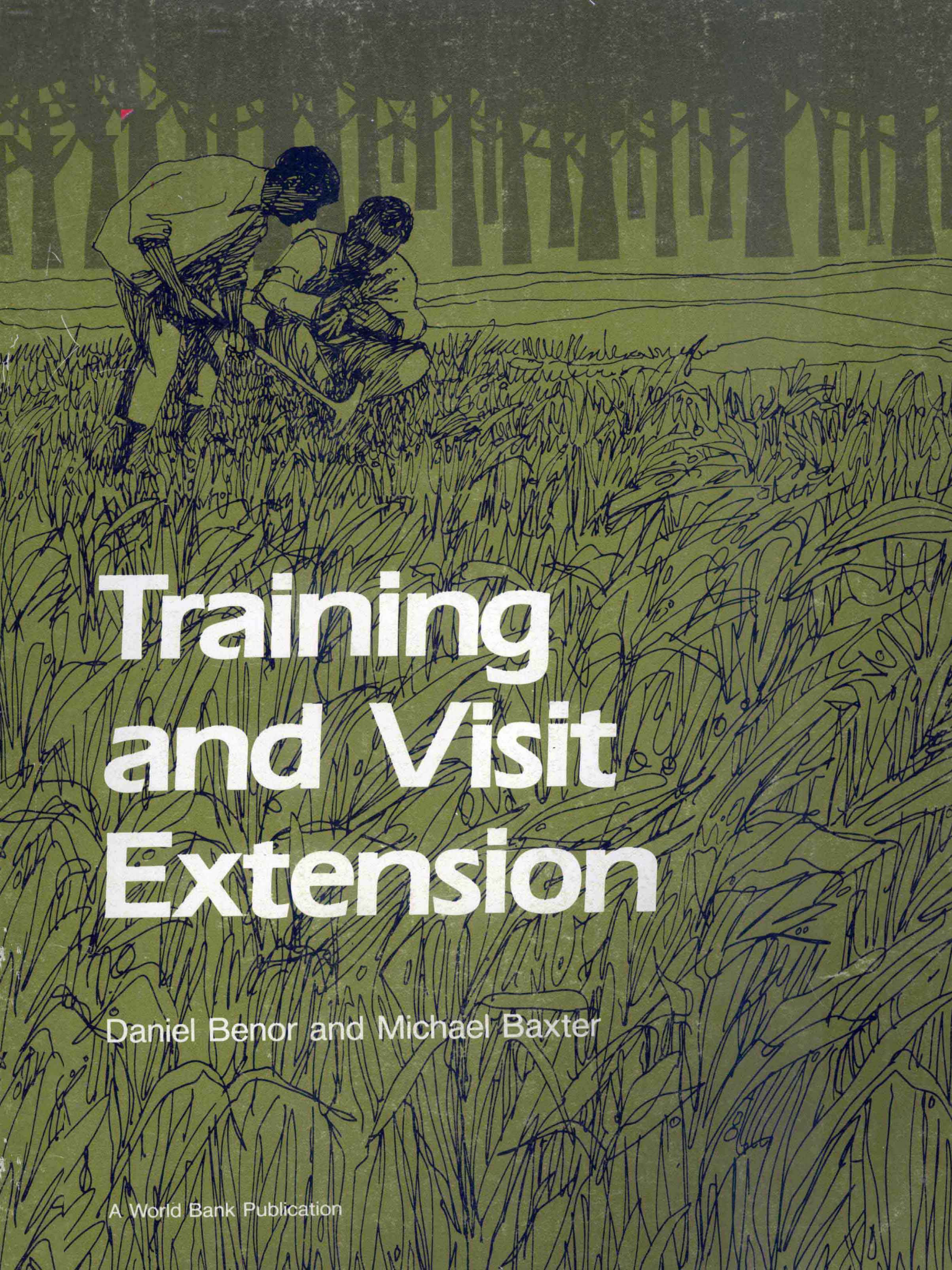

Training and Visit Extension

Daniel Benor and Michael Baxter

A World Bank Publication

TRAINING AND VISIT EXTENSION

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The World Bank
Washington, D.C., U.S.A.

First printing March 1984
Manufactured in the United States
of America

Library of Congress Cataloging in Publication Data

Benor, Daniel.
Training and visit extension.

1. Agricultural extension work. I. Baxter, Michael
W. P. II. World Bank.
S544.B436 1984 630'.7'15 82-20267
ISBN 0-8213-0121-7

Foreword

The World Bank is the largest single source of external funding for the development of agriculture in developing countries. Currently, it is financing around six hundred agricultural projects in more than one hundred countries and has an agricultural portfolio of a little over US$22 billion. Projects assisted by the Bank have a development orientation, much of it related to institutional development and the transfer of technology between and within countries. Within the agriculture sector, one of the most important objectives is the development of suitable technologies and their dissemination for use by millions of farmers.

The training and visit (T&V) system of agricultural extension, as discussed in detail in this book, has been strongly supported by the World Bank. It has successfully been introduced in practically most of India and all of Indonesia and Thailand, and in many other countries in Asia; in recent years, the application of its principles has been extended to several countries in Africa, Latin America, and other parts of the world. In our view, it provides a sound institutional framework for reaching large numbers of farmers, and it has many elements that can be adapted to be effective in a range of different environments. T&V is based on a set of managerial and organizational principles that are of broad applicability and which, when applied together, constitute an extremely powerful managerial tool.

The Bank is grateful to Daniel Benor and Michael Baxter for writing this book that is based on considerable experience with training and visit agricultural extension in several countries over a long period. It is our hope that it will help practitioners in the developing world make systems of agricultural extension more effective and so will assist a great number of producers -- especially small-scale producers -- in raising their output and incomes. In this way, we hope that the T&V system of agricultural extension designed by Daniel Benor will contribute further toward fulfilling our joint mission of improving the lives of millions on the land.

Montague Yudelman
Director
Agriculture and Rural
Development Department

Preface

Much has happened in reformed agricultural extension since Daniel Benor and James Q. Harrison released their paper Agricultural Extension: The Training and Visit System (The World Bank, May 1977) seven years ago. The training and visit (T&V) system of agricultural extension that was initiated by Daniel Benor has been adopted in either an explicit or implicit form by some forty developing countries in Asia, Africa, Europe, and Central and South America. Eight countries and thirteen major states in India have adopted the system in their entire area covering all farm families; other countries have adopted it in more limited areas in conjunction with agriculture and rural development projects assisted by the World Bank or by using other resources.

The system emphasizes simplicity in organization, objectives, and operation. It has a well-defined organization with a clear mode of operation, and it provides continuous feedback from farmers to extension and research, and continuous adjustment to their needs. It has spread rapidly because of its attractiveness both as a means to increase the agricultural production and incomes of farmers, and as a flexible management tool that is well suited to the needs of departments of agriculture in many developing countries.

As interest in the training and visit system of agricultural extension is widespread both in developing and other countries, and more information on its operation in different countries and under varying conditions has become available, there is a need for a detailed reference work on the system. The experience of many countries in implementing the training and visit system has suggested areas where a change in emphasis, clarification, or adjustment is required. These adjustments do not alter the basic precepts and objectives of the system, but they do take full advantage of one of the key features of an effective extension system: feedback from the field.

The very success of the system has contributed to some difficulties in implementation. While the preface to the 1977 paper cautioned readers to reflect on the reasons for the system's success before hastening to initiate similar measures, this advice has not always been heeded. In the process, some fundamental requirements for the effective introduction of the system -- such as a decisive setting of priorities, a single-minded concentration of efforts to ensure success right from the start, relevant training, and the development of appropriate technology -- have often been ignored. There has also been some confusion about central aspects of the system -- for example, the role of contact farmers and subject matter specialists, and the primacy of field work and farmer contact by staff at all levels -- that has sometimes resulted in a less effective operation. In the light of the experience of

the many departments of agriculture that have adopted the system and of the Bank's experience in working with these extension services, this is an appropriate time to prepare a detailed guide to the training and visit system of agricultural extension.

Two main lessons from the experience over the past several years in implementing the training and visit system have been particularly influential in producing this book (and also in revising the 1977 paper). One lesson is the continuing need to adapt any extension system, in this case the training and visit system, to the agricultural and administrative structure of a country. The objective of reforming extension is to establish an effective, professional agricultural extension service. For many countries, the training and visit system has proved to be such a means. For others, different systems, or adaptions of the training and visit system, may be more appropriate. A second important lesson is that, if a decision is made to adopt the training and visit system, and while acknowleging the need for adjustment to local circumstances, it must be clear that the basic principles of the system must be well understood and that there is no room for significant variations in its basic features. Examples of these features are: fixed, regular visits to farmers' fields by all extension staff; the primacy of able subject matter specialists and of strong, two-way linkages between farmers, extension, and research; the development of specific, relevant production recommendations to be taught to farmers; frequent regular training of all extension staff; and exclusivity of function (that is, all extension staff should concentrate on extension work only).

This book provides a comprehensive explanation of the organization and operation of the training and visit system. A briefer, more general account of the system may be found in Agricultural Extension: The Training and Visit System by Daniel Benor, James Q. Harrison, and Michael Baxter (The World Bank, 1984). This booklet is a substantial revision of the earlier-mentioned paper under the same title by Daniel Benor and James Q. Harrison published by the World Bank in 1977.

Training and Visit Extension had its origin in a series of "operational notes" prepared for the guidance of extension field staff and management, particularly in India. It is intended to be used mainly by extension staff, agricultural researchers, trainers, and staff of agricultural development organizations as both a methodological guide to professional extension and a source for training. The book is based on experience with the system's implementation by extension services in India, Indonesia, Thailand, Kenya, and elsewhere over the past ten years. While the strong influence of experience in India will be noted, particularly in terminology used for administrative units and staff positions, it is hoped that the appropriate local equivalents can be readily identified.

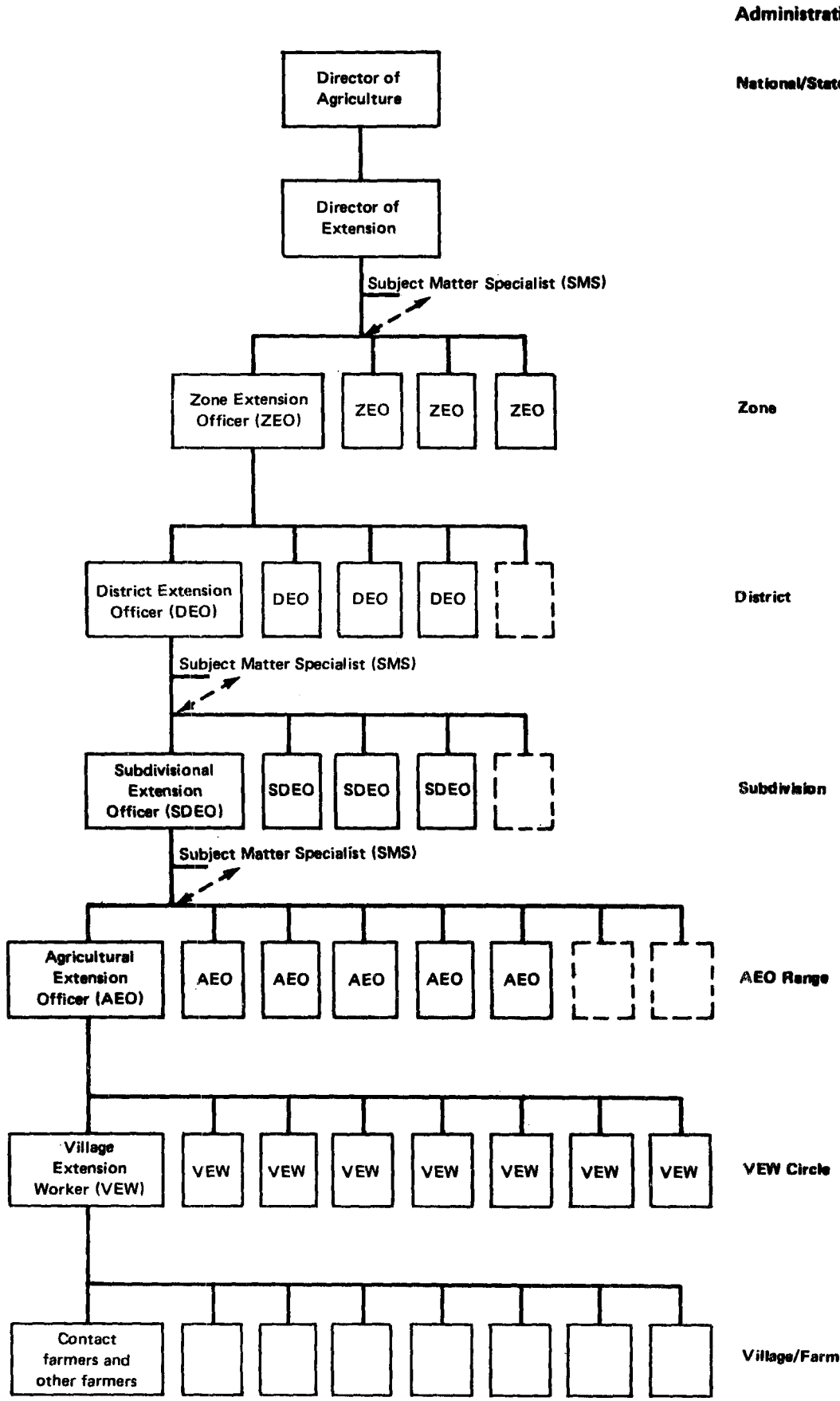
It is not our intention to lay down definitive rules on how to establish or operate an extension system. Rather, the book explains the complexity and interrelationships of training and visit extension, and draws attention to the range of considerations that are important when implementing the system. Just as experience has dictated revision of the 1977 paper on the T&V system and indicated the need to place renewed emphasis on its salient points, so will progress with extension reform and local administrative structures and agricultural conditions suggest which parts of this book require particular emphasis for an extension service.

Acknowledgments

A number of officers of the World Bank and of agricultural extension services contributed significantly to the preparation of this book. The idea for the book came in part from discussions with C. M. Mathur and some notes he had developed on aspects of extension. C. M. Mathur and G. R. Galgali discussed freely ideas and different aspects of the system, and also reviewed and commented on draft versions of many chapters. O. R. Rahman and S. L. Ghosal also reviewed some chapters. R. J. G. Le Breton reviewed the first twelve or so chapters after the Introduction, while Jacob Kampen reviewed all and assisted greatly with painstaking comments. The chapter "Applied and Adaptive Research" is largely an unpublished paper on the same topic prepared in 1980 by Bengt A. Nekby, who suggested that it be included in a series of "operational notes" on the training and visit system (which became this book). The chapter "Agricultural Extension and Farm Women" owes much to the spirited interest in this subject by T. Scarlet Epstein, who wrote a note on the topic and to whom we are indebted for a number of ideas. Margaret de Tchihatchef labored as editor over a task that at times surely seemed beyond end. Bill Fraser designed the cover.

We gratefully acknowledge and thank all for this assistance, without which the task would have been considerably more difficult.

ORGANIZATIONAL PATTERN OF THE TRAINING AND VISIT SYSTEM OF AGRICULTURAL EXTENSION



Contents

TRAINING AND VISIT EXTENSION

Chapter 1

Introduction

Sustained high levels of agricultural production and incomes are not possible without an effective agricultural extension service supported by agricultural research that is relevant to farmers' needs. Although there can be agricultural development with weak agricultural extension and research services, continued and widespread improvement requires professional, effective extension and research. It may not always be possible precisely to quantify the contribution of extension to agricultural development, but there is little doubt that an effective extension service contributes significantly to agricultural production.

The role of extension (and, to some extent, of research) in agricultural development is often overlooked. This is due in part to the difficulty of isolating the impact of extension activities on agricultural production from the many other factors that have a direct or indirect impact. Where investment funds are limited, as they are in many countries, it is especially tempting to overlook the contribution of extension, with the result that the limited available resources are channeled to other more traditional investments. Inadequate funding not only hinders the development of staff and other resources of the extension service, but has the more insidious effect of portraying extension as a low-priority area and, thus, an activity of questionable benefit. Such a perception can only lessen the impact and effectiveness of the extension service.

Contrary to these ideas, recent experience proves that an extension service organized -- or, as is usually the case, reorganized -- along strictly professional lines can have a significant and rapid impact in increasing agricultural production. Many of the extension services that have recently been organized professionally have followed a system called the "training and visit (T&V) system of agricultural extension." The purpose of this section is to highlight key features of this system and its operation.

The particular approach to agricultural extension by means of the training and visit system is but one of many ways in which extension services may be organized along effective, professional lines. The training and visit system is discussed here because of its proven results and adaptability to a wide range of agricultural and administrative environments in developing countries. If any other system of extension can produce better or similar results in the field, it should of course be tried.

The training and visit system of agricultural extension has been widely adopted. It has been taken up either explicitly or implicitly at a national or local level by about forty countries in Eastern and Western Africa, South and Southeast Asia, the Middle East, Europe, and Central and South America; a number of other countries are preparing to introduce the system. One reason for the rapid spread of the system -- it was developed into a coherent system only in the mid-1970s -- has been the impressive increases in agricultural production that have been associated with its introduction.

Early and significant evidence of such benefits came from Turkey and India. In the Seyhan project in Turkey, farmers increased cotton yields from 1.7 tons to over 3 tons per hectare in three years after the introduction of T&V extension. In India, in Chambal (Rajasthan), farmers increased paddy yields from about 2.1 tons to over 3 tons per hectare in two years; in Chambal (Madhya Pradesh), average wheat yields (irrigated and unirrigated) rose from 1.3 tons to nearly 2 tons per hectare after two seasons, and have since risen higher.

Elsewhere in India, the country where the system has been most widely established, T&V extension continues to contribute to significant changes in agricultural practices and production, be it the introduction of new crops (soybean in Madhya Pradesh, summer groundnut in Gujarat, summer pulses in Orissa) or the adoption of new practices (such as acid delinting of cotton seed in Rajasthan, basal application of fertilizers, and the use of zinc sulphate for paddy in Haryana). It is difficult to isolate exactly the effect of all the factors responsible for these changes, and extension is certainly not solely responsible for the increased agricultural production. It is, nonetheless, clearly evident that a professional agricultural extension service developed on similar principles in each of these diverse areas was a major force behind these changes.

Production statistics are impressive, but they provide an incomplete measure of what has been achieved. Numerous visitors to regions served by an extension service organized along training and visit lines have been impressed by the visible evidence of agricultural improvement. Where previously wheat was scarcely known, paddy was cultivated haphazardly, or large areas were left entirely fallow, fields are now well tended and highly productive. Farmers are proud of their achievements and are continually asking the extension service for more assistance. Extension workers, who previously had poor morale and were regarded by many farmers as useless, are now proud of their work and are respected by the farmers they assist. Throughout many of these areas, a more general prosperity is evident as farmers use their higher incomes to construct better houses and to purchase a variety of goods and services. However, a description of even these claims, just as the data cited earlier, cannot fully convey the actual and potential impact of the system. To understand the T&V system's potential, there is no substitute for visiting areas in which it operates, seeing the fields, and talking with farmers and extension personnel.

In addition to the quick and visible results of the training and visit system of extension in both rainfed and irrigated areas, the system has a number of indirect consequences that are appreciated by farmers, extension staff, and Departments of Agriculture. Most significant are the changes in

attitude of extension staff. With their role and regular training in a professional extension service, they feel, and are treated like, the technical specialists they must be if the extension service is to make any impact. Farmers respond favorably to extension field staff who serve them regularly and predictably, and who teach relevant technical advice. Links between extension and agricultural research are strengthened, which results in research being encouraged to spend more time working on the actual and immediate production constraints faced by farmers. Many researchers welcome the applied orientation this brings to their work. Finally, the systematic and efficient deployment of personnel and other resources, which is a basic element of the training and visit system, is frequently imitated by other organizations as a means for more effective delivery of rural services.

Another reason for the rapid spread of the training and visit system of agricultural extension is that the principles underlying the system are basically simple and can be widely applied in different situations. The approach contains few, if any, new ideas, but involves the systematic application of well-known management principles. This apparent simplicity has had an unfortunate effect of leading to many attempts to introduce the system without first obtaining a clear understanding of its vital features. As a result, many so-called "training and visit" extension systems have, in fact, little in common with the actual concept of the system. If adoption of the T&V system is to be successful, extension staff and others in the Department of Agriculture and other departments, and the community at large, must understand and support both the basic approach and philosophy of the system and the actual mechanics of its operation.

The system is deceptive in its simplicity for, although it is simple, to be effective a number of simultaneous activities is required. If any one of these is not performed, the effectiveness of others is diminished. For training and visit extension to have an impact, research must support it strongly, coordinate with extension, and tackle farmers' immediate problems; production recommendations taught to farmers must be relevant to their needs and resource conditions, be economically viable, and require only inputs that are actually available; and regular and special training of extension staff must be timely and specific to their needs. Most importantly, hard decisions have to be made in setting priorities, requiring concentration of efforts on a small number of feasible goals and a commitment to this system of professional agricultural extension. If any one of these requirements (or any of a number of other basic features of the system) is ignored, or is weak relative to others, the impact of the entire system is compromised.

The training and visit system of agricultural extension offers many advantages and, if properly adopted, can be successfully implemented under most conditions. The main idea of the system is to have competent, well-informed village-level extension workers who will visit farmers frequently and regularly with relevant technical messages and bring farmers' problems to research. The methods to achieve this may change from place to place to suit particular agricultural, social, and administrative conditions. But the essential features -- continuous training and regular, fixed visits by staff solely occupied with agricultural extension, built-in supervision, continuous upgrading of staff, monitoring and evaluation of all extension activities, and minimal office and paper work -- must be closely followed everywhere. If this is not done, the potential effectiveness of the

system -- which, in such circumstances, can no longer be called "training and visit" extension -- is drastically curtailed.

Leadership of the extension service must be strong, active, innovative, and field oriented. Work of the extension service must predominantly take place with farmers in their fields and be manageable for the staff concerned. All staff must receive training that is frequent, regular, and relevant to their needs (and, hence, to those of farmers). Links with research must be strong and research must be oriented to the priorities of farmers. The mechanics of the training and visit system -- the precisely delineated areas of staff responsibility, fixed work schedules, regular training of extension staff, and regular and frequent meetings of extension and research -- have been designed to meet these basic requirements. To serve effectively the ever-increasing sophistication and specialization of agriculture and farmers and to suit particular local conditions, methods of work may -- and must -- be changed, so long as these fundamental organizational features are retained.

The training and visit system is designed to achieve results rapidly and at as little cost as possible. Impact can often be seen in farmers' fields before the end of the first crop season after initial implementation. Two or three seasons later, most farmers are following all, or part of, the newly recommended, economically viable practices on at least part of their fields. The extension service is normally reformed along training and visit lines largely by the systematic redeployment of existing staff. The incremental cost of adopting the system, therefore, varies considerably depending on the existing extension service. Where an extension service is already operating, the cost of implementation is normally around $0.50 to $1.50 per hectare a year. Even minimal (and readily attainable) increases in productivity result in rates of return on this investment well in excess of 50 percent. As an example of the potential impact of the system compared to its cost, the Department of Agriculture of Gujarat state in India calculated that the estimated increased production of one crop that was actively promoted by extension (summer groundnut) over one year was equivalent to about twenty times the total incremental cost of the reformed extension service for five years.

The financial cost of the system to farmers is also very small, since its initial focus is usually on the improvement of low-cost basic agricultural practices (such as better seed, seedbed preparation, cultivation, and weeding) that require more work but little additional investment. It is for this same reason that smaller cultivators who have an abundant supply of labor and can, therefore, easily implement labor-intensive practices, appear to benefit (in relative terms) at least as much from the reform of an extension service as larger farmers.

The concern here is with the ideas behind the training and visit system of agricultural extension, its methods of operation, and its impact. The intention is not to suggest that extension in isolation can enable farmers to maximize their incomes. Improved seeds, fertilizers, and pesticides, new crops and cropping patterns, effective credit institutions, soil and water conservation, and irrigation investments, as well as appropriate marketing and price structures, and other basic agricultural support services are also critically needed. However, in most developing countries it is