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Michael Cernea

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Sociological Dimensions of Extension Organization: The Introduction of the T&V System in India

Michael Cernea

The curve of sociological interest in agricultural extension systems has been lying low for a while. After the almost worldwide spread of countless research undertakings on 'diffusion of innovation' patterns in the fifties and early sixties, a period of growing criticism and disenchantment followed. The sobering awareness of the limited explanatory power of the sociological diffusionist theories paralleled the accumulating evidence on the low effectiveness of extension services in various countries.

However, if the organizational developments and the actual performance of extension services in real life are any indication for the interest which sociologists are likely to take in doing field research and conceptualizing on extension then a new upsurge of sociological interest in this field is predictable. After a number of years when progress in extension has been rather trailing, the increased concern for poverty-orientated rural development strategies and for reaching large numbers of small farmers is again putting extension work to the forefront.

Probably the most significant progress in agricultural extension worldwide in the seventies has been the development of a new (or reformed) extension system — called 'the Training and Visits (T&V) Extension System' — and its successful implementation in several very large countries in South Asia and East Asia. The T&V system was developed by an Israeli extension specialist, Daniel Benor, and was first tested in several limited areas in India and Turkey. Its results were very impressive. This led to widespread efforts to adopt the T&V system in much larger areas. For the first time, an identical set of organizational rules and policy principles has been used to develop similar extension organizations in different countries. In several Indian states, in Thailand, Indonesia, Bangladesh, Malaysia, Sri Lanka and other countries the old extension services have been or are being revamped, restructured and expanded along the lines of the T&V system. The World Bank has provided financial assistance for these operations through a series of ongoing agricultural development projects. The new system operates now in areas with several million farm families and it is expected that the number of extension beneficiaries will increase rapidly in the next few years.

These recent developments have not yet captured the attention of many sociologists and other social scientists. In fact, they have occurred rather fast and are little known altogether, let alone studied. In this article I will briefly describe

the structure of the T&V extension system, its organizational principles¹ and what makes it different from other extension arrangements, pointing summarily to its sociological implications. As a case in point, I will refer to India and provide some relevant information about the institutional build-up and the magnitude of the new system in six Indian states — West Bengal, Orissa, Rajasthan, Madhya Pradesh, Assam, and Bihar.

ORGANIZATIONAL CONSTRAINTS OF EXTENSION SERVICES

From a sociological viewpoint, an extension service can be examined as a *large-scale formal organization*. The theory of organizations may help explain and conceptualize the processes involved in the transition from the former to the current extension organization and their different performances.

The T&V extension system has been developed by Daniel Benor with a clear awareness of the most typical inadequacies embedded in the conventional extension structures. To understand better the organizational novelties introduced by the design of the T&V extension system, we should first look briefly to the organizational weaknesses common to extension services in many developing countries:

- (1) First, the *multipurpose role* assigned to the field agent, which causes a distribution of his efforts between agriculture, health, family planning, procurement, collection of statistics etc. As a consequence, 'the extension worker can perform neither his agricultural duties, nor his other duties effectively' (Benor and Harrison, 1977, p. 7).
- (2) Second, the *multiple subordination* and lack of a single, direct line of administrative control and technical support. The extension worker is often subordinated, in his responsibilities, to several agencies and is not *fully* accountable for his time and performance to any one of them exclusively.
- (3) Third, the *inadequate ratio* in extension assistance: field agents have often to cover excessively large jurisdictions, containing 2,000 or more families, which make it impossible to achieve regular contacts between the extension worker and the farmers.
- (4) Fourth, the *lack of a definite pattern* for the agent's field movements among villages and fields and of a time-bound systematic programme of work. This, in combination with what was indicated at points (1) and (2), made possible a high rate of absenteeism.
- (5) Fifth, the training is mostly *preservice* training, far apart in time from the delivery of information to the farmer. This exposes the extension message to a high rate of information loss, distortion or inadequacy.
- (6) Last but not least, *lack of effective links* with, and feedback to, agricultural research activities.

Disfunctionalities are fairly frequent in a wide range of extension services in developing countries. They act as the structural causes of a low level of motivation and performance of extension field staff.² But, if these organizational maladies are common, then there is a chance that effective organizational remedies, if identified, might have a wide application area.

THE DESIGN OF THE T&V SYSTEM

The T&V Extension System is a structural reconstruction and development of the existing extension services (or the build-up of a new one, *ab ovo*, when necessary) on the basis of a set of sound and clear-cut organizational principles. The T&V extension organization consists of a structure of tightly interlocking roles and operational rules for each one of its members and uses a basic technique of training and regular visits; it operates along the lines of an extension philosophy stressing simplicity, low-cost improvements, use of available resources, and links with research.

Defining the basic organizational features of the T&V system, one can almost parallel the analysis of organizational/structural deficiencies in traditional extension services. Benor and his associates describe these principles as follows:

- (1) *Exclusivity of Extension.* The key actor of the extension organization is the village-level worker and he should devote *all* his time exclusively to professional agricultural extension work. He should not be assigned regulatory or procurement or administrative or credit collection work.
- (2) *Unique Subordination.* Perhaps 'the most essential management principle to be followed is to establish a single line of command from the governmental agency responsible for agriculture to the field-level extension worker'.³ This agency should be, in general, the Agricultural Department, which should have full administrative authority over extension workers. They are thus defined as professional agricultural agents and not as community development agents in general. The unique 'line of command' consists of a hierarchy of roles for agricultural officers and extension agents at different levels. The objective of this structure is to ensure that each level of the organization has a span of control narrow enough to permit close personal guidance, training, and supervision of the level immediately below. For example, an Agricultural Extension Officer (AEO) guides and supervises about six to eight Village Extension Workers (VEW). In turn, six to eight AEOs are guided and supervised by a subdivisional Extension Officer (SDEO). The SDEOs are supported by a team of Subject-Matter Specialists (SMS), whose role is mainly to define the content of the extension message for each given time sequence, to train the VEWs accordingly and to supervise their field work (see Figure 18.1).

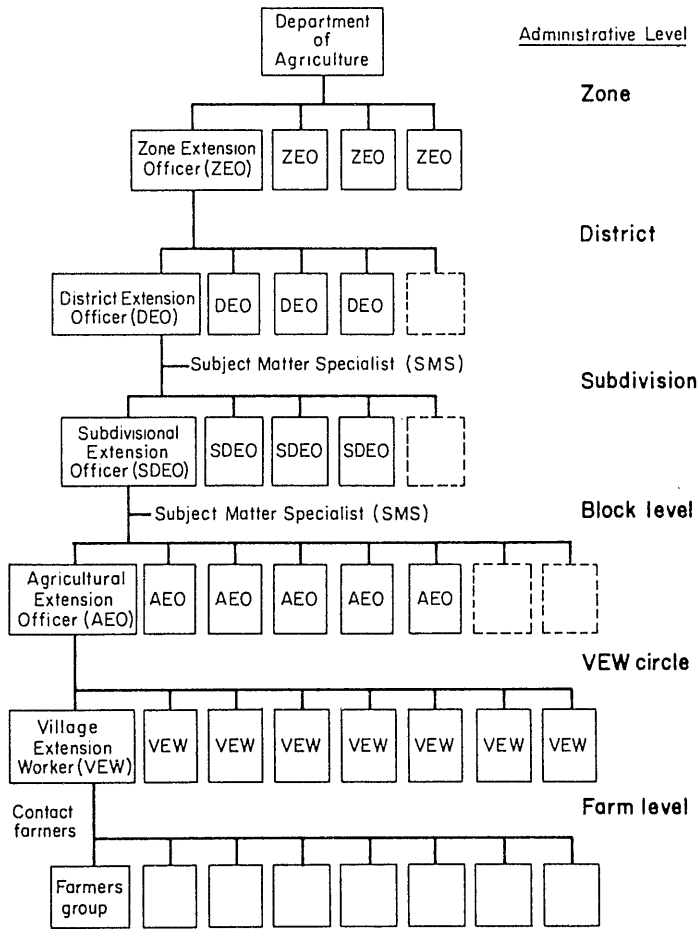


FIGURE 18.1 Organization chart of Intensive Extension Service⁴

The standard organizational structure of the T&V extension service is reproduced in Figure 18.1 (as it operates within the administrative set-up in India):

- (3) *Manageable agent/farmer ratio.* The entire organizational structure of the T&V system is erected on the basis of the grassroots unit, the 'VEW circle'. This takes into account the total number of farm families to be assisted in a given area and defines a reasonable number of families which one village worker could be expected to assist. Thus, the ratio is flexible and varies from place to place (1/600, 1/800 or 1/1000) depending, among other

factors, on the physical environment, density of population, cropping patterns etc.

- (4) *Fixed schedule of visits and steady communication.* The organizational features listed under (1), (2), and (3) are conducive to setting up a stable and systematic work programme for the VEW, which regulates the timing of his village visits and his own training sessions. The possibility of introducing such a stable work programme for the mass of the enormously dispersed extension agents is, perhaps, one of the main keys to the effectiveness of the entire T&V system.

Indeed, the system requires that all the farm families assigned to a VEW be divided into eight groups of about equal size. He will visit, in turn, each one of the eight groups in his circle for a full day once every fortnight; he always visits a group on the same day of the week, so the group learns when he *should* be with them and expects him. The VEW concentrates his efforts, during the village visit, on the 'contact farmers' who represent about 10 per cent of the group, but extends advice to other farmers as well. In the remaining days of the week he attends the regular training sessions.

The time-bound work programme, as represented graphically in Figure 18.2, provides a compelling matrix for the main actor's role performance. It is not just a rule imposed on the VEW: it becomes a self-organizing principle for the VEW's activity, simultaneously increasing his accountability to the 'clients' — the farmers — and facilitating the monitoring of his movement map by his supervisors.

- (5) *Technical backstopping.* The organization and operation of the T&V is based on ongoing, continuous training of its agents, as opposed to just preservice (preseasonal) instruction.
- (6) *Institutionalization of research linkages.* Adequate organizational linkages with applied research institutions are built into the T&V system, at management and middle-range levels.

These standard principles are the building blocks of the T&V extension system. Standardization provides for a unified system and is a source of organizational strength. But it also creates scope for flexibility and adjustment to local conditions. For instance, the principle of a work schedule is rigid, but schedules are variable and several variations of the standard schedule (as depicted in Figure 18.2) have evolved. So have the ratios agent farmer and other procedures.

What probably is most important about the T&V system is just its systemness: the tight integration of its various parts, the consistency of its organizational features, its built-in devices for organizational monitoring and maintenance make the T&V an organization in the sociological meaning of the concept, and not just another administrative service.

	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun
First fortnight	1	2	3	4	TRA SMS	EXT VIS	H	5	6	7	8	TRA AEO	EXT VIS	H
Second fortnight	1	2	3	4	TRA SMS	EXT VIS	H	5	6	7	8	TRA AEO	EXT VIS	H

1-8 - Visit farmers group.

TRA - Training conducted by Subject Matter Specialist (SMS).
SMS

EXT - Extra visits for checking field trials, office work, make up visits due to
VIS holiday, illness, etc.

H - Holiday.

TRA - Training conducted by Agricultural Extension Officer (AEO).
AEO.

FIGURE 18.2 Typical Timetable for a Village Extension Worker
(fortnightly visits)

BEGINNINGS OF THE T&V SYSTEM IN INDIA

After its successful implementation in Seyhan (Turkey), the T&V extension system was first introduced in India in 1974 as a component of three limited Command Area Development projects — two in Rajasthan state (Chambal⁵ and Rajasthan Canal⁶) and one in Madhya Pradesh (the latter covering only two blocks). In mid-1975, the system was introduced in six districts in West Bengal. Building upon past accomplishments of extension services in India and correcting some previous shortcomings and weaknesses, the new approach generated significant improvements in the performance of extension services in a relatively short time.

The first results were so encouraging, that the Government of West Bengal decided in 1975 to expand the reorganization of the extension service from the initial six districts to the entire state, thus becoming the first state in India to do so. The interest in expanding the T&V system grew stronger in several Indian states. During 1976 a 'new generation' of Agricultural Extension and Research Projects was prepared with World Bank financial and technical assistance.

A significant progress in 1976 and 1977 was that the creation of the T&V system was extended beyond relatively small areas, in order to cover entire states. The governments of Orissa, Rajasthan, Madhya Pradesh, Assam, and Bihar adopted decisions for administrative reorganization of the existing extension services and their reconstruction and development according to the T&V pattern. These decisions implied, *inter alia*, the transfer of thousands of village-level workers from under the authority of the Community Development Departments to the Departments of Agriculture. Obviously, this process was not free from internal bureaucratic difficulties, hesitations, resistance, etc. It brought about major changes in the pattern of the community development agencies too. But such a mass shift was a precondition for enforcing the basic organizational principles of exclusivity of extension work for the village agents and the single line of command.

Soon, the build-up of the reorganized extension organizations was under way in all the Indian states mentioned, with significant budgetary allocations from the state governments and financial assistance from the World Bank. Several other Indian states (Karnakata, Haryana etc.) have started similar preparations for introducing the T&V system, probably during 1978 or 1979.

THE PROJECT APPROACH TO BUILDING EXTENSION ORGANIZATIONS

Some information about the magnitude of the new statewide extension organizations could suggest better the breadth of the process and the order of its expected effects. The six Indian states currently implementing the T&V system plan to service a total area of about 35 million hectares with this system. There

Table 18.1 The T & V Extension System in India: Main Project Indicators

Projects introducing the T & V system	Area covered (million ha.†)	Administrative units		Expected ^d beneficiary farm families (million)	Contact farmers	Ratio VEW/ Farmers	Ratio AEO/ VEW	Extension staff at full development					Total ^f Project cost (US \$ million)
		Dist- ricts	Subdi- visions					VEW	AEO	DEO and SDEO	SMS	Total ^e	
1) West Bengal Agricultural Extension and Research Project (March 1977)	6.6	17	50	4.0	320,000	1/1,000	1/8	4000	45	67	200	5217	28.0
2) Orissa Agricultural Development Project (Feb 1977)	4.5	13	30	3.4	448,000	1/600	1/8	5600	700	103	155	7058	40.0
3) Madhya Pradesh Agricultural Extension and Research Project ^a (May 1977)	7.0	15	50	2.1	317,000	1/600	1/6	3970	730	100	200	5500	27.1

4) Rajasthan Agricultural Extension and Research Project ^b (June 1977)	6.5	17	50	2.9	320,000	1/720	1/8	4000	640	106	230	5660	34.4
5) Assam agricultural Extension and Research Project (June 1977)	2.1	9	27	2.0	195,000	1/800	1/8	2440	305	68	82	3295	16.0
6) Bihar Agricultural Extension and Research Project (Dec 1977)	8.3	31	58	7.6	700,000	1/850	1/8	9000	1123	219	383	11,500	16.0
Total	35.0	102	265	22.0	2,300,000			29,010	3,948	663	1,250	38,230	161.5

^a The Madhya Pradesh project covers 15 of 45 districts in the State, but the 15 covered districts account for the most important arable areas in Madhya Pradesh.

^b The Rajasthan Project covers all the districts of reasonable agricultural potential.

^c Cropped land, at full project development.

^d At full development, including the contact farmers.

^e The total staff includes the support staff as well.

^f Project costs cover not only the extension service proper, but also agricultural research, which is strengthened and expanded under the project. Sometimes other components are included as well. However, the project cost of the extension component only includes the cost of incremental staff, equipment and housing (required because of the reorganization of extension), and does not include the cost of the staff already in place.

are about 22 million farm families in these areas, out of which about 2.3 million would be selected as contact farmers. The vast majority of the area population consists of small and marginal farmers. The number of field extension agents will increase to about 38,000, supported by a large number of subject-matter specialists, agricultural researchers, and agricultural extension officers. The level indicated by these figures should be reached at full project development, in about 3–4 years. Specific project information is contained in Table 18.1.

Size is a critical variable for any formal organization, including extension. The transition from limited command areas to statewide systems has entailed a set of organizational developments in the structure of the T & V extension organization and some more complex problems to solve in its operation. Among these are:

- (1) The hierarchical pyramid in the extension organization has become considerably taller. The top management of the statewide system is less close to the base level, where extension is delivered, than in the case of a command area service.
- (2) The internal vertical communication channels are stretched out much longer. The flow of management information is taking more time and is exposed to higher risk of loss or distortion.
- (3) The basic area unit of a Village Extension Worker has increased (double or triple). The ratio of VEW/farmers, which in the command areas was about 1/320, has decreased to 1-to-600/1,000.
- (4) The high degree of concentration of means, resources, and activities, which is typical for a command area development programme, cannot be initially replicated statewide. Therefore, to maintain and improve similar effectiveness, management should be strengthened through better monitoring mechanisms.
- (5) Whole states are less homogeneous than irrigated command areas and the spectrum of agronomic problems to be addressed through extension has become significantly larger.
- (6) The staff of the extension organization has increased dramatically, from a few tens or hundreds to several thousands, thus enhancing the complexity of monitoring its daily performance.

These changes significantly increase the complexity of setting up and operating the extension organization. A consequence of this turnabout in the scale and organization of extension was the need to set up a strong statewide monitoring and evaluation capability. In several states such evaluation units are being created.⁷ They are meant to complement the monitoring mechanisms, already existing in the T & V system, by an adequate and specialized entity. This entity is, in fact, a subsystem of the larger extension organization, matching its building principles and geared towards improving its performance.

Certain characteristics of the institution building process through which the new extension organization is brought to life deserve some reflection. For instance, the fact that the development projects designed for implementing the new system are not simply 'extension projects' but 'extension and research projects' is profoundly consequential for the subsequent functioning of the T & V system. Underlying the design of the projects mentioned above is a conceptual understanding of the linkages between extension and agricultural research. The projects therefore incorporate a strategy for developing adaptive agricultural research and provide substantial financial resources to create or expand the network of research institutions in the extension area. A vigorous adaptive research programme is designed to provide practical answers to farmers' problems and to evolve technological packages of practices adapted to local conditions. Without such a programme, the extension service will soon have nothing to offer farmers. The concept of the T & V system is predicated upon the institutionalization of the linkage between extension and research and upon their simultaneous, mutually reinforcing, development.

Another characteristic refers to the integration problems faced by the new extension organization. The T & V extension system does not develop in an organizational vacuum. There is a deliberate design according to which it is being inserted into the overall administrative organization of the state government. The 'project approach' speeds up and maximizes the effectiveness of the organization building process.

SOME SOCIOLOGICAL IMPLICATIONS OF AGRICULTURAL EXTENSION PROJECTS

Important sociological dimensions are embedded in the design and content of the Agricultural Extension Projects. They rely on certain assumptions about farmers' behaviour and attempt to introduce changes in current agricultural work patterns by influencing farmers' awareness and counting on small group communication mechanisms within rural communities. Accordingly, managers of these projects must be aware of these sociological variables.

Creating a new organization within the Indian rural society means much more than just setting up another bureaucratic agency. There are some cultural intangibles which have a particular significance in the case of an organization built to stimulate rural productive activities. In West Bengal, for instance, the staff of the new extension organization will comprise more than 5,000 persons. In Bihar it will have about 9,000 VEWs and more than 1,000 subject-matter specialists and other extension officers. The quality of the staff, its personality characteristics, sensitivity to village conditions, people and customs, its motivation, energy and abilities are paramount for the success of building this institutional structure.

In fact, the main organizational emphasis of the building effort is put at the

grassroots, tending to create an organization not only *for* but *of* the farmers themselves. In some cases, the grouping of farmers for extension delivery purposes matches their functional group organization for other productive purposes – e.g. for irrigation. The irrigation ‘*chak*’ in Rajasthan, consisting of about 30–50 farmers, is also taken by the extension system as a unit (group structure) for the diffusion of technological information. In the long run, creating a viable matrix for grouping in clusters the farmers who can be regularly serviced with technical advice and support may have social, institutional, and economic consequences far beyond the immediate goals of the extension project.

The mass of small farmers, tenants, and sharecroppers, who in India constitute the vast majority of the farming population, is the *target group* of the Agricultural Extension Projects. In the past, agricultural development strategy has been often aimed at achieving production increases mainly through investment in irrigation or other costly infrastructure, without particular emphasis on *who* was going to benefit. The new Agricultural Extension projects put a definite emphasis on reaching quickly the mass of small farmers, tenants, and sharecroppers. Their goal is to increase the productivity of large numbers of small and marginal farmers and contribute to an overall increase in food production. Apart from generating economic benefits with low costs, the projects are guided by equity criteria and thus attempt to have considerable impact on income distribution.

The target group of extension, however, is not a socially homogeneous population, but a very stratified one. It consists of various caste groups and often tribal groups, of small land-owners, tenants, and sharecroppers; each subgroup is subject to general and specific constraints of economic, cultural, and technological nature. The extension service has to penetrate across these differences and to adjust its advice and support to farmers with different cultures, possibilities, constraints and needs.

A specific example could better illustrate the stratification of the target group itself and the social and cultural problems it entails for the extension project: take the rural population of Orissa. The T & V system currently being built in this state⁸ has to cover over 90 per cent of the state’s population, which is living in rural areas. About 74 per cent of it is below the poverty line.⁹ The village population is stratified along caste, class, and tribal lines and is caught in a web of socio-economic relationships and land-tenure systems which hamper agricultural development. The proportion of farmers who belong to the scheduled castes and tribes is very large: 23 per cent and 15 per cent of the state population, respectively. A significant number of tribals, the main occupants of the hill regions, still practise shifting cultivation. The ‘small’ and ‘marginal’ farmers, with holdings of less than two ha, represent roughly 2.6 million out of a total 3.4 million cultivators’ households. Although these farmers operate over 76 per cent of all holdings, they control less than 40 per cent of the total cultivable land, while farms of five ha or more (representing less than seven per cent of holdings) account for

about 30 per cent of the land. Adding to the skewed distribution of income in the rural areas are the landless and agricultural labourers, who constitute 1.8 million households. Fragmentation complicates the problems of small holdings, each holding consisting, on an average, of three plots. A large but unquantified area is under sharecropping. The low level of technology is indicated by the fact that Orissa farmers are almost totally dependent on human labour and draught animals as power resources for land cultivation. Agricultural productivity has been virtually stagnant in Orissa over the past few years. Structural changes in land-holding and tenancy patterns are both socially and politically very difficult to achieve. Hence the importance of helping the poverty group, through extension, in assimilating low- and medium-cost labour-intensive technology and improving the productivity of their agricultural practices.

However, the T & V extension service will assist not only the poverty group, but medium and large farmers as well, as part of the overall effort to increase food grain production. But wealthier rural families constitute a politically influential and élite group and they frequently attempt to pre-empt a disproportionate share of scarce public services, including extension. The history of past extension schemes indicates that the issue of equity was usually neglected and that the larger farmers tended to become a fixed and exclusive clientele over time. New information was thus channelled to the same better-off farmers, further strengthening their economic and technological advantages.¹⁰ The T & V system and the extension projects have a different policy orientation, deliberately aiming at reaching the disadvantaged farmers (without, however, avoiding the better-off farmers). Therefore, the organization will often have to operate in a social context of competing interests, to resist attempts of some élite groups to capture its services exclusively or to co-opt its agents. The sociological and economic evaluation of the extension impact will have the task of ascertaining to what extent the extension project will have succeeded in its objective of effectively reaching the mass of small and marginal farmers.

As indicated earlier, the T & V extension system and its effectiveness cannot be explained *only* in terms of its organizational principles; its extension 'philosophy' is probably as important. The philosophy influences the selection of the message extended to the farmers. What in this philosophy is most relevant for gearing the system towards the rural poor is its almost exclusive stress, at least in the initial stages, on disseminating unsophisticated, low-cost improved practices. The T & V system teaches farmers to make the best use of available resources—and such resources are, for small farmers, primarily labour. While many traditional extension services insist on raising production through use of purchased inputs (mainly fertilizers), the T & V extension projects place emphasis on raising yields largely through better agricultural practices, such as seed treatment, timely sowing, optimal plant population and weeding. These improved cultural practices produce sure results with little risk. Most important, while their adaption requires more work, they require little cash outlay. This best fits most

small farmers, who typically have surplus labour but little cash. Thus, by its very nature, the message extended by the T & V system tends to be moulded according to the potential and structure of the small family farm, and thus stands a better chance of being understood and accepted by the poverty group.

Certainly, communication of information under conditions of an unchanging social political structure cannot be expected to change the stratification system. But it can effect certain behavioural changes of important consequences in farmers' ways of practising agriculture. Attitudes towards change of practices will depend, in the traditional village system, not only on the technical appropriateness of the recommendations but also, largely, on the mobilization of traditional communication networks in rural communities, on enlisting the factors which can accelerate dissemination and increase the multiplier effect. In this context, the 'contact farmers' have a critical role to fulfil for the success of the T & V system and for disseminating the recommended practices to other farmers. The philosophy of the T & V extension system specifically suggests that the 'contact farmers' should not be the community's most progressive farmers, who are usually regarded as exceptional and their neighbours tend not to follow them.¹¹ As indicated in several Extension Projects, 'contact farmers would be from all levels of village society, including sharecroppers, and would be selected for their potential influence on other farmers and willingness to collaborate with extension workers in following recommendations'.¹² It would be an issue of high sociological interest to study the selection process of the contact farmers in this system, their characteristics and effectiveness.

EVALUATION OF EXTENSION IMPACT

Changes in farmers' agricultural behaviour and their preparedness to innovate are a function of several variables, some well known, some presupposed, and some as yet unknown or even unsuspected. The traditional agricultural practices are learned methods of optimizing economic welfare in a high-risk, low-knowledge, low-resource situation. These practices are not just an individual response but part of the wider village farming system and various degrees of resistance to extension advice will always be present.

Given the complex social variables which play a decisive role in determining the degree of economic, technological, and behavioural impact of the T & V system, the managements of several extension and research projects in India (in particular, in West Bengal, Madhya Pradesh, and Orissa) are currently implementing a monitoring and evaluating system of extension performance. Besides the economic and agronomic evaluation, the sociological evaluation of project impacts has a distinct place in this system.

The monitoring and evaluation system used in the T & V extension projects is designed as a management tool to ensure that the extension organization is operating efficiently, to enable management to take corrective action when

necessary and to provide policy-makers with appropriate information. It can be applied in each project, with adjustment to local circumstances, thus ensuring uniformity in monitoring and evaluation procedures among similar projects. The use of more or less uniform methods in the different states would produce results which are comparable one with another.

The Monitoring and Evaluation System for T & V extension projects¹³ consists of a conceptual framework, a set of indicators for monitoring project implementation, a set of indicators for estimating impact on farmers, and the design of a data generation system comprising sample surveys and in depth *ad hoc* studies, which would produce information concerning the selected indicators. The indicators reflect the essential sociological, agronomic and economic dimensions of the Extension Projects. Through them, the monitoring data collection has two foci: (i) the build-up and the performance of the extension service; and (ii) farmers' behaviour in adopting recommendations and changing their agricultural practices. Evaluation is focusing mainly on measuring the impact of extension on take-up rates of recommended practices and on actual crop yields.

The data generation system of the T & V projects relies on the contention that no single multipurpose study alone could produce information about all indicators. It is believed that evaluation may be made more manageable by investigating the different aspects of project performance through separate, though mutually reinforcing, studies. Repeating the survey rounds at regular intervals will permit accumulation of time-series of data. The evaluation sample survey includes a crop-cutting survey in each crop season. Special in-depth studies on selected topics (e.g. studies on the selection of contact farmers; sociological village case-studies, etc.) complement the surveys.

The evaluation programmes on the operation and effects of the T & V extension system are bound to bring, in the next few years, a wealth of new information of high interest for both managerial and scientific purposes. And the current revitalization of extension work generated in India and other countries by the implementation on large areas of the T & V system, may have, among many other unanticipated consequences, a revitalization effect on the sociological interest in extension as well.

The author of this paper, Mr. Michael Cernea, is Senior Sociologist with the World Bank, Washington, D.C. The views and interpretations expressed in this paper are those of the author and should not be attributed to the World Bank or its affiliates.

18. SOCIOLOGICAL DIMENSIONS OF EXTENSION ORGANIZATION: THE INTRODUCTION OF THE T & V SYSTEM IN INDIA (*Michael Cernea*)

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