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Extension Education in Agricultural and Rural Development: Role of International Organizations ~ The FAO Experience.

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Abstract. Since its founding conference session in 1945, extension has appeared in the agenda of most FAO's conferences, consultations or meetings (especially that of the World Conference on Agrarian Reform and Rural Development—WCARRD, in 1979). However, there are still many problems and issues to require attention.

This article outlines:

- the capabilities and limits in FAO's assistance to agricultural extension,
- the kinds and scope of FAO's activities in support of agricultural extension,
- the problem areas to be addressed in achieving effective and affordable systems.

Strategies and future directions are given.

Key words. FAO – Rural development – Extension – International organizations – Educational policy.

I – The Agricultural Extension Concept

What is understood by the expression agricultural extension in terms of functions encompassed, purposes, programme content, and clientele has varied from country to country over time. Out-of-school education may be the only function or one of several, such as supply of inputs, arranging credit and marketing facilities, collecting statistics, and enforcing regulations. The purposes may be to increase production, to increase income, or even to include actual improvement of family living (made possible by the increased income) and education for self-reliance in seeking and effecting improvements in the future. Programme content may comprise production of a particular crop or all crops, livestock, forestry, or fisheries, singly or in some combination. Coverage of any of these subject-matter areas may include marketing, other economic and management aspects and, in the most comprehensive system, all of these plus conservation, maintenance of environmental quality, and social considerations such as nutrition, population growth, and general improvement in family life. The clientele addressed may be all men and women, adult and young farmers, or only some of these categories of rural producers.

A concept of agricultural extension widely used in FAO is one included in the FAO publication *Agricultural Extension: A Reference Manual* (Swanson, 1984). Agricultural extension is « a service or system which assists farm people, through educational procedures, in improving farming methods and techniques, increasing production efficiency and income, bettering their levels of living and lifting the social and educational standards of rural life ». A definition, revised in the light of the World Conference on Agrarian Reform and Rural Development (WCARRD) and other developments since 1973, might refer specifically to men, women, youth, and the most disadvantaged groups in general, encouraging and involving rural people's own organizations, enhancing individual and collective self-reliance, and environmental and population issues.

For more than forty five years, FAO has been supporting farmer learning. Governments around the world are being assisted in establishing and operating extension systems and programmes within the framework of national economic and social policy, government structures, and the availability of natural and financial

resources. The rights, socioeconomic circumstances, and needs of the intended beneficiaries are additional determinants of the nature of assistance rendered. Diversity among and within nations in all these factors has meant that there could be no single universally applicable approach to the provision of extension.

II – Defining FAO’s Role in Agricultural Extension as a Contribution to Agricultural and Rural Development

1. The Mandate

Authority and broad guidelines for FAO’s work in agricultural extension emanate from decisions of the governing body, the Conference, and are influenced by discussions in its subsidiary bodies and in other policy-level conferences, consultations, or meetings. Extension has had a prominent place in policy debates in these forums throughout FAO’s history. Members of the Interim Commission on Food and Agriculture, which functioned between the 1943 Hot Springs Conference on Food and Agriculture and the formal establishment of FAO in Quebec in 1945, recognized the importance of extension, both implicitly and explicitly, in preparing the Preamble and Articles I and II of the FAO Constitution. In the absence of an effectively functioning extension system, it would be impossible to achieve the goals established for the Organisation in the Preamble: raising the levels of nutrition and standards of living of the peoples under their respective jurisdictions: securing improvements in the efficiency of the production and distribution of all food and agricultural products; bettering the conditions of rural people.

The recognition of the role of extension is explicit in portions of Articles I and II, describing the functions of the Organization. Article I states: The Organisation shall... disseminate information relating to nutrition, food and agriculture. In this Constitution, the term "agriculture" and its derivatives, include fisheries, marine products, forestry and primary forestry products. In Article II (b) the reference is more direct: The Organization shall promote and ...recommend national and international action with respect to ...(b) the improvement of education ...and the spread of public knowledge of nutritional and agricultural science and practice.

With the adoption of the constitution by the First Session of the FAO Conference, the founders of FAO provided the mandate for work in agricultural extension.

2. The Policy Guidelines

Since the founding Conference session in 1945, extension has appeared on the agenda for most sessions of the General Conference, Council, and Technical Committees on Agriculture, Forestry, and Fisheries and the regional conferences. Additionally, global conferences and technical meetings, dealing in part with extension, have been organized by FAO. Examples of such meetings are the Second World Food Congress, held in the Hague in 1970; the World Conference on agricultural Education and Training, held in Copenhagen in 1970; the WCARRD, held in Rome in 1979; and the Global Consultation on Agricultural Extension held in Rome in 1989. Recommendations from these forums have gone to the Council and Conference for formal endorsement and subsequently to headquarters divisions to serve as directives or guidelines in carrying out their work.

A most significant event in giving impetus and direction to work in agricultural extension and indeed to FAO’s work as a whole, was the WCARRD. The principles and programme of action prepared placed special emphasis on growth with equity and poverty alleviation, on the need for involvement of the high proportion of the rural population—women, landless producers, the poorest and smallest farmers, youth—who have been largely bypassed and failed to benefit from past development efforts. The guidance for extension work is summarized in *The Peasant’s Charter and Declaration of Principles and Programme of Action* (1981).

Education, including training... and extension services are fundamental needs for human development in rural areas and also for expansion and modernisation of rural economies... No less essential is the creation and expansion of training and extension networks for both men and women to develop and improve skills

and to increase productivity and income-generating capabilities. There is also need for establishment of effective linkages between extension and problem-solving research. In view of the great urgency of these needs and the magnitude of the task in relation to the resources of developing countries, low-cost techniques of education and training for short periods merit close consideration.

The same Conference called for particular action in respect to women:

- Establish special recruitment and training schemes to increase the number of women in the training and extension programmes of development agencies at all levels, including professional fields from which women have been traditionally excluded;
- Broaden the range of agricultural training extension programmes to support women's roles in activities of agricultural production, processing, preservation and marketing;
- Establish and strengthen non-formal educational opportunities for rural women, including leadership training, instruction in agricultural as well as non-farm activities, health care, upbringing of children, family planning and nutrition (FAO, 1981).

The real significance of the WCARRD is that ideas especially concerned with human and institutional aspects, which were formerly promoted only by individuals in government and international organisations, are now better understood and accepted at the highest political levels and by senior officials in technical fields. To help sustain the political commitment generated, FAO Conference sessions from 1979 onwards were requested to periodically review the progress of national agricultural and rural development programmes in implementing the Plan of Action.

Action recommended by WCARRD has been reinforced by policy-level debate in other global forums. Action Programme II on the Development of Artisanal Fisheries, adopted by the World Conference on Fisheries Management and Development in 1984, placed special emphasis on extension in the integrated development of fishing communities. The role of extension was also stressed in the implementation of two other programmes adopted by the Conference 'Development of Aquaculture and Promotion of the Role of Fish in Fighting Malnutrition'.

The Manifesto adopted by the Ninth World Forestry Congress, held in Mexico City in 1985, called for training a new generation of forestry extension staff to meet the challenge of making forest resources a source of income for rural populations.

Extension was a subject of discussion in recent regional conferences and in sessions of the Technical Committees on Agriculture, Forestry, and Fisheries. The 1986 regional conferences emphasized coordination of extension with other services, particularly research and education. Increased involvement of co-operatives and farmers' associations in extension, a greater focus on women, better condition of service for extension staff, and the introduction of population education were other subjects of recommendations. Recent sessions of the Technical Committee on Agriculture called for modification in extension systems to better serve the needs of target groups; establishment of more effective linkages with research, supply of inputs, credit, and marketing; and better programming and management. The Committee on Forestry wanted extension and social sciences included in the training of foresters and harmonisation of extension programmes in agriculture and forestry. In the Committee on Fisheries, emphasis was placed on the role of extension in the development of artisanal fisheries communities.

The Global Consultation on Agricultural Extension—held in Rome in 1989—pointed out that, in spite of a significant effort on the part of the developing countries as well as the continuing investment and technical assistance support to agricultural extension work by bilateral and multilateral agencies, there are still many problems and issues to require attention if agricultural extension is to perform its function adequately and effectively.

The directives and guidance provided by these and other discussions in FAO governing body sessions and policy-level meetings, combined with experience in the field, have served to identify problem areas and needs to be addressed by FAO extension activities.

III – Capabilities and Limits in FAO’s Assistance to Agricultural Extension

The purpose of this section is to outline FAO’s capabilities and limitations in implementing its mandate and in doing what governments, collectively, have requested in governing body and other policy-level meetings.

1. FAO’s Areas of Technical Competence

FAO’s major assets are the international staff, their technical competence, language capability, and global experience available to assist countries in any aspect of extension development within the agricultural sector, including agriculturally related components of rural development. Competence is dispersed throughout the Organization, but the 'Human Resources, Institutions and Agrarian Reform Division' in the Economic and Social Policy Department' plays a central role by virtue of its responsibilities for human resources development and general advice in the development of extension and training, including policy, approaches, methodology, organization, programme planning, management, evaluation and training. In particular, the Division’s Agricultural Education and Extension Service discharges these responsibilities, rendering assistance to governments and advice to units in the 'Agriculture and Economic Department' and 'Social Policy Department' on the extension aspects of their programmes. Through providing secretariat services to the Inter-Departmental Working Group on Training, the Service collaborates with units throughout the Organization in developing and improving training and extension policies and strategies.

Other units in the Organization assist extension development in various ways. All technical division contributes subject-matter content for programmes and training. Divisions in the 'Forestry and Fisheries Departments' go further and develop programmes and methodologies for extension, specifically adapted to their respective technical fields. The 'Nutrition Division' has developed training curricula, teaching materials, and methodologies. Media support is available from the 'Development Support Communication Branch of the Information Division' to enhance communication techniques and to increase effectiveness in delivery of extension messages to farmers. Major assistance in establishing extension systems is provided by the Investment Centre, which prepares large-scale projects for consideration and funding by the World Bank and other sources of investment funds.

One of FAO’s special advantages in rendering advice on any aspect of extension is the possibility of providing alternatives, drawn from worldwide experiences, for consideration. The orientation is towards problem solving based on objective analysis of a particular situation and towards devising locally appropriate solutions by drawing one experience from all relevant sources.

2. Requests for Assistance from Member Countries

Mandate and general guidelines apart, FAO can help a particular country only on the request of its government. Each government decides if and when help is desired, the nature of this help, and the sources from which it will be accepted. Requests for immediate, small-scale help of short duration come directly to FAO and are met through use of its own resources. Involvement in large-scale and longer term projects is based on an invitation to FAO to serve as executing agency for projects funded by the government’s own budget or from external resources available from a variety of sources.

3. Availability of Financial Resources

The major limiting factor in FAO’s work in extension and other fields is the shortage of funds relative to government needs and requests for assistance. This was especially serious in the early days when the Organization was totally dependent on its Regular Programme budget; that is, the assessed contributions of member governments. Until recent years, these resources have always been modest and available only for headquarters and regional office staff work.

FAO’s possibilities for doing effective work in extension increased dramatically as extra-budgetary resources became available to supplement the volume and kind of work done under the Regular Programme. Beginning in 1949 with the establishment of the United Nations Expanded Programme of Technical Assistance, which evolved into today’s United Nations Development Programme (UNDP), the volume of extra-budgetary resources has increased to become the major source of funding. Currently, FAO

assists governments in preparing and implementing projects employing their own resources, UNDP allocations, the proceeds of bank loans (World Bank/IDA, IFAD, and other financial institutions), bilateral grants (Government Cooperative Programmes) and trust funds provided by a variety of other donors. The significance of these funds is much greater than the welcome increase in the number of activities that could be undertaken. FAO has been enabled to shift the focus of its programme to action in the field, assisting governments in implementing projects specifically designed to address local problems. This field work is of the utmost importance in extension, where organizational structure, programmes, and methods must be designed within the framework of the local culture, economic and social policy, and resources availability.

A financial limitation of FAO, not well understood, is that the Organization is not an investment institution and cannot make funds available for physical facilities such as buildings and large-scale equipment or for payment of local salaries. Through the Investment Centre, the Organization can and does help governments prepare proposals for submission to lending institutions, which can help meet these critical needs.

A reflection of financial limitations is the small number of headquarters and regional office staff members available to bring technical experience in extension to countries requiring assistance. FAO had only one headquarters staff member in extension as such in 1950, and even today there are only six, assisted by the service chief and three regional officers with combined agricultural education and extension responsibilities. Sixteen technical divisions have one or more training officers who deal part-time with extension-related activities. Similarly, officers in the development Support Communications Branch and in the Investment Centre spend part of their time supporting extension.

In light of these financial limitations, the Organisation has adopted strategies to achieve catalytic and spread effects. Knowledge, attitude, and practice surveys identify problems as well as the types of farmers who do and do not need extension assistance in resolving their problems. Contributing development and field testing of innovative methodologies permit tailoring methods for cost-effective assistance to the particular needs of well-defined target groups. Small projects are initiated, with limited Regular Programme funds, to test and demonstrate extension approaches that may attract the large-scale technical and financial assistance (UNDP, World Bank, etc.) needed for regional or countrywide application. FAO assists in the preparation and may serve as executing agency for all or parts of the larger projects.

Training is provided in ways that facilitates spread of information. Emphasis is on training of trainers and on how to teach so that what is learned may be effectively transferred to larger numbers of people. To help governments minimise expenditure on extension training, assistance is advocated for improving instruction in existing faculties and intermediate agricultural schools rather than for setting up separate extension training facilities. Resources devoted to preparation of teaching materials are generally used for producing prototype training materials that can be used to prepare locally adapted materials. The general aim is, through advice and example, to help governments choose and operate the most cost-effective extension systems.

4. Cooperation with Other Agencies

Another type of limitation recognised by FAO is that comprehensive competence in agricultural disciplines alone is not sufficient to achieve the goals of agricultural and rural development. Accordingly, FAO cooperates with other providers of technical and financial assistance, particularly members of the United Nations (UN) system, and encourages coordination between government agricultural ministries and other agencies and institutions within countries. Frequent informal consultation and two formally constituted interagency mechanisms are particularly important in promoting cooperation among UN system agencies, including UNESCO, ILO, WHO, UNICEF, WFP, IFAD, World Bank and others. The two interagency mechanisms are the ACC Task Force on Rural Development and the FAO/UNESCO/ILO Inter-Secretariat Working Group on Agricultural Education, Science and Training.

IV – Kinds and Scope of FAO Activities in Support of Agricultural Extension—The Broad Picture

Traditionally, activities undertaken by FAO have been classified as Regular Programme or Field Programme. With the establishment of the Investment Centre, a third category, Investment (or more accurately pre-investment), has been added.

1. Regular Programme

Five types of Regular Programme activities are undertaken:

- ❑ **Advisory Services.** Advisory services are rendered to governments on all aspects of the development and operation of Agricultural Extension Systems (an average of one hundred mission per year).
- ❑ **Support to Field Programmes.** The Agricultural Education and Extension Services (ESHE) participates in the formulation, monitoring and evaluation of projects with varying components of agricultural extension and training. Backstopping missions are also organized to provide assistance and guidance to field projects, in particular to those nationally-executed (on the average two visits annually).
- ❑ **Regional and International Fora.** During the period 1988-1992 the Agricultural Education and Extension Service organized and implemented through its Regular Programme: 5 Regional Round Tables, 5 Regional Workshops and 3 Expert Consultations (of which the Global Consultation on Agricultural Extension, Rome 1989). The main topics discussed during these fora were related to strategies of agricultural education and training, extension methodology, low-cost extension campaigns, extension training curriculum development, integration of population education in extension programmes, and environment and sustainable development.
- ❑ **Training.** In 1991 there were 331 FAO projects which reported to have conducted at least one training activity during that year with a total of 1,619 activities where 85,805 trainees participated of which around 30% were women. Agricultural topics and associated extension methodology were the main subjects of training.
- ❑ **Documents and manuals.** Studies and analytical work during the 1980-93 period resulted in the release of more than 100 reference documents and training manuals. Technical information in agriculture, forestry, fisheries, and nutrition was presented in ways particularly suited for extension use. Several documents offered guidance on alternative approaches to the provision of extension services and on state-of-the-art methods. Work with women and youth and in special subject-matter fields such as population and shifting cultivation were the subjects of other publications.

2. Field Programme

The total number of field operational projects assisted by FAO during 1992 reached 1,463. During the same year, the 'Agricultural Education and Extension Service' (ESHE) alone provided technical backstopping in extension and training through some 235 field projects, TSS-1, TSS-2 and regular programme activities including technical supervision to about 100 field experts and 65 consultants. Among these projects approximately 32% are principally extension and training (80% or more of project budget are in extension and training) and 68% are projects in which extension and training is a component (no less than 20% of project budget is for extension and training). These activities have contributed significantly to strengthening agricultural and extension systems which in turn have improved skilled and abilities among agricultural manpower in the 86 countries concerned. Through its participation in project formulation missions and TSS-1, the same Service has identified and developed around 38 new or reformulated projects and project profiles of a value of approximately US\$ 47 million.

3. Pre-Investment

Through preparation of projects for consideration and funding by the World Bank/IDA, IFAD, regional development banks, and other financial institutions, FAO's support of investment offers the possibility of bringing FAO extension experience to bear on a substantial scale.

V – Problem Areas to be Addressed in Achieving Effective and Affordable Systems

Policy debates, technical meetings and workshops, case studies, and experience in implementing field projects have all contributed to the identification of the problem areas to be dealt with in improving extension

performance. The problems fall into two broad categories: the general constraints to agricultural and rural development, which impact on extension, and the problems that are particular to the extension system, but because general constraints are a major determinant of the success of even the best planned and managed extension endeavour, the general constraints are noted.

Although there are other goals as well, governments generally establish and support extension systems mainly in the hope of raising both the volume and efficiency of agricultural sector production. All too often the production and other goals are only partially realized. This section of the paper is intended to identify and analyze some of the reasons.

1. The General Constraints

At the highest political levels, the lack of a strong and continuing commitment to the policies and resource allocations essential to agricultural progress and the well-being of rural people is a major obstacle to development. This observation applies with particular force to meeting the needs of the masses of rural people who own little or no land and live in extreme poverty.

- ❑ Weak political commitment to agricultural and rural development is manifested in a variety of ways. Price policies for farm products, as well as investment in physical and social infrastructures, are heavily tilted in favour of the urban dweller and industry. Earning foreign exchange may be accorded higher priority than feeding the poor, even though land and other resources, including extension services, are directed to cash crops. Even farmers engaged in production of these crops may have poor incomes because of duties imposed on imported inputs needed for production and low prices resulting from export levies.
- ❑ Problems of government structure can be a serious impediment to effective extension. Most governments are highly centralized. The diversity in the agricultural resource base and in the cultures and educational levels of people all point to the need for a decentralized approach to extension with heavy local involvement. A decentralized system of extension is feasible, however, only when local capability exists and finance and other government-provided services are decentralised. Ministries of agriculture are often organized on a mixed subject-matter and functional basis, with the result that the role of the nominal extension department is ill defined, several departments are involved, and unnecessarily costly, conflicting, and inappropriate advice may be given to the producer. Sometimes the structure of the ministry of agriculture and its coordination arrangements do not ensure essential complementary support of research, credit, farm supply, and marketing services.
- ❑ Civil service systems militate against agriculture in general, often giving higher pay for equivalent jobs to employees in other ministries. In too many rural areas, secondary and even relevant primary level education is inaccessible. A further difficulty for extension is the scarcity of agricultural schools to train manpower to meet the requirements of agricultural and rural development programmes. The result is either that extension posts are not filled with rural men and women or that they are filled by people with inadequate educational qualifications.
- ❑ Finally, there is the ever-present insufficiency of government funds to meet all the worthwhile demands. The agricultural sector, even though usually the major contributor to national income, rarely enjoys a favoured position in the line of claimants for government resources. Agricultural extension services, as newcomers among government departments and as users of funds for human resources development, may do even worse than their parent ministry.

All of these general constraints to the expected output of extension services are beyond the control and the influence of the extension administrator.

2. The Problem Areas Internal to the Extension System

External constraints apart, there is abundant scope for improvement through addressing problems within extension systems and their programmes. FAO has identified and is helping governments find solutions to such problems.

❑ **Establishing the policy framework and legal basis for the provision of agricultural extension services.** Failure of governments to provide unambiguous policy directives and legislative authority for extension systems makes the job of the extension administrator extremely difficult and leads to disappointing extension results. Poor extension advice may flow to farmers from a variety of sources in an uncoordinated, sporadic, and costly manner. Lack of consistent policy direction and funding may force the provision of extension on an *ad hoc* basis, rather than the institutionalised basis needed to ensure the uninterrupted flow of extension guidance to farmers. The lack of specific guidance for the extension administrator is particularly serious because there may be no basis for accountability or for knowing and fulfilling the expectations of agriculture, planning, and finance policy.

❑ **Choosing the approach(es) and organizational structure for establishing or improving the extension system.** Government officials contemplating establishment of an extension system, as well as newly appointed administrators considering comprehensive change in an existing system, need help in improving the understanding of extension and in exploring alternative approaches to its provision. The advantages and disadvantages of possible approaches need to be explored in the settling of government policies, structure, resources and purposes to be achieved. In what situations can specific approaches—such as training and visit, participatory, general agricultural extension, and commodity specialized—be considered and recommended? An organizational structure appropriate for the approaches selected needs to be developed.

Major debate focuses on whether one extension organisation should cover agriculture as a whole, including crops, livestock, and such forestry or fisheries as form part of a general farming operation, or whether there should be separate organizations for each. There is the question of whether extension and research should be placed together organizationally. To what extent should the farmers' own organizations or commercial entities be involved in providing extension? Should extension be a function placed within an organization unit—agriculture, forestry, or fisheries department or commodity organization—and be but one of the duties assigned to a single officer at the field level? Or should the agricultural extension function be assigned to projects such as those for integrated agricultural or rural development? Should agricultural colleges and universities manage extension programmes?

❑ **Planning and managing implementation of the programme,** including monitoring and evaluation. Perhaps in no other aspect of extension is the need for improvement so widespread as in management; and better programme planning, monitoring and evaluation are essential elements in its achievement. Weakness to be addressed include inappropriate programme content because of programming exclusively by passing down orders from the top rather than by planning that also involves extension staff, farmers, and researchers at lower administrative and field levels; lack of specific tasks and programme goals to permit measurement of performance; weak or nonexistent technical backstopping and supervision of field staff; inappropriate allocation of resources; and the almost complete absence of systematic monitoring and evaluation. This state of affairs has its origin in the lack of training in management of those assigned managerial and supervisory responsibilities and in the failure to provide for discharge of planning, monitoring, and evaluation functions in the extension organizational structure and staffing pattern.

❑ **Choosing effective and affordable extension methods.** There is no shortage of proven methods to choose from for conveying any particular message to any specified target audience. The problem is that extension workers have either not been taught the methods or that they are not given the resources to use them. Too few extension organisations have made provision for developing, testing, and producing extension and teaching materials and for guidance in the use of modern educational, instructional, and communication technology. In practical terms, what the individual fieldworker knows and has the resources to apply are the determinants of the methods employed. There may be methods that are not effective either in producing learning and motivating farmers or in terms of cost. Another unfavourable result may be that too few of those who most need help are being reached.

❑ **Staff selection, training, support, and conditions of service.** The numbers of extension workers in many countries are grossly inadequate in terms of norms such as one fieldworker for 2,500 farmers covering an average area of 5,400 ha in the Near East. Worldwide the range being between 1:325 in Europe to about 1:3,000 in Latin America. Lack of transport, materials, and facilities compounds the difficulties posed by insufficient numbers. At least equally serious in limiting the performance of field staff is the inappropriateness of their experience and training and the inadequacy of supervisory and subject-matter specialist

support. In this respect the Global Consultation on Agricultural Extension (1989) reported that 39% of extension personnel worldwide have only secondary level with another 33% at the intermediate level, leaving 23% and 5% to university degree and post-graduate degree respectively.

Even extension staff members fortunate enough to have attended intermediate-level agricultural schools and faculties are rarely well prepared for discharge of extension responsibilities. Some curricula do not include training in extension methodology, organisation, and management or in farm management, marketing, credit, rural sociology, and the like. Education in technical fields is frequently lacking in the practical orientation and field experience so essential in preparing effective extension staff. All of these deficiencies in pre-service education are compounded by the lack of quality of in-service training, which should be provided on a systematic basis to keep staff abreast of developments in technology and in training and educational methodology. Both pre-service and in-service training are adversely affected by the shortage of locally relevant teaching materials.

Attracting and retaining quality staff in extension, particularly at the field level, is a major problem. Salaries, opportunities for career advancement, and other conditions of service are often not sufficient to support a family, let alone to compensate for the difficult living conditions in rural areas. Even for capital or provincial city-based staff, conditions of service compare unfavourably with those in alternative employment opportunities.

□ Establishing linkages with other services and facilities for agricultural and rural development.

Frequently, extension recommendations are not appropriate or cannot be implemented because effective working relationships are lacking between extension systems and the providers of supporting services and facilities – research, inputs, credit, markets, farmers’ organization, and planning authorities.

In the absence of the much discussed two-way flow between farmer, extension worker, and research scientist, there are insufficient numbers of economically attractive and locally adapted technologies to extend. Few modern farm practices developed by research can be applied by the farmer without the timely availability of inputs and the credit to purchase them. Disappointment, even disaster, awaits the farmer who has expended labour and resources to produce a bumper crop that fails to find a market.

The key to availability of all of these complementary facilities and services is to be found in the planning system. Seldom are extension authorities appropriately involved in planning at all levels to make their requirements known so that planning authorities can provide the balanced allocation of resources to extension and all of the complementary services and facilities for agricultural development.

Linkage with cooperatives, farmers’ associations, and other rural organizations, potentially one of the most fruitful, is little pursued. Reaching the largest numbers of people and achieving educational impact demands working with groups. These ready-made groups are ideal for the purpose, and they can also help solve the problems of credit, farm supply, and market linkages.

□ Reaching the disadvantaged groups—women and youth, and, more generally, the rural population living in poverty. In many developing countries, half or more of the rural population live in poverty. Half of the total are women, many of whom are responsible for and do much of the farming. Worldwide, only 6% of time and resources are allocated to this clientele and around 12% are female extension workers.

Some 80% of the world’s youth, young people between the ages of 15 and 24, live in the developing world and more than half in rural areas. However, rural youth receive only about 7% of extension’s overall time and resources worldwide, although there are significant regional differences (Near East only 2%).

The poor in general, and particularly the women and young among them and the landless, have been largely excluded from extension programmes. Government policy, investment, and services including extension have generally favoured farmers with large areas of the best land and resources to exploit in the expectation that total food supply and national income would increase most rapidly under that strategy. It was assumed that benefits would accrue to society as a whole through what became known as the trickle-down effect and that what was done with male adult farmers would somehow benefit women and youth. Current recognition that reorientation of policies is needed, with programme content and methods modified to serve the needs of women and youth, has not yet been matched with extensive action.

VI – Strategies and Future Directions for Improving and Strengthening Agricultural Extension

1. Obtaining Policy Commitment and Mandate

The successful implementation of agricultural extension and training programmes requires a planned and institutionalized approach. Policy commitment and support are pre-requisites for the institutionalization of an agricultural extension service with a sound, legal framework, clear scope of responsibility and adequate operational resources (personnel, funding, facilities, etc.). A clear mandate and directives for the establishment and operation of extension and training are crucial to the success of agricultural development programmes. Specific policy directives are also essential for safeguarding the aims and ensuring the smooth implementation of agricultural extension programmes.

In the field of agricultural education, policy guidance is also necessary, especially in determining agricultural manpower training needs, placement and utilisation. The role and responsibilities of agricultural universities in research, teaching and extension, as well as the contribution of intermediate-level and vocational agricultural education to rural development also require policy directives.

2. Widening the Scope of Responsibility

A publicly-supported agricultural extension service, in addition to disseminate new technology, can play a leading role in human resources development in agriculture. In working with rural people, it should encourage the organization of voluntary, autonomous and democratically controlled groups service their members need. This is the first step toward creating a “demand-driven”, needs-based, or problem-solving, extension system. Extension systems can also be used to disseminate information about other broader aspects of rural development including population education, home management and concepts of environmental conservation and community development.

Promoting human resource development through education, training and extension so as to increase the awareness of the need for systems approaches to production and sustainable agricultural development will necessitate the inclusion of population, environmental and nutritional issues into the training and extension programmes. The role and contribution of agricultural education and training in preparing qualified multi-disciplinary scientists, teachers and technicians will thus be vital to the success of a balanced and harmonious agricultural development.

3. Helping Disadvantaged Groups

To promote growth with equity, extension and training policies and implementation methods should be reconsidered and reoriented to narrow the agricultural development benefits gap between small and large farmers. To effectively reach the least advantaged, renewed efforts will be required in providing extension services and training activities to those most in need. Segmentation of priority target groups, into subsistence farmers, women farmers and rural youth, for example, could be a starting point for developing specific and relevant extension training packages. FAO provides gender-sensitive extension and training programmes and trains project designers to be aware of social and gender issues. Women participants in FAO's training programmes worldwide increased from 16% in 1983 to 29% in 1989. Rural youth also receive high priority in FAO's extension and training.

4. Applying Demand-Driven, Participatory Approach Methodology

A top-down approach in extension is not sound pedagogically and not effective when used in democratic societies. Effectiveness and sustainability of the agricultural extension effort can be achieved when farmers are organized and involved in the process of problem identification, planning, executing and monitoring activities. Various extension and training methods have been developed in recent years which encourage the active participation of all parties involved. Methods for problem identification or needs assessment, such as farmers' Knowledge, Attitude, Practice (KAP) surveys and Focus Group Interviews (FGI) have been successfully used. Planning methods which include target beneficiaries' inputs have been applied

and found useful for strategic extension programming and message design, including pre-testing of materials. Experiential or discovery learning process which increases the farmer's capacity to articulate his needs has also been incorporated into FAO's training activities.

5. Intensifying Planned Use of Multi-media Communication Support

Failures in extension and education are not due solely to technological factors; non-adoption of agricultural recommendations may stem from socio-cultural, economic, psychological or communication factors. Hence the effectiveness and efficiency of agricultural extension can be significantly increased through improvements in methodology. However, due to resource constraints, most qualitative improvements are focused on staff mastery of the technology/subject matter and have neglected educational, training or communication methods. The FAO Survey data show that only 16% of extension time is devoted to the use of communication support materials. Simple, low-cost communication media (posters, leaflets, flip-charts, audio-cassettes, radio programmes, video, etc.) are useful tools to support extension workers or trainers. The use of such media to complement face-to-face communication could enable an extension service to reach a wider audience more rapidly and at relatively low cost. It can also help reduce extension agents' workload who are, in most countries, already over-worked. Computer-assisted desk-top publishing (DTP) can improve the speed, attractiveness, quality and lower production costs of extension and training support materials.

6. Increasing Assistance to Institution-Building

Achieving efficiency and effectiveness in extension and training activities can be promoted by giving higher priority to strengthening institutions' organizational capacities. Areas which could benefit from such assistance might include policy development, programme planning, organizational and personnel management, monitoring and supervision, research-extension linkages, management of information systems, and inter-ministerial/departmental coordination. Another strategic approach is a systematic staff training and career development manpower planning.

7. Improving Funding Support to Extension

As reported during the FAO's Global Consultation on Agricultural Extension, investment in agricultural extension is estimated at about US\$ 5 per farmer per year. The estimated US\$ 6 billion extension expenditure a year worldwide (figure from 1988), works out at 0.5% of the annual Agricultural Gross Domestic Product and the trend (from 1980–1988) is that such expenditure is on the decline, especially in real economic terms given the impact of inflation. Many extension services are subject to inadequate and unstable resources, and to poor management practices. When the allocation of extension recurrent budget falls below 30% for programme/operational costs, the performance of an extension system declines rapidly. Well-managed extension systems with adequate and stable levels of funding can give relatively high rates of return on the financial investment.

In view of the increased responsibility for extension by widening its scope to include population and environment education in support of sustainable agricultural development, additional financial resources for agricultural extension and training need to be rationalized and found. Strategies that could be considered may include:

- mobilizing local resources to match resources allocated from the central government as in the case of USA and China;
- developing partnerships in extension amongst the public, private and NGO sectors, to share the costs and work based on comparative advantages;
- reducing the non-educational activities of extension workers which will lead to restoration of as much as 26% of resources for extension work;
- improving organization and management of available resources and utilizing approaches and methodologies with high multiplier effect and relatively low-cost.

8. Formative Evaluation and Process Documentation

Considerable savings can be made by conducting formative evaluation at the planning stage. Extension messages, training curricula, manuals, and other learning materials should be pre-tested for relevance and user-friendliness by potential users, so that changes or revisions can be incorporated before publication. Through a chronological process description and analysis of decisions taken during planning, implementation, and management phases, important lessons can be learned for replications and expansion of extension programmes. FAO has been involved in process documentation and evaluation on the use of new extension and training methodologies, such as the integration of population education into extension services, strategic extension campaigns, micro-computer applications and multi-media communication support activities.

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