

**AGRICULTURAL EXTENSION : EVALUATION OF
MAJOR PROGRAMMES IN INDIA
(A REVIEW OF LITERATURE)**

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C O N T E N T S

	<u>Page</u>
ACKNOWLEDGEMENTS	(1)
LIST OF TABLES	(viii)
LIST OF FIGURES	(ix)
LIST OF MAPS	(ix)
INTRODUCTION	(x)

Chapter

I	AGRICULTURAL EXTENSION	1
1.1	Introduction	1
1.2	Concept of Extension	1
1.3	Origin of Extension	4
1.4	Aims of Extension	6
1.5	Basic Philosophy of Extension	8
1.6	The Role of Extension	9
1.7	Definition of Agricultural Extension	10
1.8	Objectives of Agricultural Extension	11
1.9	Scope of Agricultural Extension	12
II	HISTORICAL DEVELOPMENT OF AGRICULTURAL EXTENSION IN INDIA	17

<u>Chapter</u>		<u>Page</u>
2.1	Introduction	17
2.2	Attempts in the Pre-Independence Period	17
2.3	Extension by Voluntary Various Agencies and Organisations before 1948	18 ^p
2.3.1	Naini Institute (1910)	18
2.3.2	Sriniketan Project (1920)	20
2.3.3	Marthandam Project (1921)	22
2.3.4	Gurgaon Project (1927)	23
2.3.5	Samagra Gram Seva (1933)	24
2.3.6	Adarsh Seva Sangh - Pohri (Gwalior)	25
2.3.7	Indian Village Service (1945)	25
2.3.8	Sarvodaya and Firka Development (1946)	26
2.3.9	Etawah Pilot Project (1947)	27
2.3.10	Nilokheri Project (1948)	29
2.4	Post Independence Period	30
2.4.1	Extensive Extension (1948-1960)	30
2.4.1.1	Grow More Food Campaign (GMFC-1948)	31
2.4.1.2	Community Development Programme (1952)	32

<u>Chapter</u>		<u>Page</u>
2.5	Intensive Extension	36
2.5.1	Intensive Agricultural District Programme (IADP-1960)	38
2.5.2	Intensive Agricultural Areas Programme (IAAP)	41
2.5.3	High Yielding Varieties Programme (HYVP-1966)	42
2.6	Programmes for Research Based Extension	45
2.6.1	National Demonstration Programme (NDP-1965)	47
2.6.2	Operational Research Projects (ORP-1971)	48
2.6.3	Lab-to-Land Programme (LLP-1979)	49
2.6.4	Training and Visit System (T&V-1974-75)	49
2.6.5	National Agricultural Research Project (NARP-1980)	54
2.6.6	National Agricultural Extension Project (NAEP-1983)	57
III	EVALUATION OF MAJOR PROGRAMMES	63
3.1	Community Development Programme	63
3.1.1	Introduction	63
3.1.2	Objects and Activities of the Programme	64

<u>Chapter</u>		<u>Page</u>
3.1.3	Progress in Coverage	65
3.1.4	Achievements	65
3.1.5	Shortfalls in Achievements	69
3.1.6	Programmes Evaluation Organisation	74
3.1.6.1	Evaluation of the Programme by Other Agencies	80
3.2	Intensive Agricultural District Programme	83
3.2.1	Introduction	83
3.2.2	Progress in Coverage	83
3.2.3	Achievements	86
3.2.4	Failure	91
3.2.5	Evaluation of the Programme	93
3.2.5.1	Evaluation by Various Scholars	95
3.3	High Yielding Varieties Programme	97
3.3.1	Introduction	97
3.3.2	Coverage in Progress	97
3.3.3	Evaluation Study of the HYVs Programme	103
3.3.4	Some of the Continuing Problems in H.Y.V.P.	110
3.3.5	Limitations	112
IV	CONCLUSION AND RECOMMENDATIONS	122

<u>Chapter</u>		<u>Page</u>
4.1	Historical Development of Agricultural Extension in India	122
4.2	Community Development Programme	124
4.3	Intensive Agricultural District Programme	125
4.4	High Yielding Varieties Programme	125
4.5	Recommendations	127
4.5.1	Community Development Programme	127
4.5.2	Intensive Agricultural District Programme	129
4.5.3	High Yielding Varieties Programme	131
BIBLIOGRAPHY		136

LIST OF TABLES

<u>Table No.</u>		<u>Page No.</u>
2.1	Method of Approach Used, Population and Area in Square Miles of Each Circle of JUPAN 1953-55	19
3.1	Coverage and Statewise Distribution of Community Development Blocks as on 2.4.1977	66
3.2	Coverage under IADP upto March 1974	84
3.3	Changes in Crop Production and Yield Per Acre, Each IADP District Being Compared with its Previous Five Year Record	88
3.4	Progress of High Yielding Varieties Programme in India, 1966-67 to 1984-85	99
3.5	Area under Principle Crops	102
3.6	Yield Per Hectare of Major Crops	104
3.7	Area under HYV Seeds 1979-80	115

LIST OF FIGURES

<u>Figure No.</u>		<u>Page No.</u>
2.1	Organisational Set-up of the C.D. Projects on October 1952	34
2.2	Relationship between Government Local Authorities and Field Agencies	37
2.3	Chart Showing Organisation and Other Facilities I.A.D.P. Districts	39
2.4	Pattern of Agricultural Administration as Proposed by Study Team on Agricultural Administration	46
2.5	Organisational Pattern of the Training and Visits System of Agricultural Extension	52
2.6	Linkages - Research and Extension	56

LIST OF MAPS

<u>Map No.</u>		<u>Page No.</u>
3.1	India - Showing IADP Districts	85

INTRODUCTION

AGRICULTURE OCCUPIES A PIVOTAL PLACE IN THE INDIAN ECONOMY. The progress of agriculture depends on nature as well as techniques of production. The reorientation of agricultural techniques in turn depends on research, education, training and extension. The utilisation of these factors will enhance the productivity in agriculture.

To develop Indian agriculture considerable efforts were done during the last three decades. Land reforms, administrative reforms, agricultural research and training, irrigation schemes, cooperative institutions, chemical fertilisers and such other strategies were adopted.

In this dissertation, an effort has been made to evaluate some of the important programmes like Community Development Programme, Intensive Agricultural District Programme and the High Yielding Varieties Programme.

Organisation

The first chapter is about agricultural extension in which I have considered the concept, origin, aims, philosophy and the role of extension. Then I have considered the definition, objectives and scope of agricultural extension.

The second chapter deals with the historical development of agricultural extension in India. In this chapter a brief survey has been made from the pre-British to post independence period. Various projects and programmes are discussed.

In the third chapter evaluation of major programmes related to the foodgrain production is attempted. The programmes evaluated are : Community Development Programme, Intensive Agricultural District Programme and the High Yielding Varieties Programme.

Finally in Chapter 4, conclusion and recommendations are presented.

CHAPTER I

AGRICULTURAL EXTENSION

1.1 Introduction

Agricultural extension plays a vital role in continuously improving the skills and attitudes of the farmers in the adoption of improved and modern technology for increasing agricultural production. Besides passing on the available updated technology on scientific agriculture for optimising the resource use, it helped to modernise the outlook of the common farmer and made him innovative and receptive to the new technologies and changing situations.¹

The process of technological change in agriculture is a long and intricate one; it involves different stages and various institutions from research stations and laboratories down to the farmers' fields and value systems. Communication is the process and extension is the method of bringing to fruition on the farmers' fields the endeavours and researches of scientists in the service of agriculture.²

1.2 Concept of Extension

The term extension, though quite familiar, has been defined differently in terms of what it stands to

achieve and by what means. According to Rudramoorthy (1964), "Governments and other organisations in most of the developing countries have therefore taken upon themselves the very important responsibility of extending knowledge made available in laboratories and research stations to the people who need it, and who need to use this knowledge to make their living more comfortable and satisfying. This process of extending the knowledge of recent advances in science and technology to the people who need to use it most is known as extension."³

According to Ensminger (1962), "Extension is a programme and a process of helping village people help themselves, increase their production, and to raise their general standard of living." Further, he called it a process of teaching under practical living situations.⁴

Dahama (1962) states that "Extension is educating the villagers in changing their attitudes, knowledge and skills Extension is the development of the individual, village leaders, and their society in their day to day living. It is a continuous educational process in which the villagers and the extension workers contribute to receive."⁵

The Administrative Reform Commission (Government of India, 1967) felt that the extension agency should discharge functions such as educating farmers in scientific ideas in agriculture and to enthuse them to adopt

these, solving problems of farmers in agricultural production, and ensuring supplies and services to farmers.

Coombs and Ahmed (1974) have given a very elaborate and illustrative list of learning needs of different categories of farm operators. At varying levels of sophistication and specialisation, they include knowledge and skills in relation to (a) farm planning and farm management; (b) rational decisions-making; (c) record keeping; (d) computations of costs and returns; (e) use of credit; (f) application of new inputs, varieties, and agronomy practices; (g) storage and processing; (h) farm improvements like land levelling, contour bunding, etc.; (i) government services, policies, programmes and targets. They point out that extension in many developing countries is regarded as a process of education to impart knowledge and skills in relation to a specific occupation or economic activity.⁶

The National Commission on Agriculture (Government of India, 1976) has a much broader perspective. Extension in their view, refers to informal out of school education and services for the farming community to enable them to adopt improved practices in the production, management conservation, and marketing of agricultural and allied activities. Agricultural extension aims at not only imparting knowledge and securing adoption of a particular improved practice but also changing the outlook of the

farmer to the point where he will be receptive to, and on his own initiative continuously seek, means of improving his farm occupation, home, and family life in totality.

These definitions refer to a large number of concepts, ideas, and aspects such as programmes to be undertaken, process to be adopted, people to be contacted, levels of participation to be achieved, patronage, personality formation, philosophy of extension, persuasion and publicity techniques, and productivity and resultant prosperity. To summarise, extension is viewed as an educational programme to be undertaken by public agencies to activate the process of transfer of knowledge, science, and technology from laboratories to people in order to : help people to help themselves, change their attitudes and skills; help them in farm planning, decision making, record keeping, use of inputs, storage, processing, and marketing, ensure supplies and services; increase their production; develop the people and their leaders; and improve their occupation, and family and community life.⁷

1.3 Origin of Extension

The mid-nineteenth century saw the start of institutionalisation and public funding of organised extension activity concerned with agriculture and rural life. But for centuries before this, there had existed a very informal sharing among rural people of ideas,

beliefs, knowledge and information in the form of both common and more unusual experience of solving problems in their farming and every day life.

In Europe, extension work began with the creation of small force of itinerant 'agricultural instructors' in Ireland between 1847 and 1851, at the time of the serious potato crop failures and the famine. As a response to the crop failures, the fourth Earl of Clarendon (the Lord Lieutenant of Ireland at the time) sought to stimulate changes in the cropping and the associated husbandry practices of impoverished Irish small farmers with the aims of reducing the dependence of the peasantry on potatoes and creating a system of farming that was much less prone to attack by the potato blight fungus. This was done not by using market forces or legislative authority, but by means of activities which were essentially informative and educational, organised so that reliable innovations became quickly available to a large numbers of very small farmers who were in the situation of crisis. The impact was substantial and beneficial. Similar experiences also to a large extent, in response to crisis facing small farmers were soon gathered in Germany and France in 1860s and 1870s, where early instructional and advisory work among farmers was initiated. Before the beginning of this century, advisory or extension service for farmers, often including in their work large elements of farmer instruction

in better husbandry methods and skills, had been established in most European countries, North America and many tropical parts of the world.

In many cases the latter were strongly influenced by colonial authorities to develop new farming systems to produce export crops to be processed in Europe. Extension services with this objective were operating (for example) in the Indian subcontinent by the 1860s, in the Caribbean by the late 1880s, in Egypt by the 1890s and in various African countries by the first decades of this century.⁸

1.4 Aims of Extension

Extension aims at :

(a) Human resource development for multiplier effect by :

(i) Imparting knowledge, skills, understanding about the use of various components of technology (education/training).

(ii) Bringing desirable changes in the behavioural patterns, attitudes, values, goals, and confidence as well as the practices of the people (communication skills).

(iii) Firing the imagination of the people, through 'learning by doing' and 'seeing is believing'. This will help them in taking their own decisions and initiatives by themselves (demonstrations).

(iv) Making available fund of knowledge, wisdom and observations for perennial use and as references (publications).

(v) Providing continuous flow of information and data for decision making so as to keep their (clientele) morale and motivation high for learning more and more and for the actual harvesting of resultant benefits for self-development (information and documentation).

(vi) Continuously providing technological - back stoppings for recycling of their (clientele) - economic gain.

(b) Increasing production by :

(i) Making realistic assessment and availability of need-based inputs (knowledge and physical) for a given sets of technology in maximisation of their outputs (training).

(ii) Prepositioning of needed inputs in order to make them available at a reachable point, so as to conserve their resources, energy and efforts and thereby hasten the pace of development (grants-in-aid, subsidy, loan provision - all put together).

(iii) Organising interest groups, societies and markets for getting maximum economic gain and thus eliminating middlemen and exploiters (gate keeping).

(iv) Developing farmers' organisations and

linking them with respective farm - organisations (public, corporate and private).

(c) Bringing suitable changes in the cultural aspects of the people so that the changes in practices automatically bring changes in the knowledge, skills and attitudes.

All the above changes must raise higher techno-socio-psycho-cultural standards (together) with economic prosperity in the community duly linked with the national programmes and policies of overall development of the people.⁹

1.5 Basic Philosophy of Extension

1) Self help : Under it the people actually plan and work on the solution of the problems themselves.

2) People are the greatest resource : Getting the participation of the people on common improvement activities.

3) It is programme of change which involves change in attitudes, habits, ways of thinking and changes in relationship among people.

4) It is a cooperative effort which recognises the inter-dependence of the separate functions involved in the process of change.

5) It has its foundation in democracy, i.e. it is development of people, by the people and for the people.

6) It involves a two-way channel of knowledge and experience. The problems of the field are brought to laboratories and their results are taken back to farmers and villagers.

7) The programme is based on creating interest by seeing and doing.

8) Voluntary cooperative participation in programme and development of leadership.

9) Persuasion and education of the people.

10) The programme is based on the attitudes and values of the people with whom it works.

11) It is a never-ending process.¹⁰

1.6 The Role of Extension

It is in the intermediate area between the conditions where producers see that certain forms of technical change are likely to be of advantage, but need to learn how to use them, that they will seek the help of knowledge services. In these circumstances, the returns to extension may indeed be very substantial even though they may still be very difficult to measure.

But, in fact, the role of extension is far wider and far more responsible than the communication of knowledge. Its fuller task is to comprehend the social, economic and technical environment of the producers, and their objectives, resources, existing methods and

difficulties; to represent their needs to the administrative apparatus as well as to the rest of the knowledge system; and to help convey the products of that system, and options derived from them to producers. The extension worker then becomes an active participant close to the front line, in the process of change in agriculture and in the rural space.¹¹

1.7 Definition of Agricultural Extension

1) Agricultural extension can be defined as the provision of knowledge and skills necessary for farmers to be able to adopt and apply more efficient crop and animal production methods to improve their productivity and living standards. The majority of conventional extension systems take new technologies developed at research stations and pass them in a top down fashion to farmers following varying amounts of local testing that may or may not involve a farm trial.¹²

2) Agricultural extension is an educational process. It brings to agricultural communities the knowledge and skilled developed by research institutions, and by making these known it seeks to improve the level of agricultural production. In this process, help to the farmer cannot be dissociated from help to his family, and from these small social units the benefits accumulate and contribute to community and national prosperity. The

methods used in agricultural extension are based on the principle of helping people to help themselves. The extension worker must gain acceptance by the farmers. Having their trust he helps them to solve their problems by communicating to them some of the vast store of information which human intellectual endeavour has built up. This knowledge is of little service or value to farming people until it is put to use once set free from the constraints of tradition, and given confidence to face the challenge of development, there is no limit to what rural people can achieve.¹³

3) Agricultural extension is a service or system which assists the rural people, through educational procedures, in improving farming methods and techniques, increasing production efficiency and income, bettering their levels of living, and lifting the social and education standard of rural life.¹⁴

1.8 Objectives of Agricultural Extension

- 1) To promote the participation of rural people in projects and programmes designed to assist their development;
- 2) To develop the organisational base of rural people;
- 3) To create awareness among rural people of their problems and to build up solidarity to tackle such problems;

4) To encourage greater self-determination and self-reliance in order that rural people might assume responsibility for the direction of their own development.¹⁵

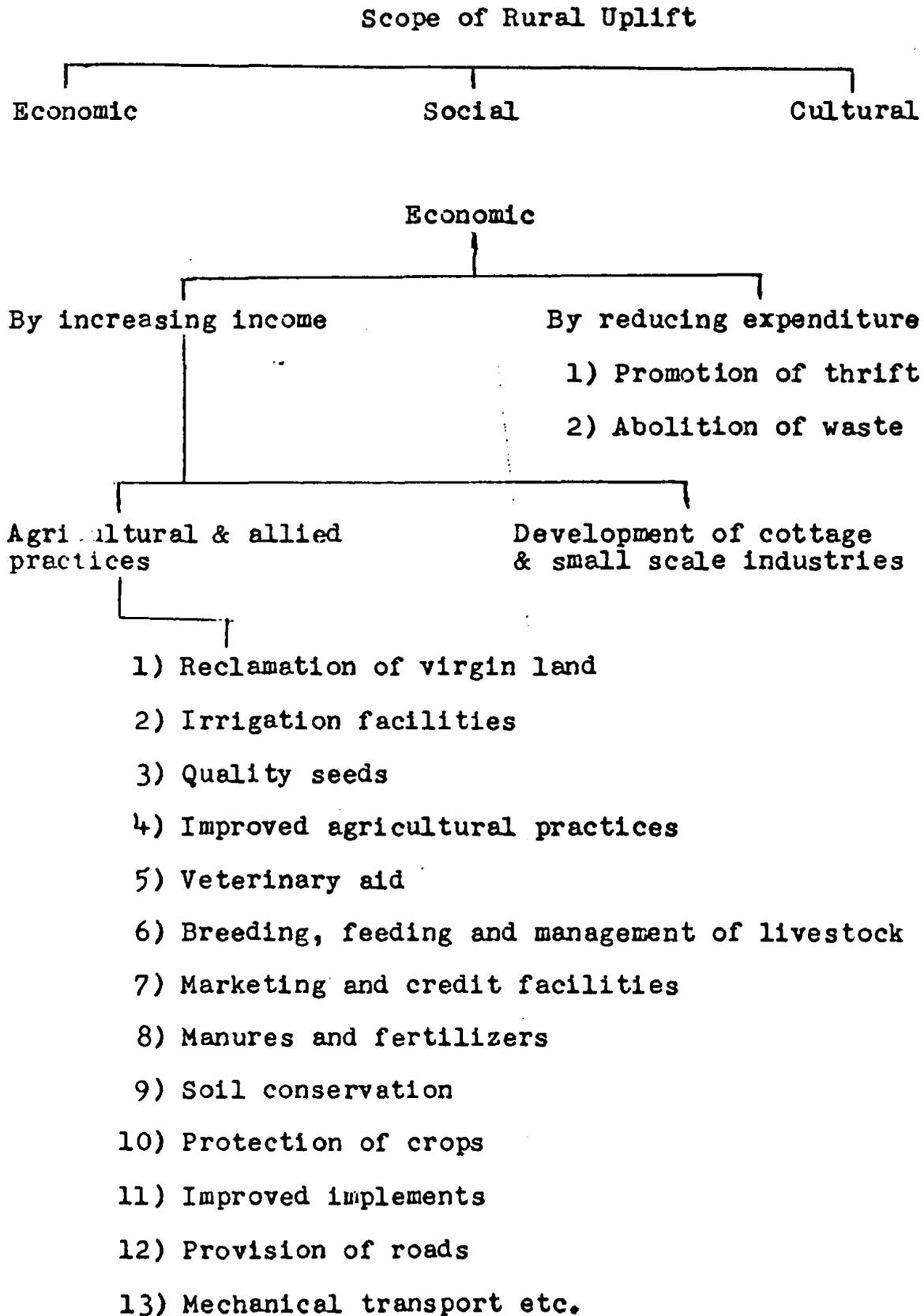
1.9 Scope of Agricultural Extension

Scope means range within which an activity displays itself. The activity of extension deals with many kinds of problems and with all classes of people. At present, the extension activity gives more attention to rural problems.

"To assist each village first in having effective panchayats; cooperatives and schools; and through these village institutions plan and carry out integrated, multi-phased family, village, block and district plans for increasing agricultural production; improving existing village crafts and industries and organising new ones; providing minimum essential health services and improving health practices; providing required educational facilities for children and an adult education improving housing and family living conditions; and providing programmes for village women and youth."¹⁶

The scope of extension is very wide. In general we can say that extension works for all aspects of rural uplift. Three main aspects of rural uplift are, economic, social and cultural. The specific activities under

economic, social and cultural aspects are as follows:



Social

Sociological

- 1) Inoculation of proper outlook
- 2) Restoration of caste and cultural harmony
- 3) Avoidance of splits and quarrels

Public Health

- 1) Balanced food
- 2) Personal cleanliness
- 3) Sanitation and public health amenities
- 4) Medical aid to the ailing
- 5) Care of expectant mother
- 6) Midwifery service
- 7) Water supply
- 8) Improved houses
- 9) Family planning

Cultural

Education

- 1) Compulsory free education
- 2) Provision of high schools
- 3) Library services
- 4) Adult education
- 5) Short term refresher courses
- 6) Training of artisans

Games and physical exercise

Entertainment

- 1) Folk dances
- 2) Films
- 3) Bhajans
- 4) Radio
- 5) Dramas
- 6) Exhibitions
- 7) Melas
- 8) Fairs
- 9) Festivals

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CHAPTER II

HISTORICAL DEVELOPMENT OF AGRICULTURAL EXTENSION IN INDIA

2.1 Introduction

The Indian villager was under political, social and cultural bondage for long time. Therefore, he lost all his inherent strength to move his limbs to rise and fight his enemies. He has for long been a passive recipient of something given to him from the top rather than an active participant in improving his own conditions. This situation called for changes in the mental outlook of the people, developing in them an ambition for higher standard of life and the determination to work for such standards. This fundamental problem was attacked in the past by many government and private organisations.¹

2.2 Attempts in the Pre-Independence Period

Till the last quarter of the 19th century, nothing was done by the foreign rulers. But the series of famines forced the government to appoint some commissions and some kind of systematic extension organisation. Accordingly 'Department of Revenue, Agriculture and Commerce' was established in 1871. British Government made some acts

like Land Improvement Loans Act, and Agricultural Loans Act of 1888, Cooperative Act of 1904. They also established development departments like agriculture, animal husbandry and veterinary, irrigation. But there was no comprehensive programme and peoples' participation, co-operation and involvement was never emphasized. They never tried to create a confidence in the people.²

2.3 Extension by Voluntary Various Agencies and Organisations before 1948

2.3.1 (1) Naini Institute (1910)
(Yamuna Par Punarnirman Project)

The Yamuna Par Punarnirman Project sponsored by the Allahabad Agricultural Institute, Naini, Allahabad was based on the 'integrated approach to village problems'. A group of village was placed in charge of a gaon sathi who was the multipurpose worker at the village level. The wife of the gaon sathi also was an employee of the project and she was specially trained to look to the problems and needs of women and children.³

The Yamuna Par Punarnirman area consisted of portions of Meja and Kar Chana Tehsils of the Allahabad district. Four hundred and twenty eight villages in this area were selected for extension work. The population of this area was about 187,000 (1951 Census). There were 55 gaon sathis. The area was divided geographically into

four circles. In each circle a different method of approach was used by extension workers as given in Table 2.1.

Table 2.1 : Method of Approach Used, Population and Area in Square Miles of Each Circle of JUPAN 1953-55

Circle	Method of approach	Population	Area in sq.miles
Iradatganj	Occupation (Agriculture)	40,000	34
Jari	Literacy	38,000	87
Karchana	Home and Family	55,000	52
Sirsa	Felt needs	54,000	53

The Institute conducted training programme for gaon sathis. This programme consisted of short courses lasting about a month. The course included class room work in subjects such as principles and philosophy of extension methods, rural sociology, programme planning etc.⁴

Gaon sathi was the village level extension officer. He was expected to be the friend and philosopher of the villagers. He lived with them solving their difficulties. His primary function was to create desire in the hearts of villagers to change for the better through their own efforts. The gaon sathis were expected to use various

audio visual aid in their work with the villagers. For selection of gaon sathi, the Institute took competitive written examination, aptitude test and personal interview. After selection of gaon sathis they had two weeks initial conference before going to the villagers. These are also period training conferences.⁵

2.3.2 (2) Sriniketan Project (1920)

One of the earliest of our national leaders to give concrete shape to village reconstruction was Rabindranath Tagore. In 1908, Shri Rabindranath 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 Sriniketan (Birbhum district) with the help of Shri and Smt. L. K. Elmhirst. The main objective was to develop the capacity of people to match their felt needs : food for hungry, language for their ideas, education to all.

A group of 8 villages was the centre of such programme. The activities of the Institute included development of agriculture, cooperatives, industries and education through village organisations.

Objectives of the Programme

(a) To create 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 to be achieved through:

(a) creating a spirit of self-help, (b) developing village leadership, (c) organising village scouts called as Brati Balika, (d) establishing training centres for handicrafts, (e) establishing a demonstration centre at Sriniketan.

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, established a poultry for the same purpose. The students and workers from the institute trained weavers, organised their co-operatives and provided facilities for training in tanning, pottery, embroidery, tailoring, etc. The institute was running a library which had a mobile unit for villagers, run night schools, arranged film shows, meetings etc. in the village.

The institute could not get much help from the government and it could not conduct research work, so its work remained limited to 8 villages only.⁶

2.3.3 (3) Marthandam Project (1921)

Marthandam project was started by an American Missionary Spencer Hatch in Travancore State under the auspices of the Y.M.C.A. in 1921. According to Dr. Hatch, the purpose of the centre was "to bring about a complete upward development towards a more abundant life for rural people spiritually mentally, physically, socially and economically." The programme embraced all aspects of rural life, and trained personnel for doing village work.⁷

Marthandam village is situated on the Trivandrum-Cape Comorin Road. The area selected for intensive work was about 112 sq.miles comprising 46 villages roughly within a radius of five to six miles of Marthandam. It had a population of 45,000 persons. There were about 100 Y.M.C.A.s in Travancore State with a membership of 1,900 persons. Among its members were school teachers lawyers, farmers and high school boys. They worked in their spare time without any payment and set an example for others. The most of the members of these associations were also very poor. Such devoted workers were very helpful in spreading the Marthandam message to their own villages.⁸

Objects

1) To bring people of all castes and religions to join hands in this work of improving the economic, social,

moral and spiritual welfare of the people living in the villages of the Marthandam extension area.

2) To demonstrate and popularise in the villages better methods of agriculture, and cottage industries proved to be profitable by the government, the YMCA Rural Demonstration Centre and other agencies.

3) To help rural families to increase their income by the application of cooperative principles and the method in the production and marketing of agricultural and industrial products.

4) To help towards better livestock, poultry and varieties of plants.

5) To improve the health of people by introducing method of sanitation, by sinking wells, teaching health and character forming games and carrying on health education.

6) To help in the holding of exhibitions in the villages and at the rural demonstration centre at Marthandam which show results of our reconstruction work, and to stimulate others to have better products.⁹

2.3.4 (4) Gurgaon Project (1927)

In 1927, F. L. Brayne developed a scheme of Rural Reconstruction in the Gurgaon District of Punjab where he was then posted as Collector. In his book - Better Villages, he writes : "The old pattern of village

life has changed both in good times and in bad. A new plan is wanted, based not on material things but on spiritual. Rural reconstruction is nothing more or less than the revival of the old fashioned virtues of hard work, thrift, self-control, self-respect, self-help, mutual help, and mutual respect. All this will mean a revolutionary change for the villager : his outlook towards his work, towards his resources, his cattle, his family, his farm, his neighbours and his government must be entirely changed."¹⁰

Under his programme, a village guide was kept in each village who was to act as a channel through which advice of experts in various departments could pass to the villagers and the programme of introducing improved seeds, implements, improved methods of cultivation could reach the villagers.

The work gathered momentum again after 1933, when Shri Brayne was appointed as a Commissioner of Rural Reconstruction in the Punjab. In 1935-36 the Government of India granted Rs. 1 crore for distribution in various provinces for rural reconstruction work and it gave stimulation to its working. Subsequently the work in the Punjab was transferred to the cooperative department.

2.3.5 (5) Samagra Gram Seva (1933)

Sevagram attempt started under the guidance

of Mahatma Gandhi. The Gandhian constructive programme became a village movement. Khadi and Village Industries, basic education and Harijan Seva, all fitted in to make it a mighty village reconstruction movement. Gandhiji sought to make the villagers self-reliant and self-sufficient and thus carried on his constructive work at Sabarmati Ashram and Sevagram with considerable emphasis on the training of workers in Samagra Gram Seva.¹¹

2.3.6 (6) Adarsha Seva Sangh - Pohri (Gwalior)

This plan of rural reconstruction was put into operation in 232 villages, falling in the jagirdari of Col. Shitole which aimed to increase 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 breedings and management of cattle, etc. The Sangh published a monthly journal "Rural India" devoted to planning and community projects.¹²

2.3.7 (7) Indian Village Service (1945)

Its founder Shri Arther T. Mosher of New York and Shri B. N. Gupta established it in 1945. The objects of this organisation were to assist village people to realise the best in their own villages, by developing individuals, volunteers and local agencies, and enable

them to be effective in helping themselves and others.

For realisation of the above objectives, the organisation adopted techniques like, personal contacts, informal discussion groups, use of volunteers, demonstrations, use and production of visual aids, exhibitions, tours and trips, dramas, books and periodicals, etc. The organisation had branches in Lucknow and Etah (U.P.) and was affiliated to the presbyterian church in U.S.A. Residents of 15 villages were the beneficiaries of this organisation.¹³

2.3.8 (8) Sarvodaya and Firka Development (1946)

Two other programmes which evoked great enthusiasm were the Sarvodaya scheme and Firka Development scheme of Bombay and Madras respectively. Both these schemes were based on Gandhian philosophy and ideology. The Sarvodaya scheme of Bombay aimed at raising the standard of living, developing agriculture and promoting cottage industries, spreading literacy and medical facilities and developing village panchayats.

The Firka Development Scheme of Madras, which was sponsored by the government in 1946, aimed at the fulfilment of the Gandhian ideal of Gram Swaraj by bringing about improvement in all aspects of village life. Various rural problems were tackled as a whole and not in isolated parts. The village guide was in charge of a group of

two or three villages.¹⁴

2.3.9 (9) Etawah Pilot Project (U.P.) (1947)

Unlike the Governments of Madras and Bombay, the Government of Uttar Pradesh did not launch a scheme of rural development all over the province, it set up an "experimental project" under the direction of an American engineer, Albert Mayer to find suitable methods of village development, which, if successful, could be reproduced in other areas.¹⁵

After surveying a few districts Mayer began his experiment in 1948 in Etawah district. Main objective of project was Intensive Work of Rural Reconstruction by way of : Introduction of farm practices, public health, education, cottage industries, training and all round uplift activities.

The village level workers were trained and appointed, cooperation of other departments and agencies was enlisted; demonstrations were conducted.

The Government of Uttar Pradesh helped him in setting up a machinery on district level and provided extra staff. 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.

This project was put into action with headquarters at Mehewa village about 17 miles from Etawah (U.P.) in September 1948. Initially 64 villages, which were then increased to 97, were covered under it.

The rural problems were tackled under the project through : (a) efforts to broaden the mental horizon of the villager so that they 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 environment. The method of approach was educative and persuasive rather than coercive.

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.

The most effective achievement was that the entire area was brought under improved wheat crop. The area under vegetables was expanded 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.¹⁶

2.3.10 Nilokheri Project (1948)

Late in 1947, Shri S. K. Day started a small refugee resettlement centre at Nilokheri in Karnal district of the Punjab under the Ministry of Rehabilitation, Government of India. The original scheme was to have a township of 5,000 and to link it with village around having a population of about 25,000. The nucleus township was intended to house institutions for medical relief, public health and sanitation, middle and high school education, technical and vocational training, and horticulture, poultry, piggery, fishing, sheep breeding and other forms of animal husbandry.¹⁷ Villages were to be reconditioned to bring them in tune with the current and future needs of the community. The resident population for the township was to be picked out of the camps of displaced persons particularly the camp at Kurukshetra just ten miles away from there. However, the complete scheme for urban and rural area could not materialise, as the Ministry of Rehabilitation was concerned only with the displaced persons, who could be settled in the new town, and in villages around where there were already old inhabitants. Along side technical and vocational training, work centres were started in all the crafts which were taught in the farmer institution. Weaving, calico printing, soap making, laundry, bakery, tinsmithy,

blacksmithy, general mechanics, leather and multitude of other crafts and trades came in as production nucleus. Thus the industries-medium, small and cottage, provided gainful employment to about 700 families. About 80 families took to agriculture on land cleared from forest. Nilokheri acted as an unconscious pioneer for rural industrial estates which were to find wider expression throughout the country in the second and third five year plans. Extension services which were created for servicing and activities within the colony in the field of agriculture, animal husbandry, village industries, mechanised trades, and panchayat and cooperative activities within the town became the fore runners of community development programme launched in 1952.¹⁸

2.4 Post Independence Period

2.4.1 Extensive Extension (1948-1960)

The Fiscal Commission (1949) set up by Government of India observed that "In our view the greatest need at present in India is an extension service with the object of bridging the gap between research and practices of producers" in a given area. Subsequently, the first major effort to spread the work on an area basis was started with the Grow More Food Campaign (GMFC).

2.4.1.1 Grow More Food Campaign (GMFC-1948)

The famines and the food shortages in the country during World War II led to the countrywide programme of "Grow More Food Campaign", whose aim was to increase production in a fixed period by making use of the available improved technology in agriculture. This campaign was launched as a programme of crop production. Field demonstrations and contact with the farmers to introduce the improved technique and initiation of a dialogue with the villagers were the main lines of approach. Field staff was strengthened for this purpose. However, the campaign developed certain snag and therefore, after Independence, the working of GMFC was reviewed by the GMF - Enquiry Committee, established by the Planning Commission during 1951-52. The Committee observed that the campaign failed to achieve the expected result due to various shortcomings in the basic strategy; like very narrow and restricted scope of operation, lack of integrated approach and the short term objectives of increasing productivity, etc. It was also felt that the movement only touched a fringe of population i.e. the large holders who were induced by subsidies and other forms of assistance to take up improved agricultural practices.¹⁹ The committee observed that each development department under the campaign had its own approach to work and there was a lack of concerted

effort at all round development of rural life. Further, the officials closest to the villagers were inadequately trained to be able to provide the necessary guidance to them. However, on the basis of the recommendations of the Grow More Food Enquiry Committee and experience gained through the Etawah Pilot project and Nilokheri project, the Government of India launched a nationwide programme of community development in 1952, the biggest till then.

2.4.1.2 Community Development Programme (1952)

On 2 October 1952, the anniversary of Mahatma Gandhi's birthday, the Government of India launched a bold and systematic programme of rural regeneration called the Community Development Programme. It was launched in the belief that India's greatest underdeveloped natural resources were her 295 million ill-fed and ill-clad citizens (living in her 5,58,000 villages) and that the power inherent in them was the greatest force which India could mobilise for post-partition reconstruction especially for the rehabilitation of refugees from Pakistan.²⁰

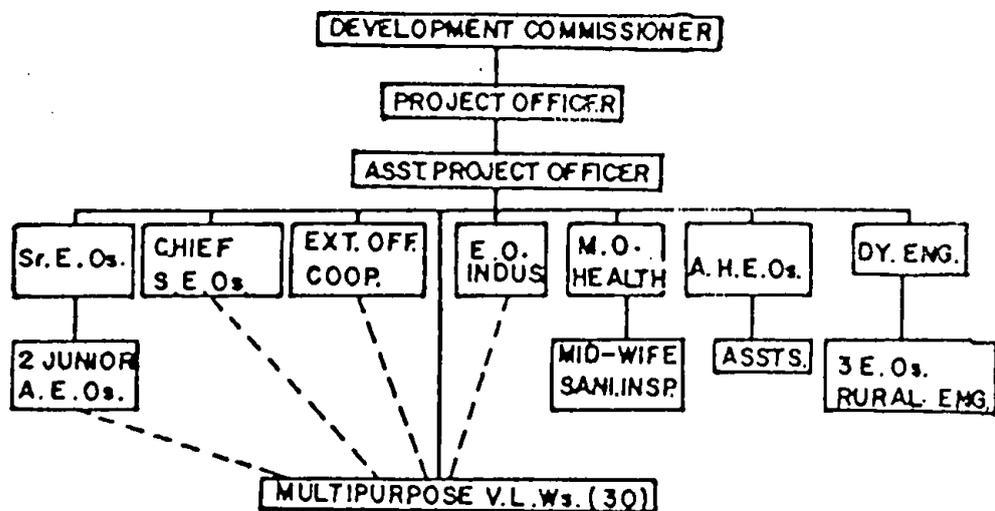
Its objectives were increasing agricultural production, tackling the problem of rural unemployment by developing cottage industries, improving village communication, providing medical and health services and, ultimately helping the villagers develop themselves through their own efforts. It was more or less a package offer to rural India.

The beginning was made in 55 selected projects. At that time 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 covering the whole rural areas of the country. Under this new scheme, new block of about 150-200 miles and a population of 60 to 70 thousand people were created. The expenditure provided for each project was Rs. 65 lakhs and for each block Rs. 21 2/3 lakhs for a period of three years.

A block which was considered as the basic unit of development and administration with a provision of a team of subject matter extension officer (S) and about 30 multipurpose village level workers acting as agents common to the development departments engaged in rural works. (Fig.1).

The VLW being seen as a multipurpose worker, posted at the village and serving as a link between the village requirements and the farmers. The VLW was given a practical training in agriculture, animal husbandry, cooperation, public health etc. supplemented by actual "job training" in extension work. Each VLW was expected to cover an area of 10 villages. The VLWs were supervised and guided by a team of block level extension officers (EO) in agriculture, animal husbandry, cooperation. The Block Development Officer (BDO) was to coordinate and

ORGANIZATIONAL SET-UP OF THE C.D. PROJECTS ON OCT. 1952



ORGANISATIONAL SET-UP OF C.D. PROGRAMME AT DIST LEVEL AFTER 1953

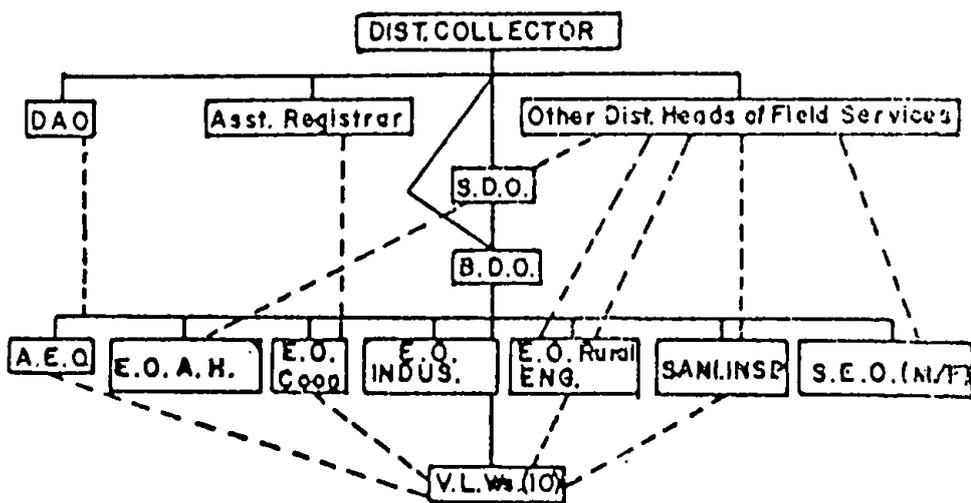


Figure 2.1

integrate the work of EO's and VLW's and to provide leadership in these concerted attempts in rural development. The block was considered as the administrative unit under the programme which covered the population between 65 thousand and 1 lakh.

The Community Development (CD) programme was enthusiastically implemented, but required very heavy investment. Therefore, several blocks which had not yet been covered by the slowly growing programme were covered by the National Extension Service (NES) 1953 which was a comparatively diluted form the CD programme with a slightly lower budget. The CD programme and NES worked concurrently, but the latter were soon converted into CD blocks and given a higher budget. NES was introduced as an agency and CD as the method to bring about transformation, with distinctively two broad divisions : (a) extension education and (b) community organisations. However, the implementation of this programme became defective due to non-availability of technology and technologists, lack of trained personnel, extension of CD in a great hurry, lack of motivation amongst the functionaries and problems of coordination at different levels.²¹

Organisation between 1958 to 65

On the recommendations of the Balwantray Mehta Committee, Community Development Blocks were brought under

the "Stage I" and "Stage II" pattern in 1958. Each stage was for five years with an outlay of Rs. 12 lakh and Rs. five lakh, respectively. It was anticipated that at the end of 10 years, the expenditure would be met from various development departments of the state government. Along with the 'state pattern', the three-tier system of panchayati raj was also introduced in many states as a means to democratise the administrative and economic functions of the government, at levels below the state 'people's representatives' at district (zilla parishad), block (panchayat samiti) and village level (gram panchayat). (Fig.2).

Several studies have indicated that the programme of CD was non-functional on several counts but created awareness and consciousness amongst the people about the ethos of development.²²

2.5 Intensive Extension (1960-74)

The Government of India invited a team of agricultural experts sponsored by the Ford Foundation to make a study of Indian agriculture and offer advice for action. The team visited India in early 1959 and submitted its report, "India's food crises and steps to meet it" in April that year. The Government of India accepted in general, the recommendations made by the team and the Intensive Agricultural District Programme (IADP).

RELATIONSHIP BETWEEN GOVERNMENT LOCAL AUTHORITIES AND FIELD AGENCIES

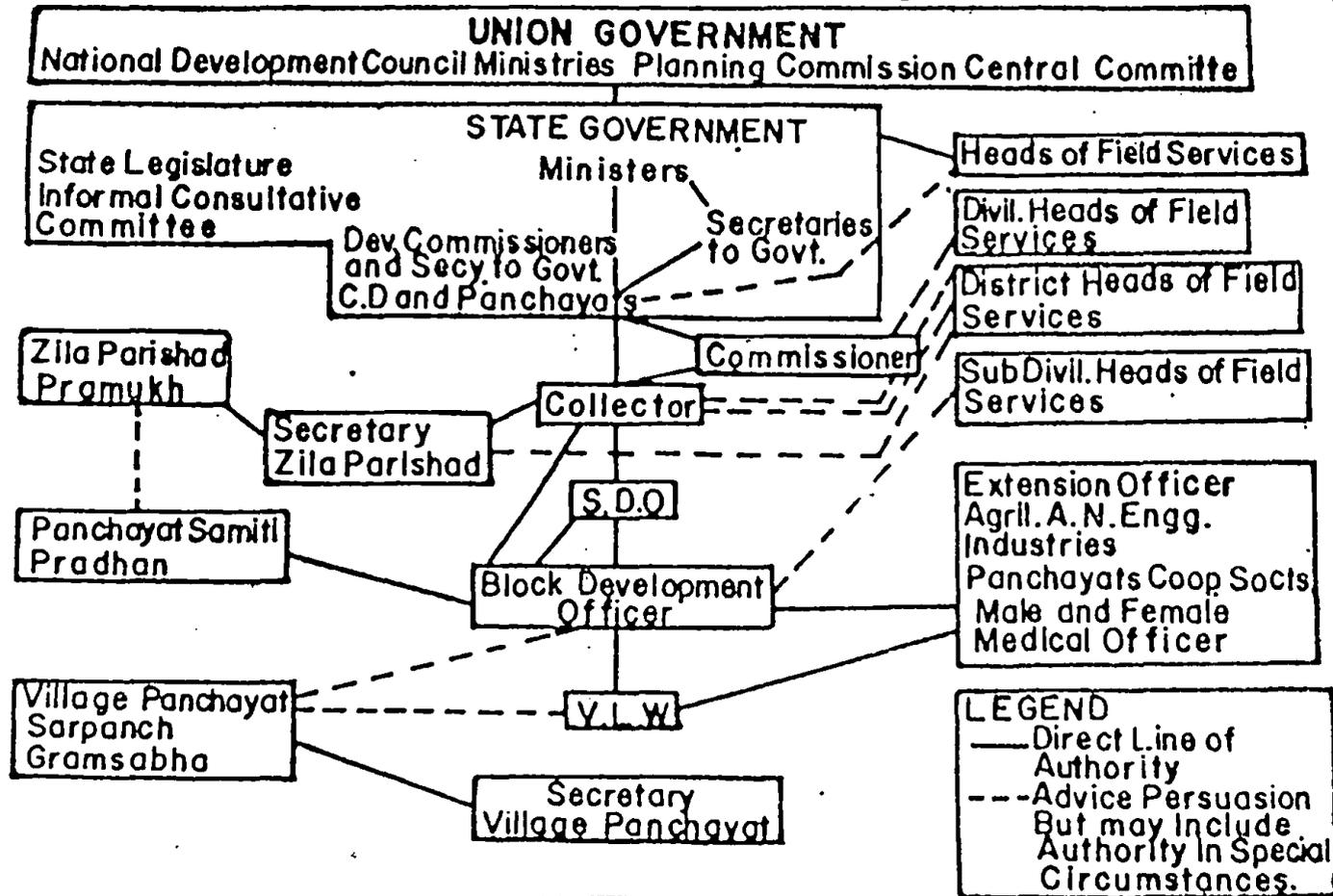


Figure 2.2

2.5.1 Intensive Agricultural District Programme (IADP-1960)

IADP popularly known as the "Package Programme" consisted of collective and simultaneous application of all improved practices and services including, improved seeds, fertilisers, irrigation, plant protection, credit implements etc.²³

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 short time. (Fig.3).

Upto June 1963, the programme covered 120 blocks of those districts 45% of the villages and 30% of the total cultivated area in these seven districts. In many states, the programme had 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, Bhandara in Maharashtra, six blocks in Jammu & Kashmir, Lachar in Assam and two districts in M.P. (Balaghat and Narsinghpur).²⁴

During 1973-74, the programme was in operation in 30 thousand villages in 15 selected districts of the country. During 1974-75, 15 more districts - 2 each in

CHART SHOWING ORGANIZATION AND OTHER FACILITIES

I.A.D.P. DISTRICTS

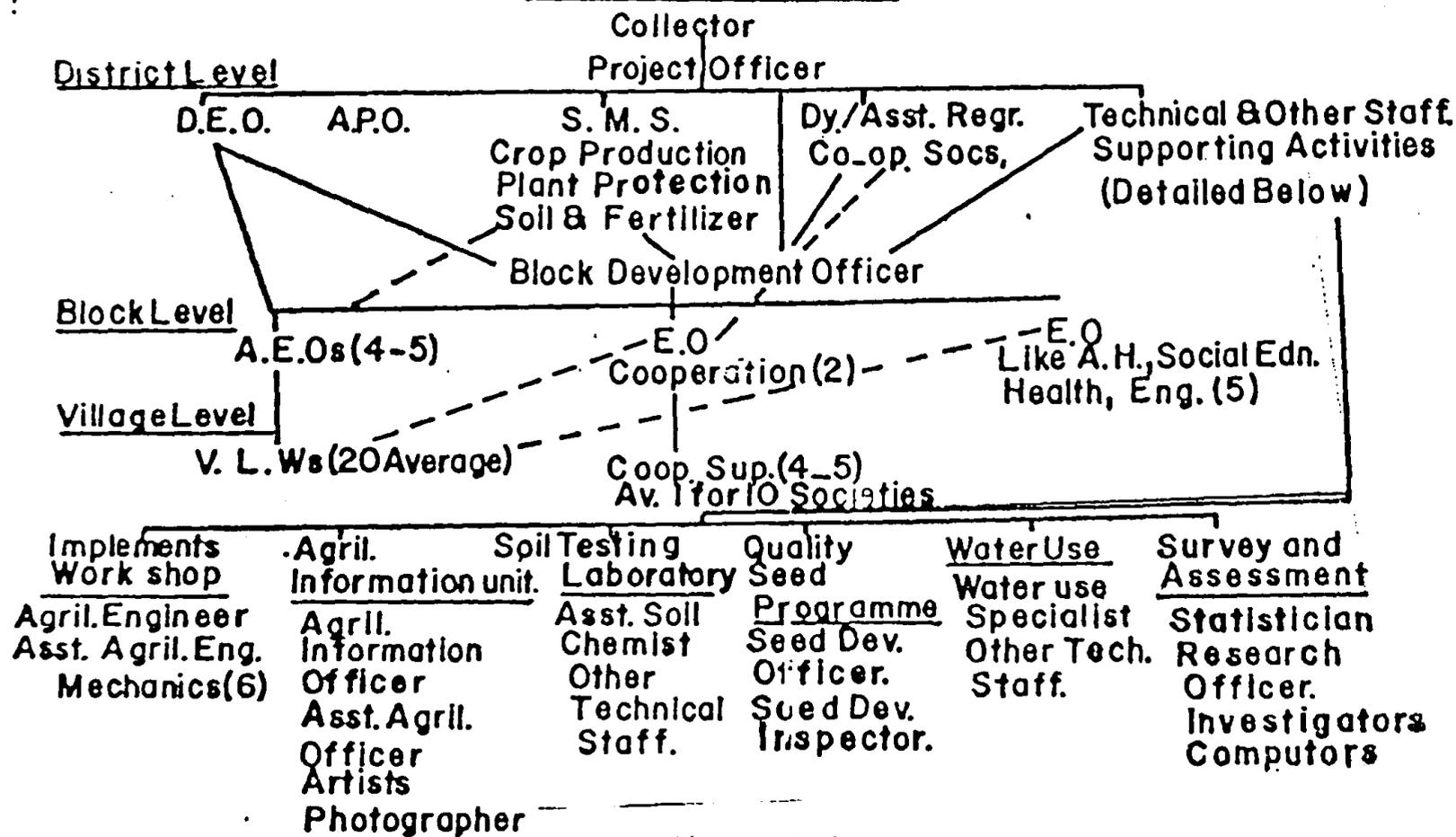


Figure 2.3

Bihar and Karnataka, 4 in Punjab and 7 in Madhya Pradesh have been covered by this approach.²⁵

Financing

About Rs. 9 crores for the farmers of the first seven districts and Rs. 8.5 crores for the 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 workshop, soil testing laboratories, information units, training of workers.

As this programme demanded intensive work, the number of VLWs was doubled in the CD blocks of IADP districts. Cooperative staff were also increased at block and district level. The IADP was a pace-setting programme which demonstrated methods of increasing production rapidly and methods of developing new innovations, ideas and procedures for wider adoption.

Objectives

By providing the wherewithal for production the programme aimed 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 of IADP programme 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.²⁶

2.5.2 Intensive Agricultural Areas Programme (IAAP)

On the basis of the experience gained in the implementation of IADP the concept of resource concentration and selectivity was extended to additional areas having potentialities for stepping up agricultural production. A programme known as "The Intensive Agricultural Area Programme" was launched in the beginning of 1964-65 in 115 selected districts. The programme like its forerunner has been taken up in areas having assured irrigation or water supply.

The aim of the IAAP was to bring about a progressive increase in the production of the main crops in selected areas by an intensive and coordinated use of various aids to production. The IAAP followed the 'package approach' - the use in agriculture of interrelated factors - physical, social, institutional in a strategic combination, which were likely to exert an impact on agricultural production.

The difference between IAAP and the IADP was that under the IAAP there was a lower degree of intensity in respect of the staffing pattern for supervision, establishment of soil testing laboratories, seed testing centres, etc. Ultimately, the IAAP has also to develop to the same level of intensity as the IADP.²⁷

In 1964-65, 114 districts and 1084 blocks were selected. In 1965-66, 597 blocks and in 1966-67, 910 blocks were added. The total area covered under the programme in these blocks during 1964-65 was about 90 lakh hectares and during 1966-67 it increased to 133 lakh hectares. About 20 lakh cultivating families participated in the programme in these states during 1964-65 and 31 lakh during 1965-66.²⁸

2.5.3 High Yielding Varieties Programme (HYVP 1966)

In 1965, a new programme launched by the Government of India promoted cultivation of high yielding varieties. This high yielding varieties programme (HYVP) was implemented by the state governments under the centre's over all encouragement. It was implemented by the existing administrative machinery following the intensive (package) approach in the case of IADP and IAAP. In fact, these programmes were supplementary and complementary to each other.

The 'New Strategy' of agriculture development was design to

- 1) apply scientific techniques and knowledge of agricultural production at all stages, particularly in the fields.

- 2) select a few areas with assured rainfall and irrigation for concentrated application of a package

practices based on improved varieties of seeds response to heavy doses of fertilisers, and to fix special targets of production of foodgrain for such areas, the area proposed being 32.5 million acres and the additional yield expected in 1970 being 25.5 million tonnes.

3) achieve higher production of subsidiary foods both through intensive production programmes and overall development and

4) base the implementation of important project under the plan on "schedules of operation" specifying the responsibilities and roles of central and state governments and other agencies so that programme may be operated in the light of clearly defined understanding between the centre and state.²⁹

As a result of IADP and IAAP experiences, it was felt that there was an urgent need in developing and evolving cost-reducing high yielding agricultural technologies which can easily match with the scarce input and be responsive to limited available resources. Secondly, high cost on bureaucratic expansion created dissatisfaction amongst the growers.

In 1965 the country faced acute scarcity conditions and shortage of foodgrains. To augment production IARI arranged to import high yielding wheat varieties developed in Mexico. A limited quantity of seed was

brought for trials which proved their adaptability to Indian conditions. At the same time, experiments with high yielding rice varieties were continuing at International Rice Research Institute (IRRI) Philippines and one variety viz., Taichung Native I was made available to India. Taichung Native I, Taichung-65 and Taiwan-3 are the exotic varieties of paddy which can give yields as high as 5,000 to 6,000 kg. per hectare. The new dwarf varieties of Mexican wheat (Sonora-64 and Lerma Rojo) have also been tried and the yield have been as much as 5,000 kg. per hectare. The Indian scientists also evolved high yielding strains of maize, millets and sorghum, along with genetic improvement of strains received from Mexico and Philippines. Together with all these, high yielding and high responsive varieties of inputs resulted in breakthrough and ushered in the era of 'Green Revolution' in the country. To obtain quick results, the priority in this programme was obviously given to larger and richer farmers in the allocation of inputs and advices.³⁰

The organisation and administration of the HYVP - the main elements were

- 1) to make available the required types and quantities of inputs, particularly chemical fertilisers, and to allocate sufficient foreign exchange for this purpose.

2) to encourage investment in fertiliser factories and the manufacture of other inputs in India.

3) to reorganise agriculture research into a coordinated programme of all India schemes aimed to raise India's agricultural productivity.

4) to intensify agricultural extension services and activities in selected programme areas.

5) to provide adequate credit to farmers willing to grow the new varieties and adopt the appropriate farm practices, and

6) to implement cereal price levels which would be 'producer oriented', that is, would provide economic incentive to farmers to invest in the fertiliser, seed and other inputs required for the new agricultural technology.³¹

The Administrative Reforms Commission constituted a study team for a thorough investigation into the functioning of the various government organisations and ministries in 1966. The study team on agricultural administration submitted its report in 1967-68. The pattern of agricultural administration as proposed by the study team is given in (Fig.4).

2.6 Programmes for Research Based Extension

The Indian Council of Agricultural Research (ICAR)

PATTERN OF AGRIL. ADMINISTRATION AS PROPOSED BY STUDY TEAM ON AGRIL. ADMN.

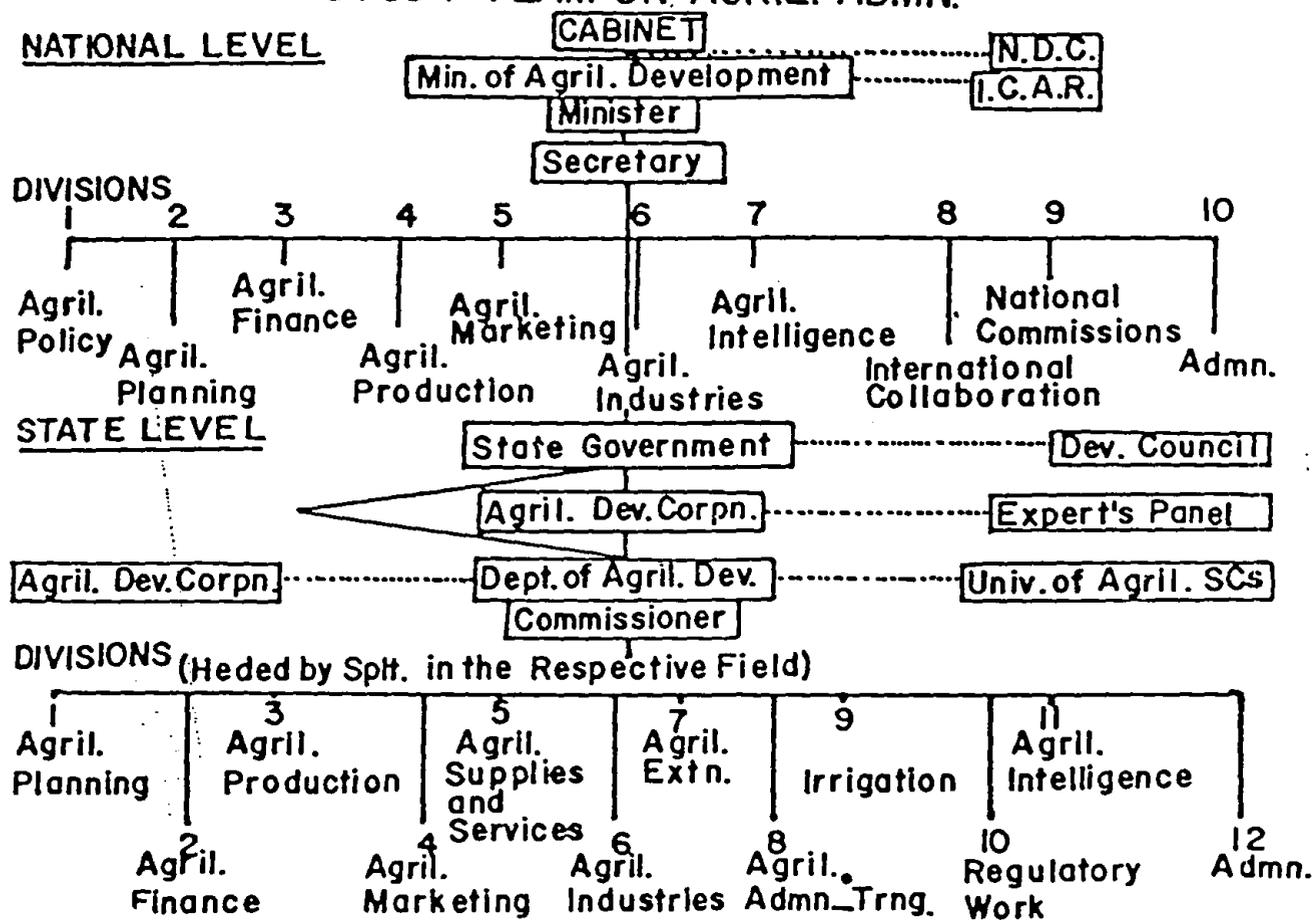


Figure 2.4

in collaboration with Agricultural Universities and state departments of Agriculture launched various programmes both as a concern to technological testing in the field and to get a 'feed back' for the scientists. In addition to these, ICAR also established Trainers' Training Centres (TTCs), Krishi Vigyan Kendras (KUKs) to teach the science of agriculture to the trainers and the farmers. Some of these programmes are:

2.6.1 National Demonstration Programme (NDP - 1965)

The objective of NDP is to introduce the concept of productivity per unit area and per unit time. The national demonstrations are led out by research workers who will get an opportunity to demonstrate in farmers' fields what science can do to transform Indian agriculture.

The farmers in whose plots the demonstration is laid out are to be actual cultivators with small holdings, so that the high yields obtained are not attributed to the effects of affluence. Scientists of research stations and agricultural universities demonstrated convincingly to the farmers that the results which were obtained at research stations could be repeated on the farmers' field as well.

Intensive cropping system, techniques of soil and water management, including use of machinery and plant

protection were demonstrated under the National Demonstration Programme. Thus, these demonstrations served as 'pace setters' which are the first line demonstrations and are to be emulated by local extension workers and farmers. During the Fifth Five Year Plan the NDP continued in 50 districts intensively.

Most of the state departments of agriculture, agricultural universities and central institutes are taking up National Demonstration Programme with the help of scientists. Such programmes should specifically include the training of women in the rural areas.³²

2.6.2 Operational Research Projects (ORP - 1971)

To extend the concept of national demonstrations programme on some selected topics on an area or watershed basis, a series of operational research projects were initiated during the Fifth Plan. The basic objectives of these projects are to test, adapt and demonstrate the new agricultural technology on farmers' fields on an area basis, to calculate the profitability of the new agricultural technology, to identify the socio-economic bottlenecks and to assess the credit worthiness of the agricultural technology. The Indian Council of Agricultural Research (ICAR) has already formulated over twenty six such projects covering various aspects of crop and animal husbandry.³³

Through the operational research projects it is intended to introduce the new concept of land and water use planning into our villages. The projects would also generate more opportunities for gainful employment.³⁴

2.6.3 Lab-to-Land Programme (LLP-1979)

The Lab-to-Land Programme was initiated by the ICAR in 1979 for the transfer of agricultural technology to the small and marginal farmers and landless labourers to enhance their socio economic conditions, through adoption of diversified agriculture and by generating more employment.³⁵ The programme has innovative approach of transfer of technology from the agricultural universities where agricultural research originates to the farm where it is ultimately designed to be used, through a well organised network of training programme for agricultural extension workers, who are the crucial link between lab-research and the end-use of research. It can be called lab to land programme.³⁶

2.6.4 Training and Visit System (T&V - 1974-75)

Shri Daniel Benor introduced a new approach to agricultural extension popularly known as Training and Visit System (T&V) of extension in the country during 1974. Training and visit system (T&V) was introduced in Chambal Command Area of Madhya Pradesh and Rajasthan.

The system has since been extended to 13 states and remaining will be covered by 1986.³⁷

The T&V system is organised around the following set of principles and innovations.

- 1) An unified extension service with a single line of command.
- 2) Extension personnel devote their time exclusively to agricultural extension work.
- 3) A systematic time-bound programme of training tied to a specific schedule of visits to farmers' fields.
- 4) A concentrated effort to achieve to clearly visible impact on the most important crops and among these, on few practices which bring the best economic results such as assured management practices.
- 5) Time bound work.
- 6) An effective linkage to be established between extension, research sub-systems and input agencies.
- 7) Field and farmer orientation.
- 8) The system has built in professionalisation at all levels.

The two important components of the system are continuous and systematic training and regular visits by different functionaries. The transfer of technology from the research to the subject matter specialists (SMS) is done through monthly workshops conducted by resource

personnel drawn from the university. The SMS, in turn, transfer the technology through fortnightly training programmes to the area extension officers (AEO) and village extension workers (VEW). The extension workers, in turn, transfer the technology to the farmers (500-800) through contact farmers. A continuous monitoring and evaluation is carried out (Fig.5).

There are different levels and types of training programmes being conducted under the T&V system, namely, preservice, refresher, monthly, fortnightly, etc. However, the fortnightly training sessions conducted by the SMSs for the AEOs and VEWs once in a fortnight is the most important programme. Besides technical session, a review of farmers problems and problem solving session highlights programme.³⁸

Coordination, Guidance and Supervision

Under T&V system, the supervision is mostly in the form of providing guidance to the technical staff by the superiors. Job charts of the AEO and SDEO amply demonstrate the role of the above functionaries in terms of providing guidance as well as supervising the work of their subordinates. Generally, supervision and guidance of the VEW is ensured during the visits of their superior officers. At times, guidance is also given during the training programme and visits by SMSs at the subdivisional

ORGANIZATIONAL PATTERN OF THE TRAINING AND VISITS SYSTEM OF AGRICULTURAL EXTENSION

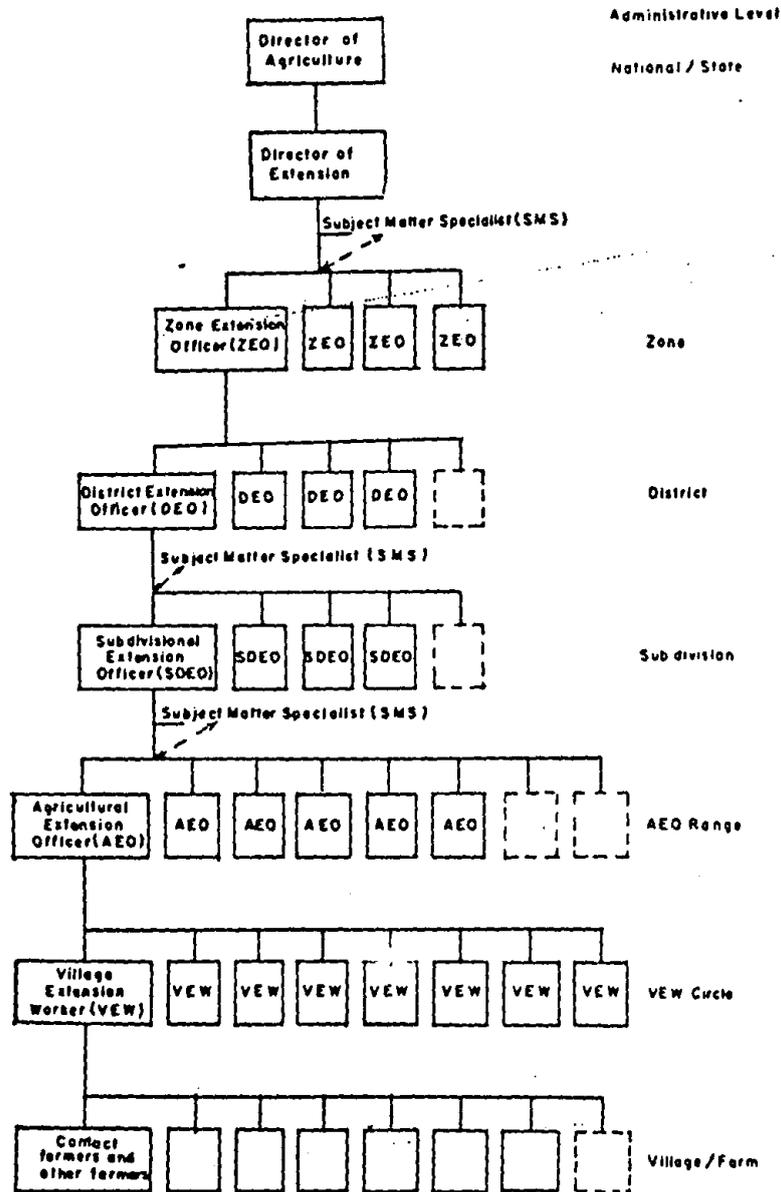


Figure 2.5

and district levels. In fact, the beauty of the system lies with a minimum supervision and maximum guidance.

The training and visit system which is primarily concerned with increasing agricultural production could, however, be made more effective if an equally effective coordination is ensured with other related aspects of support systems.

Monitoring and Evaluation

Monitoring and evaluation represent a management tool that can contribute significantly to effective extension service. Monitoring is keeping track of extension activities and progress in the implementation of this system. Evaluation is the determination of impact of extension activities, particularly on production and incomes of farmers. These aspects are looked into by extension staff engaged in T&V system as well as by monitoring and evaluation units established at each district. Generally, one monitoring survey and one monitoring-cum-evaluation survey are expected to be undertaken by the M&E units during a crop season. The focus of these surveys are on VEW visits (their regularity and punctuality), extension recommendations (message and impact points - adoption by farmers), crop yields and input consumption.

Impact of T&V System

Three studies conducted at Andhra Pradesh and

West Bengal as well as monitoring and evaluation reports from different states reveal the following.

1) There was a significant gain in knowledge and adoption of farmers regarding paddy crop after the introduction of the T&V systems over the knowledge level than before the introduction.

2) There was a significant increase in yield and income of farmers on paddy and other crops after the introduction of T&V.

The following general problems were expressed by the farmers.

1) Non-availability of seeds, fertilisers, pesticides and plant protection implements on time.

2) The provision of quarters to the VEWs at the headquarters and mobility is not satisfactory.

3) Poor coordination with other developmental departments.

4) Lack of specific technology recommended under rainfed conditions.

5) Lack of proper communication support.

6) Problems of selection and use of contact farmers.³⁹

2.6.5 National Agricultural Research Project (NARP-1980)

The linkage between research and extension is a vital component for any development project. This has

been explained by Shviah, 1984 (Fig.6). Under the T&V wherein the universities and research institutions have an important role to play, these linkages are forged at various levels. The NARP is a major effort of the ICAR in this direction to upgrade and strengthen the regional research capability of the state agricultural universities (SAUS) to conduct location-specific, production cum-problem oriented researches in the various agro-climatic zones identified in their respective areas. The project has in built mechanism for speedy transfer of technology. Its major thrust was on rainfed farming research with special reference to cereals, pulses and oilseeds.

A great achievement and success of NARP is the delineation of agro climatic zones of the whole country and development of not only inventories of resources in the zones but also recording the potentials for development of agriculture. On the basis of these, now the programmes of (a) location specific research (b) location specific extension are planned, implemented and evaluated systematically.

As a result of successful operation, the NARP is now entering in Phase II, so as to continue the expansion of Phase I activities, cover new areas like water management, agro forestry, horticulture, post harvest technology, animal health and nutrition, agricultural implements

LINKAGES-RESEARCH AND EXTENSION

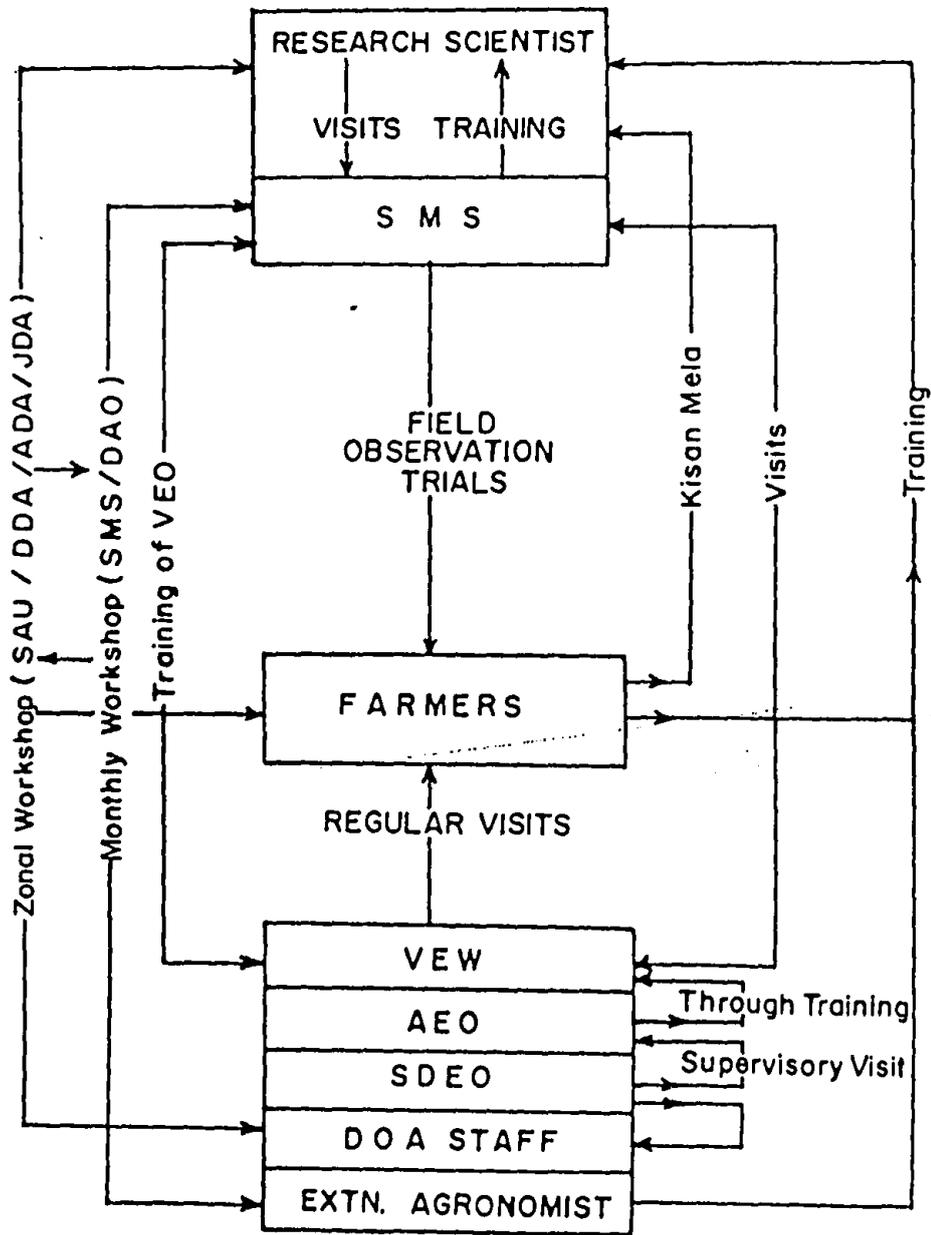


Figure 2.6

and commercial crops like sugarcane, cotton, etc., wherever they are important for the farming system in the particular agro-climatic zones.

The NARP has clearly established need for further strengthening of extension system, so as to perform a matching role with well expanded research system. In doing so, the National Agriculture Extension Project (NAEP) with world bank assistance has been launched with the aim of strengthening location specific and problem-cum-production-oriented extension to serve in an agro-climatic zone.⁴⁰

The National Agricultural Research Project (NARP) has extended in dimension covering 22 agricultural universities in 16 states, for which 67 sub-projects have so far been cleared for strengthening regional research capabilities of the participating universities and expanding training facilities at the two ICAR institutes, namely, NAARM and IARI. This project will be continued and would also include horticulture, animal nutrition; animal health and transfer of technology for strengthening each regional research station.⁴¹

2.6.6 National Agricultural Extension Project (NAEP-1983)

Both NARP and NAEP (T&V) programmes are striving to achieve their limited objectives in linking research and extension activities from the state level to the

grassroot level. The NAEP has been launched to overcome various organisational, structural and functional constraints that have been identified during the operation of T&V system.

The basic objective of NAEP is to bridge the gap between well developed research system and the extension system, so that the transmission of technology will take place at a much faster rate, resulting a higher production and prosperity of the rural sector in general and agricultural sector in particular.

Under NAEP, guidelines were developed for preliminary assessments of extension-need of each state, which are listed below:

- 1) In-depth review of the existing agricultural extension system, including identification of constraints to effective professional extension in the state and specific proposals to overcome these constraints. This will include (a) a review of the structure, programme and resources of Department of Agriculture and their interrelation with extension activities, (b) a statement of the departments specific objective and of the extension service, and of means to be followed to obtain these, (c) a review of the department's administrative and staffing procedures as may affect extension.

- 2) Statement on existing resources of Department

of Agriculture and other departments that may be redeployed to further strengthen agricultural extension.

3) Review of links with supporting service input, credit, etc., and of coordination between the extension service, Department of Agriculture and related departments.

4) Review of extension/research linkages.

5) Review of adoptive research (if any) under the Department of Agriculture and linkage with university research.

6) Review of training for extension workers, institutions involved, type of training and duration of course organised and future need.

7) Review on physical facilities provided in the form of accommodation, incentives to extension workers, type of mobility available to senior and field level extension workers.

8) Review on the manner in which an agency maintains basic estimates, production, etc. and conducts crop cutting experiments.⁴²

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CHAPTER III

EVALUATION OF MAJOR PROGRAMMES

3.1 Community Development Programme

3.1.1 Introduction

The community development programme which was inaugurated on 2 October 1952 is admittedly the first organised state sponsored experiment on a massive scale in the field of rural development in post-independence India. It was, perhaps, the most significant part of the First Five Year Plan. In the Second Five Year Plan it was expanded very considerably, and in the Third Five Year Plan it comes to cover the entire country.

From the very beginning the programme has been subjected to a continuous assessment by the Programme Evaluation Organisation of the Planning Commission, and more recently by the team for study of community projects and national extension service in its exhaustive report. Besides, a number of eminent scholars and experts from foreign countries have offered appraisals of the programme from time to time. The introduction of the Fourth Evaluation Report as follows: "It is not only a question of trying to find out what has been accomplished; it is

also one of trying to ascertain what permanent results have been achieved and what the impact of the programme is likely to be on change, growth and development of India's rural economy. It should also be useful to give us guidance for a better direction of the movement in future."

3.1.2 Objects and Activities of the Programme

The three main activities related to the programme as outlined by the Planning Commission are : "First, increased employment and increased production by the application of scientific methods of agriculture, including horticulture, animal husbandry, fisheries etc., and the establishment of subsidiary and cottage industries; secondly, self-help and self-reliance and the largest possible extension of the principle of cooperation; and thirdly the need for devoting a portion of the vast unutilised time and energy in the country side for the benefit of the community."¹

In the programme, the government was expected to fulfil a two fold role.² On the one hand it had to supply resources and technical help to the rural community. On the other, it was to see that this aid was administered so as to generate a steady and independent process of growth in the rural society. Of the two, the latter is

more important, according to the planners.

3.1.3 Progress in Coverage

To begin with, the programme was taken up on an intensive scale in selected pilot areas. It had soon, however, to be expanded to cope with the demand for its rapid extension to all the rural areas. At the end of the first plan in 1956, there were only 248 blocks covering about a fifth of population. By the end of the Second Five Year Plan, the number rose to over 3,000 blocks covering over 70 per cent of the rural population, and by June 1966 it was extended to 5,264 blocks, and had covered the entire country.³ On April 12, 1977, there were in all 5,028 community development blocks, covering 632500 villages and 4,697 lakh population (See Table 3.1).

3.1.4 Achievements

We may first refer to its contribution to the growth and welfare of rural India. The successes of the Community Development Programme can be studied under two heads : general benefits and achievements in particular fields.

1) an organisation in the form of community development blocks has come to exist through which it has become possible for the government to reach the rural population and almost all aspects of rural life;

Table 3.1 : Coverage and Statewise Distribution of
Community Development Blocks as on
2.4.1977

State/Union territory	No. of blocks	Population covered (lakhs)	Villages covered (00)
Andhra Pradesh	324	380	296
Assam	130	142	234
Bihar	587	527	782
Gujarat	218	218	189
Haryana	84	94	71
Himachal Pradesh	69	33	190
Jammu & Kashmir	73	38	58
Karnataka	175	240	298
Kerala	144	194	16
Madhya Pradesh	457	368	771
Maharashtra	343	388	389
Manipur	14	9.3	20
Meghalaya	24	9.4	50
Nagaland	21	4.9	10
Orissa	314	208	517
Punjab	117	115	130
Rajasthan	232	226	359
Sikkim*	n.a.	n.a.	n.a.

Contd...

Table 3.1 : (Continued)

State/Union territory	No. of blocks	Population covered (lakhs)	Villages covered (00)
Tamil Nadu	374	330	171
Tripura	17	15	52
Uttar Pradesh	876	773	1,249
West Bengal	335	358	416
Andaman & Nicobar	5	1.2	4
Arunachal Pradesh	43	4.5	30
Chandigarh	1	0.2	0.3
Dadra & Nagar Haveli	2	0.7	1
Delhi	5	4.2	3
Goa, Daman & Diu	12	8	4
Lakshadweep	5	0.3	.2
Mizoram	20	2.3	-
Pondicherry	4	4.5	4
All India	5,028	4,697	6,325

* n.a. - Not available

Source : Report of the Department of Rural Development for 1977-78, pp. 82-83.

2) an administrative set up has been established which is particularly trained for and assigned to the work of economic development and welfare activities;

3) training facilities have been organised to train administration at various levels to man this programme;

4) institutions have been established to allow for peoples participation in the operation of this programme;

5) the programme has created opportunities for technicians and elected representatives to work together; and

6) by putting together hundreds of villages in each block, it has become possible to break to some extent the age old isolation of villages.

As a result of the above mentioned changes, progress has taken place in three directions. One is that there now exists an institutional framework for the development of villages, two, a multi-dimensional approach to the problems of development and welfare has been promoted. Three, hostility towards tradition-ridden attitudes has increased and pro-economic values have been furthered.

To-day there is clear evidence of farmers demanding better seeds, fertilisers, pesticides and other inputs. Take improved seeds for instance. In 1952-53 the

average distribution per block was 407 quintals; in 1965-66 this went up to more than one thousand quintals. In fertilisers, the intake went up four-fold from 1,315 quintals to 5,559 quintals. The demand for pesticides was almost negligible when CD was launched. By 1965-66, the distribution per block had gone up to 60 quintals.⁴

The result of CD programme in the agricultural sector were the most significant. Production of food-grains rose by 3.1 per cent during the 1950s despite 1957-58 and 1960-61 being relatively unfavourable years. This increase in production was due to increase in area rather than in yields, which fluctuated from 5.2 to 6.7 quintals per hectare.⁵

3.1.5 Shortfalls in Achievements

The Balwantrai Mehta Committee (December 1957) marshalled the available data for reviewing the progress made hitherto in the agricultural sector as a result of the use of improved seeds and fertilisers, additional area brought under irrigation and area freshly reclaimed. It has found that "the all-India average of additional food production in the community development and extension service blocks comes to only 10.8% varying in individual states from 2.7% to 19%; only Andhra Pradesh shows 41.4%."⁶

In the opinion of the committee, "these figures

make unhappy reading and merely emphasize the need for greater attention to the agricultural sector in our schemes of community development."⁷

The terms of reference of the committee did not include a reappraisal of the possibilities of increasing agricultural production under the present condition by what may be termed as technological improvements. It has, therefore, not gone beyond referring to such operational defects and difficulties as lack of adequate supplies of improved seeds and fertilisers, the fears and ignorance of the farmers in respect of their use and has even mentioned "the psychological resistance of the conservative farmer to the use of improved farming practices."⁸

It has only incidentally touched upon the need of timely credit facilities, and assured attractive price to the farmer and also of appropriate land reforms for bringing about substantial increase in agricultural production. The basic cause of failure to achieve the desired results in terms of technological improvements do not seem to have been seriously appraised.⁹

The Community Development Programme was rightly concerned with the total development of the community as a whole. All aspects of rural life being inter-related no lasting results can be achieved if its individual aspects are dealt with in isolation. Much however

depended on two major factors : (1) the finance earmarked for the purpose, and (2) coordination among various development agencies. In both these respects the programme attempted to cover a wide range of activities with very limited resources with the result that the resources were thinly spread over too wide an area to make an impact. As a consequence, several programmes particularly agricultural development, made little progress. The programmes did not bring about a significant increase in crop production. But a greater obstacle in the implementation of the programme was lack of coordination at the districts, block and village levels. The Third Evaluation Report on the Working of Community Projects and NES Blocks has pointed out that the dual control of specialists, concerned with different subjects at the block level, by the Block Development Officer and by the technical officers at the district level, did not work satisfactorily. This lack of coordination among different agencies is a common weakness.

With all its limitations, the programme did help in setting up a network or basic extension and other development services in the rural areas and introduced an administrative set up which formed the basis for implementing all rural development programmes in the country.¹⁰

From the point of the view of production and

employment, as has been mentioned in evaluation reports, small farmers and landless labourers have not benefited from the programme. The Mehta Committee Report brings out the fact that most of the technical facilities made available by the government have been cornered by big landlords and men of large means. Although the programme was largely concerned with the technical side of production, yet the facilities supplied in this field remained inadequate; and whatever little was supplied was not fully made use of. As a result no worthwhile increase in production took place. Under the programme, a major part of the expenditure was made on welfare activities like hospitals, schools etc., which were good as propaganda and demonstrative measures, but were of little help for production. Further, no worthy improvement was made in the sphere of rural and cottage industries. Nor was surplus labour absorbed in productive activities to any significant extent.

Similarly, there was no particular advancement in the sphere of self-reliance and mutual aid. In fact, the position from this angle is perhaps the worst. Rural people in general look upon the Community Development Programme as an institution to seek government facilities.¹¹

Some of the weaknesses in respect of extension activities during the CD phase (1950s) were highlighted

by the programme evaluation organisation of the Planning Commission.

1) "The work load of VLWs was too heavy, a large proportion of their time was spent on activities other than extension. In addition, VLWs stay more than four days a month at block headquarters and spend nearly two of every three nights in their central villages. At this rate, 45 per cent of non-headquarters villages were visited less than once a month. Extension officers visited two-thirds of the villages under their charge, and as rarely as once a year.

2) There was a shortage of personnel in the blocks.

3) The working relationship between EOs and VLWs seemed to be deteriorating day by day. Further, EOS did not receive any technical guidance from their superiors at district level.

The committee on plan projects observed that the major role of VLWs was "to educate and make the farmers aware of the new agricultural technology, to convince them, to guide them, and to make them adopt the technology. To the extent the VLW is compelled to spend his time performing routine administrative jobs, just to that extent he is compelled to neglect his educational work."

Several other problems in extension work were observed during this period. These included qualitative

aspects of the technical supports given to the VLW, dual control of the specialists concerned and imbalance in emphasis given to constructive activities which took up a large proportion of the VLWs' time.¹²

3.1.6 Programmes Evaluation Organisation

The Programme Evaluation Organisation was set up as a unit working under the general direction of Planning Commission to evaluate the working of community projects and other development programmes.

First Evaluation Report(1954) : The first report made the following main observations:

1) The time limit of three years set for full implementation of community projects was considered to be inadequate. The report warned against undue haste in fulfilling the targets and suggested that a total period of five to six years would appear to be necessary to allow a project to work under normal conditions.

2) In several states adhoc popular organisations known by different names have been set up and these have played a useful role particularly in areas where panchayats do not exist. But they must be given a regular form and place, i.e. establishment of cooperative society or panchayat, so as to carry forward community work after the special staff and assistance are withdrawn.

3) There is a need for full administrative

coordination at district level. The collector of the district must be made responsible for ensuring the necessary administrative coordination for the development work within his district. While techniques of carrying out programmes are matters in which the experts in the various fields will take decision, the formulation of the programme and its coordinated and timely implementation must be the responsibility of the collector.

4) The adequacy of village level workers must be given due consideration and the extension should proceed only at the pace which can be met by the requisite number of village level workers, as unsatisfactory results would jeopardise the success of the whole scheme.

5) In a few cases the project advisory committees have worked as they were intended to work. The expectation was that these committees consisting of officials and non-officials would meet regularly and would function in corporate manner. In many cases advisory committees have not been set up while a few have met regularly. In some cases project officers have felt that committees were more obstructive than useful. The report underline the fact that the manner of association of non-official opinion with the project and development work constitute the most important problem of development policy.

6) In the achievement of physical targets the actual quantitative measurement can be obtained by further

intensified studies, which would assist not only in attaining more complete information but also in formulating judgements.

7) On the question of efficacy of community projects in increasing the volume of employment, the reports points out that to the extent to which more continuous tillage has been made possible either by improved supply of water or by introduction of supplementary crops the volume of employment in agriculture has increased. But for the non-agricultural pursuits, there is little by way of direct addition that the community projects have themselves to offer.¹³

Second Evaluation Report

The Second Evaluation Report (1955) while emphasising some of the points raised in the first report, made some new observations which are as follows:

1) The district officers as chairmen of the district development committees were expected to help in every possible way the project staff, while the department officers were expected to assist in their respective sphere. But separateness was marked and cooperation did not flow at the right time and in the right direction. To remedy these defects it was recommended that district collectors should be much more actively drawn into the whole task of developmental organisation, while the post

of block or project officers should be open to members of more than one service, to emphasise the sense of corporate action among participants.

2) In some states, e.g. Bombay, definite attempts are being made to integrate revenue and general administration with the developmental staff in project area. The report observed that this subject required a special study by itself, and also marked that the practice of appointing revenue staff to block development officers' posts should be curtailed, and in any case the practice of attaching the duties of block officer as an adjunct to the other duties of revenue officers should be given up as essentially unsuitable.

3) There has been a noteworthy improvement in the training of Gram Sevaks. Even now, however, there is quite a proportion of Gram Sevaks who are not trained. But one important lacuna in training arrangements is the absence of adequate inspection. Responsibilities in this sphere need to be more specially allotted and the necessary staff arrangements need to be made.

4) There is emphasis on organisational compliance and official responsibility which is threatening to turn a state induced popular movement of rural regeneration into an official programme of tasks in which the people are asked to participate. But the plan is not a plan of appointing a certain number of officers bearing certain

names, or even of achieving a series of physical targets. The plan is to set free the creative energies of the people so that they may build up through their own efforts and through their own institutions a richer and improved social life. Here the goal is essentially cultural and moral though it has physical basis and content.

5) As pointed out in the last report project advisory committees continued to be ineffective and in many projects they are virtually nonexistent. Meetings of the committees do not take place for months together and when they do they are confined mostly to routine business.

6) In our extension work few of the official staff except some of the highest among them are aware of the importance of the field to laboratory part of the process. Even the research workers themselves appear to have resented the representations of field workers, mistaking them as accusations of ignorance, instead of treating them as challenges to their ingenuity. There is a need to bring the specialist services in closer touch with the field organisation to create favourable conditions for a more realistic appreciation of the place of research in an extension programme.¹⁴

Third Evaluation Report

The Third Evaluation Report (1956), pointed out the following deficiencies and suggested certain measures

for their eradication as shown:

1) There is a need for expanding research facilities. As one of primary aims of the project agency is to make the fruits of scientific research available to the cultivator, there is a need for further research in all fields, by making observations on the field.

2) There has been lack of coordination among the block development officers and district level technical officers, with the result that in many cases the departmental officers have concentrated attention in the non-block areas, where they had more direct control on their specialist staff. This problem of interdepartmental coordination at the block level should be given proper attention.

3) Construction activities take an increasing proportion of the gram sevak's time, instead of agricultural improvement which is the real task.

4) In the operation of the programmes there has been less emphasis on educating the people and excessive emphasis on physical and financial accomplishments - getting targets achieved, expenditure incurred and building constructed.¹⁵

The report for 1959 which made a special study of social education programme pointed out, "According to

an enquiry 65% of the persons interviewed had no understanding of social education and only 17% had a good understanding. The inquiry incidently brings out the fact that there was more understanding of social education among the literate than illiterate, and among participants in adult literacy and community centres than others, but again there were more literate among the participants than non-participants. The programme itself has made literature only 3% of the population in the block."¹⁶

The report for 1960 points out, "people's reactions in most of the blocks studied are not yet generally favourable to the growth of self-reliance in village communities which is primary aim of the C.D. programme. The majority of the villagers does not regard it as their own and seems to rely mainly on the government for effecting the development of the rural areas. The basic philosophy and approach of the C.D. programme are, therefore, inadequately subscribed to by the people in these areas."¹⁷

3.1.6.1 Evaluation of the Programme by Other Agencies

The working of CDP had been examined and evaluated by a number of official agencies, international agencies, and individual researches. From the findings

of these studies it was becoming clear that the programme had not been able to make much impact on agricultural production.

The CDP was expected to make a direct impact on agricultural production in three major ways : (1) by strengthening programmes of resource development such as irrigation and soil conservation, (2) by improving the effectiveness of supply schemes for such inputs as improved seeds, manures and fertilisers, and (3) by providing agricultural extension. With respect to each of these, the contribution was less than expected.

The programme could not strengthen the irrigation programme mainly because it could neither provide the much needed coordination between the irrigation and agricultural departments of the state governments nor promote fuller utilisation of the irrigation potential through obtaining people's cooperation in ayacut development.¹⁸ With respect to the soil conservation programme, in most places, the involvement of the community development agencies remained confined to advancing loans and subsidies to cultivators. Convincing them about the utility of soil conservation measures and of improved cultivation practices complementary to these measures remained virtually neglected.¹⁹

While the CDP created awareness of fertilisers,

it had hardly any impact on cultivators' knowledge about optimal fertiliser practices, proportion of fertiliser to be used under rainfed conditions, and the working of the distribution systems for fertilisers.²⁰ In the case of improved seeds also, while the programme contributed substantially to creating awareness and supplying seeds, it could not establish meaningful links between the cultivators and the CD agencies on the one hand and the seed farms on the other.²¹

With respect to agricultural extension, while the programme succeeded in creating an extension network upto the village level, its adequacy to make an impact on agricultural productivity remained questionable. The role of the extension agents was more one of creating general awareness about improved seeds and fertilisers and facilitate loans and subsidies rather than of extending technical knowledge or of taking cultivators' difficulties to researchers. A typical village level worker (VLW) also lacked technical competence to command confidence of cultivators. While a large institutional infrastructure was created to train VLWs, extension officers, block development officers and other higher level functionaries, the training, like the programme itself, was of generalised nature. It was "knowledge" rather than "skill" based, and thus there was little impact on developing skills among functionaries to act as effective extension

agents or to implement various development programmes.²²

3.2 Intensive Agricultural District Programme

3.2.1 Introduction

The Intensive Agricultural District Programme, the first phase of which was to cover seven selected districts, was introduced on a pilot basis in 1960.²³ In order to achieve a rapid increase in production efforts were to be concentrated in areas which were most responsive and where the application of technological methods could result in the greatest benefit.²⁴ The programme had the four-fold purpose of:

a) determining how rapid increases in food production could be achieved so as to provide experience for adoption in other areas;

b) increasing the income of cultivator and his family;

c) helping to improve the economic resources of the village; and

d) providing an adequate agricultural base for more rapid economic development and social betterment.²⁵

3.2.2 Progress in Coverage

In 1960 seven districts were selected, covering 127 blocks and 12.45 lakh cultivating families in 13905 villages. Upto March 1974 IADP covered 329 blocks and

33.09 lakh farming families in 31635 villages. During this period the gross cropped area also increased from 44.82 lakh hectares to 91.31 hectares.²⁶ Between 1960 and 1974 coverage of blocks increased by 59 per cent but gross cropped area increased only by 3.7 per cent. Table 3.2 gives details of coverage under IADP upto March 1974.

Table 3.2 : Coverage under IADP upto March 1974

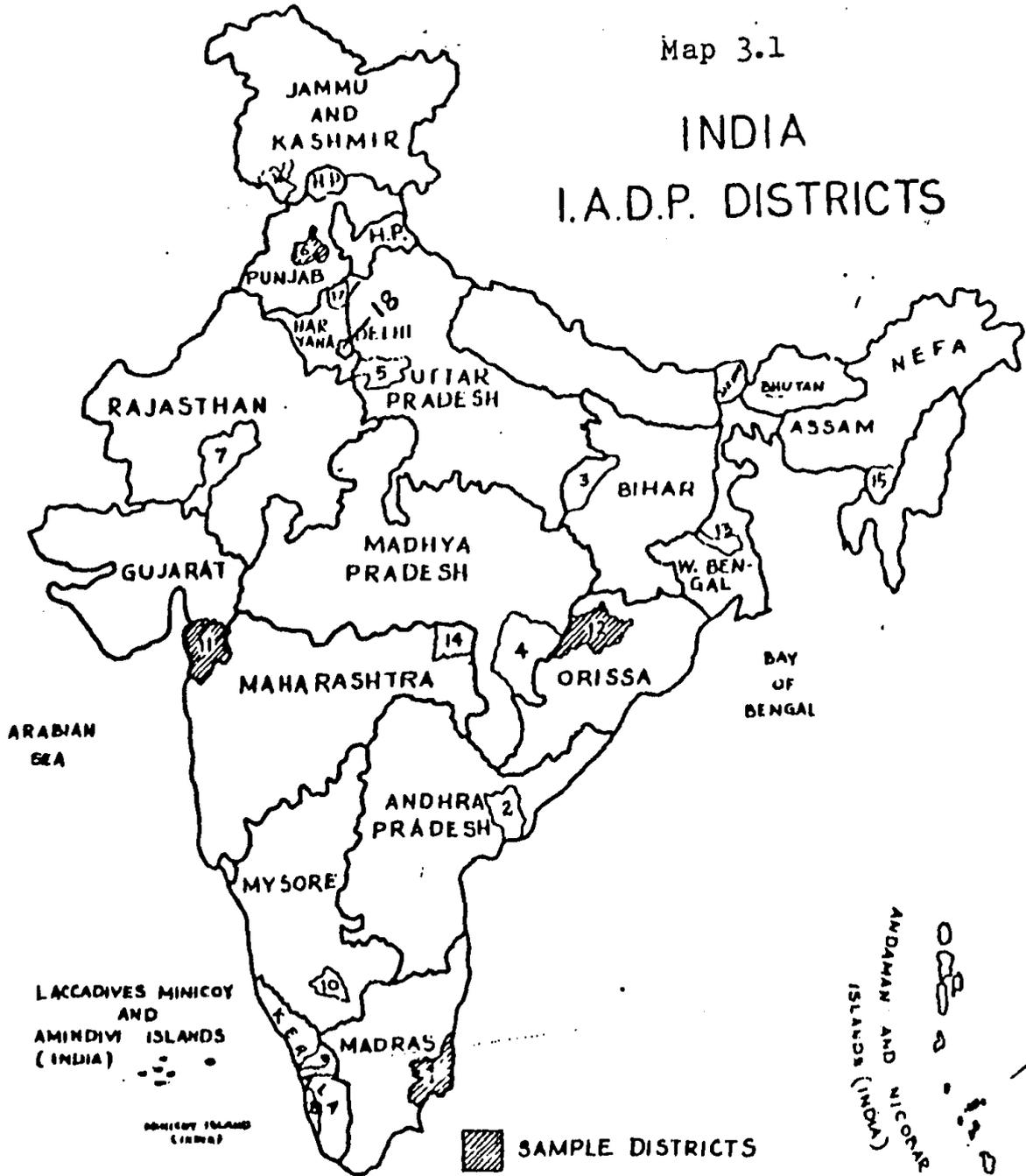
	Original seven districts 1960	Additional districts 1974	Total cover- age
Blocks	127	202 (59)	329
Villages	13905	17730 (27.5)	31635
Farming families (in lakhs)	12.45	20.64 (65.78)	33.09
Gross cropped area (in lakh hectares)	44.82	46.49 (3.73)	91.31

Note : Figures in bracket show percentage increase over the original year.

Source : V. R. Gaikwad; G. M. Desai; Mimpilly Paul; V. S. Vyas, Development of Intensive Agriculture, Lessons from IADP, p. 69.

For the location of the 18 districts covered by IADP by 1970-71 (See Map).

Map 3.1
INDIA
I.A.D.P. DISTRICTS



S. NO	DISTRICTS	STATES	S. NO	DISTRICTS	STATES
1	THANJAVUR	MADRAS	10	MANDYA	MYSORE
2	WEST GODAVARI	ANDHRA PRADESH	11	SURAT	GUJARAT
3	SHAHABAD	BIHAR	12	SAMBALPUR	ORISSA
4	RAIPUR	MADHYA PRADESH	13	BURDWAN	WEST BENGAL
5	ALIGARH	UTTAR PRADESH	14	BIHANDARA	MAHARASHTRA
6	LUDHIANA	PUNJAB	15	CACHAR	ASSAM
7	PALI-BIROHI	RAJASTHAN	16	6 BLOCKS	JAMMU & KASHMIR
8	AILEPPEY	KERALA	17	KARNAL	HARYANA
9	PAICHAT	KERALA	18	DELHI	UNION TERRITORY

3.2.3 Achievements

IADP was successful in attracting cultivators to its crop plan and package of recommended practices. Co-operative societies supported the effort with their credit, supply and marketing services. By 1965, 51 per cent of IADP cultivators were participating in crop plans covering 39 per cent of the gross cropped area. Even though this was short of the targeted goal of 65 per cent coverage, it was noteworthy and, for India, unique achievement.

In 1966-67, the performance of cultivators in carrying out the components of the technical recommendations contained in the crop plan package as follows:

1) Improved seeds were being used on 12 per cent of the cropped area, as against a target of 100 per cent.

2) Nitrogen fertiliser was being applied at the rate of 4.1 kilograms per acre on all crops, as against the 15 to 20 kilograms recommended.

3) Pesticides were being used to control pests, diseases and rodents on 18 per cent of the cropped area, as against complete protection recommended.²⁷

Effects of "Package of Practices" on Crop Yield

The results of crop cutting tests for the major cereal crops in each IADP district show an average

increase of 2.9 quintals per acre for paddy, wheat and maize on irrigated fields; 1.2 quintals for jowar; and 1.6 quintals for bajra.²⁸

Crop Production

The change in output and in yield per acre for each crop in each IADP district was calculated and compared with the previous record in the same district. On the basis of the ten-year compound growth rate for all crops, the 15 IADP districts were arrayed into high, medium high, medium low and low growth districts (Table 3.3).

When crop production results for the IADP years were compared with the previous five year record in each IADP district, significantly higher indices of change for output and yield per acre for foodgrains and cash crops were reported for only 3 of the 15 districts : Ludhiana, Mandya and Surat. Two, Burdwan and West Godavari, also reported significant increase for cash crops, but not for foodgrains. Three paddy growing districts and one millet growing district reported lower foodgrain output and yield per acre during the IADP years than for the earlier period. While foodgrain output and productivity reported for the other eight IADP districts were nominally higher than in the earlier period, the differences were not significant. IADP had concentrated its crop plan on

Table 3.3 : Changes in Crop Production and Yield Per Acre, Each IADP District Being Compared with its Previous Five Year Record

IADP district	Ten year compound growth rates, 1956-65			Indices of change					
	All crops			1961-62 to 1965-66 over previous five years					
	Out-put	Yield per acre	Area	All crops		Foodgrain crops		Cash crops	
	%	%	%	Out-put	Yield per acre	Out-put	Yield per acre	Out-put	Yield per acre
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<u>High</u>									
Ludhiana	6.37 ¹	5.34 ¹	1.03 ¹	144 ¹	138 ¹	145 ¹	143 ¹	141 ¹	122 ²
Mandya	5.29 ¹	4.05 ¹	1.24 ³	131 ¹	121 ¹	135 ¹	123 ¹	125 ¹	119 ²
Surat	4.92 ¹	4.95 ¹	-0.03 ³	131 ¹	131 ¹	129 ¹	130 ¹	135 ¹	132 ¹
<u>Medium-High</u>									
Shahabad	3.96 ²	2.89 ²	1.07 ²	116	112	118 ²	114	97	94
W.Godavari	3.12 ²	2.83 ²	0.29 ³	123 ²	120	112	111	178 ¹	145 ¹
Burdwan	3.09 ²	2.60 ²	0.49 ³	115	112	111	110	216 ¹	133 ¹

Contd...

Table 3.3 : (Continued)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<u>Medium-Low</u>									
Thanjavur	2.74 ¹	2.04 ²	0.70 ²	115	111	114	110	NI	
Aligarh	2.44 ³	2.43 ³	0.01 ³	114	114	112	111	119	130 ¹
Sambalpur	NA			NA		P116	P104	NA	
Alleppey	NA			NA		P114	P102	NA	
Palghat	NA			NA		P112	P109	NA	
<u>Low</u>									
Cachar	NA			NA		P99	P94	NA	
Raipur	-2.68 ³	-3.49 ³	0.81	95	92	95	93	NI	
Bhandara	-2.75 ³	-2.79 ³	0.04 ³	94	92	92	91	NI	
Pali	NA			86	75	89	82	76	52

For ten-year compound growth rates :

- 1 - Significant : 99 per cent level
- 2 - Significant : 95 per cent level
- 3 - Not significantly different from zero
- NA - Not available

For Indices of Change: significantly different from previous five years:

- 1 - At 99 per cent level
- 2 - At 95 per cent level
- NI - Not important crop
- P - Paddy only

Source : D. D. Brown. Agricultural Development in India's Districts, p. 36.

foodgrain crops, even so the growth in output and yield for cash crops exceeded that for foodgrain crops in half of the districts.

A number of factors influenced the difference in growth rates and indices of change observed among the IADP districts. During the IADP years the area irrigated increased between 50,000 to 1,00,000 acres in two the three districts. Ludhiana and Mandya and in one of the four West Godavari with significant increases in cash crops; between 10,000 to 50,000 acres in six other districts including the remainder of the high and medium high categories (Surat, Shahabad, Burdwan, Thanjavur, Aligarh and Sambalpur); and by less than 2,000 acres in the other districts, all reporting medium low or negative changes in output.²⁹

Changes in crop output and yield per acre during the IADP years were influenced by changes in relative prices, additions of irrigated area, shifts in cropping pattern and the increased use of the increment of these factors during the IADP years achieved higher rates of growth than they had within the previous five years. The IADP crop plan and district programme strategy were more concerned with use, by the cultivator, of fertilisers, improved seeds, and plant protection materials than with added irrigated area and shifts in crop pattern. However,

irrigation and crop pattern shifts, the capital intensive factors that would have received major emphasis under the whole farm plan approach, accounted for a greater share of growth than the recommended package of practices.³⁰

3.2.4 Failure

Only 3 of the 15 IADP districts reported significantly higher rates of change in output and yield for foodgrains during the IADP years when compared with their record during the previous five years. Only 2 IADP districts reported significantly higher changes in output of foodgrains than did bordering districts. Cultivators in IADP districts did somewhat better with increased output of cash crops. However, there was no significant difference between the IADP districts and other districts in the increased use of inputs. It may be contended by some analysts of agricultural development in India that low rainfall in many districts during 1965-66 affected results.

An analysis of the differences in rates of growth among the IADP districts and between IADP and other districts supports the conclusion that changes in output, yield and growth rates among the districts were determined mostly by changes in profitability of crop production as determined by changes in relative prices and technology and the adaptability of these changes to

environmental resources. Among major factors affecting output and yield changes, IADP was really concerned only with the use of fertilisers, improved seeds, plant protection materials, and the improvement of market facilities. The Community Development Programme had an equal concern for these factors. IADP and Community Development Programme were equally effective and equally ineffective in motivating cultivators to expand crop output and yield. IADP's added increment of extension staff, crop plan approach, and special services made no significant difference in results. In looking back, we can see that IADP's failure to insist on the use of whole farm plans, technical assistance for irrigation and land improvement, and research to provide new technology proved to be major errors of strategy.

IADP central administrators had also requested each state to allocate all the village level worker's time to IADP activities. The states generally adjusted this target to 80 per cent. In actual practice village level workers worked on IADP from 50 to 60 per cent of their time, since their supervisors, the district collector and block development officer, and the village panchayats required their assistance on other types of activities.

In the field, IADP village level workers demonstrated that they were capable of handling procedural matters but that they lacked background training and

absorptive capacity of agricultural technology and economic analysis. The more intensive on the job training given them was only partially effective. This weakness became more evident when more complicated technology and additional knowledge about the cultivators economic rational became available.³¹

Neither the IADP nor the Community Development Programme made a concentrated effort to increase irrigated area or to improve the efficiency of its use. Local environmental factors and the work of other agencies had a greater influence on when and where irrigation was added. The proposed technical assistance for this type of activity was never provided in the IADP districts.

3.2.5 Evaluation of the Programme

The Export Committee on IADP in its second report concluded that the IADP has been a 'path-finder' for successful programme. However, it hinted at improvement in these areas. (a) providing a better overall economic climate to encourage farmers; (b) strengthening and stabilising the staff situation in the district, so that they can be more effective; (c) ensuring adequate supplies of technical inputs and production credit and improving distribution policy and local management of irrigation water; and (d) speeding up the development of high yielding, disease resistant crop varieties of all major crops.³²

The major conclusion of the evaluation committee is that the time has come to move from the limited focus on the 15 IADP districts to an Intensive Agricultural Modernisation Programme geared to the potential of farmers in all districts.

In the words of Fourth Plan : "While both the Intensive Agricultural District and Intensive Agricultural Area Programme were concerned with the promotion of intensive agriculture, they operated within the limitation set by the existing crop varieties which had relatively low response to fertilisers."

The expert committee of the Ministry of Food and Agriculture (1966), which reviewed the first five years of activity in intensive agricultural programmes commented thus : "One of the important lessons that one can draw from the implementation of the IADP is that the administrative system is not adequate for the job and has to be geared to the needs of the programme ... The main objective of the IADP is to accelerate the rate of growth by bringing about a basic change in the situation in which it operates. The main purpose of the administrative system that India inherited is, on the other hand, to ensure security and hence allow only the minimum possible change. The main concern of the Indian administrative system has been to lay down general patterns of conformity

to which areas must adjust rather than otherwise and leave the least possible discretion to the lower authorities. On the other hand, the basic idea of IADP is that it should be a tailor made programme to suit the needs of a particular area which can be modified and adjusted by the local authorities."³³

3.2.5.1 Evaluation by Various Scholars

The performance of IADP has been analysed from time to time by the expert committee on assessment and evaluation of the Planning Commission as well as by various scholars.

Desai's study covered the period 1963-64 to 1965-66. He analysed the IADP results under three categories, namely, coverage, inputs and output. According to him, "The idea of concentrating efforts in selected areas instead of spreading them thinly on an extended area has not worked so far as the coverage of villages within the selected districts was concerned. The coverage of village is complete or nearly in many districts over the period of seven years. But the coverage of farm families and the gross cropped area is not as complete as that of villages." "On the whole, the correlation coefficient between different inputs did not indicate that the package idea was successfully implemented." About outputs observed, "the overall effort of the

programme in increasing the yield cannot be considered significant". He concluded, "The results of IADP so far indicate that the strategy of intensification of efforts administrative, technical and financial on an area basis has not achieved the objective of a rapid increase in the level of agricultural production."³⁴

Malon's study covered the period 1958-61 and 1961-65. He observed that only in three districts increases in yield were more than expected, whereas in the other four districts yield increases were very much lower than expectation. The rate of plant nutrients applied per acre was not stepped up significantly.³⁵

Covering the period 1956-57 to 1965-66 and also 1961 to 1971, and using total factor productivity approach, Mohan and Evenson concluded : "We find that the IADP had a large and significant effect on foodgrain yield performance. It included the adoption of significant increases in modern inputs, especially fertilisers, from an already high level to still higher level. However, when these increased inputs are "netted out" in the total factor productivity computation, the contribution of the IADP is found to have been modest. That is, it did not produce the major increases in production expected of it. In contrast, in an earlier paper (Evenson, 1973) truly extra ordinary gains were attributed to the Indian agricultural research system." They

further observed, "It is, again not surprising that the programme's contribution to real economic growth was modest relative to the contribution of the Indian agricultural research system."³⁶

3.3 High Yielding Varieties Programme

3.3.1 Introduction

In August, 1965, Ministry of Food and Agriculture, Government of India made its first general announcement of a 'New Strategy' of agricultural development. The High Yielding Varieties Programme was to be the major field programme of the 'New Strategy'.

The introduction of new varieties of seeds along with other complementary inputs to replace the local and other improved varieties has since then been one of the main strategies for increasing production and thereby meeting the deficit of foodgrains in the country.

3.3.2 Coverage in Progress

The coverage under high yielding varieties rose from the level of 9.2 million hectares in 1968-69 to 26 million hectares in 1973-74. By 1985-86, a total of 55 million hectares of land were covered by high yielding varieties. Except for rice and wheat, and to some extent bajra and jowar, the coverage under HYV seeds is still very low. The government is giving considerable attention

to (a) research in evolving better seeds suitable to Indian conditions, (b) larger production and better distribution of quality seeds, (c) provision of adequate credit facilities to enable even the poorest farmers to purchase and use quality seeds and (d) expansion of irrigation, fertilisers and pesticides which are necessary for the efficient use of quality seeds.³⁷

The progress of HYV programme is indicated in Table 3.4.

The progress of HYV programme is indicated in Table 3.4. The area under high yielding varieties of paddy, wheat, maize, jowar and bajra increased from 0.88, 0.54, 0.21, 0.19, and 0.06 million hectares in 1966-67 to 23.44, 19.58, 2.06, 5.09 and 5.25 million hectares in 1984-85 respectively. The total area under HYV crops increased from 1.88 to 55.42 million hectares over the same period. The success of this programme has revolutionised agriculture and brought about a phenomenal and rapid increase in foodgrain production, in the country. Since 1965-66, wheat production has increased more than four fold from 10.4 to 44.23 million tonnes in 1984-85. Similarly, rice production has nearly doubled from 30.6 to 58.64 million tonnes during the same period.³⁸

Wheat crop has proved to be a big success

Table 3.4 : Progress of High Yielding Varieties Programme in India, 1966-67 to 1984-85

Crop	1966-67	1971-72	1975-76	1980-81	1981-82	1982-83	1983-84	1984-85	Plan target 1989-90
Paddy	0.88	7.41	12.44	18.23	19.69	18.84	21.74	23.44	32
Wheat	0.54	7.86	13.46	16.10	16.75	17.84	19.39	19.58	22
Maize	0.21	0.44	1.13	1.60	1.60	1.72	1.91	2.06	6.50
Jowar	0.19	0.69	1.96	3.50	3.88	4.37	5.28	5.09	6.50
Bajra	0.06	1.77	2.90	3.64	4.57	4.71	5.42	5.25	3.00
	1.88	18.17	31.89	43.07	46.49	47.48	53.74	55.42	70.00

Source : Government of India (1975, p.67; 1983a, p. 101; 1984, p.81; 1986, p.118).

because of the absence of serious problem of pests and diseases, and decentralised water management system in a large part of wheat growing areas like the Punjab, Haryana and Western Uttar Pradesh. To an extent, the price support policy of the government also provided the necessary incentive for the increased use of the new seeds. In fact, the increase in wheat output has become an important stabilising factor in foodgrain production in the country. Of late, wheat cultivation is spreading fast even in the non-traditional areas such as West Bengal, Maharashtra, Assam, Eastern Bihar and Orissa.

Significant progress has also been made in the cultivation of HYVs of paddy, although the pace of development is not as fast in the case of wheat. This is due to the fact that the bulk of the crop is grown in the kharif season, which suffers from the vagaries of the monsoon, characterised by drought or floods and its vulnerability to attack by pests and diseases. However, in the rabi season when rainfall is low and water management is easier, the HYVs of paddy have shown much better results. An important development in paddy cultivation in recent years is the replacement of coarse HYVs of rice by superior quality HYVs like Ratna, Vijaya, IR-8, IR-20, PR-106, etc. As a result of the introduction of HYVs, paddy production has increased at a faster rate in

non-traditional rice growing states like the Punjab, Haryana and Western Uttar Pradesh.

The progress regarding maize, bajra, jowar has been however, limited. Lack of suitable hybrids that would resist pests and diseases to which these varieties are susceptible, restricted their progress. Hybrid bajra made good progress till 1970-71. It received a setback thereafter due to the prevalence of downy mildew and ergot diseases. Production of bajra increased from 3.7 million tonnes in 1965-66 to 6.16 million tonnes only by 1984-85. Similarly, production of jowar increased from 7.5 million tonnes to 11.25 million tonnes during the same period.

A few new hybrid varieties of jowar like CSH-5 and CSH-6 have been evolved to suit the prevailing cropping pattern. No significant breakthrough has taken place in maize. The production increased from 4.9 million tonnes in 1965-66 to 8.36 million tonnes only in 1984-85.³⁹ Trends in area under principal crops shows over the period 1951 to 1982 in Table 3.5.

Table 3.5 shows that the area under total food-grains increased by 31.5 million hectares over the period 1950-51 to 1981-82. The most spectacular increase was recorded in wheat. Area under wheat increased from 9.7 million hectares in 1950-51 to 22.3 million hectares in

Table 3.5 : Area Under Principal Crops

Crop (1)	(Million hectares)			
	1950-51 (2)	1960-61 (3)	1971-72 (4)	1981-82 (5)
Rice	30.8	34.1	37.8	40.7
Wheat	9.7	12.9	19.1	22.3
Jowar	15.9	18.4	16.8	16.2
Bajra	9.0	11.5	11.8	11.7
Maize	3.2	4.4	5.8	5.9
Other cereals	10.8	10.7	9.4	8.2
Pulses	19.1	23.6	22.2	23.9
Total foodgrains	97.3	115.6	122.6	128.8
Five major cereals*	10.7	13.8	16.0	16.6
Sugarcane	1.7	2.4	2.4	3.2
Cotton	5.9	7.6	7.8	8.0
Jute	0.6	0.6	0.8	0.3

* Include groundnuts, rape-seed and mustard, sesamum, linseed and castorseed.

Source : For Col.2 Sixth Five Year Plan 1980-85, Annexure 9.2, pp. 140-41. For others, Economic Survey, 1980-81, Table 1.6, p. 76 and Economic Survey, 1982-83, Table 1.6, p.82.

1981-82. Of the increase of 31.5 million hectares in area under foodgrains as much as 12.6 million hectares (i.e. 40%) was accounted by wheat alone.

In the non-foodgrains category, the largest area is occupied by oilseeds. The area increased by 5.9 million hectares over the period of 1950-51 to 1981-82. Area occupied by pulses is increased by 4.8 million hectares over the period of 1950-51 to 1981-82.

Table 3.6 gives increases in yield per hectare. This table shows that over a period of thirty years, yield per hectare of all foodgrains has approximately doubled from 552 kgs. per hectare to 1,033 kgs. per hectare. However, if we take the period 1960-61 to 1981-82, we find that most of the crops registered small increases in yield per hectare. For example, in non-foodgrains, oilseeds, rose from 507 kgs. per hectare to only 656 kgs. per hectare. Similarly, in the foodgrains sector, productivity of jowar and maize show small increases. Wheat again stands out as an exception with its productivity increasing from 851 kgs. per hectare in 1960-61 to 1,696 kgs. per hectare in 1981-82.⁴⁰

3.3.3 Evaluation Study of the HYVs Programme

For the country as whole, a target of about 32.5 million acres to be covered under these varieties by

Table 3.6 : Yield Per Hectare of Major Crops

Crop (1)	(Kg. per hectare)			
	1950-51 (2)	1960-61 (3)	1971-72 (4)	1981-82 (5)
Rice	668	1013	1141	1316
Wheat	655	851	1380	1696
Jowar	353	533	460	716
Bajra	288	286	452	456
Maize	547	926	900	1146
Pulses	441	539	501	975
Total foodgrains	552	710	858	1033
Oilseeds*	481	507	546	655
Sugarcane	3336	4613	4864	5871
Cotton	88	125	151	167
Jute	1044	1183	1255	1479

* Including groundnuts, rape-seed and mustard, sesamum, linseed and castorseed.

Source : For Col.2 Sixth Five Year Plan, 1980-85, Annexure 9.2, p. 140. For columns 3 and 4 Economic Survey, 1980-81, statement 1.7, p. 77 and for column 5 Economic Survey, 1982-83, statement 1.7, p. 83.

1970-71 had been fixed. The national targets were split up statewise on the basis of mutual consultations between the centre and states. The targets thus arrived at for the total plan period were somewhat tentative, whereas areas proposed for 1967-68 was the target to be aimed at in many states, except Bihar and Madras; the cropwise and yearwise targets were also worked out districtwise for the entire period.

The general problems of a technical nature appeared to relate mainly to:

1) the selection of the areas for the propagation, particularly in areas with canal irrigation where drainage posed a serious problem and hence not quite suitable for the cultivation of some of these varieties;

2) susceptibility of these varieties to pests/disease rendering them highly vulnerable to even slightly abnormal seasonal conditions;

3) the shorter duration of these varieties together with poor dormancy of the paddy varieties, necessitating adjustment with the existing cropping pattern and seasonal monsoons in different areas; and

4) responsiveness to higher doses of fertilisers implying larger supplies of fertilisers.

The problems of pests/diseases grew to such dimensions in some areas that plant protection measures

at the individual cultivators' level proved ineffective. This situation, together with the unwillingness of the cultivators to incur heavy expenditure on preventive and curative measures indicates the need for a community approach to tackle such problems. Regarding the large scale needs of inputs, particularly of chemical fertilisers, the problem was not so much the non-availability of the same but the poor off-take due to faulty programming at local levels and lack of credit worthiness both among members and institutions in the cooperative sector.⁴¹

In regard to both paddy and jowar varieties, the problem of pest attack was the most serious one. The other important problem was that of credit for the cultivation of these varieties. Labour shortage probably of the skilled type was also experienced in the selected areas of Orissa, Maharashtra and Mysore. On the other hand, the supply position regarding seeds, chemical fertilisers etc. was relatively better during the season. For paddy varieties, problems like poor germination and early flowering still persisted and need to be tackled satisfactorily.

It can be stated that the HYV programme in the rabi season for both the paddy and jowar varieties was relatively more successful. Although the coverage of area was limited because of the constraints of irrigation,

lack of rainfall etc., the performance of the varieties during the rabi compared to the kharif season was very much better.⁴²

The high yielding varieties programme during, kharif, 1968 suffered a mild setback in states like Andhra Pradesh, Tamil Nadu and Maharashtra, because of drought conditions particularly in the districts depending heavily on tank and well irrigation and also in areas of relatively better rainfall. In Gujarat, both drought and floods prevailed in different parts of the state. Even, so it was reported that the high yielding varieties programme did not suffer, on the other hand, this programme seemed to have instilled better confidence among cultivators in view of better yields realised for these varieties. The official machinery worked more intensively to make this programme a success and thereby overcoming the adverse effects of both droughts and floods.

In regard to the implementation of the programme of high yielding varieties, the main problems reported by the participants related to credit, labour shortage and to a lesser extent regarding adequate and timely supply of chemical fertilisers. Inadequate and ultimately supply of seed was mainly reported for maize only while nonavailability of plant protection was reported to some extent by paddy and jowar cultivators. The

problem of marketing the produce reported earlier for paddy appeared to have been tackled satisfactorily in many of the selected areas, but this problem appeared to persist for hybrid jowar. On the technical side the problem of attack of pests/diseases was reported relatively by larger proportions for jowar (53.4 per cent), paddy (53.8 per cent) and bajra (33.9 per cent). The problem of germination was also quite significant for jowar (18.5 per cent) and bajra (13.5 per cent). Lastly, inadequate water in the irrigation sources during the season was reported by the relatively larger participants for bajra (35.6 per cent), jowar (18.5 per cent) and paddy (13.0 per cent), particularly from the western states due to long spells of drought in this season.⁴³

The seasonal conditions in rabi, 1968-69 in the wheat growing states of Punjab, Haryana, U.P. and Rajasthan were generally favourable except for partial drought conditions in certain areas. In the paddy growing regions of the southern and eastern states, acute drought conditions prevailed in certain parts of Tamil Nadu while flood/cyclonic conditions prevailed in some districts of West Bengal and Andhra Pradesh. The conditions in the jowar growing tracts of Maharashtra and Mysore were generally favourable.

In spite of such favourable seasonal conditions rabi cultivation reportedly suffered, to some extent,

because of problems of inadequate and ultimately irrigation in Rajasthan, stoppage of canal water in the crucial months, frequent failure of power, etc. in Bihar, delayed irrigation in Orissa and non-adherence to irrigation schedules by farmers in Mysore. On account of such natural conditions and problems of irrigation, rabi cultivation suffered a setback in some of our selected districts in these states and target fixed could not be fulfilled.

Inter-departmental coordination between agriculture, cooperation and development departments had witnessed considerable improvement since the introduction of H.Y.V.P. in the observed areas. However, lack of proper coordination, between the agricultural department on the one hand and the irrigation department on the other, was reported to have adversely affected the agricultural programmes in the states of U.P., Rajasthan and Orissa to some extent. There seems to be urgent need to lay down proper working arrangements for achieving effective coordination between such key-departments right from the state level down to the village.

The new varieties such as IR-8, TN-I varieties of paddy and CSHI and CSHII varieties of jowar fared much better during the rabi season than in the kharif. In rabi, 1968-69, a few new paddy varieties viz. Jaya, Padma and Hamsa and CR-28-25 were also released for trials in Tamil Nadu, A.P. and Orissa. A new jowar variety

'Swarna' was also under trials. S-227 and S-308 had become the most popular wheat varieties in all the wheat growing states during this season and the pure Mexican varieties introduced earlier had been practically replaced.⁴⁴

3.3.4 Some of the Continuing Problems in H.Y.V.P.

Some of the continuing problems in H.Y.V.P. were noted to be the following:

1) Inadequate and unbalanced application of fertilisers, as evidenced from (a) adoption by farmers of much lower norms of quantities of fertilisers to be applied, than were recommended, (b) low application of nitrogen for basal dressing, (c) poor use of potassic and phosphatic fertilisers.

While overall fertiliser shortage partly explained this situation in 1973-74, with the rise in price of fertilisers in May 1974, it seemed that the farmers found it uneconomical to purchase fertilisers, particularly where they were not fully assured of adequate irrigation facilities. The gains from potassic and phosphatic fertilisers had not been satisfactorily demonstrated, especially to medium and small scale farmers, who preferred to buy nitrogenous fertilisers only out of their limited resources.

2) Inadequate availability of credit for application of fertiliser inputs, in most districts particularly in the case of small farmers. However, the complaints of inadequate credit for meeting the expanding requirements of seeds, fertilisers and pesticides, were reported from most districts with the rise in prices of major inputs, the credit limit were also not proportionately raised.

3) Lack of regular replacement of HYV seeds.

Despite the expectation that agriculture departments would make assessments of requirements, availability of authentic, pure seeds within the area from private trading channels or from farmers, and net imports needed, shortages were regularly observed. It was found that farmers were largely left to their own initiative to obtain supplies of seeds required for normal replacement.

4) Persistence of rust infestation and lack of rust-resistant varieties of wheat HYVs and of adequate means of preventive treatment; greater vulnerability of paddy HYVs to pest and disease attacks. Here, technical limitations are still to be overcome, by research for production of suitable varieties.

5) Lack of direction in the extension effort, due to the absence of an appropriate system of seeking, from the ground level, of reports and assessments of potentials and problems of the HYVs.

The focus appeared to be on fulfilment of HYV area targets, which were also fixed from the state level; field returns on area covered under HYVs, however, could not be verified by any established means. As a result, there was inadequate understanding of the above noted problems and constraints operating in the different localities, and of steps required for overcoming these adverse features.⁴⁵

3.3.5 Limitations

This review reveals the limited regional spread of green revolution. HYVP was initiated on a small area of 1.88 million hectares in 1966-67. This rose to 31.89 million hectares in 1975-76 and to 43.07 million hectares in 1980-81. Even then the HYVs area was only 26.2% of gross cropped area. Naturally, the benefits of the new technology remained concentrated in this area only. The green revolution remained limited to wheat which means, in other words, that the benefits of green revolution were actually concentrated in the 16.10 million hectares of the area under wheat where HYVs were used in 1980-81. Thus, out of the gross cropped area of 167.20 million hectares in India, benefits of new technology accrued to 16.10 million hectares (or 10%) only. In 1984-85 area under wheat is 19.58 million hectares. The gross cropped area is 180 million hectares in India, benefits of new

technology, can be taken to have accrued to 19.58 million hectares (9.19) only.⁴⁶

Majority of non-participants was ignorant about finer technicalities of the new agronomy, such as timely seeding, shallow sowing, pre-sowing seed treatment, etc. The farmers in general perceived that merely by applying more fertilisers and more irrigations, they could get the best out of the high yielding varieties.

Non-participants mentioned that the latest varieties were not superior, not so good for consumption and yielded less of straw. These were some of the primary reasons for the non-acceptance of these varieties. A study of the adoption of high yielding varieties and investment pattern of additional income by farmers of Delhi Territory carried out in 1969 brings out that along with the efforts to popularise the high yielding varieties, there is also need to lay greater stress on educating the farmers about the finer technicalities of the new agronomy for exploiting the fuller genetic potentialities of the latest varieties. The study points out the possibilities of making the high yielding varieties more widely popular by intensifying the extension activities, provision of crop loan facilities, and releasing of such varieties as are liked for consumption.⁴⁷

The problems expressed by some of the large

farmers in augmenting the area sown under H.Y.V. paddy was the lack of irrigation potential in rabi season. The non-availability of chemical fertilisers at appropriate time was also a major problem. The small farmers, by and large, reiterated the same issue but in particular the problem was to get institutional credit. Another major problem expressed by the farmers of small holding was lack of availability of adequate labour during the farm operations such as transplantation and weeding.

The study suggests that the scope of the cultivation of HYV paddy may be widened to the small farmers level through more extension services. The infrastructure for input use may have to be strengthened further by opening seed depots, fertiliser depots, etc., in more number of villages. The multiagency loan system for agriculture cash credit may be adopted with an area approach.⁴⁸

HYV by-passed regions which were not endowed with assured irrigation or adequate rainfall; and by and large, the benefits of new technology could be availed of only by the better off farmers.⁴⁹

The following three points concerning the pattern of progress of HYV seeds in India may be noted.

1) First, the HYV programme has been limited only to food crops like paddy, wheat, maize, jowar and bajra etc. The non-food crops have not been in a position to drive this advantage.

2) Secondly, among the various food crops, the earlier to develop were HYV seeds of wheat. Therefore, in the initial years, a substantial proportion of the progress recorded by the HYV programme was claimed by wheat crop. In the latter period, the paddy seed too has been catching up. The absolute area being covered by HYV seeds in case of both paddy and wheat, presently is almost the same indicating the fast spread of paddy seed in recent years. But in view of the fact that the total area in country under wheat cultivation is hardly one half of that under paddy cultivation, the area under HYV seeds in the former case forms a much larger proportion to the total than in the case of the latter as would be seen from Table 3.7.

Table 3.7 : Area under HYV Seeds 1979-80

	Paddy	Wheat
1. Total area under crop	28.98	21.96
2. Area under HYV	13.60	13.50
3. Percentage of 2 to 1	35	61

Source : Economic Survey, 1980-81.

Thus whereas 61 per cent of the total cropped area under wheat makes use of HYV seeds, this proportion is as low as 35 per cent in the case of paddy, indicating that there is exists a substantial potential for expansion of this field.

3) Thirdly, the position in regard to other food crops has been highly unsatisfactory. The application of further research and science in evolving HYV seeds for those crops may have to be continued.

We can conclude from these three facts the HYV seeds programme, as presently conceived, stands to favour wheat and paddy in the order. This order, however, will be reversed by the end of the Sixth Plan, i.e. in 1984-85, when 25.00 million hectares under paddy and 19.00 million hectares under wheat will be covered by the HYV seeds.⁵⁰

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CHAPTER IV

CONCLUSION AND RECOMMENDATIONS

4.1 Historical Development of Agricultural Extension

The efforts for agricultural extension before independence were made by private or voluntary agencies. Wherever these efforts were made, they were very limited. It lacked the support by the British Government. The staff was inadequate and also untrained. They were basically isolated efforts initiated by concerned individuals and restricted to a small area.

After independence, the government launched the campaign of 'grow more food'. But it could not become successful. It was observed that each development department under the campaign had its own approach to work and there was a lack of concerted effort at all-round development of rural life. In 1952 the nation wide community development programme was begun. But, as this programme was for the whole country, it was not so beneficial as far as the production of foodgrains is concerned. To produce more foodgrain, the government launched IADP in 1960. In this programme the emphasis was laid on the use of improved seeds, fertilizers, irrigation facilities.

But the coverage of this programme was very limited in relation to the total rural population. During 1964-65 the government launched IAAP for 114 districts but this programme was also not successful in bringing about a significant increase in foodgrain production. Therefore, for the first time in 1965, the government stressed on technology and research.

Since 1965, the government sought help from the agricultural universities, research stations and voluntary institutions. The government promoted field demonstration, transfer of technology from the agricultural universities and research stations involving local voluntary institutions in ORP & Lab to Land programme. Direct contact could be established with the small and marginal farmers. During 1974-75 Training and Visit (T&V) approach was began. The visits to farms and farmers were undertaken and the farmers were encouraged to increase production. In NARP the agricultural universities and the government cooperatively tried to increase production. In NAEP they tried to minimise the distance between research and extension system. It developed coordination between concerned departments. Thus, the approach and contents of agricultural extension in response to the changes in the situation got modified.

4.2 Community Development Programme

Community Development Programme was launched in the First Five Year Plan. In this programme the government prepared an organised framework to reach to people. Different approaches were envisaged for development of draught prone area, tribal people and the hilly area.

When we consider administrative structure we note various defects. The village level workers having low qualification, low salaries and lacking training were given more responsibilities. Therefore, instead of improving the condition of people, they paid more attention to the administrative factors. There was lack of coordination between the district officers, project staff and the departmental officials.

This programme was formulated by officials therefore, the support from the people was not forthcoming. Enough stress on irrigation was not given. The farmers did not get enough credit facilities. The programme remained dependent on government funds and initiative.

To conclude, we can say that this programme was very ambitious but failed to reach the people as the funds and personnel got thinly spread over a large number of activities. But the government, at least tried to reach the people. This programme put more stress on welfare activities and was not much beneficial in enhancing agricultural production.

4.3 Intensive Agricultural District Programme

Taking into consideration the above fact, the government started IADP. In this programme the government tried to stress the use of modern agricultural technology in connection with foodgrain production. To avoid the shortcomings of CDP, the government tried to improve the administrative machinery like increasing staff and reduction in the responsibilities of VLW. Though the above improvements were made not much was achieved as far as agricultural production was concerned. Training aspect was neglected. Credit and marketing facilities were inadequate. Not enough fertilisers, pesticides and implements were provided to the farmers. This programme was introduced in large number of blocks but its coverage of cropped area was negligible. Only a few crops received benefit from this programme. Like CDP this programme had shortcomings in administration, technology and financial aspects. This programme could not pay any attention to non-irrigated areas.

4.4 High Yielding Varieties Programme

After implementing the above two programmes, the government realised the limitations of extensive programme and introduced a new intensive programme to promote scientific and progressive agriculture. For this

the high yielding varieties of seeds were imported from foreign countries. The government also tried to develop HYV varieties in India. These were propagated in selected areas with favourable agro-climatic conditions and availability of irrigation facility.

Wheat production increased in particular states like Punjab, Haryana and U.P. Paddy comes next in respect of production. As compared with wheat and paddy, there was not much progress as far as maize, jowar and bajra and concerned. The seeds of these crops were disease prone. The HYVP could not improve the production of non-foodgrain crops. Considering per hectare yield, the rice and wheat yield increased of a high rate but oilseeds and cotton yield recorded a small increase.

This programme faced the problems of lack of irrigation, lack of credit, marketing problems, shortage of skilled labour, shortage of chemical fertilisers and seeds. The prices of fertilisers increased from 1973-74 so the small and marginal farmers could not use fertilisers. They also could not get the loan on time. To sum up we can say that this programme was useful mainly for wheat growing area and wheat growing big farmers. This area is only 9.19% of the total HYVP area.

In rural India majority of the farmers do not have knowledge about seed treatment, shallow sowing, timely sowing and such other new techniques. The farmer

stresses only the use of irrigation and fertilisers. They neglect the above aspects. The seed is also not available on time. The rich farmers derived benefit from this programme due to water and credit availability. The other farmers did not get attracted to new seeds as expected.

4.5 Recommendations

4.5.1 Community Development Programme

For the successful working of CDP, action in the following direction is essential.

1) It should replace the unqualified band of village level workers with qualified agricultural demonstrators.

2) It should help create a chain of cooperative societies especially for the supply of easy credit facilities in the shape of various agricultural inputs required by the villagers and for the dissemination of technical knowledge.¹

3) The Panchayati Raj organisation should be charged with the responsibility of advising the block machinery in the formulation and execution of the programmes.

4) As far as possible the block should have multipurpose rather than multiple extension workers.

5) The instructions from above should be in the nature of guidelines only and the block should be left

free to chalk out their own programme.²

6) The villagers should be apprised fully of the details of each scheme; and an urge should be created for its adoption, and they should be assisted with the necessary equipments, knowhow, raw materials etc.

The consultative council or C.D. and panchayat raj, at its third meeting on 6th February 1974 made these recommendations:

1) In every state the subject of C.D. and panchayat raj should be under a single minister to avoid lack of coordination.

2) A small committee should be constituted to go round the states, see the manner in which the programmes were implemented, report about what they see and make suggestions for how things can be improved.

3) In a nutrition programme the emphasis should be not only on feeding but on encouraging rural people to produce the nutritious food and to consume it.

4) A policy proper should be prepared by the rural development department showing how it proposes to bring about coordination in the plan programmes for rural development being implemented by various departments.

5) Training and functionaries connected with community development and panchayat raj needs to be considerably strengthened.³

4.5.2 Intensive Agricultural District Programme

The suggestions on organisational arrangements, methods and agencies to implement the IAD Programme can be summed up as follows:

1) The chief instrument to increase food production rapidly was to be farm plans for individual cultivators. These farm plans, to be developed by the cultivators with the help of trained staff, were expected not only to promote improved farming practices but also to provide a basis for supplying inputs and extending credit to cultivators.

2) Inputs and other supplies were to move through the distribution channels to cultivators to fit into the programme schedule. Seeds and fertilisers were to flow to cultivators mainly through the cooperative system on the basis of cash and credit sales. Other supplies were to reach through cooperative, private and public channels.

3) The capital required to implement farm plans was to come from cultivators savings, if any, and from cooperative societies, government agencies. Cooperative societies were to provide most of the credit. Credit was to be extended only on the basis of approved farm plans. The volume of credit was to be based on the income potential of improved farm plan, and not on past yields or usual production practices.

4) To enable the cultivators to obtain the full market price for his marketable surplus, the programme envisaged marketing arrangements through village cooperatives. Such arrangements were expected to help the cooperative societies to exercise some control over marketing and ensure repayment of their loans. To make this arrangement successful, greater flow of capital to village cooperatives and development of managerial skills and ability were recommended.

5) It was also recommended that as a part of the "production agreement" with the participating cultivators, an assurance should be given that they would receive at least the prices specified in the "agreement" for rice and wheat. Such price assurance should be given at least two years in advance.

For administration of the programme, the recommendation included the following:

1) At the central government level, coordination of relevant ministries to provide policy direction, and necessary powers, priorities and authority; special pilot programme staff in the Ministry of Food and Agriculture, as well as in the Ministry of Community Development and Cooperation.

2) At the state level, an officer with full responsibility and powers to coordinate all facilities and services required by the programme.

3) In the pilot districts, deputy commissioner/district magistrate to be given overall responsibility for implementing the programme; appointment of an officer-in-charge of the programme with direct administrative responsibility for total programme; a team of 4-5 degree holding subject matter specialists to assist the officer-in-charge.

4) In the participating blocks, addition to block staff of four more agricultural extension officers and ten more village level workers who would devote major efforts to developing improved farm plans with cultivators and providing technical help to cultivators; addition of one or two cooperative officers with 4-5 cooperative supervisors to strengthen cooperative institutions.

It was suggested that in the village and blocks of the pilot districts, there must be a team of chosen trained staff necessary to draw and carry out individual farm plans and the necessary village improvements. The extension staff were to work closely with the agricultural extension officers and the VLWs in helping the cultivators prepare farm production plan.⁴

4.5.3 High Yielding Varieties Programme

Review of HYV programme has shown certain problems regarding implementation of this programme; to solve these problems following recommendations can be made.

Recommendations

1) An assessment of the economics of fertilisers application, by variety and quantity, with reference to optimal and suboptimal conditions and varying soil conditions, should be taken up by the state agricultural research stations and farms and extension agencies, on a large scale; this assessment should be made and communicated in a manner, which would create confidence among the farmers about the official recommendations regarding doses and frequency of fertilisers to be applied in different conditions, particularly in respect of basal dressing and the application of phosphatic and potassic fertilisers. For this purpose, state agricultural farms as well as plots representing a wide range of soil and physical conditions should be earmarked on private land, for regular controlled observation, season after season.

2) There should be a close watch over the flow of credit in support of programme, especially to small and marginal farmers; since cooperative agencies have a key role to play in this regard, best possible management should be ensured.

3) Action should be accelerated for research to develop varieties which may compete better with local varieties in respect of disease resistance, adaptability to rainfall patterns in areas with inadequate means of

controlled irrigation and for areas with low to medium soil fertility. In the case of paddy HYVs, attention would also have to be paid to enlarging the range of suitable short duration varieties for double cropping areas, and long duration varieties for areas liable to water logging.

4) The seed multiplication and distribution arrangements should immediately be reviewed, state by state, and brought sharply into focus as part of the programme, instead of being left to chance.

5) In view of the important role of HYVP in achieving planned targets of food production, it would be necessary to develop an information system, which should cover.

a) Formulation of realistic annual targets, district by district, on the basis of changes in capacity to grow more HYVs, drawing on an appreciation of local constraints and problems concerning availability of irrigation, rainfall patterns, varying soil and drainage situation, factors explaining farmers' preference for local varieties in different parts of the district etc.

b) Qualification, and ensuring availability of matching supplies of inputs, credits and extension support; this would not only call for farming of targets and objectives, but also require a districtwise review,

during the crucial months for each crop, of the availability and distribution of inputs, through a suitable system of field reports and direct observations by state officials of agriculture, cooperatives etc., departments.

c) Cross-checking and correcting for policy use, the performance reports received from departmental sources, through a system of sample checks of estimate of aggregate achievements in district/blocks, as well as the achievements at the primary operational levels.

d) Highlighting at state levels, results of action at (c) above, to check distortions developing in the HYV programme in terms of spread and productivity, to enable timely steps to be concurrently taken to correct such distortions, or to develop alternative strategies.⁵

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