Agricultural Extension

A Step beyond the Next Step

Charles Ameur
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FOREWORD

Agriculture still contributes significantly to the growth of many developing countries. It is often perceived by governments as a strategic sector that should, to the extent possible, result in self-sufficiency in staples and in food security. Agriculture must keep up with ever growing populations by increasing production and improving productivity in an environmentally suitable and sustainable manner. It must also diversify and improve the quality of farm produce as incomes raise. No less important, agriculture remains the only source of revenue for hundreds of millions of rural poor throughout the world.

Progress in agriculture is closely linked to several key and often inter-related factors. These factors usually comprise infrastructure, research, extension, farm inputs, rural credit, price policies and marketing, to name a few, with the priority attached to these differing sharply among countries. Experience shows that both research and extension are factors that continue to rank high among the priorities of the agricultural sector of still many countries.

This paper about agricultural extension is innovative and appropriate, at a time when new ideas are increasingly emerging within the Bank as well as outside this institution. For budgetary reasons, countries are gradually divesting from support services to agriculture and leaving a greater share to both the farmers and to the private sector. The merit of this paper is that it provides a new vision of agricultural extension based on a variety of on-going cases throughout the world. It stresses the need for Governments to define a specific strategy for extension and redefine the role of the public sector.

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Governments often lack a clear strategy for extension. It is now recognized that in most cases, a single extension system may not be the only option. Rather, there is a need for flexibility and the adoption of multiple approaches to extension. This is increasingly being considered within the Bank, recommended to Borrowers and tested in the field.

Another key point made in the paper is that extension must evolve rapidly if it is to survive. Extension services continue to be provided in most countries by the public sector while farmers play a rather passive uncommitted role. Given the high recurrent costs involved, this situation cannot be sustained for long.

Sooner or later, countries will, in increasing number, have to divest themselves from extension services and the supply of agricultural inputs. When this happens, most responsibilities for extension should gradually and to the extent possible, be handed over to the private sector. Meanwhile, the public sector is likely to retain a certain role in agricultural extension, a role that needs to be redefined.
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I. Introduction

As is well established, the World Bank is by far the largest donor for agricultural extension in the developing countries. Initiated with a modest US$2.8 million IDA credit to Kenya in 1964, investments in extension had soared a decade later to an impressive total of some US$2.48 billion. By 1992, the Bank had financed 602 projects with an extension component in 80 countries, bringing Bank and IDA financing over the years to a total of about US$5.386 billion. Although investment is somewhat currently declining, extension remains important to Bank efforts to promote agricultural sector development. Numerous papers have been written internally on the subject. Authors throughout the world have expressed differing views about extension in a staggering number of books and articles. Extension is definitely a topic that generates prolixity, controversy, and passion.

In addition to the Bank, the main lenders involved in agricultural extension include the Food and Agricultural Organization (FAO), the International Fund for Agricultural Development (IFAD), the Asian Development Bank (ASDB), the African Development Bank (AFDB), and bilateral donors. Approaches to extension differ quite markedly from one lender to another, leaving borrowers confused at times. While many countries have made an effort to improve their extension services, few have allowed multiple approaches to take root. Adoption of a single system has been the rule rather than the exception.

Some recent Bank extension projects show innovation of a sort more appropriate for modern types of agriculture. These projects take careful account of users’ diversity, perception of extension, desire to contribute, and willingness to be involved. This paper presents a variety of case summaries of projects from within and outside the Bank for information and discussion. The cases range from ones in which countries have adopted a public-financed single system of extension -- such as Turkey, India, Indonesia, and most Sub-Saharan African countries -- to cases in which extension has gone a long way toward privatization -- including Western Europe, Chile, and Costa Rica.

Agriculture relies on a number of services and/or factors, including research, extension, farm inputs, infrastructure, transportation, rural credit, marketing, cooperatives and price policies, to name a few. Faced with increasing financial difficulties, a growing number of governments are trying to reduce the overall costs of their support services to agriculture. Results have often met with success in the fields of input supply, mechanization, production and marketing of selected seed and of planting material, marketing of produce, and provision of veterinary services. Ever increasing

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2/See Table in Annex 1: "Number of Projects and Amount Allocated for Extension."

3/Other countries than the few cited in this paper come to mind when considering model extension programs- e.g., the United-States, Korea, Japan, and Brazil. Those selected for discussion are ones in which simple new approaches are being taken from which other developing countries might learn as they seek to gradually divest themselves from extension while increasing private-sector participation.
responsibilities are thus being gradually passed on to the private sector in a growing number of countries.

Regarding extension, the options include: (i) to better organize, control, and limit public extension so as to keep costs within an affordable budget and (ii) to seek and implement alternatives to public extension. Privatization represents one of several options governments are pursuing in attempts to solve sustainability problems plaguing public-financed extension services. Additional alternatives being explored include greater use of mass media and of visual aids, cost-sharing between extensionists and farmers, resorting to non-governmental organizations (NGOs) and to technicians from cooperatives and farmers' associations, and creating and supporting farmers' self-help organizations4. Finally, although strong links between extension and research are essential this paper has voluntarily been limited to extension.

4/Among these are the well-known "Chambers of Agriculture" which are common in Germany, France, Spain, Belgium, and Luxembourg.
II. Lessons of the Past

Valuable lessons can be drawn from over two decades of extension operations. These lessons now need to be translated into clear policies that better fit rapid worldwide changes in agriculture. Despite limited finances, the public sector continues in most developing countries to bear the major part of the financial burden for extension efforts. In the past, governments in these countries have adopted systems and/or approaches to extension that have been mere extrapolations of approaches prevailing in donor countries. Limited training capacity and poor back-up from the main support services to agriculture have added to constraints on extension in developing countries.

The present paper follows a "think-piece" that was produced and circulated by the present author in April 1991. The earlier paper made the following main points:

(i) **Farmers' involvement:** Systematic investigations of what users expect from extension and of the role it should play are usually not undertaken. The public sector has in most cases been the main provider of extension, and coordination with the private sector and NGOs has often been minimal. Little is known about how willing users are to contribute to extension, and no clear-cut procedures exist for increasing the users’ responsibilities in this regard.

(ii) **The need for national policies:** Very few countries have set forth clear extension policies, targets, and goals. Decision-makers often lack a vision of how extension services should operate and evolve over time. This has led to the implementation of systems that have tended to remain static.

(iii) **Sustainability:** No country can long afford a dense and systematic network of public-sector extension services. It is thus important to locate physical areas with potential, to determine available financial and human resources with a focus on what is affordable rather than on a total number of farmers to be reached at any cost, and to set a time frame within which to offer public-sector services. Extension services

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6/Although public extension services in the United States seem to be freely available to whomever needs advice in agriculture (including on environmental issues), this is not without cost to taxpayers. Some 15,000 extensionists nationwide draw on an annual budget of no less than US$1.2 billion (including federal, state, and local funds). In 1993, there were 9,406 extensionists, 4,339 specialists, 507 supervisors, 531 administrative support staff, and 189 directors and assistant directors.

7/Farmers should be clearly told how extension is likely to evolve over time in their respective areas so that they be inclined to take full advantage of it while it lasts. Nothing that is "free" and that continues indefinitely draws much interest for long, as is amply demonstrated by the decreasing attendance rates at extension meetings. Visits by extension agents should become less frequent after a period of time to be mutually agreed upon with farmers. Meanwhile other means of reaching farmers should be devised jointly with their representatives.
should be an essentially demand-driven commodity to which users gradually contribute. The Bank should therefore more forcefully encourage Governments to gradually divest themselves of most responsibilities related to extension. Meanwhile, sustainability should be a key concern of decision-makers, and extension services should be tailored to what countries can actually afford over the long term.

(iv) **Evolution over time:** The number of public extension agents should be kept to a minimum and should be assigned to specific regions for defined periods of time. Agents should subsequently be moved to regions that have had no previous extension services. Arrangements should be made to ensure that proper channels of technology transfer exist prior to any severance of farmers from public extension services. A special effort should be made to maintain a lean corps of subject-matter specialists who can eventually transfer to the private sector. Conversely, public extension services should in a growing number of countries be able to draw from the private sector - for instance, by hiring specialists from cooperatives, thereby decreasing extension services' recurrent costs.

(v) **From the public to the private sector:** The public sector should move out of the extension business in profitable areas, wherein the lead should be left to the private sector, including the trade, farmers' associations, cooperatives, and farmers' self-help organizations. Coordination of the respective roles of the public and the private sectors could be the task of an extension unit in the ministry of agriculture. By coordinating and harmonizing various approaches to extension, this unit would essentially seek to avoid costly duplications; to see to it that all farmers have access to some form of extension, public or private, through agents or the mass media; and to ensure that, whenever possible, the private sector is carrying its share of responsibility.

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8/This statement should be country, region, and community specific and, should be based on common sense. A long-term goal should be to have farmers contribute somehow to the cost of extension. Should this prove unrealistic in a given country for the foreseeable future, the need to define a strategy for extension becomes the more important. Time and again the author has met poor farmers willing to contribute for any service that is valued, reliable, and result-producing.
III. Common Features of Bank Extension Projects

An exhaustive review of past agricultural extension projects financed by the Bank reveals some common features. These do not derive from a clear-cut policy but are rather the result of a persistent trend having the following characteristics:

- responsibility for extension was mostly if not entirely vested with the public sector;
- the approach was essentially based on the Training and Visit (T&V) extension system, which at times was said to have been modified to take into account country specifics; and
- projects usually ran for 5 years and were to be renewed at 5-year intervals within an overall 15-year time span.

Results derived from extension have usually been below expectations\(^9\) despite large amounts of funding during implementation. This has often been the case regardless of the financing sources. Also, analysis of the likely sustainability of extension operations has not always been pushed far enough. It is thus not uncommon in subsequent project phases to find countries ending up with oversized, ill-equipped, cash-strapped, and inefficient extension services. As a counter reaction, a growing number of governments are now seeking alternatives to public-sector responsibility for the whole burden of extension and are trying hard to keep in check ever-rising recurrent costs.

In the past, the Bank has strongly supported the T&V system. Many countries have tried the system, and some have adopted it. This paper will not discuss once more its pros and cons, a topic on which an abundant literature already exists. The system is potentially an efficient managerial tool based on a few universal principles intended to make extension efficient, but the extent to which this intent is realized depends on how T&V is interpreted and implemented. Interpretation of the T&V system has often been too dogmatic and resulting implementation too rigid. Some projects have tried modifications to take into account specific conditions prevailing in a recipient country. The modifications were if not always aimed at the system rather then at the approach.

Most Bank agricultural extension projects have in the past been implemented over a 5-year period, and - with the exception of a few new-generation projects - follow-up projects usually brought little modification. Apart from consolidating on-going activities and expanding geographic areas, follow-up extension projects and/or components usually repeated initial means of intervention without any true evolution from one phase to the next. This may be due to the long evolutionary process required for development in general. The following are cases in point.


The Case of Turkey

Extension components have been included in a number of Bank-assisted projects in Turkey, beginning with the Seyhan Irrigation Project (Credit No. 34 TU) in 1967. A second phase (Loan 587/Credit No. 143 TU) followed in 1974, during which the T&V system was introduced. Of the various agencies providing extension services to farmers, the General Directorate of Agricultural Affairs (GDAA) in the Ministry of Agriculture was the largest. GDAA had 947 Agricultural Engineers (AE), 5,377 Agricultural Technicians (AT), and 858 home economists. Besides GDAA, other public agencies are involved in extension activities, usually related to specific subjects and/or in particular locations. Certain important crops, such as tea, tobacco and sugar beet, also benefit from specialized extension services provided by monopolies. In the late 1960s and early 1970s, extension had contributed to some extent to increases in agricultural productivity and income through the distribution of improved seeds, the promotion of fertilizer use, and the spread of better agronomic practices. The absence of further technological breakthroughs comparable to the introduction of high-yielding varieties of cereals resulted in extension losing momentum in the 1980s.

A first Agricultural Extension and Applied Research Project (Loan 2405 TU) was subsequently launched in 1984 at a total cost of US$205.9 million. The project was viewed by the Government as the first of a series of projects which would ultimately cover the whole country. The project was to upgrade the extension services in 16 of the country's 67 provinces over a 6-year period. The project recruited 400 additional AE and 900 AT. As a first step in overall upgrading of agricultural extension in the country, the project was to support the reorganization and strengthening of extension, with provisions to ensure adequate coordination with other agencies through a central coordination committee. A whole-farm approach was to be adopted rather than the commodity-specific approach which had previously prevailed.

One interesting feature of the above project, which closed October 31, 1993, is that the essentially labor-intensive extension had been supplemented by information transfer based on the use throughout the project area of mass communication and audio-visual aids. Although, particular attention was to be paid to assessing the relative effectiveness of the two extension approaches in various parts of the country and for various groups of farmers and/or types of technical information to be disseminated, this did not occur.

A second Agricultural Extension and Applied Research Project (Loan 3177 TU) was started in 1990, to be implemented over seven years at a total cost of US$145.4 million, with the extension component representing 90% of total base costs. This on-going project is to upgrade the extension services in an additional 19 provinces. Staff-wise, there are now 2,950 AE and 9,300 AT. The above figures do not include the many specialists and livestock personnel.

10/GDAA was abolished soon afterward. In its place, three new General Directorates were established which became operational only in late 1986.

11/Two of the initial project (Loan 2405 TU) provinces were subsequently split to become four provinces giving a total number of 71 provinces nationwide.

12/In 1990, there were an estimated 1,300 veterinarians supported by 2,450 animal-health technicians and 600 plant-protection specialists back-stopped by 800 plant-protection technicians.
Although the additional agents and technicians are the result of redeployments, the actual personnel increase within the extension services is impressive.

Funds have been earmarked for consultants to possibly assist the Turkish government in preparing a next-phase program of upgrading provincial extension services. Yet after 25 years, the Government appears to lack a clear strategy for extension and a vision of how extension is likely to evolve over time. The public sector keeps trying to reach all farmers in the project areas, resulting in high extensionist-to-farmer ratios of 1:850 in irrigated areas and 1:1,900 in dryland areas. As this second project adds hundreds of vehicles and a very large construction program to accommodate existing and additional staff, overall recurrent costs keep increasing dramatically. Sustainability will inevitably become a major issue as the country continues to face economic difficulties. As a matter of fact, budgetary shortfalls are listed among the potential risks the project could run into during implementation.

The responsibility for extension is now largely decentralized and its success depends very much on the energy and competence of individual provincial agricultural and extension directors. Turkey is very heterogenous a country both ecologically and in terms of economical development. As a result extension approaches in some provinces have adapted, not always sufficiently, to the various environments. So far, extension services are being strengthened in 37 of the country’s 71 provinces. To cover additional provinces in future phases, the Government will definitely need to gradually pull out of previously reached areas. It is now time to sensitize, train, and help farmers to form groups, associations, cooperatives or self-help organizations so that they can take over increasing responsibilities for extension. Stronger links with the private sector should also be explored and its possible involvement given higher priority. It is reasonable to assume that, given the high level of technology of Turkish farmers in some geographic areas, especially the coastal regions, these users could take on increased responsibility for extension. The evolution of extension which needs due consideration, was debated to some extent during the mid-term review in October 1993.

The Case of India

The country has a long history of dealing with extension. Soon after independence, the Indian government sponsored a number of programs to improve agricultural development nationwide. The T&V system of extension was first introduced in 1974 in Rajastan (Credit 502 IN) with IDA assistance. The approach was adopted in several other states commencing in 1977. At the onset of the Third National Agricultural Extension Project in 1986, some 15 credits for extension had been allocated to 17 Indian states over a 9-year period. Twelve Credits are closed while the national extension projects 1 and 2 were closed on march 1993. It was estimated that some 90 percent of India’s farm families would eventually be reached, a staggering figure given the country’s multitudes. Many thousands of extension workers were already on board, and thousands more continue to be recruited. Some 88,400 extension personnel, including the specialists, are employed in the country’s 17 major states.

While much scope remains for improving the design and effectiveness of the agricultural extension system, overall experience in India is said to have been relatively positive. In most states,

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13/Project Performance Audit Report (PPAR): India - West Bengal Agricultural Extension and Research Project, Bihar Agricultural Extension and Research Project, Kerala Agricultural Extension Project, Maharashtra Agricultural Extension Project, and Tamil Nadu Agricultural Extension Project
the extension services apart from being numerically stronger and better organized, are also much
better trained and more closely associated with research than before\(^\text{14}\). In several states, sizeable yield
increases and changes in cropping patterns and practices were attributed to extension. In other
instances, production statistics indicated positive impact of improved extension on productivity.

Implementation problems were mainly related to funding, staffing, and staff quality problems
that also had implications for sustainability. The extension projects required a substantial allocation
of professional staff and financial resources. The recurrent cost element was markedly higher than
initially anticipated due to problems of transferring staff from other programs. These costs now have
to be met by the states. Adequate operational expenditures to support salaried staff are essential if
effective use is to be made of extension investments. \textit{This requires a clear commitment on the part of
the decision makers, to a realistic program which is consistent with anticipated resource level.}

It is highly questionable whether a systematic and nationwide approach to extension such as
that being implemented in India is appropriate and sustainable over the long run.\(^\text{15}\) Several states over
the years have experienced severe budgetary constraints, and matters are worsening. Yet the
extension projects remain very similar one another, and there is no end in sight to the Government’s
heavy involvement in extension. The states are at various stages of progress. Some could definitely
give more thought to delegating a greater share of responsibility to users. The role of the private
sector in extension should also be explored more forcefully. A global as well as regional strategies
for extension should be considered in the short run, with a view to gradually divesting the public
sector from extension and decreasing the ever-climbing recurrent costs. Trials should be initiated in
the more advanced states which bring in the whole new concept of contribution by users to extension
services and which give greater responsibilities to these users.

\textbf{The Case of Indonesia}

With its large rural population, Indonesia is another heavyweight in agricultural extension. In
1970, the country had some 13,000 extension workers and over 12 million farm families. Prior to
1974, each of the Ministry of Agriculture’s five Directorates had its own extension service. In 1974,
an Agency for Agricultural Education, Training, and Extension (AAETE) was created. AAETE’s
objective was to expand and improve its extension services. The Bank at the time rightly supported a
unified extension service. The Bank’s involvement in assisting the improvement of field extension

\begin{itemize}
\item \[\text{(credits 690-IN, 761-IN, 1028-IN, 1135-IN, and 1137-IN), June 29, 1990. Project Completion Report (PCR): India - National Agricultural Extension Project II (Cr. 1569-IN), October 5, 1993. Also PCR: India - National Agricultural Extension Project (Cr. 1523-IN), October 11, 1993.}\]
\item \[\text{14/ See "Agricultural Extension in India", Michael Macklin, World Bank Technical Paper Number 190, 1992.}\]
\item \[\text{15/Among the several lessons which may be drawn from experience of the extension projects in India, one can quote from the Project Performance Audit Report on Extension and Research Projects, Report No 8808, June 1990: "There is no single management system which is most appropriate for extension services in all circumstances". Also, from the PCR on the National Agricultural Extension Project II (Credit No. 1569 IN), Report 138/93, October 5, 1993: "There are many reasons to support the position that the extension services as implemented under the existing system are at a critical juncture, and require major changes in direction and strategy."}\]
\end{itemize}
services for food crops began with extension components in irrigation projects, and a version of the T&V system was gradually introduced. While each directorate kept its own staff extension focussed on single crops (mainly rice) and on commodity crops rather than considering farms as production units.

The Bank financed a national Agricultural Research and Extension Project (Loan No. 1179 IND) starting in 1975 and a National Food Crop Extension Project (Loan No. 1267 IND) in 1976. The latter project was followed by a National Agricultural Extension Project (NAEP II) (Loan No. 0996 IND) in 1980, and by a NAEP III (Loan No. 2748 IND) in 1986 which closed in June 1993. The projects were found to have contributed significantly to an increase in rice production, but their impact was far less successful for estate crops, livestock, and fisheries.

Based on ratios that would eventually allow all farm families to be contacted, the number of field-extension workers (FEW) in Indonesia reached about 22,162 in 1986. In fact, initial proposed ratios had put the total number required at 44,000 FEW. However, due to budgetary constraints, the total number was increased instead by only 6,000 by 1989. In 1993, the total number of FEWs was at 36,000. Ratios varied from 1 FEW:500 families in the transmigration areas to 1 FEW:1,600 families on the densely populated islands of Java and Bali. A further 3,000 field-extension supervisors (PPMs) and 1,000 extension subject-matter specialists (PPS) were also to be recruited.

The Third National Agricultural Extension project in Indonesia had provided funding for two important studies: (i) one evaluating the strategy for developing participation by farmers, fishermen, women, and youth in agricultural development; and (ii) one evaluating selected extension methods and delivery systems. Provision was also made for a National Commission for Agricultural Extension, which was to meet once a month to coordinate the formulation of national policies and strategies for agricultural extension. In addition, provincial and district coordination forums were to translate the national agricultural extension policies and strategies into provincial and district operational plans according to regional needs. It would appear, however, that the Government has yet to carry out these studies and to establish a global strategy for extension.
IV. The Need for a Strategy\textsuperscript{16}

Most governments in developing countries lack a strategy for extension; master plans, however detailed, are no substitute. Master plans for extension exist in many developing countries. The documents usually detail at length the goals of extension, how it is to meet these, staff required, and a corresponding hierarchy. These plans also list the means to be made available, show sometimes-complicated organization charts, and indicate the number of farmers to be reached and the target ratio of farmers to extension agents. The links between extension and research, including monitoring and evaluation, also get some attention.

Having a strategy means having a well thought-out chronology of interventions that anticipates the way extension is likely to operate and evolve over time. Defining a strategy requires an initial sociological survey to better know the human environment in which interventions are to be attempted, including the various categories of users and their problems, constraints, and aspirations. Users’ views must be solicited through interviews and dialogue regarding what they expect from extension and how they would like it to operate. Ideally, only after intended beneficiaries have been properly targeted and heard from should a network of extension agents be established, possibly according to multiple approaches to extension rather than a single system with a single approach.

The main purpose of an extension strategy should be to define the process and the extent of gradual transfer of responsibility from the public to the users. Hence, when establishing a strategy, decision-makers should:

(i) determine whether extension constitutes a priority among the country’s support services to agriculture;

(ii) ensure that funds are made available from the national budget in line with the priority ranking of extension and in amounts affordable to and sustainable by the country;

(iii) define how extension is to operate and under whose responsibility;

(iv) anticipate how extension is likely to evolve within the next five to ten years and beyond and work out procedures by which the private sector in the broad sense will gradually take on increasing responsibility for knowledge transfer;

(v) provide indications as clear as possible concerning the period of time extension is to be financed by the public sector;

(vi) determine the areas, percentages, and types of users to benefit from extension and define the best possible approaches;

\textsuperscript{16}Some will argue that there is little point in having a strategy for extension in those countries that lack a strategy for their agricultural sector as a whole. Yet the various support services to agriculture - including extension - are the necessary tools needed to improve agriculture.
(vii) plan the number, types, and levels of extension agents required, making best use of existing personnel and restricting hiring of additional staff to a minimum;

(viii) promote involvement in extension by user groups as well as by the private sector;

(ix) set up appropriate training programs for extension agents and users and prepare them for multiple approaches to extension;

(x) increase complementary use of audio-visual aids, including radio and television broadcasts and other means that suit users' comprehension levels;

(xi) set regional targets for the gradual and partial takeover of extension by farmers' groups (associations, cooperatives, self-help organizations, women's and youth groups, etc.) and the private sector; and

(xii) envisage incentives likely to speed up the involvement of all interested parties while gradually decreasing the role of the public sector.

To be meaningful, a strategy needs a well-defined time frame. This allows: (a) each phase to be properly prepared, including the training of both extension agents and users, (b) sufficient dialogue with and surveys of users to determine the most appropriate means of technology transfer; and (c) adequate planning before moves of extension personnel to new regions to avoid disruption or even discontinuation of services as agents are gradually pulled out. Only through such a strategy will developing countries be able to reach more users while remaining in control of their own budgets. Lacking such a strategy, countries end up with ever-spiraling recurrent costs they soon can no longer afford, large numbers of agent lay-offs which create social problems, and passive and disillusioned farmers.

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17/The strategies should be country specific. They must take the countries particularities into full account and must remain flexible. Likewise, a well defined time-frame should not prevent adjustments from being made whenever necessary. The pace at which governments are able to divest themselves from the various support services to agriculture varies tremendously from one country to the next.
V. Extension Alternatives

Public Extension

Extension has been in the past and still remains almost entirely financed by the public sector in most developing countries, although variation ranges all the way from purely public to nearly totally private services. Public and private extension services coexist in an increasing number of countries in various proportions. As more governments face severe financial difficulties, funds are curtailed for support services to agriculture, including extension. In such circumstances, decision-makers usually opt for one or both of the following: (i) to save on the overall cost of public extension; and/or (ii) to gradually divest the public sector from extension, leaving the private sector and users to take on increasing responsibility.

Public vs. Private Extension

It has been universally recognized that institutional pluralism in extension's development contributes to success. The consensus of opinion also holds that to achieve differing agricultural goals and serve diverse target populations, a combination of public, private, and voluntary extension efforts is needed. Experience shows that diversity is the only way to address ever-changing conditions and various categories of users. Since users are more likely to seek advice from more competent sources, a natural-selection process is likely to result in which only the best sources are retained.

As W.L. Rogers has put it:

(a) public institutions are preferable when benefits are diffuse, when public policies need changing, and when increased economic equity is a main goal;

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18/Systems and Approaches: An extension methodology based on one system and one approach demonstrates obvious shortcomings. A system with several approaches is more open to adjustments. At the end of the spectrum, the coexistence of several systems and approaches appears to some as synonymous to anarchy. It is a matter of coordinating and harmonizing extension, the contrary to uniformity and standardization.


(b) *mixed public/private entities work best when agriculture services require not only intensive, responsive, and flexible management but also need political influence to achieve program objectives; and*

(c) *strictly private firms perform best when flexible management and direct and continuous interaction with users are needed.*

Rather than implementing a single system, what matters most is to ensure that users have access to technology and knowledge through the most cost-effective approaches possible to extension.

**Private Extension**

Private extension services are primarily of two types. The first is the entirely private type which is directly involved in farming activities through farmer cooperative societies, banks, private agri-businesses, agricultural input industries, agro-service enterprises, processing industries, marketing firms, and multinational enterprises. The second type consists of farmers’ associations and self-help organizations which remain largely dependent on government subsidies. The "chambers of agriculture" (CA) in France constitute a typical example. Their sources of funds include contributions from farmers, government taxes on land, contributions from the national federation of chambers of agriculture, subsidies from the region and the district, and taxes on crops and fees derived from consultation provided by the chambers’ experts to individuals or to groups of farmers. In 1991/92, financing of the Rhône-Alpes Chamber of Agriculture, one of France’s major such organization, was 36% from direct government contributions, 46% from regional sources and farmers’ contributions, and 18% from consultancies.
VI. Going Private

In times of financial constraint, going private is an inviting proposition. The questions that should be asked, especially in the case of agricultural extension, are: (a) what has the private sector to offer that distinguishes it from the public sector? (b) are there private entities ready to take on the challenge? and (c) why should governments be involved in extension in the first place? Answers to the above questions are country specific but are still worth exploring in a general sense.

As governments find themselves increasingly short of funds, budget limitations are taking their toll on the ability of most support services, including extension, to operate efficiently. Services are thus slowed down, adjusted, and/or gradually phased out. Extension is particularly vulnerable since, it is too: blamed, rightly or wrongly, for yielding few results; imposed on farmers; run with little consideration for cost-effectiveness; and operated by ill-motivated, ill-trained, less-than-competent personnel.

As indicated earlier, both the public and the private sectors will continue to play major roles in extension. These respective roles need modifications, however, to allow the private sector to take on a larger share of extension responsibility as governments can no longer afford to be in charge of every single aspect of public life. It is also time for users to be in charge of services that in many instances have adopted flawed approaches, imposing uneconomical technical packages and addressing self-sustaining priorities instead of those of the intended beneficiaries. Going private should to some extent take the burden away from the public sector, cut down on expenses, improve management and staff professionalism, and make users' problems become main priorities.

This is not to say that going private will solve every problem overnight. Setting up sufficient private entities to cover a reasonable spectrum of users will be difficult and time consuming. Not all users are of interest to the private sector, which is essentially driven by profit. The public sector will, therefore, have to ensure that all categories of users are reached in one way or another. Finally, there is no reason why an efficient public extension service cannot continue to operate, provided there is a mechanism to recover at least some of the costs.
VII. The Importance of Decentralization

Two principle ways exist for boosting the gradual transfer of responsibility for extension from the public to the private sector. These are, on the one hand, decentralization and, on the other, helping those farmers who express interest to create cooperative societies, associations, and self-help organizations. Decentralization involves the transfer of planning, decision-making, and/or management functions from the central government and its agencies to field organizations, subordinate units of government, semi-autonomous public corporations, regional organizations, and even to NGOs.

Decentralization is the first step on the long road to privatization. It is at the regional and local levels that diversity becomes more tangible and that differing approaches to extension need to be sought. Also best tackled at the local level is the training of users concerning the concept of privatization and procedures to follow for establishing farm associations, cooperatives, and self-help organizations or other types of groups conducive to users getting together for the purpose of taking on increased responsibility for support services to agriculture. A detailed, practical plan for action is proposed in an annex to this paper. This plan indicates the concrete steps required to gradually divest the public sector from extension during follow-up projects.

Users should have a say in how extension is organized and operates. Their comments and aspirations should have a direct bearing on the content of extension agents' training programs. The farmers who are, in fact, the prime beneficiaries should define the priority services they need and be prepared over time to contribute to these, financially and otherwise. Experience shows that farmers are indeed ready to contribute financially whenever a service enables them to generate increased revenues. As farmers' associations start to recruit their own technicians, possible government incentives could include: (i) hiring such technicians as may be needed for occasional use in areas where public extension still prevails; (ii) financing the regular training of these technicians; and (iii) involving for a fee the private associations' technicians in research to adapt programs to local conditions. While fees paid to farmers' groups could become a regular source of income for them, governments could also benefit by having to pay less for office and house construction and transportation for agents.
VIII. The Road to Privatization

Caution is definitely called for when comparing countries with so-called private extension services to those with essentially public-sector services because the economic structures involved are different. The developed countries usually rely on a strong industrial base from which transfer of funds to the rural sector is relatively easy. Levies on farm produce - mostly industrial crops - constitute another way in which governments contribute to extension services. Meanwhile, little experience exists within the Bank with regard to the various mechanisms of transfer of funds to extension in the wealthy countries. Also, there has been no comprehensive survey of current extension activities in the developed countries.

Beside private companies that deal primarily with single crops such as rubber, tea, cotton, oil palm, coffee, tobacco, and dairy products, and the suppliers of agricultural inputs, private extension advice to farmers remains rather limited in the developing countries. Some NGOs are undertaking extension work, but their capacity to respond and their geographical areas of intervention are often marginal. The potential contribution of NGOs to extension should not be ignored, however.

As farmers' problems and agricultural technology become ever more complicated, these can no longer be dealt with effectively from a centralized and bureaucratic public entity. As already stated, extension needs all the support it can find, while at the same time the public sector has definitely reached its limits. Therefore, the time has come to turn whenever possible to the private sector for support, though not for total substitution. Intermediate steps do exist between a solely public extension system and a solely private one. The following examples will help illustrate some of the various stages that can eventually lead to users and the private sector as a whole taking increasing responsibility for extension.

The Case of Ecuador: Extension and Sharecropping

In the highlands of Ecuador, extension agents sharecrop with farmers for a profit. Their low salaries motivate extension agents to sharecrop. In these cases, the agents preferably select small semi-commercialized farmers instead of the more conservative subsistence farmers, who are less likely to adopt innovations. The farmers provide land and labor while the extension agents supply agricultural inputs and technical advice. Hired-labor and plowing costs are shared. Because the agents have a fixed salary, they easily obtain farm inputs from suppliers on credit until the harvest. Some agents sharecrop with more than one farmer and for different crops. They consider the sharecropped field a demonstration plot where farmers can actually see the benefits of adopting improved technology. It is usually not difficult for the extension agents to find volunteers for sharecropping. To broaden this sharecropping practice and make it available to increasing numbers of farmers, the suggestion has been made that the extension agents be allowed to share in the profits of joint farming enterprises established with groups of farmers. The practice whereby technicians

21/ A rather large number of developing countries lack a strong private sector let alone one that would be ready to invest into extension.

belonging to cooperatives would receive a percentage of the profits as a commission can also be envisaged.

The Case of China: An Extension Contract System

Agricultural extension in China is traceable as far back in time as 3-4,000 years ago, whereas modern institutionalized extension services only developed at the beginning of the 20th century. The country currently has some 500,000 full- or part-time Farmer Technicians (FTs) at the grassroots level. There is, on average, about one FT per village covering some 9 to 10 demonstration households and about 420 farm households each. A National Agro-Technical Extension Center is responsible for formulating national extension policy guidelines and for overall planning, coordinating, monitoring, and evaluating China's extension operations. The basic extension strategy being pursued includes a combination of farmer training with the dissemination of new technologies using a variety of low cost techniques. Most farmer training occurs at the township level where short courses are usually held prior to each cropping season. Finally, although in most counties and townships, extension personnel are not active in organizing farmers into Farmers Associations (FA), this has been proposed under the Agricultural Support Services Project.

Since 1979, a system of contract extension has been introduced in some provinces. Agrotechnical Extension Centers (ATECs) which operate all the way from the national to the township level draw up contracts to provide technical services and inputs to a farmer or a group of farmers. The extension stations/centers are compensated by the farmers with, typically, 20 percent of the value of the crop above the agreed target. If the harvest falls below the agreed target as the result of poor technical recommendations or non-supply of timely inputs, the pay or bonuses of the contracted extension workers may be docked up to 80 percent of the shortfall.

In the early 80s, many people's communes were dismantled, and farms constituted in family households were allowed to cultivate public land through usufruct rights. It is estimated that only around 5 to 10 percent of the total number of extension workers in China remain with the large commodity-oriented state farms and parastatals, whereas the rest work with the many households. Many non-state extension agents work independently without being officially registered. For instance, individual farmers with experience may provide advice to outsiders for a fee, or farmers may organize themselves in producers' associations which may advise other farmers on a paying basis.

Farmers' associations offer considerable potential for increasing agricultural productivity by rapidly disseminating improved technology. To date, however, most FAs have developed in an ad


hoc manner. They could indeed facilitate the work of extension and be an important mechanism to improve the technical and managerial skills of farmers. They could also serve as an excellent feedback system regarding the usefulness of those technologies disseminated and of the problems that constitute real priorities.

Most interestingly, research institutions, agricultural colleges, and individual scientists and teachers in China may sign contracts with rural units or farmers to provide technical support on an annual or a continual basis. Many research institutions which are not under the Ministry of Agriculture’s authority are engaged in extension activities. To increase the utilization rate of research results, the Government decided a few years ago to commercialize the national science and technology system. As a result, some research results are now directly sold in the marketplace. At the same time, China is enforcing a patent law to protect proprietary rights to research results. What is quite remarkable in the case of China is the bold introduction of the extension contract system and the rapid shift of extension from the large agro-complexes to the many small households. Some argue that contract extension in China derives mainly from farmers’ interest in getting access to high-quality inputs which are in short supply. While this may have some truth, as the professionalism of extension personnel improves, the contract extension approach should increasingly fly on its own merit.

In Europe, the trend over the past decade has been for the gradual disengagement of the public sector from extension. It is a rather slow process and the stages reached differ widely among the EEC countries. Between Denmark, where extension is nearly totally privatized, and Greece, where extension remains the sole responsibility of the public sector, there is a whole host of variations. Recent interesting developments are also taking place around the Mediterranean basin, notably in Tunisia.

The Case of Denmark: Management Committees

The Government plays a minor role in rural development but, by contrast, is heavily involved in training and in adaptive research. The country has some 3,500 extension agents, of whom 280 work at the national level. The Danish extension service operates under management committees that are administered by farmers. There is one national development center and about one hundred local ones. The local extension agents are supported by 90 advisors from the Danish Agricultural Advisory Center. The extension agents’ work is planned by farmers elected to the committees. A law defines the role of extension and makes sure its agents are impartial and not beholden to commercial interests.

Government’s funding of extension services has gone down from 37 percent in 1972 to 14 percent in 1991, and further cuts are contemplated. Farmers’ contributions decreased from 17 to 8 percent during the same period. Most impressive has been the increase from 46 percent to 78 percent in the amounts billed to and paid by farmers. The latter are charged by the hour for each visit by an agent to their household. Information and advice by phone are free. There are no governmental subsidies to either cooperatives or private enterprises for getting advice from extension. The country seems to have reached the limit as to the “privatization” of its extension services.

The Case of The Netherlands: Toward Fifty-fifty

Farmers pay for advice and get technical recommendations from the agricultural industry and agri-businesses. According to J. Proost and N. Röling, at the Department of Extension Science at Wageningen Agricultural University, in an article entitled "'Going Dutch' in Extension", since the beginning of 1993, farmers have to pay for an increasing share of the extension services, by annual increments of 5 percent until their share reaches 50 percent in 2003. Farmers' contribution will, by 2003, derive as follows: 15 percent from a general tax based on the size of each farm, 15 percent from direct contributions for services, and 20 percent from taxes and levies on farm produce. The privatization of extension, which was initiated in 1986, is part of a large-scale reorganization that aims at cutting down costs to the Government.

There are currently two extension services: (i) the DLV or Dienst Landbouwvoorlichting, which has some 700 agents and comes under the authority of the Ministry of Agriculture, and (ii) the SEV, Sociaal-Economische Voorlichting, which is geared to the socio-economic aspects of agriculture and which belongs in part to the farmers. The SEV has a staff of 216 persons and is 50 percent funded by the Government. Following a recent major reorganization, public extension is now to include: (a) Information Centers for the transfer of technology from research to extension, financed by the Government and employing some 240 people; (b) 180 regional regulation control agents and some 700 DLV advisers. Private sector extension is provided by cooperatives, private firms, rural banks and consultants, most of whom are former DLV agents. An estimated 3,000 persons are involved in extension either on a part- or a full-time basis. DLV is to be gradually privatized in three stages. The first stage was initiated in 1990, when the service was separated from the Ministry of Agriculture. During the second stage, in 1992, a Foundation was created with the Government’s approval. Finally, during the third stage, it is envisaged that the agents status will gradually transfer from that of a civil servant to that of employees of the Foundation.

Dutch farmers finance 50% of the costs of experimental stations farms through various levies and other mechanisms. Proost and Röling also indicate that for some services of common interest, such as those pertaining to environmental issues, full government funding will continue. Initial findings suggest that farmers are more selective when seeking advice for which they pay. Finally, the privatization of the public services has provoked various initiatives by farmers, who have organized extension stipulating their own conditions. It is worth noting that the country's sophisticated agriculture has resulted in locally severe environmental problems due to the large number of dairy cattle, and the high consumption of both fertilizers and pesticides. The latter is a typical problem that, because of its global nature, is best addressed by the public sector.

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27/See "Reorganizing the Dutch Extension Service: the IKC in Focus", by J.T.M. Bos, M.D.C. Proost, and D. Kuiper, in D. Kuiper and N.G. Röling (eds), the edited Proceedings of the European Seminar on Knowledge Management and Information Technology.

28/Also see "Situation du Développement Agricole dans les Pays de la C.E.E.", by Association Nationale pour le Développement Agricole (ANDA), October 1991, in french.
The Case of Sweden: Consultants to Farmers

Agricultural extension activities are carried out through a wide range of organizations, the main one being the National Board of Agriculture. Farmers' cooperatives and private commercial firms employ increasing numbers of people trained in agriculture to serve as consultants to farmers. Some rural communities employ their own extension agents. Additionally, the public radio and television networks offer educational and informative programs aimed at farmers.

The Case of the United Kingdom: Public Extension for a Fee

In the United Kingdom, the number of farm units is currently below 240,000, and agriculture employs no more than 2.2 percent of the country's work force. British agriculture is highly mechanized, its output ranking fifth among European Community members. In both England and Wales, rural development is the responsibility of the Agricultural Development and Advisory Service (ADAS), created in 1972 under the domain of the Ministry of Agriculture. ADAS plays a dual role in that it (i) keeps farmers informed on the Government's agricultural policy, explaining and controlling the implementation of any new rules, and (ii) advises farmers who specifically request assistance. ADAS has some 4,000 agents, some of whom work in the service's Research and Development Department. Extension is the responsibility of universities in Scotland and of the Ministry of Agriculture in Northern Ireland. The Milk Marketing Board (MMB), which has a monopoly for milk collection, has a large advisory service and competes directly with ADAS in that field.

Until 1987, advice from ADAS was free. Meanwhile, as funds started to decrease, the public extension services moved gradually from cost-free-to-farmer to fee-paying consultancies.29 These are usually in the form of contracts that include a package of actions and/or visits. According to Don Harter,30 a combination of market potential, a marketing plan, and training to develop new skills and change attitudes helped put pay-per-advice services on the right track. ADAS currently aims at covering 50 percent of its operating costs by 1993-94. The focus is mainly on searching for profitable business, on reducing costs, and on eventually becoming 100 percent autonomous. Overall, however, the extension service remains heavily dependent on Government contributions, with income generated from consultancies currently constituting about 30 percent of the total budget. It is estimated that ADAS reaches no more than 60,000 farmers, or 25 percent of total. Moreover, some 30 percent of current interventions are non-agriculture related.

Thus far, some 200 former ADAS technicians have gone private. They are members of the British Institute of Agricultural Consultants (BIAC) and look after their own groups of farmers. Their fees are no higher than those of ADAS, the latter being at a disadvantage due to overhead costs. The consultants are now targeting the small landholders, who appear to be those in most need for advice. Input suppliers also play an important role in disseminating technology to farmers. Of concern to both the private organizations and the consultants is the growing competition with the public services and the reluctance of these services to give away results from their own research departments.

29/Advice from both ADAS and MMB are for a fee. The latter is usually at the same rate throughout England.

30/See "Commercialization in Britain" by Don Harter, Extension Professor of Agriculture, University of Idaho, in Interpaks Interchange, Vol. 9, No. 1, 1992.,
The Case of Germany: Decentralization

The Ministry for Agriculture defines the overall policy for the sector but barely intervenes in extension. Decision-making on rural development is decentralized to the Landern level (the country currently contains 8 Landern). There are three main approaches to extension: (a) farmers' self-help groups or chambers of agriculture are prevalent in the north; (b) extension agents come under jurisdiction of the Landers in the south, and, a mix of (a) and (b) coexists in the center of the country.

In the early 90s, there were some 3,323 agents supported by the public sector, of which 2,750 were employed by the chambers of agriculture. In addition to public extension some 2,760 private advisers belonged to various professional groups, farmers associations, unions, training centers and private firms. To ensure high standards, farmers are advised to retain the services of those extension agents that are certified by the German Society for Agriculture. Advice from public extension remains "free" to farmers (it includes subsidies from the Landers, the districts, and the counties together with a surtax, and farmers' contributions to the chambers of agriculture). Increasingly, farmers with similar activities and interests are forming groups to get the support of specialized technicians (in dairy farm management, pig rearing, etc...). The groups pay an additional contribution to the chamber of agriculture for such technicians. Private firms together with cooperatives also provide advice. The latter offer advice on a vast array of topics including management, construction, quality control, and investments.

The Case of France: Chambers of Agriculture

Organized extension was initiated by the Government around 1919, primarily at the regional and district (département) levels. Farmers' associations, cooperatives, insurance mutual funds, and rural credit banks were created at about the same time. Only in 1945, however, did extension begin to get the attention it deserved, in the post-World War II period when the country's agriculture was in shambles. Until 1958, extension remained essentially a public service provided at the department level by the Département des Services Agricoles (DSA). The Government also ran a network of demonstration farms, each headed by an appointed agriculturist. Meanwhile, groups of well-to-do farmers started to hire their own technicians for their Center d'Etudes Techniques Agricoles (CETA). From a few started in 1944, the number of CETAs had soared to over 1,300 by 1967. Ranging from wheat to milk producers, from mechanized farms to small apiaries, a multitude of specialized groups were created for nearly all farm activities. It was not uncommon for the largest such groups to have an in-house technician.

Chambers of Agriculture were created in France in the early 50s with Government financial support. The CAs currently participate in extension by meeting up to 50% of the cost of the technicians hired by farmers' groups. Cooperatives and private farm-input suppliers are also in the business of extension. From 1958 to 1966, the Government promoted the further creation of farmers' groups and cooperatives while starting to divest itself from extension. As a result, public extension is no longer prevalent. Farmers' groups number in the thousands, with 12,000 Coopératives d'Utilization de Matériel Agricole en Commun (CUMA) for mechanized farms alone, while other cooperatives for cereals, fruits and vegetables, dairy produce, meat, and wine number some 4,250. The country's 94 CAs rely on some 11,000 agriculturists and technicians plus hundreds of advisors.

31/In 1994, France had an estimated 800,000 farmers.
from the agricultural trades. This formidable force has greatly contributed to the current high standard of France's agriculture. Mass media also play an important role, reaching an estimated 90% of farmers through newspapers, magazines, and radio and television broadcasts. Over 10,000 farmers use their own computers, 15,000 to 20,000 lease one, and well over 100,000 have a modem which gives access to a wide variety of information.

As shown above, today, the French Government is far less involved than it used to be in the day-to-day running of extension. The latest policy mandates that the Government finance activities and programs rather than infrastructure. However, the State still has a role at the national and regional levels in discussing policies with the rural community. The State also meets between 30 and 40% of the CAs' operating costs. Nevertheless, the overall trend appears to be irreversible, with farmers destined to contribute ever more. From soil analysis to economic diagnosis of the farm, the CAs offer farmers an exhaustive menu of services to choose from and provide these at actual costs.

The Case of Portugal: Gradual Privatization

An interesting program of privatization was initiated in Portugal in late 1991. The purpose was for the Government to gradually privatize the agriculture ministry's traditional functions with the exception of research and experimental agriculture. As in Taiwan, Tunisia and a few other countries, some cooperatives and associations in Portugal are recruiting their own technical experts. Since 1988, about 400 civil servants have left the public sector to become employees of private farming organizations and to work directly for cooperatives. Portugal had no less than 7,000 technical staff, however, for whom openings in the private sector were extremely limited. The above figures show that the total number of extensionists with the Ministry of Agriculture was excessive, and the government is now faced with lay-offs and potential social problems. The process of moving public extension workers to the private sector takes time and competition is strong for the few private-sector jobs available.

The Case of Spain: Still Centralized

The rural population remains at around 11 percent, which is rather high by EEC standards. The rural communities are aging, and farming is essentially a part-time occupation, with up to 40 percent of farmers' time spent outside agriculture. The responsibility for extension rested until 1979 with the Ministry of Agriculture. From 1979 to 1985, the extension services were decentralized among the country's 17 regions, resulting in regionally autonomous but still public extension services. Advice provided by these services remains free. The central services no longer define either the overall policy for extension or the management of its resources. Instead, the center provides training and greater coordination than the regional centers do and has strengthened specialized services. The Ministry of Agriculture offers some 30 to 40 training sessions annually. A coordination committee, including the national director for rural development and the 17 regional directors for extension, plays an important role in the exchange of information, supporting the autonomous regions, improving operations and training, and managing staff. The country has some 8,000 chambers of agriculture which are funded by the Institute for Rural Relations. A few unions exist that together total some 200,000 members. The major union has some 350 technicians who work in close collaboration with the public extension service.
The Case of Tunisia: Geared for Change

The Government is increasingly divesting itself from a growing number of support services to agriculture. In addition to the services concerned with supplying farm inputs, collecting farm produce, and providing veterinary services (still, just 95 veterinarians out of a national total of 381 are private ones with their own practices). In June 1993, this author met in the field one of the country’s very first private extensionists together with two of his 17 client farmers. That particular extension agent earns more than the average salary in the United-States. This is definitely not the standard one can expect on a large scale in the foreseeable future, yet the case exists, is not unique, and no doubt over the coming years will encourage other extensionists to try going private. Some large cooperatives have their own technicians as well.

The Ministry of Agriculture and its extension services are now ready and willing to establish a strategy for extension. As the tunisian agricultural sector becomes ever more sophisticated, consideration is given to harmonizing various approaches to fit diverse clientele rather than centralizing and standardizing one approach. Public extension services have been useful and remain so. They have also shown to have their limits. They definitely have a new role that needs to be more clearly defined (i.e. more geared to training, improving links with research, preserving natural resources, ensuring sustainable development, etc.).

No less interesting are the new approaches currently being tried and implemented in Latin America. They definitely constitute a source of inspiration for other developing countries. The approaches are flexible and are worth testing on other continents.

The Case of Chile: Subsidized Private Consulting Services

Chile has a wealth of nearly untapped experience in agricultural extension which is worth reporting. The country had begun as early as the 1920s to replace public technical assistance to farmers with private services. In 1962, the Agricultural Development Institute (INDAP) was created as an agency within the Ministry of Agriculture with a mandate to raise small-scale farmers’ living standards. In the early 80s, the Agriculture Extension Service was discontinued and replaced by a Private Technical Assistance (ATE) scheme that failed to perform as expected. In 1982, INDAP introduced a pilot technical assistance program using subsidized private consulting services.

One idea discussed with the authorities is to gradually privatize some of the Ministry’s 12 pedological laboratories performing soil analysis. As a matter of fact this author met with a Tunisian pedologist and former civil servant who owns his soil laboratory and gives advice to farmers on soils and water use. The idea would be for the Ministry to keep 2 to 3 laboratories that would set the norms and see to it they are adhered to.

These are wealthy farmers growing cash crops that fetch high returns. The technician keeps abreast of the latest developments in agriculture as well as in management, marketing and prices. He does not hesitate to fly to neighboring Europe to attend fairs, shows and seminars that are relevant to his customers farming systems.

INDAP’s program, which reaches a large number of small-scale farmers, is publicly funded and privately executed by private technology transfer firms that are certified by INDAP. Farmers are not free to select the firm of their choice but have to accept the one designated by INDAP for the region. However, should the farmers as a group decide to change to another firm, they can ask INDAP for such a change. These firms do not provide supplies but focus only on technology transfer. The farmers who sign annual contracts with a firm are expected to contribute up to 30 percent of the cost of the program by the time the project is completed. The ratio of farmers versus extension agents is typically 48:1. INDAP prepares the terms of reference, selects consulting firms through competitive bidding, and supervises and evaluates firms’ performance. The results have so far shown the usefulness of the program, which is vital for the development of the agricultural sector. Given INDAP’s tight budget, it is important that farmers start graduating from the system as their economic conditions improve.

Medium and large-scale farmers also participate in a similar program (Grupo de Transferancia de Tecnología) which directly transfers research results to the farm level. The program was initially executed by the National Agricultural Research Institute (INIA), as a publicly subsidized program. In 1990, the program was passed on to a private farmers group, the National Agriculture Society (SNA), for execution. It is now totally privately funded.

A parallel can be drawn with ongoing approaches to extension in Australia and New Zealand, in which public and private systems coexist. The use of private consultants and the general arrangements for running intensive extension and management systems for organized groups of farmers are features these countries have in common with Chile. Another parallel system exists in Uruguay, where a private technical assistance service was developed in 1962 to coexist with Government-provided services without significant duplication. The Uruguayan system was in part based on a model developed in France which was also introduced in Argentina.

Under a new Small Farmer Services project that went to the Board of Directors on May 17, 1992, a similar program is being implemented in Chile which still uses INDAP as the executing agency. During Board presentation a number of aspects of the project were accorded particular praise especially regarding technology transfer, and rural communications to improve dissemination of information to small farmers. The focus had been redirected to the smallest and poorest farmers with the aim of linking them to the private sector markets, while at the same time keep assisting them within budget realities.

The project contains several innovations: agricultural extension is to be provided by private sector firms and NGOs, and the concept of graduation is to be applied both to extension and credit programs to reduce small farmers’ dependence on the public sector. The technology transfer component is to finance the incremental cost of field extension, which will continue to be provided by private technical service contractors supervised by INDAP. Farmers will spend 3-6 years in the intensive Phase I, which begins with individual visits but will gradually prepare them for the group approach of Phase II. The second phase, planned to last three years, will focus on managerial skills and marketing expertise. A Phase III is to be wholly farmer-financed, independent extension support. Extension agents are expected to contact some 90 farm families in Phase II at an estimated annual cost per family of US$140. Farmers will graduate from Phase I to II and III on the basis of monitorable

technical, financial and economic indicators established by Area Commissions. As farmers graduate from the program, new farmers should be able to join without requiring further build-up of INDAP staff and budget.

The Case of Costa Rica: An Extension Voucher Pilot Program

An interesting development is about to take place in Costa Rica where, under a Bank-financed project, a first real strategy for extension has been devised. The strategy could serve as an example for future projects since it clearly states the course of actions to be taken during project implementation to gradually divest government from extension. Concerning the extension component, the project is essentially trying to improve the competitiveness of extension by organizing small-scale farmers in groups and by promoting private technical assistance to qualified small- and medium-scale producers through an Extension Voucher Pilot Program. An integral part of the strategy is the use of audiovisual aids and of mass media to reach more farmers.

As the Costa Rican Ministry of Agriculture is being reorganized, some extension personnel are to move to the private sector. The Private Technical Assistance voucher pilot program will increase the capacity of producers to contract private extension. During the 7-year implementation period, the program will consist of packages of vouchers varying according to type of farmers and level of technology. Farmers will trade vouchers for individual and group technical assistance to be delivered by private extensionists. Type-I and type-II farmers are distinguished according to whether they require high- or low-intensity technical assistance. At project completion, beneficiaries of the voucher program are expected to continue with solely private technical assistance. The private extensionist is to indicate annually to the Ministry of Agriculture which individual farmers should graduate from the program. Finally, training is to be provided by the Government to the private extensionists.

The above examples are a fascinating proof that workable and probably sustainable approaches to extension are being tried and implemented all over the globe. No world region should be left out of current extension project planning on the pretext that farmers there are too poor to benefit. Privatization takes time and most of all, requires a clear strategy. Countries like Ivory Coast, Senegal, Nigeria, Kenya, and Zimbabwe - where a category of well-off farmers exists - could start the process immediately. Other countries throughout the world would certainly not hesitate to adopt approaches which aim at the privatization of at least a portion of their extension services over the long run.

In Morocco, Algeria and Tunisia, where Agricultural Research and Extension projects have been implemented since 1990 and late 1991 respectively, the idea of divesting the public sector of most extension responsibilities has been overwhelmingly accepted. Chambers of Agriculture have been officially established in 44 of Algeria's 48 wilayate, and about six are operational in Morocco, whereas Tunisia has three. In all three countries, some groups of farmers are ready to pay for advice. In Tunisia, farmers, at times, provide gasoline to extension agents to ensure their mobility when urgent advice is needed. Other groups are willing to send a vehicle to collect the agents and


37/Wilayate = plural of wilaya, an administrative division equivalent to a district.
drive them to the field. Thus far, insurance matters have prevented the administration from accepting such offers.
IX. Conclusion

The evolution of agriculture necessitates an even faster evolution of extension. So far, many Bank-financed agricultural extension projects have tended to remain much the same from one phase to the next. A strategy is now urgently needed in most countries that would anticipate the likely evolution of extension and plan the adjustments required. Such a strategy should also determine the measures to be taken to boost the role of the private sector and to increase its participation in extension as the public sector initiates a gradual, orderly and limited pull out. Few countries can afford to reach all farmers through direct contact using the public extension services. Cash-strapped countries should therefore adopt flexible approaches to extension, approaches that are affordable in the short term and sustainable in the long run.

Governments should make every effort to significantly improve the current level of knowledge of their extension agents. Extension should no longer be a dumping ground for school drop-outs. Rather, public extension services should be provided by a well-trained corps of competent cadres. As extension agents become more competent, they should, when possible, be encouraged to join the private sector. Overall the number of agents should decrease. As visits by extension agents become less frequent, increasing emphasis should be placed on reaching farmers by other means, including reading material where appropriate and radio and television broadcasts. Also, in some countries, farmers should be able to reach the extension agent by phone, to meet him/her in his/her office, or to contact the nearest research station.

The public sector should, to some degree, remain involved in extension, and this will require the defining of a new role. Small-scale subsistence farmers in remote areas are likely to continue to rely on the technical support of public extension for years to come. However, the extent to which this will be true will need to be anticipated and planned. As larger- and medium-scale farmers become fewer in number, they should be increasingly willing to turn to the private sector for advice insofar as extension services allow them to generate profits. Within the civil service, a lean team of highly competent people should now be able, in an increasing number of countries, to orchestrate the many types of interventions offered by the various entities dealing with extension. Such a team’s main objective should be to provide decision-makers with advice on ways to gradually divest the public sector of most responsibility for extension.

The future lies in some degree of privatization of public extension services, and the Bank should push to that end. A few developed countries have already privatized a sizable portion of their extension services in recent years. A cohort of additional countries is presently contemplating doing the same. Governments usually have little guidance on the matter, resulting in a lengthy process involving trials and errors. As shown in this paper, the roads to privatization can vary greatly; examples from Ecuador, China, most EEC countries, Latin America and the Maghreb are cases in point.

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38/This requires the recruiting of better educated and trained personnel. It is also linked to the need for better salaries and the possibility for managers to sanction poor performers. Both Algeria and Tunisia have prepared statutes for their extension agents, statutes to be approved in 1993, and that should allow for the recruiting and retaining of higher caliber personnel.
Given the numerous and potentially costly ways of arriving at privatization, it is crucial that clear-cut strategies for extension be defined at the earliest possible stage. *The role of the public sector should definitely decrease in the long run but not to the extent of totally disappearing.* Governments should retain a role in programs involving human resource development and training, mass media, rural weather, environment, and information centers, to name a few. Above all, public extension will ensure that the many marginal subsistence farmers will have access to information until such time as they are better organized and can to some extent contribute to the services provided.
<table>
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<tr>
<th>PERIOD FISCAL YEAR</th>
<th>NUMBER OF PROJECTS</th>
<th>TOTAL COST OF PROJECTS (US$ Million)</th>
<th>EXTENSION PORTION (US$ Million)</th>
<th>BANK PORTION (US$ Million)</th>
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<td>602</td>
<td>52,859</td>
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## ACTION PLAN

### Aiming at Less Public Sector Involvement in Extension

<table>
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<tr>
<th>SCHEDULE</th>
<th>ACTIONS</th>
<th>OBJECTIVES</th>
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| **Stage 1** | - Decentralize extension services from central to regional level.  
- Conduct sociological surveys of farmers in areas where extension is to intervene (this applies to areas where extension already exists but from which data is unavailable).  
- Prepare a national strategy for extension that would specifically:  
  - define the number, categories, and percentage of farmers to be reached;  
  - suggest approaches to extension for small-, medium-, and large-scale farmers;  
  - determine the type and number of extension agents required;  
  - set the frequency of visits of extension agents to farmers;  
  - assess the use of audio-visual aids as complementary means to face-to-face extension;  
  - spell out the form and duration of Government's intervention in extension;  
  - initiate and pursue a strong training program of extension agents. | - Have a lean team of highly competent agents at the center, orchestrate the action plan and follow up on the strategy.  
- Determine the main categories of farmers. Learn farmers' concepts of extension and how they wish extension to operate.  
- Affordability and sustainability to be main criteria for determining number and percent of farmers to be reached.  
- Approaches differ according to categories, small-scale farmers representing Cat. 3, medium-scale farmers Cat. 2, and large-scale farmers Cat. 1.  
- Hiring technicians for Cat. 3; agronomists for Cats. 1 & 2.  
- Farmers to determine frequency of visits that suit their particular needs for advice.  
- Higher use of audio-visual aids for Cats. 1 and 2 farmers, fewer visits by agents.  
- Government to gradually pull out of extension. Have fewer agents, more emphasis on audio-visual aids.  
- Agent to better understand the various approaches to extension and the procedures leading to privatization. |
| **Stage 2** | - Promote farmers' groups, associations, Chambers of Agriculture among Cat. 1 and 2 farmers. Associate existing private sector. | - Have farmers' groups take over increased financial responsibility for extension services. |
| **Stage 3** | - Gradually bring Cat. 2 farmers to Cat. 1 level. | - Government to assist through subsidies and the hiring of cooperative technicians as consultants. |
| **Stage 4** | - Bring Cat. 3 farmers to Cat. 2 level. | - Fewer visits, more audio-visual aids. |
| **Stage 5** | - Move surplus extension agents to other areas. | - Rotate some extension agents possibly to the private sector and/or start decreasing the number of agents on Government payroll. Encourage farmers' groups to contribute to the hiring of their own technicians. |
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