DEVELOPING AND DELIVERING EXTENSION PROGRAMMES: HARNESSING TECHNOLOGICAL ADVANCEMENT FOR AGRICULTURAL EXTENSION

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ABSTRACT

Extension planners throughout the world face the difficult challenges of being creative in their programme development efforts and responsive to the needs of rural communities and farmers. A way to overcome these challenges is to look at different programme development ideas and approaches, analyzing how they function in practice, as well as their advantages and disadvantages. This presents an overview of the programme development process, with an emphasis on local-level extension work. First, it will look at basic concepts; discuss different ways of approaching the programme development process, and review current ideas. In the second part, a rationale for participatory planning will be discussed and a number of key aspects, such as priority setting, definition of objectives, and evaluation, will be stressed. The last part will summarize new roles, knowledge, and skills. It is important to emphasize that, although in the text we usually use the word "planning," our discussion is centred on programme development globally, which we see as a set of dynamic cycles necessarily implying planning, implementation, and evaluation stages and activities, interacting and often overlapping, evolving along the programme process and according to the changing circumstances of the physical, socioeconomic, and political-institutional environment.

INTRODUCTION

Extension Work: Increasingly Concerned with Responsive Planning

In today's world, the pace of change is accelerated, and people are continually involved in it, either as passive elements or as active citizens, more often as mere project recipients or targets. Development projects are delineated to help people adjust to change, for example to new agricultural policies or market demands. Also, at times, but not as frequently, they are directed to help grass-roots groups and rural communities to build change projects that are relevant to their own needs

and aspirations. Both situations require planning and the preparation of different types of extension programmes.

Programme Development and Planned Change

In one way or another, when we talk of programme development, we talk of some kind of planned change, that is, deliberate efforts to change a given state of affairs. Social, economic, cultural, or technological changes are commonly assumed to be the purposes of planned and systematic extension actions. As change facilitators, extensionists should then be concerned with the preparation of programmes and projects that are responsive to the needs and interests of rural communities and farm families. Some would argue that planning is a difficult mission, especially in the developing world, where the level of political and economic uncertainty is high. This leads to on-the-spot decisions or very short-term and incipient planning work. However, we strongly argue that the lack of adequate planning and continual evaluation is a major reason for the frequent failure of development projects and extension activities (Koehnen, Portela, &Cristóvão, 1992, p. 207): planners do not look at the diversity embedded in most situations; different clientele groups are not systematically involved, and some (surprisingly, major ones) are neglected; alternative solutions are not carefully compared; objectives are too rigid, not clearly defined, or not linked to activities; results are not duly studied; and the distribution of benefits is overlooked. So in many situations the challenge seems obvious: to allocate more time for planning and evaluation and to stop acting hastily and mechanically, without direction and purpose, like a clock lacking hands.

Extension authors and professionals strongly support planning. Forest and Baker (1994, p. 87), for instance, underline that "program planning helps justify budget appropriations and brings understanding among the public," adding that "the planning process offers opportunity to people who participate in it to learn, thus building leaders-hip skills in the community that will likely contribute to self-help, independence, and positive end results." In general, adequate planning and evaluation do the following:

1. Involve an integrated analysis of needs and interests, opening up new horizons for action
2. Promote a concentration of efforts, channelling energies and resources in appropriate directions, and helping accomplish complementarities and synergies

3. Strengthen programme resources and attract funds, thus allowing the sustainability or expansion of activities
4. Improve team and community capacities, motivations, performance, and autonomy
5. Show commitment to address and solve problems
6. Strengthen the quality of projects and staff performance
7. Serve as a means to open dialogue with other organizations involved in development

In this sense, it is understandable that "planning extension programs has become an increasingly accepted practice among national authorities" (Maalouf, in Rivera, 1987, p. 116).

Programme Development Assumptions

The world has a complex and uncertain nature. Change and the unexpected live with us and are important ingredients in the history of both humankind and the local society. Planning, then, is a risk-taking exercise, subject to the unexpected and to failure. Without it, however, life is even more uncertain and the task of reaching a balanced and sustainable development more difficult. So when talking about extension programme development, we assume that:
1. Planned change may be an important factor for the social and economic progress of rural communities and families
2. Extension services and agents must not act mechanically and without a vision
3. Extension programmes can contribute significantly to learning, educational improvement, and development
4. It is possible to select, organize, and manage programmes that contribute to change and development
5. Extension educators, as change facilitators, can help individuals, families, and communities to reflect upon their realities and build relevant programmes, thus improving the quality of rural life

Comparing Major Approaches

An ideal or universal programme development model or approach does not exist. Different options are available, and choices depend upon a great number of variables. It is necessary, for example, to have a clear definition of who plans (the institutional scene), for whom (the potential beneficiaries), who takes the initiative, what the goals are, what the means are, what the time frame is, and what the sociopolitical environment is.

Other variables may also be very important, such as the source of funds or the project's physical scope (Dusseldorp& Zijderveld, 1991, p. 4).

It is current in our days to contrast different programme development approaches by using the following dichotomies: centralized - decentralized, top-down - bot-tom-up, and blueprint - process. The two extremes represent, indeed, distinct ways of approaching programme development and correspond to somewhat opposite assumptions, theories, and practices. Dichotomies, however, are simple ways of representing an issue, and in between the two extremes may lie a continuum of possibilities which must not be disregarded. To facilitate the discussion, let us stick to this continuum for a while.

The first word in each of the pairs is centralized, top-down, and blueprint. In general terms, they correspond to the so-called conventional way of developing a programme. This is, in effect, what happens in many extension projects following the training- and visit system or other conventional model and stressing the transfer of technology and information dissemination. For example, research stations develop technologies which are then transferred to the extension service through subject-matter specialists. Extension officers at the zone or district level plan the programmes, defining specific objectives and messages to be disseminated. At the village level, extension workers implement the activities according to fixed work schedules, under close supervision and leadership. Farmers' involvement is not, in general, a priority. This type of approach is based on a number of key assumptions and principles: there are clearly defined and generally accepted objectives; there is a detailed and precise knowledge of the process to be implemented in order to reach the objectives; there is the political will to use the available power and resources; and there is a predetermined timetable and well-known resources (Dusseldorp& Zijderveld, 1991, p. 21).

It is generally accepted that the centralized, top-down, or blueprint approach facilitates management, monitoring, and evaluation tasks because activities and expected outcomes are defined and a chain of responsibilities and duties is well identified. In some cases, it can be the best choice, for example, in emergency interventions where a strong management style may be required to attain objectives in a timely and highly organized manner, or in situations where extension tasks are objective, that is, based on specific facts and knowledge rather than on feelings, beliefs, and values. In this last instance, as Boyle (1981, p. 100-

101) stressed, "The programmer would be able to make objective decisions and probably have less need for clientele input."

Top-down or blueprint planning has been subject to strong criticism for various reasons. An important one is that it is too uniform, not taking into due account the socio-cultural environment, the particular circumstances in which project implementation occurs, and the characteristics of the different clientele groups, for instance, planning the improvement of village irrigation schemes without taking into consideration the specific local needs, water rights, and rules of water allocation and distribution (Portela, 1990); or planning for the dissemination of a given technology package without an adequate understanding of the farming systems and the diversity of farmer's problems, potentials, rationales, and strategies. Others also argue the following:

1. This approach is agency centred and the programmes are planned from the inside to the outside; planners assess and define needs and problems and determine objectives and courses of action.
2. Programmes are essentially based upon institutional policies and philosophy, not taking into account the diversity of perspectives about a given reality.
3. The approach assumes a high degree of simplicity and order in the programme cycle, stressing the possibility of following a logical sequence of steps.
4. The approach is rigid and assumes a high level of stability; problems will not change while the programme is being planned and new problems will not emerge.

Looking at the second word in each of the above pairs, we have a different set of key words: decentralized, bottom-up, and process. They correspond, in general terms, to what has been called participatory planning, currently proposed as a key element in farming systems development (FAO, 1994), farmer-first models (Chambers, Pacey, &Thrupp, 1989), participatory technology development (Farrington & Martin, 1993; Reijntjes, Haverkort, & Waters-Bayer, 1992), or local process facilitation activities (Roling, 1994).
The guiding principles are quite different from those of the top-down perspective (Bergdall, 1993; Dusseldorp & Zijderveld, 1991; Korten, 1991):

   i. Development is regarded as a long-term effort and process requiring continued commitment and collective responsibility.

ii. Programme personnel should act as partners and facilitators rather than experts.
iii. Participation of local actors is stressed.
iv. More time should be spent on needs identification and project preparation, with the active involvement of the intended beneficiaries.
v. The programmes should grow step by step, securing close linkages to the felt needs and the local environment.
vi. The ultimate goal of the programme is to increase the power of the local actors to plan and implement their own improvements.

In general, this approach is said to be open and process centred, embracing error as a learning factor and leading to programmes and projects with an emergent nature.

The use of such principles and ideas is growing in small, local development projects with an integrated nature where citizen participation is highly valued and desired. For instance, in Sao Tome and Principe, a country in West Africa, such projects are currently being promoted by the Ministry of Agriculture and Rural Development as part of a major land reform programme. These projects are animated by interdisciplinary and inter-institutional teams, having as partners local farmers' associations and youth groups. The projects emerge out of a participatory rapid appraisal exercise, and activities draw funds from multiple sources (Cristóvão, Botelho, & Born Jesus, 1994).

It is clear that this approach is not exempt from problems and criticisms. Some are quite evident; for instance, activities start without predefined objectives, making things more difficult for personnel and perhaps confusing for participants who often used to be recipients of interventions, not active partners; and the overall philosophy and practices contrast with the conventional ones with which most funders and official services are familiar, which may complicate relationships. The question of decentralization is critical in this last respect. In effect, even considering the efforts developed in the last decades in this direction, it is known that the capacities at the local level are still generally weak and "finding ways of building the capacity of local administrative units to implement development programs and of eliciting the support of central bureaucracies in that task offers an important challenge to governments of developing countries in the years to come" (Rondinelli, 1987, p. 54). Also important is the issue of participation. It can be argued that participation is not desirable in every situation and that it has advantages and

disadvantages. For instance, it requires time, which in some instances is not available, and it may lead to social and political conflicts because it touches the question of power, and those who may lose it are likely to oppose and resist. Undoubtedly, each project situation requires a careful analysis regarding the purposes which might be accomplished through citizen participation, the ways to achieve it, and the costs and benefits deriving from it.

In most cases the choice is not at one extreme of the continuum, but somewhere in between. At the same time, a combination of different approaches may even be necessary and advantageous. Boyle (1981, p. 7), for example, distinguished three types of programmes: developmental, informational, and institutional. The first one is clearly process centred, and objectives derive primarily out of the needs and problems of the participants. The second is predominantly top-down oriented, and participants are primarily recipients of information. The third type corresponds basically to training and instruction and is developed from a field of knowledge and from the educator. However, Boyle stresses that in the course of extension work these types usually overlap; that is, a locally initiated participatory project can very well benefit from centralized efforts to disseminate information and from training activities (see Box 1).

Two Frameworks for Programme Development.
1. Developmental Framework
Although presenting a sequence of steps, Boyle (1981, p. 51 -57) stresses the dynamic nature of the programming process, underlining that distinct steps and activities can happen simultaneously or in different sequences:

   a. Identification of the basis for programming: philosophies, policies, and procedure
   b. Situation analysis of community and clientele
   c. Identification of desired outcomes
   d. Identification of resources and support
   e. Design of instructional plan
   f. Programme of action: calendar of events and activities
   g. Accountability of resources, evaluation
   h. Communication of the value of the programme

2. Informational Framework
   a. Determine what content is available, needed, or desired.
   b. Provide information or knowledge.

c. Determine the extent of the distribution of content.

Creating extension programmes with the people: A rationale

Planning is currently recognized as a process and a social practice. As a process, it is seen as a dynamic effort evolving around problems and implying decisions and actions to achieve goals. As a social practice, it implies a negotiation of interests and the construction of some type of working platform involving different actors, such as researchers, subject-matter specialists, rural leaders, representatives of farmers' associations and groups, and so forth. "Negotiation" emerges as a key word in current views (Cervero& Wilson, 1994; Sadowske, 1991). That means that more and more programme development is seen as a democratic exercise, implying a dialogue around issues like the following:

1. How can a given situation be described and analysed?
2. What are the major problems, needs, and expectations?
3. What are the alternatives to solve the problems?
4. What kinds of resources, information, and technologies are required?
5. What projects and activities should be implemented? When? How? Where? By whom
6. How should evaluation be seen? Who should do it and when?
7. How and by whom will the programme be managed and controlled?

Democratic planning of extension work implies the open discussion of these questions, not necessarily in any exact order, but usually in some kind of iterative way, going back and forth in successive approximations.

Participation of men and women farmers, rural leaders and networks (both formal and informal), community groups, and other development institutions becomes a critical issue requiring creative approaches and continual efforts. In fact, as experience shows, the majority of farming and rural populations, often representing the largest share of production, although in words considered central to development, are not actively and systematically brought into the process. It is known that extension work overlooks women and is mostly dedicated to a minority of progressive and large farmers who tend to be relatively well-off. These farmers have more power to influence the system, serve many times as privileged linking elements between the village and government agencies, are actively

involved in organizations, and are capable of attracting a good share of project benefits. On the other side, it is also known that often small and medium farmers lack the time, money, and motivation to participate. They feel powerless, and very often local history is not encouraging and supports the view that participation is politically risky.

A Broad View of People's Involvement

Creating programmes with the people implies a broad view of people's involvement. Participation should not be seen, as many times in the past, as the occasional presence of rural dwellers in an information meeting, the simple use of public services, the voluntary contribution (with labour, money, etc.) to a project, or as some kind of activity to increase support to preplanned top-down projects.

Participation becomes, then, people's involvement in reflection and action, a process of empowerment and active involvement in decision making throughout a programme, and access and control over resources and institutions (Cristóvão, 1990).

A Different View about the People

A new view about the people and their roles is also essential. In fact, the view that planners, administrators, and others often hold about rural people, small and poor farmers in particular, is very influential. Still relatively-widespread is the idea that local society is practically undifferentiated and that farmers are passive and ignorant and lack the ability to understand situations, analyse them and proposed solutions, translate them into action, and evaluate the results. The direct consequence is the paternalistic and superior attitude of technicians who think they know best and have the right answers to development problems.

In summarize, democratic planning of extension work implies:

1. A broad understanding of participation, implying the involvement of different groups and organizations in various programme development stages and activities at the decision-making level.
2. A different view of rural people and an attitude of respect and humility regarding their knowledge and experience.
3. A close attention to the way power is shared and distributed among different social groups, local and regional networks, and segments of the population, and between these and the

national and regional power holders (political leaders and parties, for instance).

4. An understanding of the way decision-making power is distributed in the official structures, or among others dealing with people and development, at different levels.
5. A recognition of the fact that in any situation, even in small rural communities, the existing needs, interests, and aspirations are not homogeneous.
6. A clear perspective about the advantages and problems associated with participation.

This rationale is not only politically and ethically sound, because people should be respected and participation is today seen as a basic need and a human right, but it is also economically justified, because experience shows that project success and long-term sustainable results require people-centred approaches.

Making Participation Happen

Participatory planning is not a linear, sequential activity. However, it implies particular attention to a number of key steps: describing and analysing the situation; identifying needs, problems, and aspirations; assessing opportunities and obstacles; generating programme and project ideas; establishing implementation plans; monitoring action; and evaluating process and results. Globally, this is a dynamic and continual process evolving in a succession of actions and cycles. In each step, a number of actors intervene, and planners act as facilitators, enabling active participation and ensuring the quality of the outcomes.

The adoption of a strategy to promote participation is a critical aspect. In this regard, experience shows that five major, interrelated elements are essential (Bryant & White, 1982; Cernea, 1992):

1. Keep extension projects simple and manageable.
2. Differentiate various groups in the project area.
3. Work with different types of organizations.
4. Take advantage of all possible methods and techniques.
5. Improve people's capacities to participate.

Keep Extension Projects Simple and Manageable. It is known that small projects, developed at the local level, implying relatively simple skills, providing direct benefits to participants, and building on self-help arrangements, have better chances of mobilizing people's attention and

active involvement (Bryant & White, 1982, p. 218). When projects are larger and more complex, for instance at the regional or provincial level, the task can be more difficult, but ways can be found to generate participatory dynamics, including decentralization mechanisms that allow a greater input to local extension units, and working with rural organizations and groups at different levels.

Differentiate Various Groups in the Project Area. How can we assure that the needs of particular groups such as landless farmers or poor women are reflected in the extension programming process? The answer to this question implies a clear identification of groups in the project area. In effect, "farmers" or "the rural population" are often taken as the "target group" without any further specification and assume a homogeneous group, which does not exist in reality. So identification of specific groups and subgroups to reach and work with becomes a critical element in a participatory planning process.

Identification can be accomplished in different ways. Albrecht et al. (1989, p. 48-49) suggest two common approaches:

1. Classification of holdings according to size, socioeconomic features (e.g., full-time employment, extra income, a second job), and production structure (land-use system, management system, etc.). This approach usually requires extensive surveys, which are costly and time consuming.

2. Building on local common distinctions: it is simpler and more practical to classify groups according to distinctions that already exist in a particular society. They are less artificial and a more faithful reflection of the problem situation from the angle of the population. The use of key-informant interviews or group discussions are usual procedures in this case.

3. A third approach, complementary to the previous ones, can be the identification of existing community organizaions, looking at membership and leadership, the roles they play, and assessing the kinds of interests they defend and the extent to which they serve particular segments of the local society (Verhagen, 1987, p. 1079). This leads us directly to the third element. *Work with Different Types a/Organizations.* It is widely recognized that some form of organization is essential to facilitate participation. For instance, Oakley and Marsden (1984, p. 69) summarized the

methodological approaches to participation in various cases in Brazil, Senegal, Bangladesh, and India, and in all of them the formation and role of groups emerge as a crucial aspect. In this regard, four specific recommendations seem important:

i. Working with a wide variety of organizations increases the chances of reaching a wider spectrum of people. The institutional map needs to be done, because in most situations different sorts of organizations exist: cooperatives, commodity groups, irrigation and credit associations, youth or women's clubs, village committees, leisure and cultural groups, development associations, and others with a variety of labels and structures representing diverse interests and objectives and working at the local, regional or national levels.

ii. It is important to consider and work with existing organizations. Indigenous ones in particular, as stressed by Bryant and White (1982, p. 129), are an important resource because of their cohesiveness and reliance on mutual trust.

iii. Creating new organizations is important in many circumstances. In this case, the process should be educational. The concerned people have to feel the need to be organized and have to devise their own objectives and forms of action. A process of reflection, discussion, and decision making is usually necessary (Korten, 1980). Extension workers and change agencies should be ready to encourage and help, providing counselling and training and facilitating contacts and access to similar experiences.

iv. In any situation, it is important to analyse the interests represented by existing organizations and their degree of power and influence. In many cases, they are led by better-off farmers or representatives of elite groups and are not at all a reliable support to a participatory strategy aiming at the interests of different groups and attempting to reach the disadvantaged.

Still, in relation to this element of the overall strategy, it must be stressed that the work with advisory committees or councils of different sorts has proven to be advantageous (Albrecht et al., 1990; Boyle, 1981; Hemp, Kaczor, &Zwilling, 1983). Such organizations involve a small group of selected individuals, usually between twelve and fifteen, and help extension in various ways regarding the development efforts within a given

area, being a specific means to assure formal participation in programme development.

Take Advantage of All Possible Methods and Techniques. In any situation, with favourable or unfavourable institutional scenes, something can always be done so that extension programmes are responsive to local needs and concerns. Some alternatives are the following:

1. Conducting community surveys, contacting specific groups, and administering questionnaires at extension meetings, training courses, or other types of public events.
2. Collecting information from key informants and other knowledgeable individuals, as well as from formal and informal group discussions and meetings at the village or other levels.
3. Deliberately contacting hard-to-reach groups and others with less power and visibility that are normally not involved in extension work.
4. Obtaining public input through interactive radio or television programmes.
5. Communicating with other services in such fields as education and health and exchanging information, experiences, and views.
6. Keeping a permanent record of needs, concerns, views, values, and customs.

Improve People's Capacities to Participate. This implies, among other things, education and training. On the extension service side, agents and other officers frequently lack the skills to work with rural people in an interactive manner. Their training is often narrow and stresses the acquisition of technical knowledge and abilities. m-service training may be required so that extension people learn how to act as helpers and facilitators of participation in the different programme phases and moments. Concerning rural people, and farmers in particular, it is important to act in such areas as education and leadership development. The acquisition of literacy skills, communication abilities, and organizational and leadership capacities is vital for establishing strong local institutions and for promoting conscientious and self-sustained problem-solving efforts. As Albrecht et al. (1989, p. 182) underlined, training can increase the efficiency of local organizations, make them

assume more responsibilities, and acquire political weight, ensuring that their members' interests are taken into account at higher levels.

These and other ideas can form the basis of an action plan to create extension programmes with the people, including the following dimensions:

1. Change or adjust extension's organizational structure and management in order to favour an internal climate of dialogue, cooperation, and creativity conducive to participatory planning.
2. Maintain open communication channels within the extension service, with other related services, and with all involved institutions in order to facilitate a rapid exchange of ideas and joint decision making.
3. Plan for the development of attitudes, knowledge, and capacities essential to promote participation, and provide training to extension people and rural citizens.
4. Concentrate attention and efforts on small local extension programmes.
5. Differentiate groups at the programme area, and understand the diversity of needs, concerns, ideas, potentials, and obstacles.
6. Consider and work with different types of organizations, formal and informal, to ensure programme quality and responsiveness.
7. Establish interlocking advisory committees at the necessary levels and programme areas, and work with them actively throughout the project cycle.
8. Use all possible mechanisms to obtain citizen input.

Defining Objectives: Tools to Build Consensus on Major Directions

The definition of objectives is a key aspect in extension programme development, and objectives are seen as project guides: they provide direction, a basis for selecting activities, and a framework for evaluation and making decisions explicit. In conventional planning, it is said that objectives must be defined in a clear and explicit manner, sequentially, and preferably in quantitative and measurable terms.

In a process approach to programme construction that is open and dynamic, and in our times of rapid change, objectives should be open to negotiation, flexible, changeable, and adjustable. They can start simple and be less ambitious, but should allow for expansion as the capacities of

the partners grow, as experience is acquired, and as confidence is gained. Continual programme evaluation might be quite influential in this regard.

Example of a partial objective tree for a rural development project.(Inspired by Delp, Thesen, Motiwalla, Seshadri, 1977).
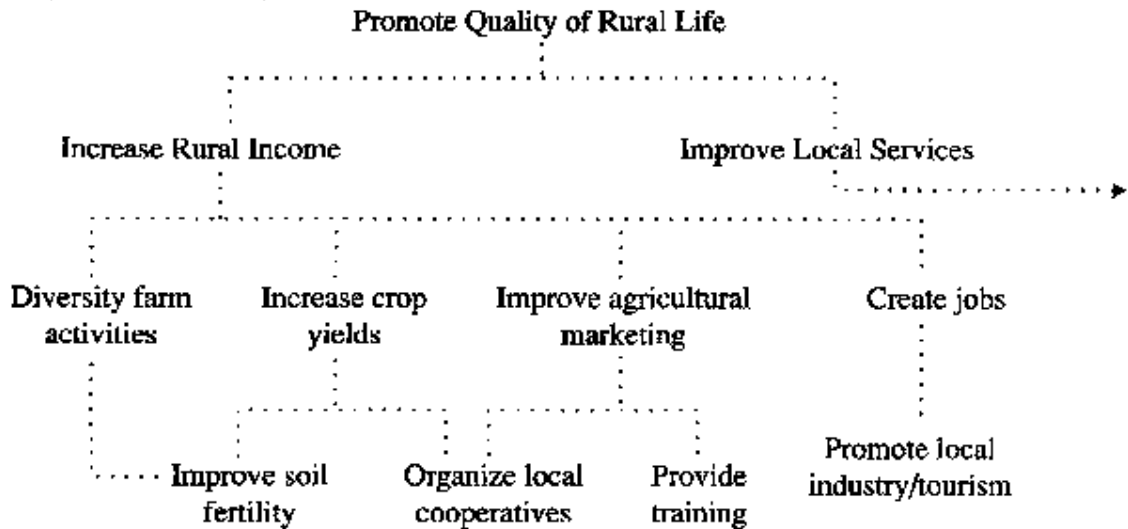
Some tools may be used to facilitate the definition of objectives. Objective trees are a possibility. In simple terms, an objective tree consists of programme or project objectives defined in quantitative or qualitative terms, linked in some kind of hierarchical form in a tree graph. Objectives at a lower level are supposed to contribute to the attainment of an objective at a higher level, as shown in the example in Box 2. Several levels of objectives can be considered. Objective trees, in summary, help to clarify the expected project outcomes and to make explicit the relationships between them. As such, they can be a useful tool in programme planning and evaluation.

Facing broader planners' roles and new skills
The views just presented imply new roles for extension planners, as well as for programme managers, implementers, and evaluators. These roles demand knowledge and skills in different areas. If the conventional programme development models stressed technical preparation, particularly in such aspects as designing surveys, analysing and reporting data, or preparing budgets, the emerging models require the same knowledge and skills and demand additional preparation, especially in the political and ethical fields:

✓ On the ethical side, extension people must be able to deal with values, which includes being aware of their own values, and have the capacity to assess the others' interests, values, and commitments regarding the programme being planned and development efforts at large. Critical in this sense are value considerations regarding who to serve, who to involve, and who to exclude; what kinds of change to stimulate; or what types of programme effects to avoid.

✓ On the political side, extension people must have the skills to analyse the institutional context and the respective power structures, formal and informal; improve their negotiation capacities, which includes being capable of communicating (especially listening) and working with different people and institutions, thereby developing mutual trust; and build capacities to evaluate permanently.

Moreover, a creative programme development practice requires permanent attention to the integration of planning, implementation, and evaluation stages and activities, demanding an attitude of cooperation from the concerned actors, and often the assumption of interchangeable roles and functions. Otherwise, blueprint or centralized approaches, as defined in the first section of this chapter, will determine extension practices. A major challenge lies ahead: recognizing that extension work requires a definite move from "planning for" to "planning and creating with" and finding the ways that may help reach this change in each context.

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