levels. Out of a total of 1,262 extension people, 1,113 work at the village level.

Farmers are organised into agricultural improvement societies, one for every five villages, served by a field assistant, who acts as the secretary of the society. At present there are about 700 such societies. These societies meet once a month and help to carry out field demonstrations, agricultural shows, contests and educational programmes. They also help in seed multiplication and distribution.²

¹Resource person Mr. P. Basnyat of class 227 RE 1960, Cornell University Ithaca, N.Y., Asstt. Director, Nepal.

²Bill Gamble—class discussion RE 227 SPR. 1960, Cornell University, Ithaca, (N.Y.), U.S.A.

Increasing attention is being given to farmers' training. In 1958 about 158 such classes were conducted in which 4,775 farmers were trained. Extension Officers from district level and above are agricultural graduates from college. The agricultural college did not provide courses in extension education up to 1960. Training centres for the training of agricultural assistants are working in full swing training extension workers. The State Agriculture Institute also provides three week in-service training.

There were no subject-matter specialists and no work was being done in home demonstration and for rural youth in 1960.¹

CEYLON²

Since 1957, the Department of Agriculture has been reorganised and now extension service has been very much strengthened. A Deputy Director of Agriculture is now in-charge of extension and extension supplies. The country is divided into 21 districts and one district extension officer has been provided for this work. The district is further sub-divided into a number of revenue divisions. The plan is to establish one extension centre in each of the divisions where villagers can obtain information about their farm problems. Up to November, 1958, 53 such centres had been established. The subject-matter specialists take a two years' diploma course in Agriculture, and they are assisted by 1,500 food production overseers and field demonstrators who work at the village level. About 16 training centres are providing one year training course to these village level workers. Extension service of the country lays more emphasis on paddy cultivation. For every 250 acres of paddy-land, a Village Development Committee is organised, and one overseer is provided to look after every four such committees.

Recently, multi-purpose cooperative societies have been organised throughout the country—one for each village. Young Farmers' Clubs numbering about 1000, with a membership of boys and girls of over 20,000, have also been organised. Home demonstration work is still on a limited scale.

PAKISTAN

The Rural Community Development Programme in Pakistan is called the Village Aid Programme. The letters A, I and D in the title, although pronounced "Aid", are an abbreviation for part of the full title—Village Agricultural and Industrial Development, or more simply, "V-AID". This programme was initiated in June, 1952; training of first V-AID workers (VAW's) began in July, 1953. The first development area of 150 villages was opened in February 1954; and by September, 1957, fifty-nine development areas were in operation in all parts of Pakistan, encompassing approximately 10,000 villages having 6 million people.³

¹Present Status of Agri. Extn. Development in Asia and the Far-East, F.A.O. Office, Bangkok, March, 1960.

²Ibid.

³Green, J.W.: "Rural Community Development in Pakistan—The Village Aid Programme," Chief V—AID Advisor, USOM to Pakistan. Mimeo—discussed in class 218, R.S. Spring 1960 in which he was a Professor (Cornell University, Ithaca, New York).

Aid and Objectives of V-AID¹

The aim of V-AID programme is to assist villagers, both individually and collectively, plan and implement self-help programmes designed to eliminate or reduce their common problems, and to reach the agreed goals. The types of assistance rendered by the VAW's to the villagers are designed to give them the confidence and ability to act through organised effort, with a minimum of outside help. V-AID changes the concept of governmental assistance, from unilateral government planning and super-imposition of programmes upon the villagers—in a word, doing things for villagers—to one of *supplementing* the organised efforts of the villagers in planning and implementing their own programmes.

Organisation

The V-AID is administered jointly by the Central and Provincial Governments with the guidance and assistance of Advisory Committees at all levels. A separate Ministry of National Reconstruction has been established at the Centre since 1959.² In the States, the Provincial V-AID Administrator and his staff are a part of the development planning, administered by Development Commissioner who is charged with the coordination of all developmental work in the province. The V-AID Administration of West Pakistan is located in the Departments of Social Welfare and Local Government.

In East Pakistan,³ the extension service was organised on provincial circle, district, sub-divisional, *Thana* and union levels. The agricultural stores were established at the *Thana* level for distribution of seeds, manures and fertilisers, etc. Union Agricultural Assistants were village level workers.

The basic unit of village aid is the development area, which is usually composed of 150 villages with a population of roughly 0.1 million. In West Pakistan, 30 men VAW's are placed in each area, giving an average of five villages per worker. In East Pakistan, the number allocated was twenty. The number of women extension workers was very small.

The Youth Organisation in Pakistan, is called "Chand Tara Club".

At present training for VAW's is carried out at 11 centres. The organisation is on Indian lines. The main emphasis is on agricultural development through fertiliser demonstration, use of improved seeds, and improved techniques in cultivation. The country is going ahead with Five-Year Plans as in India.

ARGENTINA

The extension service in this country has its origin in the service of regional agronomists, created by the Ministry of Agriculture in 1920. The function of these agronomists, who were agricultural graduates in agronomy, was to act as technical advisors to farmers. In 1957, the National Institute of Agricultural Technology (N.I.A.T.) was established. The essential characteristics of this Institute are: coordination between extension and research; administrative and economic autonomy,

¹Ibid.

²Md. Mehmod, Sheikh of Pakistan Government Advisor, Plant Protection, Cornell Class RE 227, 1960, Fall.

³In December 1971, East Pakistan became the Democratic Republic of Bangla Desh.

which accelerates and guarantees availability of budget; and, decentralisation, which avoids a sterile bureaucratic organisation.

The N.I.A.T. was organised on four levels—National, Regional, Sub-regional and Local.

National level: There are three bodies at this level: (a) National Advisory Commission, which advises the Ministry of Agriculture, (b) Board of Directors—formed of seven members appointed by National Executive Power, (c) General Direction of Executive Body, integrated by a General Director and three Assistant Directors—one each for extension and promotion, agricultural research and livestock research. The main functions of these bodies are, to formulate objectives and general plans of work, to advise the board of directors, to coordinate technical and administrative work and to executive other functions. The Assistant Director of Agriculture has one advisor for 4-H Clubs and Home Economics.

Regional level: At this level are: (a) The National Agricultural Research Centre (NARC), (b) The Regional Centres numbering seven. These centres organise and coordinate regional agricultural research, and extension programmes of agricultural experimental stations.

The Directors of the National Agriculture Research Centre and the Directors of the Regional Centres coordinate the work of the institutes and the experimental stations according to the instructions of the Board of Directors.

Sub-regional level: There are several experimental stations in each regional centre, each headed by a director with one assistant in extension and one in research. There is an advisory committee for each experimental station formed by representatives of local rural organisations, banks, educational institutions, independent farmers and other local entities.

Local level: The extension agencies are located within the area of influence of each experimental station. The extension agencies report to the director of the experimental station who is responsible for extension work, but he delegates part of the responsibility to his extension assistant. Each extension agency has its area of influence composed of 2.6 counties *Partidos* with a total of 2000-5000 farms. For extension work, there is usually a Chief of Agency with one or two agriculture assistants, one 4-H Club Assistant and one Home Economics Assistant.

Integration, Autonomy and Decentralisation: The integration and close contact between extension and research achieved because the unit of work is the experimental station, where extension and research people get together to discuss common problems. The administrative and economic autonomy and executive decentralisation is reflected in the regional centres, experimental stations and extension agencies which have broad scope to solve directly their technical and administrative problems. The N.I.A.T. is also decentralised organisation by law, since not more than 5 per cent of the budget can be used in personnel expenditure by the Central Administration.¹

In Mexico, which is one of the Latin American countries, there is superiority and

¹Adopted from Programme Building in the Balcarce Extension Agency—Argentina Term Paper read in RE 227 class in Spring 1960 by C.A. Vismara, Cornell University, Ithaca, New York, U.S.A.

subordination and lack of local responsibilities for welfare work. The size of families is large.

The Church is the most important formal, social organisation and the Catholic church is powerful. Here the changes in agriculture are going very slowly and have proximity to the type of work done in the U.S.A., because most of the workers of this country have worked with Americans. There is a great need for agricultural extension. The farmers use very little farm equipment and research results.

There are veterinarians and regional agriculturists, employed in the Government Department of Agriculture, who serve in a prescribed area. Agronomists are attached to local experimental stations who instruct farmers individually or in groups. The Government has provided specialists in various branches, and campaigns for work are organised.

In schools, the students have been organised in clubs and are given practical instructions by their teachers and government officials. They carry this knowledge to the villagers under their extension programme. The Ministry of Education has its own vocational agricultural programme and agricultural schools organise "farmers' weeks" in which agricultural methods, use of machinery, planting of trees, etc., are demonstrated.

The Federal Department of Education has 25 Rural Educational Missions, where 12 villages, forming one centrally located office, are controlled. After three years the office of the mission moves to another centre. Each mission includes one director, one agriculturist (who is an agricultural graduate), a nurse, a social worker, a recreation specialist, musician, carpenter, and two or more teachers of trade or crafts. The mission attempts to orient its programme to the needs of the people through a committee of Economic and Social Action.

Associations like National Federation of Coffee Growers, the Stockmen Association, etc., are doing private extension work in their own fields. Bank also have developed experimental stations and have their own extension programme.

Demonstration farms and ranches have been opened to guide farmers in the technique of crop raising and cattle breeding. 4-H Clubs, on the lines of there in the U.S.A., are being organised. A separate home economics section has been established for women.

JAMAICA¹

Jamaica is the largest of the Islands of the former British West Indies.

It is situated in the Caribbean Sea, commanding the gateway to the Panama Canal and lies 18° North of the Equator, and the eastern side of South America. It is 4,400 sq miles in extent. Size of holdings varies from 1 to 5 acres. Many companies own large estates and there are absentee proprietors. Population is about 1.75 millions.

In 1955, a new government was elected and a farm development scheme was started. It provides for generous incentives to insure participation of farmers. It provides for self-help and cash grants to approved applicants. Loans are also made proportionately as the work advances.

¹Mr. R.M. Hanson: class RB 227 Fall 1960 worked as Resource person—Cornell University, Ithaca.

Organisations of Extension Service. A standing committee has been created at the highest level composed of Chief Executive Officers of the five agencies—Ministry of Agriculture and Land, Jamaica Social Welfare Commission, Jamaica Agricultural Society, Agricultural Loan Societies Board and 4-H Organisations. The principal organiser being Assistant Secretaries of the Ministry of Agricultural and Lands and Housing Social Welfare Organisation.

Then comes the divisional level having four Senior Agricultural Officers, and four Senior Branch Officers.

Below it there is Parish level having Parish Officers, Assistant Parish Officers. At the area level, there are field assistants, village instructors, and project officers.

The Island is divided into four divisions.

The community development work is taken up separately. There is one school of agriculture offering a three years' diploma course for extension workers.

GREECE

In Greece only 22 per cent of the surface area is suitable for cultivation. There is much pressure of population on the land, and the land per head of population is only 1.1 acres. Extensive farming, stress on the production of wheat and corn, with some nomadic herding of sheep and goats prevails there.

The extension service stresses home welfare and includes health programmes, recreational features, as well as improved agricultural practices. The Government agencies are taking up agricultural extension programmes through distribution of seeds protecting crops from pests, organisation of marketing in tobacco and table grapes, use of machinery, etc.

In the Ministry of Agriculture there is a Bureau of plant and animal industry for the control of animal research, organisation and operation of animal stations. In each Bureau, senior officers are provided for the extension training work. Pre-service training and in-service training for extension workers is arranged.

County agents with assistants in branches of animal husbandry horticulture, veterinary, etc., have been provided. The area covered by one county is equal to the area in the U.S.A. The county agent travels on horseback, or on foot. He is a well-qualified person. He visits and delivers lectures and talks to the farmers in the county.

CHAPTER 5

ROLE OF TEACHER, SUBJECT-MATTER SPECIALIST AND EXTENSION WORKER

India is predominantly an agricultural country and it is through effective agricultural education, useful research, as well as solution-oriented extension education, that a direct attack can be made on problems affecting the welfare of the people. This can be done by the integrated efforts of teachers, research workers and extension educators to transmit, create and communicate sophisticated agricultural technology into a simple and understandable form. Since 1960, with the continuous growth of Agricultural Universities (at present 21 in number) all possible efforts are being made in this direction. Each individual employee in the teaching cadre is responsible for performing at least two tasks, or, in certain cases, all the three functions of teaching, research and extension education.

ROLE OF TEACHERS OF AGRICULTURAL UNIVERSITIES

The definition of a teacher of an Agricultural University, as stated in the Acts and Statutes, indicates that the professional roles to be performed by a teacher are: teaching, research and extension education.

Recent studies by Indian Researchers (Dahama, 1960; Mishra, 1964; Jalihal, 1970; Bhatnagar, 1971) have emphasised the importance of identifying, defining and enlisting the roles of various persons occupying positions in the Agricultural Universities. Therefore, statements regarding the role of a teacher, a research worker and an extension educator constitutes a universe of interests in the forgoing discussions. Efforts were also made to analyse the intricate problems of high expectations, low performance and the training needs, for effective and orderly role-performance of different functionaries, on a very sensitive role-expectations-performance instrument developed for the purpose. However, rarely were the areas of role-behaviours of teachers in these Universities explored. This could not be done because of the non-availability of a precise instrument to measure the role-expectations-performance of the teachers working in these Agricultural Universities. Therefore, an effort was made to develop the same with the help of available scaling techniques. This led to the formation of a Role-Expectation-Performance Instrument given below.

**ROLE-EXPECTATIONS/ROLE-PERFORMANCE INSTRUMENT
FOR TEACHERS OF AGRICULTURAL UNIVERSITIES***Role as teacher*

1. Interest in the overall welfare of the students.
2. Possessing skill in using teaching aids.
3. Using as many teaching aids as possible.
4. Keeping personal contact with every student in the class.
5. Maintaining a democratic atmosphere in the class.
6. Behaving freely with students.
7. Developing a syllabus.
8. Evaluating the question papers within reasonable time.
9. Evaluating the progress of the student continuously.
10. Evaluating one's own progress in teaching.

Role as research worker

11. Having the insight and imagination necessary for anticipating and predicting probable actions and reactions.
12. Encouraging and training young workers.
13. Having sufficient time in hand to devote to research.
14. Discussing the Project freely with subordinates.
15. Not being scared by criticism.
16. Working on field-oriented problems.
17. Publishing papers on research undertakings.
18. Establishing contact with professional societies.
19. Taking part in various discussions on one's own subject matter.
20. Working on fundamental problems.

Role as extension worker

21. Keeping oneself well informed about the latest developments in the various disciplines of interest.
22. Establishing rapport with the clientele very easily.
23. Possessing skill in preparing extension teaching aids.
24. Knowing the social beliefs of the people.
25. Evaluating one's own progress from time to time.
26. Remaining motivated in odd situations.
27. Accepting failure sportingly.
28. Being able to recognise the felt needs of the people.
29. Knowing the principles of Extension Education.
30. Corresponding with the local leaders.

In order to perform the above roles, there are certain basic attributes needed in a teacher to make him effective and useful in the new system of agricultural education.

Attributes of a good teacher

(1) *Knowledge and understanding of his subject*

Only a true student, a sincere scholar of a subject, can be a good or even an acceptable teacher. This calls for complete dedication to the everlasting search for more and more information about the subject taught and, in addition, more understanding of it. It is absolutely essential that the teacher be "current" on his subject, since he just cannot lecture from notes that are even a year old. The great Indian philosopher, Rabindranath Tagore, put it quite aptly, "A teacher can never truly teach unless he is still learning himself. A lamp can never light another lamp unless it continues to burn its own flame. The teacher who has come to the end of his subject, who has no living traffic with his knowledge but merely repeats his lessons to his students, can only load their minds; he cannot quicken them. Truth not only must inform but must inspire. If the inspiration dies out and the information only accumulates, then truth loses its infinity."

(2) *Enthusiasm about his subject*

A good teacher likes the subject he teaches and he is enthusiastic about explaining it to anyone who wishes to learn about it. Usually, his enthusiasm is contagious. Of course, a good teacher likes to teach and he feels that his is the most important job in the world.

(3) *Interest in students*

The good teacher likes students and he likes to see them learn. He takes time in class and out of class, to explain the aspects of his subject which may be difficult for certain individual students to comprehend. He has patience with students and does not derate them when they have difficulty in learning. He knows that learning proceeds at varying rates among students, and at varying rates within the individual student, depending upon the topic.

(4) *A knowledge of teaching skills*

There are a number of techniques and arts and skills which contribute to good teaching. For example, the good teacher has clarity of expression and students are not left in doubt as to the meaning of what has been said. Such a teacher speaks clearly and forcefully enough to be heard and understood. He speaks to the class and not to the blackboard and maps. His grammar must be exemplary and he should use language which encourages learning. The teacher should be alert enough to observe whether he is teaching the subject at a level too far advanced for the understanding of the students. He must "pitch it" at their height. The instructor must be alert and perceptive so as to observe dishonesty, undue absences from class, time wasting in the laboratory, or inattention. He must be fair and display no favouritism. His examinations will be composed of questions and problems which are clearly stated and representative of the material he has stressed in the lectures, in the laboratories, and in reading assignments. He also studies the use of a number of techniques for teaching, such as, the less formal seminar approach, the auto-tutorial laboratory, the use of

visuals of all types and the reinforcement and enrichment of learning possible through the use of study circles equipped with sound tapes, films, and slides.

He should admit that there is something of Educational Psychology and from that we do need to know what motivates students to want to learn. He will appreciate the need for studying measurement of student learning.

(5) *Broad interests and an engaging personality*

The most effective teacher is often a broad-gauged individual who is not provincial or narrow in his experiences and in his interests. He is well read and knows the relationship of his specific discipline to the needs of society. Usually, he is personable and likeable, with a fine sense of humour and is pleasing and congenial.

(6) *Demanding*

A thorough teacher demands that each student put forth his best effort. Such a teacher is not satisfied with poor performance on the part of the student, or on his own part. He drives himself without mercy to improve his own teaching. No lecture, discussion, or examination ever satisfies him. He continually evaluates his own teaching and seeks to learn what his students and his superiors think of his work.

(7) *Encourages and motivates*

Every learner needs encouragement. A compliment on a term paper or examination paper, when sufficiently earned, stimulates a student. Sarcastic, or cutting comments tend to discourage, as do unfair and unnecessarily severe cuts in grading. The teacher needs to comprehend that students and teachers are not adversaries but co-operators in an educational experience.

We think a college encourages good teaching when it provides the best possible facilities within the financial limitations of the institution, and when it makes certain that the teacher has time and it requires advance preparation.

Good teaching is most likely to result when it is properly rewarded. This reward can come about in a number of ways. The most practical acknowledgement of good teaching is via promotion and pay increase. Another more subtle reward is the development of the esteem of students and faculty alike. The high regard of former students and the excellence of the ratings given by present students—these are also rewards.

The longer we are in the teaching game, the more we may begin to suspect that teaching effectiveness does not necessarily tend to improve materially with experience. It seems likely that any increase in skills and professional competence resulting from maturity and experience tends to be offset by a loss of enthusiasm. There is often an increased preoccupation by the teacher with other tasks, or interests, that accumulate like barnacles as the faculty member continues his service to his institution. A formerly outstanding instructor may not fully realise how much he has been neglecting his teaching task until he is shocked by something, such as a published teacher-rating report. It takes time, lots of it, to prepare for a 50-minute lecture and our blessing falls on those professors who put their prime duty first.

Ultimately, the job of the teacher and the final goal of the entire educational system is, as John Gardner put it, “. . . to shift to the individual the burden of pursuing

his own education". We, as teachers can assist this process by the kind of teaching we provide—not all spoon-feeding.

ROLE OF SUBJECT-MATTER SPECIALIST

The great concern of the Extension Education Discipline is to bring to the farmers and farm families knowledge of scientific methods developed in colleges of agriculture and research institutes. This task is now better performed by the teams of Subject-Matter Specialists (SMS) drawn from disciplines of Agriculture, Veterinary and Home Science and directly working under the leadership of the Director of Extension Services of the Universities. Such subject-matter specialists teams are also functioning in some states. The roles of these subject-matter specialists are of varied nature. In the wake of Agriculture technologies changing almost daily, these roles acquire special significance. Bhatnagar (1971) developed the following role expectation—Performance scale for assessing the roles of the subject-matter specialists.

Programme planning and execution roles

1. Involving himself in fixing the objectives (targets) in his area.
2. Knowledge about the agricultural production programme of his area.
3. Knowledge about steps and approaches to be adopted in programme planning.
4. Deciding the most suitable methods and techniques to be used in training people for each step in the programme.
5. Keeping ahead of the organisation supplied with technical information.
6. Be knowledgeable about use of results revealed by evaluation and field-studies.
7. Familiarity with what has been done in the past in his subject-matter area.
8. Acquainting himself with how it has been done in the past in his field of specialisation.
9. Taking extra care of special programmes as they develop.
10. Be knowledgeable about how to interpret the collected information.

Direct teaching and training roles

1. Delivering well prepared and useful lectures for Extension Workers.
2. Conducting Demonstrations,
3. Translating complex scientific knowledge into simple and understandable form.
4. Organising workshops.
5. Delivering Radio talks.
6. Organising field-trips of farmers to experimental fields.
7. Involvement in direct teaching of interest groups.
8. Serving as a resourceful person in highly complex problem-solving areas.

Subject-matter authority roles

1. Have thorough knowledge in his area of specialisation.
2. Considered a most authentic source of information at his level.
3. Serving as a liaison with research.
4. Selecting, interpreting and making available solutions to specific problems.
5. Having knowledge of trends.

6. Visiting demonstrations conducted in his area to provide guidance.
7. Availing of the opportunity for higher study and/or training.
8. Possessing a broad knowledge of the entire Extension programme and the role played by his subject of specialisation.

Relationship roles

1. Knowing that good relationships always pay in dealing with individuals and groups.
2. Maintaining a good relationship with extension workers.
3. Cooperating at all levels in developing "Package-Programmes."
4. Achieving team-spirit through coordination.
5. Appreciating the work of other specialists.
6. Understanding and practising the concept of integration of Teaching, Research and Extension.
7. Understanding and application of principles of extension in bringing about desirable changes in human behaviour.
8. Maintaining close relations with subject-matter departments and research stations.

With the above instrument in hand, the training needs of the subject-matter specialist were studied on the given items. The results are summarised as follows.

Training needs

To make the dissemination of information possible at the quickest speed, more sophisticated educational tools and techniques are being evolved and made available to these specialists and simultaneously more positions of subject-matter specialists are coming up to solve the problems of the farmers. However, sometimes subject-matter specialists do not have suitable answers to the growing problems of the farmers. Hence, there is also a need for training of S.M.S. from time to time. A recent study has revealed the immediate need for training of subject-matter specialists in the following areas:

(A) Direct teaching and training roles

- (1) Organising workshops.
- (2) Delivering radio talks.
- (3) Serving as a resource person in highly complex, problem-solving areas.
- (4) Translating complex scientific knowledge into simple and understandable form.
- (5) Involvement in direct teaching of interest groups.

(B) Relationship roles

- (1) Understanding and application of principles of extension in bringing about desirable changes in human behaviour.
- (2) Understanding and practising the concept of integration of Teaching, Research and Extension.
- (3) Appreciating other specialists' work.
- (4) Achieving team spirit through coordination.
- (5) Cooperating at all levels in developing package programmes.

Therefore, the training programme of the subject-matter-specialists may be planned on the various agreed upon role-items. The detailed outline on each role may further be worked out so as to equip them to meet the requirement of their satisfactory role-behaviour.

These functionaries, working both in Agricultural Universities and State Departments of Agriculture, are also facing certain problems in their orderly role performance.

Problems of subject-matter specialists

Moulder (1954) pointed out that for efficient performance, subject-matter specialists require suitable means of transport to enable them to move freely among those whom they are expected to reach. Gray (1956) gives a vivid description of problems of subject-matter specialists in the following words:

"The Agricultural Specialists in New York State, because he has a car and good State roads to drive it on and because he can pick up the phone and call any extension Worker in the State in a few minutes, may be able to communicate fairly well with extension workers over a large part of the State, or even all of it. On the other hand, the same kind of specialist in Asia, because he would have to ride a slow train, or bus from one area to another and then finally walk or cycle 5 to 10 miles to see or talk to extension workers, could only stay in contact with extension workers over a small part of the State."

Brown and Deekens (1958) in their study revealed that the barriers most often mentioned by subject-matter specialists, in performing their roles are; lack of resources, inadequate researches, inadequate communications and interpersonal relationships.

Shearer (1961) indicated that sometimes 'alter' groups can become barriers to the subject-matter specialists position but such barriers only become challenges to his ingenuity. Further elaborating the point, he said that barriers to an effective subject-matter specialists programme may include: (1) lack of understanding of the mission of Cooperative Extension, the Planning Process and Group Dynamics, Social action, etc.; (2) The divergent demand of 'alter' groups; and (3) the Philosophy of the specialist himself.

The Expert Committee on Assessment and Evaluation (1960-1968) very aptly demanded special attention to develop a close, working relationship between the subject-matter specialists in the University and the Department of Agriculture. The Committee observed:

"In order to keep the Agricultural Universities extension education and research programme attuned to the needs of agricultural modernisation, it is essential that the University subject-matter specialists also have access to the field problems. This can be achieved in several ways, one of which would be to post some of the University subject-matter specialists in the Intensive Agricultural Districts to work with the district specialists and to forge links at the District level. The liaison between the University and extension can be further strengthened by the working together of the subject-matter specialists from the University and Agricultural Department on some selected projects such as Adaptive Research Field Trials. It is also recommended that both types of subject-matter specialists, should join hands in bringing out joint publications on extension recommendations in the local languages. The VLWs should be the main focus

of such publications. A study was designed to investigate the problems of the subject-matter specialists, working both in the Department of Agriculture and Agricultural Universities. The findings of the study revealed the various problems that were faced by both the categories of subject-matter specialists." These are presented in Table 5.1.

Table 5.1
Problems Faced by subject-matter specialists in performing their roles

<i>Problems</i>	<i>S. M. S. (U)</i> <i>(N=90)</i>			<i>S. M. S. (D)</i> <i>(N=65)</i>		
	<i>No.</i>	<i>%</i>	<i>Rank Order</i>	<i>No.</i>	<i>%</i>	<i>Rank Order</i>
1. Interpersonal relationship	32	35.5	VII	27	41.5	VI
2. Inadequate field and farmers problem-oriented researches	64	71.5	V	52	80.0	I
3. Lack of transport facilities	78	86.6	II	50	76.9	II
4. Lack of resources and inputs with the farmers	76	84.4	III	45	69.2	III
5. Lack of motivation amongst the farmers	66	73.3	IV	32	49.2	V
6. Lack of incentives and recognition to S.M.S.	83	92.2	I	42	64.6	IV
7. Lack of leadership in S.M.S. team.	45	50.0	VI	32	49.2	V
8. Lack of training facilities to S.M.S. especially in extension education and use of audio visual aids.	29	32.2	VIII	16	29.2	VIII
9. Specialists being used as generalists	18	20.0	IX	27	41.5	VI
10. Paucity of funds for extension work	18	20.0	IX	10	15.3	IX
11. Emphasis on table work (office routine)	14	15.5	X	22	33.8	VII
12. Political interference	6	6.6	XI	16	29.2	VIII

S. M. S. (U) = Subject-Matter Specialist (University).

S. M. S. (D) = Subject-Matter Specialist (Department)

The S.M.S. while indicating the problems they were facing in their day-to-day working, also suggested certain measures which could help to remove these handicaps. These are summarised below:

The first problem of the S.M.S. was 'Interpersonal Relationships' which, in their view could be improved by providing telephone facilities, training in interpersonal communication, group dynamics, and selection of coordinators from the extension education discipline. "Inadequate field and farmers' problem-oriented researches" were the other great lacuna. The suggestions offered were the maintaining of closer coordination between Research and Extension; the opening of additional Regional Research Centres for the study of local problems; continued closer study of local problems by the S.M.S. and the communicating of these to the Research Centre; and, the taking up of research on these problems by themselves and the testing of them on farms or plots provided for the purpose.

The S.M.S. made strong reference to the 'lack of means of quick transport'. 'Inadequate provision for Travelling Allowance and also Dearness Allowance' acted as barriers. They suggested that loan facilities for purchasing their own conveyance, special remuneration and additional T. A. and D. A. facilities be extended to them.

They also indicated that required inputs, price support, and motivation were also not available to the farmers, proper recognition of their efforts and leadership of the S.M.S. themselves were lacking. Promotion of S.M.S. to proper cadre, institutions of awards and rewards, proper residential facilities, opportunities for higher studies and devising an evaluation procedure for their work were the suggestions offered to overcome the above barriers.

Proper leadership by selecting the coordinator of the S.M.S. Team from the extension education discipline would also be helpful. The S.M.S. also pointed out that granting recognition to the Agricultural Department as a Technical Department; minimisation of table work; arranging of periodical workshops, seminars, discussions; regular training in the handling of audio-visual aids and the other media of communications; orientations at University, National and International levels; providing well-equipped libraries, laboratories and other needed facilities were some of the measures that could be taken. They strongly felt that the team of S.M.S. may be further strengthened and can be extended to the district levels. All these suggestions, if implemented, can result in orderly role-behaviour from the S.M.S.

It is evident from the Table that both the categories of S.M.S. have some identical problems viz., lack of transport facilities (II), resources and inputs with the farmers (III), training facilities to S.M.S. especially in Extension Education and use of audio-visual aids (VIII), and paucity of funds for extension work (IX).

They have also pointed out some more problems such as: interpersonal relationship, lack of motivation amongst the farmers, lack of leadership to S.M.S. team and political interference. However, the S.M.S. (U) ranked the problem of lack of incentives and recognition to S.M.S. as I. The S.M.S. (D) have ranked it as IV. The S.M.S. (D) have ranked the inadequate field and farmers problem-oriented researches as I and the S.M.S.(U) it as V.

It is an interesting revelation that the S.M.S. (U) are very ambitious and rate themselves as being able to take high jumps first and foremost. It also denotes that probably the positions, or promotions, offered to them are not as many as they would desire to have. On the other hand, the S.M.S. (D) very aptly feel that field and farmers, problem-oriented researches are not adequate. This feeling, in some intensity, is noted by S.M.S. (U) also. This finding is an indicator that the problems faced by the S.M.S. (D) in their day-to-day work are rarely communicated to the research stations. This suggests the need for greater liaison between research and extension vis-a-vis the University and the Department.

The S.M.S. (D) have ranked higher (VI) and S.M.S. (U) also perceived (IX) the problem of 'Specialists being used as generalists' and 'emphasis on table work' (IV-IX. VII-X). This reveals that the S.M.S. (D) work in many directions including propagation of crop, planning the programme, conducting demonstrations, and are responsible for supplies and services. In addition to this, they are heavily loaded with their office work. The S.M.S. (U) also feel that their specialisation is not being properly utilised.

ROLE OF EXTENSION WORKER

Under this term, "Extension Worker", in a wider sense, we include all persons

working in the Extension field. We can very safely take into account the agencies like Village Level Workers, the Extension Officers and Block Development Officers, or any Extension Specialist or Home Economist. Extension work is mostly determined by the efforts of these agencies. The nature of work in the case of both these agencies is different, due to working at different levels, while the aim is ultimately the same, i.e., the development of the rural community from all aspects.

The extension worker plays an important and necessary role in the extension field. Extension work is not limited to the rural areas alone, but extends to urban side as well, although more emphasis is laid on the development of Rural Sector. Even in one Sector, the nature of work is multipurpose. The extension worker is bound to touch upon all aspects of rural life. He should have a comprehensive understanding of the village people and their problems. He should participate in sorrows and joys of the villagers and must develop a close contact with the village people. He is to win the willing and enthusiastic cooperation of the people and the work is to start with the local felt needs. No doubt, work is carried out at different levels by the various agencies working in the Extension sphere. The nature of the work may differ, but the goal is the same. The work at the lowermost level carried out in the village by V.L.W's is the foundation of rural uplift, for it is they who are in direct touch with village people.

The extension worker is to choose his own way of living in such a manner as to adjust himself to the society existing around him. He is to respect the villagers' customs, traditions and ways of life and create in them the spirit for real achievement. He is not to be above performing the lowest manual work in the village or taking an order. He must be a friend to the villagers and help them in all situations and even in awkward circumstances.

Keeping in view the multi-purpose nature of his work, the extension worker's activities and role in the various aspects of village life may be described as follows:

(1) He has to acquaint himself with all the families in the village and learn their problems, needs and capabilities. For this, he must survey the entire village, its people and their resources. He "helps people who help themselves" by being willing to learn from the people, willing to "show how to do" through actual participation, by working with all classes, castes and creeds, by getting village people to participate in developing a programme, working on the programme and in taking credit for the programme. He helps them by recognising that planning with the people is a continuous and important part of extension work.

(2) He should use as many methods of extension as are necessary, because experience has shown that extension workers who use more methods of extension are more successful. The use of all practical methods of teaching requires serious and careful planning.

(3) He should give the villagers every chance to work in co-operative group action. The villagers should be encouraged to have discussions because as a village discussion group grows and gains confidence it will naturally seek to become a village extension group. The extension worker must, in the beginning, give leadership to the group.

(4) He has to improve the village life and surroundings and create the conditions for farmers to become active members of our republic, socially, economically and politically. He is also responsible for making the villagers feel that he is a real partner

in village affairs and should make his help and cooperation needed and valued in every village activity. The field of the extension worker is very wide. He has to carry the teachings, recent research findings and discoveries from the institutions, experimental and research stations in the country, or elsewhere, to the villages to help the farmers in their business of farming, cattle-raising and home management. He is the man to raise the levels of living of the villagers and provide a more stable base for economic and mental security, other than the directive of increasing the yield, and improvement of personal and village wealth.

(5) He has to bring to our rural masses the basic knowledge of improved methods of Agriculture, Animal Husbandry, Home Management, etc., which will enable them to increase their agricultural production per acre, per animal and also improve their standard of living.

(6) He has to help villagers in crop and livestock raising so that their income is increased.

(7) He has to help the rural masses to appreciate the opportunities, duties and privileges of living in an organised way in the villages.

(8) He has to raise the whole standard of rural life by promoting social, cultural and intellectual activities in the villages.

(9) He has to bring to the rural people the knowledge of conditions prevailing in the progressive countries.

(10) He has to make the villagers intelligent, self-reliant and independent citizens who will love their homes and their country.

(11) He has to take the problems of the villagers to scientific institutions for the solution.

(12) He has to change the attitudes, knowledge and skill of the villagers.

(13) He has to bring about a psychological change in the minds of the village people to prepare them to adopt new ways of life.

Qualities of an extension worker

To play his role successfully, the extension worker, in a country like India, has to have the following qualities:

He must have a rural background, as far as possible coming from a cultivator's family. He must have some experience of working with village people successfully. We mention here that he must be a villager because the majority of extension workers coming from urban areas have difficulty in adjusting themselves to the villages.

(2) He should be acquainted with the nature of problems and the cultural background, otherwise there are chances that the farmers may not like him and he may be faced with failure in playing his role.

(3) He must have adjustability in village circumstances.

(4) He must have a thorough knowledge of the subjects with which he is concerned and be able to give correct replies to any questions asked by the villagers. In case he does not have the answer, he should be resourceful enough to find it out and convey it to them.

(5) He must be honest, sincere and hard-working and have a high general intelligence.

- (6) He should have self-confidence and good judgement.
- (7) He should be sympathetic to and share in the joys and sorrows of the villagers.
- (8) He should be a sincere worker and not a show-off.
- (9) He should have the firm determination to achieve his goal and direct all his efforts in that direction.
- (10) He should always search out new methods for early and easier achievement of his targets.
- (11) He should be prompt and able to influence the villagers in a positive way.
- (12) He should have a burning enthusiasm to speed up change and progress by his activity.
- (13) He should have the vision to frame future plans and programmes for the development of the village.
- (14) He should be resourceful enough to satisfy the village needs by obtaining the assistance of the various Development Departments and Agencies responsible for village development.
- (15) He should be courageous, hard-working and seek cooperation in meeting a difficult situation.
- (16) He should be humble, polite, and friendly towards the villager. He should have a cool temperament.
- (17) He should have a selfless nature.
- (18) He should listen to others, respect their opinions and think over their problems and suggestions carefully.
- (19) He should hold the ideal of "simple living and high thinking". His attitude should be that of service and helpfulness.
- (20) He should be able to guide the villagers and work through their leaders.
- (21) He should be well acquainted with the ways and means of teaching according to new methods and also be able to make use of audio-visual aids.
- (22) While talking to villagers, he should let others do most of the talking and enter into conversation only when others seem willing to hear him. He should be friendly and speak slowly, taking care to be accurate in his statements.
- (23) He should always be in search of new ideas and techniques. He should read the available literature and approach the subject specialists, research workers and others to acquaint himself with up-to-date ideas and new ways of solving the villagers' problems.
- (24) He should search for the kind of organisation that:
 - (a) Encourages growth of leadership ability;
 - (b) Promotes the sense of community; and
 - (c) He must accept a role of humbleness and be prepared to seek his triumphs in the lives of others. He is a cultivator of the art of applied patience. His motto should be "Suggest, wait and act" when the group is ready.

What he should not do? We list below a few 'Do Nots' which may help the extension workers. These are:

- (1) Don't become impatient. Do not give up, if matters move slowly.
- (2) Don't press. Offer a suggestion, raise a question, but don't press. If no one finds the idea challenging, let it rest for a time.

(3) Don't argue. Differ with people, yet state the points on which you differ as clearly and cheerfully as possible. Point out that all people have ideas of their own. Avoid a defence of your own position.

(4) Don't become worried and harassed. Community Development work is time-consuming, it puts pressure upon any who takes up the responsibility. People may call for your attention at any hour of the day and any day of the week, which can be wearisome. This unhappy state can be avoided by the efficient organisation of your time and the courage to say an occasional "no".

(5) Don't lose your sense of humour. It happens when one is over worked and worried.

(6) Don't interrupt. Let people finish even if their efforts be halting.

(7) Don't keep to the centre of the stage. Let the other fellows shine. Your success lies in the growth of a leader who develops as a result of your influence.

(8) Don't be too startled when praised. Everyone enjoys, praise or flattery, and you may even deserve it.

(9) Don't be unhappy when criticised. Try to correct your own inaptitude. No man is perfect and there may be some suggestions for improvement.

(10) Don't defend yourself if attacked. Let the attack come. Be interested and concerned, not defensive or alarmed.

(11) Don't be noble. If you are a saint, let this fact be discovered after you are dead. During life sainthood can be a serious handicap.

(12) Don't become alarmed when people lose maturity. Regression to childish behaviour is common to all humanity. The childishness will probably pass if not taken too seriously. Even Community Educators have their moments when maturity slips.

(13) Don't be dubious and clever. Be as direct and forthright as possible.

(14) Don't be partisan.

(15) Don't educate people by instructing them.

(16) Don't wait for disputes to come to you.

(17) Don't lose the ability to marvel at the way things work out.

The extension worker as a communicator

The overriding challenge to extension workers is to have ideas useful to an audience, to make their meaning clear, to get them accepted and to motivate people to adopt and practise them. The extension educator accepts both a grave and an exciting responsibility, grave in the sense that the welfare of people, often their very lives, depend upon his skill in conceiving and executing effective rural development programmes. Exciting in that he is a part of a great educational movement to help the masses of rural people improve their social and economic status.

To a large degree, the success of an extension worker is determined by his ability to communicate good ideas to others. In order to work effectively in the field of extension education for community development, it should be clear that the central challenge is to help village people put useful knowledge to work for them. This requires effective communication.

As a good communicator the extension worker should possess the following qualities:

(1) He should know his objectives, audience, message, channels, how to treat his message and his professional abilities and limitations.

(2) He should be interested in the welfare of his audience, his message and how it can help people, the results of communication and their evaluation, the communication process, communication channels, and how to improve his communication skills.

(3) He prepares for himself a plan for communication, communication materials and equipment and a plan for evaluation of results.

(4) He has skill in selecting messages, treating messages, expressing messages, selection and use of channels, understanding his audience and collecting evidence of results.

The above are well tested ways that can help to ensure an acceptable degree of success to a communicator engaged in extension education.

Keeping in view the multipurpose nature of his work, the activities and role of the extension worker in many aspects of village life may be described as follows:

(1) He has to acquaint himself with all the families in village and learn their problems, needs and capabilities.

(2) He has to survey the entire village, its people and their resources.

(3) He "helps people help themselves" by being willing to learn from the people, willing to "show how to do" through actual participation, by working with all classes, castes and creeds and having village people share in developing a programme, in working on the programme and in getting credit for the programme. He helps them by recognising that planning with the people is a continuous and important part of extension work.

(4) He should use as many methods of extension as are necessary, for experience has shown that extension workers who use more methods of extension are more successful. The use of all practical methods of teaching requires much serious and careful planning.

(5) He should give the villagers every chance to work in cooperative group action. The villagers should be encouraged to have discussions, because as a village discussion group grows and gains confidence, it will naturally seek to become a village extension group. The extension worker in the beginning must give leadership to the group.

(6) The ultimate aim of the extension worker is not only to help the rural people in increasing their efficiency and income but to improve the village life and surroundings and guide the farmers to becoming active members of our republic in its social, economical and political life. He is also responsible for making the villagers feel that he is a real partner in all village affairs and should make his help and cooperation needed and valued in every village activity.

(7) The field of the extension worker is very wide. He has to carry the teachings, recent research finding and discoveries of the institutions, experimental and research stations and from any part of the world to the villagers, to help the farmers in their business of farming and to improve their living conditions. He is the man to raise the levels of living of the villagers and provide a more stable base for economic and mental security other than the directive of increasing yields and improvement of personal and village wealth.

The extension worker (communicator), to communicate effectively, must understand the factors affecting his communication behaviour, the people with whom he works, those people's problems, the source of help towards solution of these problems the procedures for securing the help, the methods of utilising the help by practical application to the problems, and the evaluation by each farmer of his success in solving his problems. Not only must the extension worker understand all these aspects for his job, but he must be able to follow it through to the final stage with any given farmer or group of farmers.

CHAPTER 6

ROLE OF EXTENSION EDUCATION IN DEVELOPMENT

Extension education centres around three units: (a) Farmers or rural people or clients; (b) Innovations or discoveries or inventions; and (c) Extension workers or educators or specialists in extension services.

These are presented in detail as follows:

(a) *What extension education does for the people (farmers and clients)*

- (1) It imparts education leading to behavioural changes in the desired direction.**
- (2) It is a process of informing people.**
- (3) It motivates people to adopt innovations.**
- (4) It suggests alternative fields for the needs and resources of the people.**
- (5) It involves the active participation of the people.**
- (6) It improves the decision-making ability of the people.**
- (7) It brings permanent improvement in the conditions of the people.**
- (8) It develops people's own programme.**
- (9) It creates a congenial learning situation.**
- (10) It builds confidence through action and conviction.**

(b) *How extension education treats innovations*

- (1) Through field-trials and evaluations.**
- (2) Through adoption, communication and diffusion.**
- (3) Through overcoming problems of adjustment in different categories of people.**
- (4) Through strategic combinations of workable technologies.**
- (5) Through providing the facts and figures for consideration of consequences.**

(c) *What extension education does for extension workers*

- (1) It establishes job-performance.**
- (2) It helps in achieving team-spirit.**
- (3) It assists in making workers organisation minded.**
- (4) It trains the personnel as an in-built and continuous process.**

(5) It develops the morale of the workers and makes them highly professional in the above roles.

(d) What extension education does in general

(1) It develops, strengthens and organises the groups, institutions and people to achieve their objectives.

(2) It develops leadership in local and professional situations.

(3) It acquaints the planners, policy makers and administrators with local conditions and the latest technologies suited to it.

(4) It provides sufficient data for developing plans and for coordination of activities.

(5) It gives direction and a package of educational practices for adoption and diffusion and also provides a communication media mix for innovations and evaluations.

DEVELOPMENT ASPECTS OF EXTENSION

The technological development of education can be related to various fields of Extension like Agriculture and Home Science.

(A) Agricultural extension

Agricultural extension is concerned with agricultural education assisting farmers to bring about continuous improvement in their physical, economic and social well being through their individual and cooperative efforts. It makes available to the farming community the scientific and other factual information the training and guidance for the solution of the problems in agriculture including Animal Husbandry, Gardening, Agricultural Engineering, etc.

If we want to adopt the above definition in various fields, we may attempt that with Agricultural Extension/Home Science Extension/Veterinary and Animal Husbandry/Medical Extension. This Extension is a method, or series of methods, by which the technical know-how of science in Agriculture/Home making etc., is carried to and included in the practices of farmers/home makers/animal breeders etc. who need this knowledge. In this way:

(1) Extension education is education (Formal as well as Informal) aiming at assisting people (rural as well as urban) to bring about continuous improvement in their physical, economic and social well-being through their individual and cooperative effort. It makes available to the client system (farmers/home makers etc.) scientific and other factual information, training and guidance for the solution of their problems in Agriculture/Home making/Nutrition/Sanitation etc.

(2) Extension education is a two-way process whereby the problems of the client system (farmers, home makers etc.) are brought by the change agents (extension workers, subject matter specialists of the Agricultural Universities, etc.) for solution to the Agricultural Universities/Research Stations/Home Science Colleges/Veterinary Colleges/Medical Colleges etc., and the results are taken back to the client system in an acceptable form.

(B) Home science extension*What is Home Science ?*

Preparing young girls for their future homemaking responsibilities has been in the past, and is still to some extent, the function of the mother and grandmothers in the family. During the last few decades, the concept of homemaking has undergone a considerable change. The homemaking knowledge of the older generation is very limited and has little relevance to the present day needs of homemaking. Besides many a modern housewife is physically too far away from her relatives to derive the benefit of their knowledge. Decision making, for example, in a very limited sense, was a dimension of the olden day's housewife's role. Life was steady and free of changes so that all that the young bride had to do was to conform to the established traditions of the joint family. Today, the young housewife cannot escape decision making. She is faced with the problem of selecting the 'right' foods, fabrics equipment, housekeeping methods, child-rearing methods, etc., from the large variety which the modern advances of science, technology and means of communication have rendered available to her. The decision must be hers.

Further, the present drive of formal education for women in schools and universities also necessitates them to spend a larger part of their day outside the home, which means that they have little or no time to spend with their mothers and grandmothers. And yet, homemaking continues to be an important function of every woman.

As such the need for agencies outside the home, which would assist in the task of educating women for homemaking, began to be felt around 1930 in this country. Since then many institutions, one by one, began offering courses in different aspects of homemaking. The concept, nature and scope of the subject have, in the last 40 years, undergone a tremendous change. The contents and duration for which the courses are offered still vary from University to University. But today, home science is largely conceived of as "... a field of knowledge and service primarily concerned with strengthening family life through:

- (a) Educating the individual for family living;
- (b) Improving the services and goods used by families;
- (c) Conducting research to discover the changing needs of individuals and families and the means of satisfying these needs; and
- (d) Furthering community, national and world conditions favourable to family living."¹

Generally the aspects of family life such as the following are of concern to the discipline:

- (a) Family relationships and child development;
- (b) Consumption and other aspects of personal and family living;
- (c) Nutritional needs and the selection, preservation, preparation and use of food;
- (d) Design, selection, construction and care of clothing, and its psychological significance;

¹Dorothy D. Scott et. al., "What is Home Economics?" *Journal of Home Economics*, 51 (October 1959), 680.

- (e) Textiles for clothing and for the home;
- (f) Housing for the family and equipment and furnishings for the household;
- (g) Art as integral part of everyday life; and
- (h) Management in the use of resources, so that values and goals of the individual, the family, or of society may be attained.¹

A typical degree programme in the subject of home science consists of a number of elementary courses in the physical, biological and social sciences, as well as the arts, followed by a variety of courses in each of the following areas:

- (a) Child and Family Development.
- (b) Food and Nutrition.
- (c) Clothing and Textiles.
- (d) Housing and Home Management.

Apart from the knowledge drawn from the fundamental arts and sciences, home science also has to have its own research:

- (a) To discover the changing needs of individuals and families and the means of satisfying these needs; and
- (b) In improving the services and goods used by families.

Home science extension and its scope

Agricultural education has been the most important concern of extension ever since its commencement in 1952. About three years later i.e., 1955 a specific provision was made in the community development programme for the activities of women also. Homemaking being the important function of rural women by tradition, it is quite natural that the planners of the women's programme thought it fit to provide for educational activities which would increase their competence as home makers.

Role of home science extension in rural development

While developing an extension programme, the extension worker has two responsibilities. First, to guide his/her clients in satisfying their felt needs; and secondly to contribute, through the clients, in achieving the national goals. In the process of programme planning, which itself is an educational process, the extension worker must help his/her clients in developing an awareness of the national problems and objectives. When they set priorities for their day-to-day problems, to be solved with extension's help, they should be helped to see the importance of selecting those with the dual advantage of realising both their personal goals as well as the national goals. Some of the present day problems of our country, the strategy of solving which falls, at least in part, within the scope of home science extension, which include the following:

- (a) Food and water shortage;
- (b) Poor health and nutrition;
- (c) Over population;
- (d) Environmental pollution;
- (e) Poverty;

¹Ibid.

- (f) Lack of understanding and/or practice of democracy; and
- (g) Low work-efficiency on the part of all elements of our population, etc.

Home science extension has a definite role to play in assisting the rural home-makers to contribute their small bit in solving many of these problems, as they perform their routine functions.

Home science extension work can result in a raised standard of living for the rural families, and a more satisfying and dignified life for them. The raised aspirations of the rural family, as a result of home science extension work, will in turn help to create the necessary motivation among its members for the efforts to increase farm production. Increased farm production is a means for raising both the level and standard of living. Home science extension and agricultural extension are thus complementary to, and dependent upon, each other.

UNIQUENESS OF THE EXTENSION PROGRAMME IN INDIA

India's extension programme covers the community development programme also. It combines all the activities related to the promotion of the all-sided development of village communities, including political, social, cultural and moral improvement. Some people have called it an unique programme.

OBJECTIVES BEHIND EXTENSION EDUCATION PROGRAMME

Broad objectives

"The programme aims at the rapid increase of food and agricultural production, the promotion of education, improvement in health, introduction of new skills and occupations, so that the programme, as a whole, can raise the rural community to a higher level of economic organisation and arouse enthusiasm for new knowledge and improved ways of living. By this, the three most important levels of the country's economy, i.e., hunger, disease and ignorance, would be tackled through coordinated, planned effort on intensive lines. Its general objective is to secure the fullest development of natural and human resources of the area selected, called as blocks."¹

The aim of the C.D. blocks is not merely to strive for ample food, clothing, shelter, health and recreation facilities but more important than these material improvements, the realisation that what is required is a change in the mental outlook of the people; instilling in them an ambition for a higher standard of life, and the will and determination to work for such standards.

In the words of C.C. Hearne, the objective behind the extension programme in India is "to raise the standard of living of the village population, and the right use of land, water and livestock".²

To sum up in one paragraph, we can say that it is to assist each villager in planning and carrying out an integrated, multi-phased family and village plan, directed towards increasing the agricultural production; improving existing village crafts and

¹Second Five-Year Plan, Government of India.

²"Extension", a Journal published by Government of India, Comm. Project Min. Article 1956, by C.C. Hearne.

industries and organising new ones; providing minimum health services; required educational facilities for children as well as for adults, recreational facilities; and, improving housing and family-living conditions for village women and youth.

Specific objectives

(1) To change the outlook of the villagers. Unless the people develop rising expectations for a higher level of living, there can be no motivation for the people to provide the required leadership, to assure that village development will become a continuous people's programme.

(2) Development of responsible and responsive village leadership and of village organisations and institutions.

(3) To develop village people to become self-reliant responsible citizens, capable and willing to participate effectively, and with knowledge and understanding, in the building of the nation.

(4) Continued emphasis is focussed on improving and modernising agricultural practices and methods essential for increased agricultural production.

(5) Improvement of existing, and organising the new, cottage industries and other small-scale industries towards increasing employment and income.

(6) Need of food, clothing, shelter, recreation, health and religion are crystallised within the family and the motivation for their achievement comes from within the family.

(7) To upgrade the social status of the village teacher and to enable him to participate in the programme.

(8) To cut down the high toll taken due to illness, etc.

Financing

The resources for the programme are drawn from the people and the Government. For each block area, development schemes are conditioned by a qualifying scale of contribution from the people in kind or labour. When State assistance is offered for the execution of such projects, expenses are shared by the State and Central Governments equally in respect of recurring items and in the proportion of 3:1 in the case of non-recurring items. For productive works like irrigation, reclamation of land, etc., necessary funds are advanced by the Central Government to the State Governments in the shape of loans. The Central Government also bears half the expenditure on personnel employed by the blocks.

Extension as a programme and process

According to Carl Taylor, "although India has borrowed much from extension programmes in other countries, she has brought out both methods and administration of a programme which are unique in the so-called "Underdeveloped Countries."¹

The country has chosen the goal of raising the standard of living of the 80 per cent who live in 0.58 million villages through aided self-help improvement undertakings.

¹C. Taylor: *Critical Analysis of India's Community Development Programme*—issued by C.D. Administration, Government of India, 1956 p. 27.

India's programme is unique in the sense that it is both a community development and extension programme. It is a community development programme in that its major objective is to develop the village communities using methods which will stimulate, encourage and aid villagers themselves to do much of the work necessary to accomplish this objective. It is an extension programme insofar as it develops channels between all higher centres of information and the villages, and develops trained personnel to carry agricultural and health education and all other types of scientific and technical knowledge to more than a million villagers."¹

Extension, as discussed in the previous pages, is educating the villagers in changing their attitudes, knowledge and skills. Under this programme, Extension worker, by working with village people finds a solution for their needs and wants. He does this by 'helping people to help themselves'. The two important principles (1) "Learning by Doing", and (2) "Seeing is Believing" are always kept in view. The villagers are taught "What to want and how to work out the ways to satisfy their wants?"

Extension is the development of the individual, village leaders and their society through their day-to-day living. It is a continuous educational process in which the villagers and the extension workers contribute.

According to Ensminger, "Extension is a programme and a process of helping village people help themselves, increase their production and to raise their general standard of living."²

We call it a programme because in it the extension worker is backed by technical staff, available on call, to help in dealing with specific problems, e.g., in the case of spread of animal disease, the extension worker calls in the veterinary expert located at the Block Head Quarters, or the subject-matter specialists in the Agricultural University or College and draws up a programme to prevent the disease from spreading further, and to cure the sick animals. This programme is operated through the villagers.

We call it a process because for the successful working of the programme, the extension worker is required to approach the villagers and win their confidence while on the other hand, the villagers also have to accept him as their guide.

Extension can be called in other words, a specialised system of agriculture and rural development and an out-of-school method of education for the people. In it the people are motivated through a proper approach, to help themselves by applying science in farming, home-making and community living, etc.

Ensminger also calls extension a process of teaching under practical living situations and, at the same time, a definite organisation for undertaking this teaching. As a teaching process, it can be used by anyone working with the people outside the organised class room.³

Field covered by extension

The field covered by extension is wider than that of formal education and the subjects studied are many more. It works with adults and young persons in actual life

¹Ibid, (adaped)

²Ensminger, D., "A Guide to Community Development" C.D. Administration, Government of India, p. 56

³Ibid.

situations, where as formal education in the class room is concerned with the educational growth of children and young persons preparing for life. Extension generally deals with the problems concerning everyday life. It teaches people how to do and how to work out ways and means to satisfy their felt needs.

Agriculture extension brings about:

- (1) Changes in things known to farmers.
- (2) Changes in ways of doing things in farming.
- (3) Changes in crop raising attitudes and behaviour.
- (4) Changes in things valued or appreciated by the Client System.
- (5) Changes in things comprehended, the understanding with which work is done.

Characteristics of extension

Extension is:

- (1) Cooperative;
- (2) Educational;
- (3) Teaching;
- (4) Informal;
- (5) Flexible;
- (6) Broad in scopes;
- (7) Family centred; and
- (8) Voluntary.

ROLE OF AGRICULTURAL EXTENSION IN DEVELOPING COUNTRIES

Singh, M.P. (1966) recognised that there can be no one pattern of organisation for agricultural extension work. Each country has to develop its extension organisation according to its own social, cultural and economic conditions at a given stage in its development. There are, however, certain broad generalisations which can be made. These are:

(1) Extension work can be most effective only when it is entirely educational in nature and free from regulatory and other Government responsibilities. It is, however, recognised that in the early stages of development, on account of limitations of the trained staff and resources, it may be necessary to combine "education" and "service" functions. This should be viewed only as a stop-gap arrangement.

(2) As development proceeds, more specialisation at the field level may be feasible and desirable. Experience, however, shows that even in most advanced countries where agriculture is diversified, a generalist (Extension officer) who can look at the farm operation as a whole is needed at the field level (except in areas with a single enterprise, e.g., Citrus culture, Cocoa cultivation).

(3) The successful work of the generalists at the field level depends upon their being supported by specialists at the next higher levels of administration. As agriculture progresses, both the necessity and possibility of providing specialists at lower administrative levels will increase.

(4) Efforts should be made to keep Extension and Research closely related to each other. This can be achieved by:

(a) The setting up of an institutional channel and employment of subject-matter specialists in the extension service.

(b) Periodic contacts between research and extension staff through meetings, conferences, field days, etc.

(5) Extension work must be directed towards the family as a whole—men, women and children. Work with youth and farm women is important.

(6) In the interest of providing maximum effective service within the limited resources, there is an urgent need for effective coordination of all the agencies serving rural people.

Extension services have to make available to rural people scientific and functional information in a manner that can be used by them to solve the problems of agriculture. This involves:

(a) Getting the new knowledge from a source—usually Agricultural Research Stations.

(b) Interpreting the knowledge so that people can understand it.

(c) Transmitting the interpreted information, in an effective manner, to the people who will use it.

An Extension Organization, in order to perform its functions efficiently, must keep these considerations in view. A provision must be made in the organisational set-up for:

(a) Flow of useful information from the research stations to the farmers and of farm problems back to the research stations.

(b) Production of teaching materials and teaching aids for use in extension work. This involves setting up of an Agricultural Information Cell within the Extension Division of the Ministry.

(c) A capable and trained extension staff who can transmit the useful information to the farmers and assist them to organise farming as a “business”.

(d) In order to facilitate this movement of information back and forth, the number of levels of Extension Administration should be kept as small as possible.

Because of the shortage of extension workers and lack of other resources in a number of developing countries, “there is an increasing tendency to concentrate them in limited areas, e.g., on Land Development Projects or areas which have greater potential for rapid agricultural development, rather than spread them thinly over the entire country.”