

# Farm management extension services: a review of global experience

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by

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## Preface

This Occasional Paper presents the findings of a global review of farm management extension services. The review was conducted regionally in Latin America, Africa, Asia and the Pacific region as well as within transitional countries of Central and Eastern Europe (CEE). The review is composed of country studies and regional syntheses. Some 50 country studies were commissioned regionally. The aim of the review was to provide insight into the provision of farm management extension services to farmers. The specific intentions were to: (i) assess the current status of farm management training and extension programmes; (ii) identify constraints and issues; (iii) review the performance and impact; and (iv) propose recommendations for the improved provision of farm management extension advice. The information provided by the commissioned case studies was supplemented by the findings of a broader literature review, expert consultations and field project experience.

In this paper a distinction is made between farm management and farm business management. Farm management is a generic term that refers to both technical and business related aspects of farming. Farm business management is concerned with the economics of farming that covers decisions with respect to the use of scarce resources. Both definitions are used in this paper as relevant.

The publication is directed towards three major audiences: (1) researchers and students who are interested in analysing research on farm management extension with the aim to support evidence-based changes in this field; (2) managers of agricultural extension services, policy-makers, consultants, development partners and financial institutions that are involved in formulating policies and designing programmes for farm level development; and (3) development professionals from other fields who consider the case of agricultural extension services as an example of reforming rural services. Programme managers and policy-makers can be found within Ministry of Agriculture – Extension Departments – as well as in Non-Governmental Organizations (NGOs) and among private sector advisory service providers. It is hoped that the publication will also be useful and relevant to donors.

We trust that the reader will find the issues raised – and their practical implications for extension service provision to farmers – useful in advancing broader discussion of the development of agricultural extension services and their role in enhancing farm income and thereby contributing to rural poverty alleviation.

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# Acronyms

|        |   |
|--------|---|
| ACDI   | Canadian International Development Agency                           |
| ASP    | Agricultural Support Project, Zambia                                |
| CEE    | Central and Eastern Europe  |
| CEFE   | Competency-based Economies through Formation of Enterprise          |
| CG     | Business Management Centre  |
| CIRAD  | French Agricultural Research Centre for International Development   |
| CLUSA  | Cooperative League of the United States of America                  |
| FBS    | Farm Business School  |
| FFS    | Farmer Field School   |
| FO     | Farmers' Organization   |
| FTC    | Farmer Training Centre  |
| GOI    | Government of India   |
| GTZ    | German International Cooperation Agency                             |
| ICT    | Information and Communication Technology                            |
| ILO    | International Labour Organization                                   |
| LEDA   | Local Economic Development Agency                                   |
| MAFF   | Management Advice for Family Farms programme, CIRAD                 |
| M & E  | Monitoring and Evaluation   |
| NGO    | Non-Governmental Organization                                       |
| OECD   | Organisation for Economic Co-operation and Development              |
| PFME   | Participatory Farm Management Extension                             |
| SAMETI | State Agriculture Management Extension Training Institutions, India |
| SAU    | State Agricultural University system, India                         |
| SIDA   | Swedish International Development Cooperation Agency                |
| SMS    | Subject Matter Specialist   |
| SSA    | sub-Saharan Africa  |
| SWADE  | Swaziland Water and Agricultural Development Enterprise             |
| TOT    | Training of Trainers  |
| T & V  | Training and Visit system, World Bank                               |
| UMATA  | Municipal Agricultural Technical Assistance Units, Colombia         |
| USAID  | United States Agency for International Development                  |
| VOCA   | Volunteers in Overseas Cooperative Assistance, Canada               |

# 1 Dynamics of change

*This chapter describes the institutional and policy changes that have impacted on the agricultural sector and the provision of agricultural advisory services to farmers. It notes the dynamics of change in today's global environment and its impact on the nature of farming. The chapter shows that with rapid population growth, urbanization and economic development the demand for food and raw materials has increased markedly, and a greater number of farmers are entering the market offering farm products for sale. These trends have had a direct effect on both the demand for skills improvement and competencies to promote market-oriented farming. The chapter concludes by referring to the current practice of promoting a pluralistic approach to extension while recognizing the important role of public extension services in farm management and marketing.*

## 1.1 MARKET LIBERALIZATION AND GLOBALIZATION

Over the last two decades there has been a policy preference for reducing the role of the state in managing the economy and expanding the scope of economic liberalization. As a result in many developing countries, government support to farmers has declined. The implication of liberalization for farmers is that they have to bear the full consequences of the farm decisions taken without looking to the government for assurance. Another factor driving the shift to the market has been the advance of globalization. With these dynamics taking place market-led development has become a dominant paradigm. These trends have created new opportunities for farmers to participate in the economy with independent small-scale producers operating according to market rules. The freely operating markets are expected to encourage a more efficient use of scarce resources. While economic liberalization and globalization have produced opportunities they have also carried risks. The challenges facing farmers is to adjust their farm-household systems to these changing market conditions and opportunities.

## **1.2 DEMOGRAPHY, URBANIZATION AND INCOME**

Another global dynamic has been demography. While the rural population continues to grow in absolute terms it is becoming relatively less important in developing countries. The growth of population in rural areas is declining and people are migrating and settling in the towns and cities. This phenomenon is particularly prevalent in Asia and Latin America and has resulted in an increasing number of urban based people being fed by smaller numbers located in the rural areas. In many countries, particularly in Africa, these population dynamics are also influenced by the effect of the HIV/AIDS pandemic resulting in an increasingly polarized workforce with some of the people in rural areas being left behind. As urban populations increase with the emergence of a wealthier middle class the demand for high value fresh and processed foods also increases. Growing incomes in countries such as the People's Republic of China and India have led to a rising demand for meat. However, much of the additional meat, and some of the dairy, will be produced by feeding grains to livestock.

The increase in effective demand for food and agricultural produce has contributed to the reshaping of market demand. The dynamics of urbanization and increasing income have encouraged the production of higher value products, such as vegetable oils, horticultural produce, meat, eggs and dairy products. By 2020 the population of the developing world is expected to consume 55 percent more meat and 60 percent more milk than they do today (World Bank, 2005). The Organisation for Economic Co-operation and Development (OECD) and FAO forecast that in non-OECD countries consumption of meat and dairy produce will rise by up to 2.4% a year between 2007 and 2016 (von Braun, 2007). These are signs of changing demand patterns. In addition, for fish and horticultural products (such as tropical fruits, vegetables, organic produce and cut flowers), export markets are expanding rapidly and opening up new opportunities for the sector. Vegetables and fruits account for over 7 percent of developing country agricultural exports, and the addition of processed and partially transformed fruits and vegetables brings the total contribution to well over 10 percent (FAO, 2003). The availability of new production, post-harvest and transport technologies have also changed demand patterns by enabling the delivery of new products, as well as established products in new forms, to markets where they had been previously unattainable.

Globally, the price of both staples and higher value products are rising rapidly, and at an alarming rate. Food prices have risen since the early 2000s and particularly since 2006. The forecasts for the next ten years predict continuing high prices because of structural changes in supply and demand. On the supply side, rising oil prices mean increased costs for fertilizers, machine operations and transport. These factors produce major challenges for farmers to change their farming systems.

## **1.3 FARM COMMERCIALIZATION**

Economic growth, urbanization and the withdrawal of labour from the agricultural sector has led to the increasing commercialization of agriculture. Commercialization of agricultural systems has resulted in greater market-orientation of farm production; progressive substitution of non-traded inputs in favour of purchased inputs; and the gradual decline

of integrated farming systems replaced by mixed farming and specialized enterprises. Commercialization of agricultural production means that farmers sell a larger part of their produce for cash. The share of marketable surplus can be increased in a number of ways: (i) by generating more marketable surplus of food crops; (ii) by increasing production of market-oriented cash crops and other high value adding enterprises; and (iii) combinations of both.

The countries of east Asia are at the high end of the agricultural commercialization pathway, while Southeast Asia and parts of Latin America are rapidly moving towards commercialization. Although the speed of commercialization differs substantially across continents and countries, they are all moving in the same direction. (Pingali and Rosegrant, 1995). The commercial structure of agriculture continues to change, reflecting rapid technical progress and the development of local and global commodity chains. Input and marketing systems are becoming more integrated, industrialized and sophisticated. Projections are subject to great uncertainty but suggest that these trends will continue (World Bank, 2005).

It is imperative that the agricultural sector responds vigorously to the challenges posed by market liberalization, globalization and the rising fuel and food prices. Market liberalization has brought about opportunities and a potential for higher incomes being earned by farmers. However, while this is generally considered to be positive by opening up new markets for farm produce, there are also impeding factors. Farmers now face increased competition as well as greater risks. For example, there are greater variations in prices of both inputs and commodities traded, with small farmers being particularly vulnerable to these threats. Moreover, the simultaneous increases in exports, with several countries aiming at the same markets also constitute a major risk – particularly for latecomers (FAO, 2003). Higher food prices could raise farmers' incomes if ways can be found to reduce the costs of inputs and materials used. Farmers, moreover, must be in the position to respond. Small farmers are particularly vulnerable to these threats. At national level, countries have to concentrate on production that meets the changing demands of domestic and world markets. A successful farmer will need to produce what the market wants and what satisfies consumer demands. There is, consequently, strong pressure for farmers to produce the volume and quality of produce that enables them to be competitive and profitable. These conditions are essential to ensure that farming is conducted in a sustainable manner.

#### 1.4 CHANGES IN THE FARMING SYSTEM

The process of globalization and market liberalization has generated profound changes on the structure of farming. The pattern of production and natural resource use is changing profoundly in response to market forces. In effect one cannot speak about farming without understanding the broader setting in which farmers find themselves.

As is well recognized and understood, there is enormous diversity, globally, between regions and within regions. Farming systems vary according to physical (climate, natural resource base), socio-economic and socio-political factors (Dixon *et al.*, 2004).<sup>1</sup>

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1 Among the physical factors are climate, soils, vegetation, geographical position (altitude, latitude) presence of rivers, lakes. Major socio-economic criteria are population density, population growth (and other demographic parameters), economic structure (rural/urban; agriculture/industry/services), education and health parameters, gross national product (GNP)/inhabitant, economic growth-rate, etc. Among the socio-political criteria are the degree of liberalization of the economy, economic regulation and deregulation, freedom for association and participation of stakeholders in agricultural development.

Farming also varies along a continuum from smallholder farming in marginal environments to farm businesses producing high quality perishable goods for export markets. There is a large set of farming conditions, with different challenges, opportunities and entry points. Although farming is diverse, market liberalization provides opportunities and challenges to all farmers equally. However, depending on proximity to markets and infrastructure and easy access to extension services, the ability of farmers to respond to these changes adequately has been mixed. The physical, socio-economic and socio-political factors are decisive for the general conditions in which farms develop.

A distinction can be made between broad categories of farms and farmers: subsistence-oriented farmers, emerging commercial smallholder farmers and commercial farmers. The dynamics of change as a result of the trends described above would impact very differently for each category of farmer. The farm type categories focused on are characterized by the degree to which they produce for the market and consequently are integrated into the market economy.\*

**Box 1**  
**Categories of farm type**

*Subsistence-oriented farmers* tend to operate in less-favoured farming environments with poor access to markets. Production is unstable and farm families are frequently food insecure. Production is largely for home consumption. This often limits crop choices to commodities that may not be best suited for the natural resource base.

*Emerging commercial farmers* are linked to markets, but their farming practices are largely constrained by liquidity, risk and transactions costs. These producers make joint production and consumption decisions, so that household and farm activities are not easily separable. Often, subsistence food production is a response to high market transactions costs and risks. With improved market opportunities and greater support services, many of these farmers can build their asset base, adopt production processes that are more suitable to the environment, and make the transition to commercially oriented farming.

*Commercial farmers* produce entirely for the market, prosper in a market-friendly environment, with good physical infrastructure, efficient financial institutions and the protection of property rights.

*Adapted from McConnell, D. J. and Dillon, J., 1997*

\* Five important farming systems are not included in the main focus of public sector extension support. These are: (i) systems based on nomadic or semi-nomadic pastoralism, having little interaction with modern inputs or produce markets; (ii) systems based on hunting and gathering, or fishing almost exclusively for subsistence; (iii) cropping or cropping/livestock systems almost exclusively for subsistence; (iv) large-scale commercial farming systems, exclusively market-orientated; (v) large-scale plantations for perennial or annual crops. Farm business management advice does not respond to priority needs of farmers in the first three systems. As for the two latter systems, standard advice for modern business management can be met through private sector sources lying outside the remit of public sector support.

This general categorization, although useful does not capture the nuances of different locations of specific situations. For example, in South Pacific countries, farming is largely somewhere along the continuum from subsistence to emerging commercial farming. Typical farmers operate root crops based food production systems with a substantial subsistence component under a low input-output system, but they also undertake diversified activities in mixed-cropping plots that typically feature perennial crops for commercial sale (Fleming and Hardaker, 1995).

**Box 2**  
**South Pacific farming systems**

- Smallholders have access to and user rights over a limited area of land.<sup>2</sup>
- Farm families are subject to communal land tenure arrangements.
- Farm families have strong links to the community resulting in many claims on their time in conducting community related activities in addition to farming.
- Smallholders operate a root crops based food production system with a substantial subsistence component.
- Farming follows an adaptive growth pattern relying on low input production technologies.
- Smallholders undertake diversified activities in mixed cropping plots that typically feature perennial crops, often for commercial sale.
- Farmers are receptive to, and capable of, assimilating and developing new productive activities.
- Produce tends to supply multiple markets.
- Farmers do not often undertake intensive livestock activities but keep small livestock enterprises (mostly pigs and poultry) requiring few purchased inputs and limited husbandry.
- Family labour has a significant and positive marginal disutility.

*Fleming, E. & Hardaker, J. B., 2005*

In Zambia, in southern Africa, commercial farmers are often divided into three categories: small-scale farmers with about 2 ha of land, 50 head of cattle and about 500 units of poultry; medium-scale commercial farmers with a farm area ranging between 10 and 40 ha and larger-scale commercial farmers exceeding 40 ha (Golden Valley Agricultural Research Trust [GVAR], Zambia, personal communication). Of a total farming population of about 873 000 farmers some 51 percent have been estimated as commercial farmers or with the potential to commercialize (FAO, workshop, 2007). These figures are regarded as typical in that sub-region of Africa, indicating the considerable potential for market-oriented farming.

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<sup>2</sup> For example, the average holding in Samoa in 1999 was around 9 acres (3.6 hectares) (Department of Statistics/MAFFM 2000, p. 42). Some farmers also have access to marine and forest resources.



As a general trend, the dynamics of farming over the last two decades has resulted in a greater degree of agricultural commercialization and larger numbers of commercial (emerging and fully commercial) farmers. This has, however, been largely limited to peri-urban areas that are generally served by better physical and social infrastructure and are located in proximity to markets.

Even within the commercial categories, farmers experience very different conditions depending on location specific resources and market integration (Wiggins and Proctor, 2001). Location is an important determinant of the opportunities that are likely to be available for farmers. Furthermore, the borders between rural and urban areas are not so clearly demarcated. Higher potential areas are likely to be developed through strategies of agricultural diversification and intensification, producing surpluses for the market. In peri-urban zones, where market access is favourable, market gardening and dairying often offer good development opportunities, together with part-time agriculture.

However, in more remote areas with poorer market access, the opportunities for subsistence farmers to shift towards commercialization are limited. The more remote and marginal areas contain the majority of the rural poor and are particularly disadvantaged by poor access to information or to increased demands for skills, inputs and markets. In these rural areas, small-scale farmers sometimes produce surpluses of high value products. Where the natural resource base is poor, farming is more extensive and the opportunities for agricultural development are limited. However, the prospects for rural areas are tied to location specific resources, only over the long term. Over time, as physical infrastructure is developed, market integration will naturally take place.

Even among the more commercial categories of farms there are marked contextual differences depending on market access and the way produce is received on the market. To illustrate this, one could compare a market gardener in South Africa with a counterpart in Burkina Faso. The former has to compete with suppliers from large agribusiness firms, while the latter is only competing with small-scale suppliers of similar size and entrepreneurial ability. The former competes in urban markets with considerable buying power, while the latter has more limited options in local markets with lower effective demand. While both are faced with marketing management challenges the nature of the problem is very different.

The diversity of characteristics presents different economic options for different categories of farmers under varying farming systems and whether or not they are located in marginal areas rather than higher productivity zones. The content and delivery of extension programmes need to be tailor-made to the conditions and challenges of farming in each specific location.

It is imperative that the agricultural sector in developing countries responds vigorously to the challenges posed by structural adjustment, trade liberalization and globalization. The new economic order necessitates change in every dimension of farming. There is a need to revisit the traditional production-oriented systems and guide farmers towards a more market-oriented farming. Small-scale farmers should be encouraged to produce profitable enterprises of sufficient quality to satisfy consumer demands. Farmers who possess the skills to manage their farms both efficiently and profitably and respond to market changes will be in a better position to take advantage of the opportunities that exist to increase income.

## 1.5 REGIONAL VARIATIONS

The dynamics of change described above have impacted on all regions of the developing world and countries in transition.

*Asia.* In Asia the structure of farming is largely composed of small-scale farmers who cultivate small farm plots and have limited supplies of family labour and access to land. As a result of these structural characteristics, farm incomes have traditionally been low. Government policies in many countries have been oriented towards self-sufficiency in grain production and in particular rice. Increases in rice based technologies resulted in the production of surpluses and a decline in the international demand for the commodity with a subsequent decrease in output prices and farm income. The economic difficulties facing farmers, arising from increases in rice production, have been augmented by the challenges brought about by economic liberalization and globalization. With diminished support to farmers by government and market forces playing a larger part in determining the future of small-scale farming, a dynamic towards farm diversification and commercialization has been triggered. Farmers are rapidly diversifying into mixed rice-livestock systems and shifting production from staple crops to higher value commodities. Most countries recognize the important contribution of small farmers to the economy and the need to assist them in utilizing their scarce resources more efficiently, enhance productivity, and generate profits and income.

*Africa.* In sub-Saharan Africa (SSA), farming systems vary markedly including: intensive dairy farming systems in the highlands of East Africa; semi-integrated cotton/cereals/livestock systems in West Africa; maize mixed (oilseeds, pulses, coffee or tobacco, cattle, other) of East and Southern Africa; irrigated rice or cotton production systems; and perennial cocoa/coffee/food crops systems in the humid climates of West and Central Africa (Dixon J. *et al.*, 2004). Traditionally, staple crops are consumed by the farm household and surpluses sold to cover cash requirements. As a result of these dynamics of change, farmers with market access have also begun to diversify their farm enterprises in response to market opportunities. Nowadays, most farmers are aware that the production of non-staple or even non-traditional crops can generate a higher income and a higher productivity of land and labour, but this often implies increased risk.

Within SSA, per capita gross domestic product (GDP) is low by global standards, below the poverty line. SSA contains the world's poorest economies with 19 of the 25 poorest countries in the world. Although market liberalization and globalization have created opportunities for small farmers, access to regional and international export markets is limited. In fact the value of agricultural produce for export is lower than it was 40 years ago (World Bank, 2005). Among the many small-scale subsistence farmers, the opportunities for intensification and diversification are limited but increasingly farmers are becoming more market-oriented, particularly in proximity to urban centres and market towns. The challenge facing the region is how to uplift smallholder farmers and connect them to markets.



*Latin America.* The Latin America subregion is characterized by a dual economy with a more vulnerable smallholder sector operating side by side with larger-scale commercial agriculture. Official statistics indicate that some 65 million people (24 percent of the population) are located in rural areas.<sup>3</sup> Most countries in Latin America are inequitable in terms of income distribution. In fact some 40 percent of the total income is received by the 10 percent richest population and in recent decades the region's income distribution concentration has actually declined. The structural inequalities of the region have traditionally prevented a large part of the rural population from gaining access to inputs, credit and markets. In Bolivia, Guatemala, Honduras, Nicaragua, Paraguay and Peru at least 70 percent of their rural population lives in poverty.

The major challenges have occurred as a result of urbanization, dietary transition and changes in processing and marketing systems (e.g. the rise of supermarkets), bringing key issues to the forefront, such as food quality and safety and the need for a conducive regulatory environment. Farm commercialization processes have been rapid but not only confined to agriculture. Non-farm economic activities in the rural sector account for a large and growing share of employment and generate nearly half of all income earned by the rural population. Farming and non-farming rural activities, however, are not mutually exclusive but positively related, because progress in one favours development in the other to enhance livelihoods.

Support to the commercialization and diversification processes has come from a broad base of public and private sector stakeholders, introducing new forms of relationship, such as strategic partnerships and joint-ventures within a regulatory framework that is increasingly becoming stronger. The institutional changes have led to more efficient modalities to gain access to natural resources, markets and finance. In many countries these trends have been accompanied by decentralization and the adoption of territorially based approaches to reduce the income disparities of the region.

*Central and Eastern Europe.* The CEE region is characterized by an agricultural sector that consists of both commercial and subsistence farms. Economies in the region are going through a transition, and countries are endowed with a strong human capital and infrastructure base. Farming has been in a state of rapid and radical change over the past 15 years. There has been a dynamic of change that is somewhat different from that of other regions. The most notable shift has been made from large scale collective farming to smaller scale private farming. In Hungary and Latvia, 90 percent and 95 percent, respectively, of the production area is reported to be in private hands (Rolls, 2001). In Latvia, at least half of the private farms lease land to other farmers.

Nevertheless, large scale, new forms of cooperative or company farms remain an important sector in some countries and agriculture is still a major source of employment (Albania and Moldova). Small farms are typically mixed systems comprised of crops and livestock. The mixed farming production system is most common and largely based around five main crops (wheat/barley, maize, potatoes, oil seed and fodder) and two livestock enterprises (cattle and pigs). In contrast, larger commercial farms are characterized by a broader range of farm enterprises. The dynamics of agricultural change in the region suggest a process

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<sup>3</sup> The OECD defines rural population based on population density of less than 150 inhabitants per square kilometer and more than an hour travel distance to major urban areas (cities of 100 000 inhabitants or more). When this definition of 'rural' is applied, the figure rises to 42 of the total.

of diversification of farming into non-agricultural activities with a strongly demonstrated multiplier effect through job creation. Incomes from farming, however, are declining. Small farms are increasingly combining the income generated from farming with other sources to sustain a socially acceptable level of farm family income. In contrast, larger holdings are shifting towards intensification and concentration.

Opportunities, however, do lie with the cadre of emerging commercial farmers. Those farmers with access to credit, fertilizer, seeds and markets are in the position to intensify and diversify production with larger volumes being sold on the market. This in turn leads to further differentiation of farms, contributing to increased variability of production systems. These farmers, however, are being confronted with the risk of variable input costs and product prices, to which they require the skills to adapt and respond. Some farmers also face difficulties in selling their produce in local markets. Product prices experience strong fluctuations as a result of changing demands to meet specific quality requirements of their products. In order to improve farm income, farmers require knowledge of market trends and opportunities together with the skills necessary to better manage their farms.

The types of farming systems and the degree of market access are important conditions for the provision of agricultural advisory services that are effective in responding to farmers' needs. The opportunities for agricultural advice and for that matter farm management/marketing advice will differ considerably, depending on the type, intensity and diversity of the crops and livestock produced. Farmers' access to markets and other services also have a notable impact. These are, in turn, influenced by the agro-ecological and infrastructural conditions of respective regions. These issues will be addressed in the course of this review.

## 1.6 STRUCTURAL ADJUSTMENT AND DECENTRALIZATION

Structural adjustment has been another dynamic to the changing composition of the farming sector. In the 1970s and 1980s International Monetary Fund (IMF) and the World Bank launched their Structural Adjustment Programmes where lending to countries became conditional on public sector reform. As part of the programmes, emphasis was placed on supply side, efficiency enhancing adjustments which had a direct impact on the provision of public sector support services. Structural adjustment attempted to eliminate official monopolies associated with input and output marketing, reduce state subsidies, re-align extension services and increase the role of the private sector. Measures were introduced to ensure stabilization and increase the efficiency of service delivery. Structural adjustment policies have had long-lasting ramifications on the public sector agricultural extension services resulting in:

- a shift in the traditional public sector role of farm extension services towards a greater involvement of civil society and the private sector;
- decentralization of public sector services; and
- increasing restriction of government investment in the provision of public goods.

These results match the increasing tendency, at a broader social level, to encourage greater local level participation in decision-making and resource allocation. They are also in part an outcome of the transferring previous public sector responsibilities to the private sector.

The view that ‘government must provide’ through blanket extension services reaching directly to all farmers has been regarded as outmoded. Public sector extension services suffered from a loss in stature related to this change in paradigm regarding the role of government in development (IFPRI, 2006). The premise was that public sector extension services simply did not have the resources available to ensure that extension is provided effectively and efficiently for national coverage. In part, the loss of status of public sector extension services may have also emanated from the promotion of the training and visit (T&V) system in the 1980s and 1990s, which was heavily criticized as uniform, ‘top-down’ and inappropriate to the conditions of the countries in which it was carried out (Anderson *et. al.*, 2006).

In many situations, however, the private sector has not successfully replaced public or parastatal agencies in advisory service delivery. Attempts have been made by some governments to contract out extension service delivery to specialized private sector firms under competitive bidding. However, sustainable mechanisms are few and far between. In most developing countries the private sector has experienced difficulties in effectively replacing public sector extension services particularly in rural areas where poverty is widespread.

Structural adjustment has also resulted in a growing role for civil society.<sup>4</sup> Trends towards government decentralization and the devolvement of state control have made civil society increasingly relevant to ensuring people’s representation and participation in the development process. Civil organizations have become particularly important for voicing and expressing the concerns of society’s members that have less political influence; a condition that often applies to those involved in the agriculture sector, especially the poor. NGOs have increased their provision of support services to poor producers. Many NGOs have unique competencies in developing regions, and donors are increasingly utilizing NGO resources and capabilities. Not only are NGOs well connected to local organizations, they are often influential in policy formulation in national governments. Farmers’ organizations (FOs) have also expanded their roles in developmental activities.

In Latin America, in particular, the demise of public extension services has been considerable. Yet in all regions the changes have led to controversy around public and private service providers. Markets for diverse private commercial services have often failed to emerge spontaneously, especially in disadvantaged rural areas. Public support is still required and provided, albeit of poor quality and effectiveness. Extension services remain largely ‘supply driven’ promoting policies aimed at technology transfer and increasing production and hindering the emergence of a market-orientation among farmers. In many cases, public service providers have found it difficult to change.

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4 Civil society refers to organizations that operate to enable citizens to coordinate their efforts, but are neither part of the state nor part of the market. They include both formal and informal associations such as NGOs, trade unions, self-help groups and producer organizations.

However, as market-orientation takes on and production becomes more commercial, more complex and specialized services are required, and these can only be provided by highly qualified private sector providers. There is clearly a need for a pluralistic range of advisory services to support the changing agricultural sector. These trends have had a direct effect on both the demand for skills improvement and competencies to promote market-oriented farming.

In the light of these changes and in order to achieve its mission, extension services have reinvented themselves and are increasingly following a demand-driven approach to extension delivery that is pluralistic in the range of extension services provided. For a long time, extension has been highly dependent on the public service. However, with public sector reform calling for downsizing or streamlining the capacity of the public extension service, coupled by shrinking public resources – which exerts pressure on extension spending – the promotion of a broad variety of actors in the extension provision and delivery reflects current trends. Pluralism of extension services builds on the distinctive competence of the public sector, the private sector and FOs, and allows for a dynamic and evolving service-offered at decentralized levels.<sup>5</sup> Centrally controlled and standardized extension approaches have failed to respond to local priority needs and have been less efficient in the use of scarce resources. Through decentralization, extension services are accountable to those demanding and using them, and are able to make a significant contribution to addressing national concerns for the improvement of rural as well as urban livelihoods, increasing food security and reducing poverty. In a market-oriented economy, a pluralistic approach to extension service provision must be promoted, because extension services need to be more specialized and diversified. This will provide farmers with a greater choice of services of better quality, and will enable them to develop the skills required for a market-oriented economy.

The need to be more involved in the market economy creates a diversity of demands, such as the type of products required on the market, the type of inputs needed and the most appropriate production system. Extension services need to respond to the new demands that farmers are making with special consideration to their resource endowment. There is need to create a platform for dialogue between extension workers, communities and farmers so as to facilitate the evolution of demand-driven extension system. The shift in government policy away from the provision of incentives and subsidized support has resulted in a greater necessity for farmers to respond to change independently and develop their management skills and capacity to make informed and appropriate decisions.

While the goals of agricultural advisory services are much the same as when they were introduced, their scope and definition have changed much over the past decades. This vision of pluralistic, decentralized and demand-driven extension is a bold statement of intent and the enormity of the task must not be underestimated. For it to become a reality, a broad coalition of stakeholders is necessary, each making an important and distinctive contribution. The purpose of agricultural advisory services has also broadened in recognition of the need to go beyond merely providing technical solutions. Both the farming communities and the service providers need to be transformed to realize this vision. This will be elaborated on more fully in the next chapter.

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<sup>5</sup> Decentralization can take many forms, such as *deconcentration* (accountability remains within the Department of Agriculture), *devolution* to local governments (accountability to locally elected governments) or *delegation* to semi-autonomous agencies.

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## 2 Farm management extension

*The chapter recognizes that as farming becomes more market-oriented there is a need for farmers to develop their management skills. The chapter introduces the reader to farm management, farm management information and farm management extension, and characterizes different models of extension services – public sector, private sector, NGO, membership based organizations as well as decentralized service provision. It describes the various methods and practices of farm business management and ways of disseminating farm management solutions.*

### 2.1 THE FARM AS A BUSINESS

Agricultural commercialization implies that farms become sustainable commercial businesses, where input use, product choice and relative trade are all market-oriented decisions. Farming is not only concerned with increasing production and productivity, but has become involved with the distribution and marketing of produce. The concept of the farm as a business extends even further. Farmers are inevitably linked to finding solutions to marketing problems, and production decisions are also influenced by the market. Farm produce must have utility for the consumer. This has brought about a profound change in management vision and outlook. The desire to increase income by taking advantage of market opportunities requires farmers to become better decision-makers and to be more able to compete in this new environment. The emphasis on the market and the need of farmers to be competitive calls for improved farm management skills. Marketing and farm management have rapidly gained predominance over the last two decades. This is also true in the case of poorer farmers with only a limited degree of commercial production. With increasingly urbanized populations, narrow production-oriented food security strategies for extension services have been seen to be less relevant than in the past. Extension services are expected to address an increasingly wide range of client needs that reflect in turn their diverse livelihoods.

### 2.2 FARM MANAGEMENT

To run a business, the farmer must be a manager; someone capable of taking initiatives, organizing production, marketing and assuming risks. Technical expertise is not enough. Farmers must know more about farm management: how to organize, manage and plan the farm in the best possible way. For farmers this involves a series of management decisions relating to what to produce, where, how and to whom to sell; how to compete in local or export markets; how to finance and how much to invest in product differentiation; how to organize the productive farm enterprises and how to become part of a farmers' cooperative or association. For farmers to market effectively they need skills and expertise to select



the most appropriate farm enterprises that have an assured market, select the best market channels, improve the quality of produce through post-harvest handling, conduct marketing research and utilize marketing information. These are key aspects of managing the farm business along commercial lines and are of concern to both farmers and extension workers.

How is farm management defined? A common definition is that it is the science of organizing and controlling the resources of a particular farm so that they yield for the business as a whole the greatest continuous profit and the level of profit that the farmer desires (Nix, 1979). The discipline is concerned with improving farmers' decision-making by using concepts of economics and applying them to management tools. Farm management is simply the taking of decisions concerned with the operation of the farm business and in this way includes a number of functions: observation, diagnosis, choice between alternatives, accepting responsibility, taking action and controlling. It requires an understanding of economics to select and combine farm enterprises and allocate resources efficiently. The key feature of farm management is the very broad scope of what is involved with emphasis on the task of combining resources and markets and marketing. In farm management, farmers' marketing decisions are just as important as decisions about production; production and marketing decisions are closely linked.

Farm management is intrinsically a problem solving process that requires decision rules that relate to the nature of the problem (Simon, 1978). The decision rules are closely related to the goals set by the farmer and they enable them to reduce the range of options for ease of comparison. Farm management can also be divided into stages. First, information is used in designing and choosing a strategy or set of decision rules; second, choices are made between options and finally, the choices are implemented. In day-to-day practice, farm management helps farmers to make the right choice between crop and livestock enterprises according to individual levels of financial, labour and land endowments, and risk adversity.

### **2.3 FARM MANAGEMENT INFORMATION**

Farm management decisions are underpinned by good information. To make good decisions, farmers need information at every stage in the decision-making process. Information is needed to diagnose the farm, to set objectives, to plan, implement and control farm activities, and to make more efficient use of their limited resources. Information can have a direct impact on improved farm management, providing extension workers and farmers with information on what, how and when products are produced, and what type and quantity of inputs should be used. The better skilled they are at using data and information the better will be their farm decisions.

Farmers also require regular long-and short-term information on markets and marketing. Information is needed on market outlets, market prices and ways of improving the quality of production and sales. Farmers are looking for advantageous prices when selling their produce and when buying inputs and materials, as well as reducing costs of inputs and marketing. They are also seeking larger markets for produce sold and consequently need to maintain constant contact with buyers, processors and consumers so that they know what they want. Farmers also need guidance in forming farmers' groups for group marketing in order to counter imbalances of commercial interests with buyers and traders. These are some of the many decisions that farmers face when farming for the market.

There is some evidence, for example, that small-scale farmers are increasingly regarding marketing information as vitally important. For example, a study of the services actually provided to commercial farmers in Western Kenya gave ‘supporting market information’ as an important priority activity and a measure of response to need (Shiluli, 2005). In Chile and Brazil marketing information was also ranked very high in importance by respondents on small- and large-scale private farms and cooperatives (Berdegue, 2005). Farmers need data and information from on-farm activities, as well as sources outside the farm. Data and information requirements relate to both production and marketing – both of which are vital to the profitability of the farm.

### Box 3

#### Information requirements and decisions

- What technological options could be used profitably, bearing in mind the potential resource constraints in terms of land, capital, labour and knowledge?
- How to better manage the various technologies (e.g. how to make optimal use of new inputs on the farm)?
- How and when to change the farm enterprise combination (e.g. diversifying from crop production to mixed farming or vegetable or animal production)?
- For which type of products is there a good demand in the market?
- What are the quality specifications that are needed to ensure good value for produce?
- How, when and where to buy inputs and sell products?
- How to make decisions collectively on resource use and marketing?
- How to find quickly the most relevant and reliable knowledge and information?
- What are the feasible off-farm income generation options available and how dependable are they in the long term?
- What are the implications on farm profitability of input subsidies being phased out and/or trade in agriculture being liberalized?

*Van den Ban, A. W., 1998*

Farmers also require timely information on government policies and regulations, as well as a myriad of other practical matters. Policy-makers, in turn, also require micro level farm management information for better policy formulation and programme design. Clients of this source of information are interested in predicting farmers’ managerial responses to different policy interventions.

The need for farm management and marketing information is likely to intensify in the future as farmers become more efficient, competitive and specialized. Adequate technical and economic data is essential to farm management. Because farm management means taking decisions about the operations of the farm as a business these decisions will clearly be valueless if they are based on inaccurate information. With the move into producing for the market, farmers are increasingly demanding relevant and up-to-date price and market data.

## 2.4 FARM MANAGEMENT EXTENSION

Farm management extension refers to informal adult education, but includes both formalized training programmes as well as coaching, mentoring and counseling practices. The approach promoted is to assist farmers to identify and analyse problems and seek solutions. Farm management extension aims at getting farmers to think through their choices rather than providing prescriptive ready-made solutions. Farm management extension not only covers technical aspects of extension, but also economics; it is concerned with ensuring that farmers make the most from the scarce resources under their control. In this way farm management extension differs from general agricultural extension. Agricultural extension is an activity aimed at delivering information to farmers for effective decision-making, while farm management extension is a decision-making activity involving the design and selection of strategies to achieve set goals. However, there is a close relationship between the two; the content and form of information provided to farmers must be related to the stimulation they need to recognize a problem, to the information they are trying to collect and to their decision-making methods.

There is also a close relationship between farm management analysis and extension activities. On the one hand there is information on farm management analysis that can be extended to farmers with the aim of improving their farm management activities. On the other hand farm management analysis can be used by extension services to aid their understanding of farmers' information needs and their effectiveness in meeting them (Rehman and Dorward, 1984). The former role has been predominant, particularly in developed countries, in an effort to strengthen farm management extension services.

As we have seen previously, the extension needs of farmers are changing as farmers become more market-oriented. Farmers increasingly require assistance to address their management and marketing problems, improve the efficiency and profitability of the farm business, and thereby increase farm income. Even if overall farm profitability is satisfactory, it is still necessary to examine individual farm enterprises and look for cost reducing or income increasing possibilities. If the profit level is low, the farm business as a whole will need to be examined for ways to increase profitability and income. Yields, output prices, levels of inputs used for the individual farm enterprises and the intensity of the whole farming system should be examined.

The role of the extension worker as analyst of the farm business is a major challenge. In effect, the very definition, scope and technical focus of agricultural extension is increasingly being reviewed. The practice of extension work and the training given to extension workers has traditionally been oriented towards technical subject matter. The bias is largely a result of the emphasis of science and technology in the initial formal education of extension workers. Moreover, there has been a longstanding concern of extension services to address the day-to-day production management problems of farmers rather than to deal with longer term economic business planning. However, as a response to on-farm commercialization the focus is changing.



Currently, however, even in more developed countries only a relatively small number of farmers benefit directly from farm management advice. These farmers tend to be more commercially minded and market-oriented. Farming for them is already viewed as a business requiring specialized management and marketing skills. These farmers are capable of taking initiatives and organizing production and marketing in a rational manner. In developing countries, given the scarcity of public funds, there is recourse to use scarce farm management skills sparingly. In some countries, more attention is given to farm management analysis where the results are used to influence policy change and contribute to the design of extension programmes. In Latin America, in particular, farm management advice has been used to design land reform measures as part of settlement cum land consolidation schemes. Diagnosis of this kind also has the potential to provide a useful input into the type of extension messages that extension services need to focus on. Under land reform schemes, extension workers often have the task of providing technical and economic background information necessary to more efficiently allocate resources to maximize farm income. Also as a prerequisite to farming for the market, farmers need to be encouraged and motivated to keep records of the farm business.

Farm management extension services also have another role of providing a framework for the activities of general extension workers. Farm management provides a perspective outside technical subject areas and considers all aspects of farming and their interrelationships and is positioned to draw up priorities for action. Improved use of farm management techniques may also allow extension workers to identify areas where new technologies would be particularly beneficial to farmers so that they can inform research workers of farmers' needs. In this way farm management advice can benefit a large number of smaller farmers indirectly.

The style of consulting, or the way that extension services work, will normally involve both helping farmers to learn how to analyse, interpret and define the appropriate managerial action for themselves and also doing some or all of this work for the farmers. Extension workers have the important functions of information gathering, interpretation, and dissemination, and are the conduit feeding information to farmers and the rural community. In this way farm management extension provides a combined educational and service role.

The value of the role of farm management in developing countries and particularly among resource poor households is not adequately appreciated. It has often been argued that traditional agricultural systems are, in general, well managed and that farm management extension is unlikely to increase the efficiency of resource use between existing activities (Schultz, 1964). However, with changes in technologies, prices of inputs and outputs farmers need to possess skills necessary to reorient their farms and make better decisions, particularly about resource allocation. Even those farmers with limited education are rational in the decision-making, and although they may not have the knowledge and skills to prepare formal budgets and plans they tend to internalize these processes. The concept of profit is understood and the decision-making process is mental. More systematic ways of presenting the data are often needed to assist them in making a decision to change their farm enterprise combination. They are likely to be more convinced if they can see the expected profit in front of them.

## 2.5 MODELS OF FARM MANAGEMENT EXTENSION

In many peoples' minds extension and government are closely linked. Yet elements of privatization and diversification in the provision of extension services are increasingly being witnessed worldwide. Developed countries, such as Britain, France and the Netherlands, have made enormous steps towards complete privatization of their services, and other countries as ideologically diverse as Chile and the People's Republic of China have moved to new contractual extension arrangements. The new characterization is of a 'pluralistic' service drawing on a variety of different bodies all with different strengths and objectives.

There are, consequently, different models of broad stakeholder involvement with the role of the diverse actors varying markedly. There are also models of combinations of different service providers, public and private institutions, and civil organizations. On the basis of actual service provision the common extension models can be classified into five major categories: 1) public sector/government providers; 2) private providers; 3) NGO providers; 4) cooperative/membership based organizations; 5) decentralized models. In all regions of the world the private and non-governmental sectors have been actively brought in by the government. The extent to which this has occurred varies widely. Most notable have been the prominent examples of changes in supply of extension services in Latin America although there are countries that still maintain strong state participation. Progress in this direction has also been made in Africa, Asia and CEE countries. A key development has been the acceptance by the donor community that a broad extension service delivery environment is needed that transcends the national extension service (Collion and Rondot, 1998). Although these changes have not occurred in all countries to the same pace and degree, the general pattern of change is the same. The private sector, civil society and farmers themselves have increasingly moved towards establishing their own institutions that in one way or another fill the institutional vacuum caused by the governments' inability to respond to the dynamics of change.

Notwithstanding these changes there are characteristics common to the different models and organizations of extension services. For example, it would seem that they are clear on the new extension focus, on the fact that the problems of productivity are neither unique nor perhaps the most important for market-led production. The ways in which the extension services have been organized would indicate that those services seek to satisfy the need to achieve an appropriate relationship between the competitiveness of production systems, profitability and sustainability. Examples of extension delivery from developing and transitional countries suggest very different modalities of service provision. Some of the diverse examples of farm management extension service delivery are described in the following sections.

### ***The public sector: origins and changes***

National public extension services have historically dominated the provision of advisory services globally, holding a prominent place within ministries of agriculture. One of the main criticisms to this is that such extension systems are highly centralized and they inhibit feedback from clients to extension specialists, researchers, policy-makers and donors. (Eicher, 2007). Within public sector extension services there is great variation between countries,

regions and districts. In some countries extension is highly centralized with varying forms of regional and sub-regional units designed to serve local areas and in others are decentralized. There is similarly a great diversity in skill levels and agricultural competence of field staff. These variations are also reflected in the provision of farm management extension advice.

In Africa there are differences across the continent that stem from the varied historical development of farm management extension throughout the continent. Among English speaking countries, farm management has been traditionally incorporated in the public sector service structure. In francophone countries, the tradition of public sector supported farm management extension has been less apparent. In all cases, however, there have been commonalities. Public sector extension services have been underfinanced and they have been perceived over the last two decades as largely unsuccessful. This has led to their demise (Eicher, 2007). With the increase in commercialized agriculture in Africa there are signs beginning to emerge of farm management having a more relevant role.

In Asia the Green Revolution was largely the result of a public sector drive relying on the strength of a strong extension-research linkage. This was followed by introducing in the late 1970s and 1980s the World Bank's T&V system, which reinforced the traditional public sector role at the hub of technical innovation and adoption. The T&V model consumed about 3 billion dollars of donor assistance over the two decades since 1975 (Eicher, 2007).

While these trends have occurred in the region, the task of extension delivery has differed between countries. Agricultural extension programmes in many Asian countries are mainly the responsibility of their corresponding national level ministries of agriculture or departments of agricultural extension with personnel at regional, district and village levels. India is an example of the important role of the public sector, having the largest extension system in the world, with over 100 000 paid extension personnel (Ameur, 1994, Eicher, 2007).<sup>6</sup> The country has developed a State Agricultural University (SAU) system responsible to the departments of agriculture in respective states and to the Indian Council of Research. In contrast, a provincial state system has been promoted in Pakistan, and since 1993 the Philippines have transferred responsibility to local government.

The public sector services in Asia have been criticized, as in other regions, for being supply-driven, technically weak, focusing on "better-off" farmers, and with insufficient coverage and contacts with farmers. As a result of these criticisms and the changes that have occurred in agriculture over the last two decades, the public sector extension services are going through a major transformation. The evidence of this change can be seen in the case of the Philippines where extension services are increasingly being provided at a decentralized level through the local government municipalities supported by NGOs; and in India where extension services are provided not only by NGOs but also agricultural input industries and agroprocessors. Besides the trend towards greater pluralism in service delivery there is also a strong need for a well performing public sector extension service that is lean and cost-effective and has a different role than in the past.

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6 The country consists of five well specified extension systems: First Line Extension Education System, National Agricultural Extension Service (T&V system), the Special Extension Programme on specific crops, Rural Development Programmes and Extension Programmes of NGOs, each of which has a specific mandate that relates to alleviating poverty and promoting food security.

Table 1 Models of extension: Asia

| Country    | Level of organization | Public sector performance  | NGO  | Private sector | Provision of farm management advice |
|------------|-----------------------|--|------|----------------|-------------------------------------|
| India      | Provincial/<br>state  | Well organized<br>top-heavy.   | high | high           | low                                 |
| Pakistan   | Provincial/<br>state  | Well organized<br>top-heavy<br>high overheads.   | low  | low            | nil                                 |
| Bangladesh | National              | Many organizational<br>changes; narrow<br>commodity focus.   | high | moderate       | low                                 |
| Sri Lanka  | National              | Lack of coherent policy;<br>sectoral structure; weak<br>coordination between<br>government departments.  | low  | low            | low                                 |
| Thailand   | National              | Increases in number<br>of extension staff at<br>provisional and district<br>level.<br><br><i>Ratio of extension worker<br/>to farm family 1:1000</i> | low  | high           | moderate                            |
| Thailand   | National              | Top-down orientation;<br>rigid and bureaucratic;<br>farming systems approach<br>followed.  | low  | low            | nil                                 |
| Malaysia   | National              | Well organized<br>commodity-based<br>extension.  | low  | high           | high                                |

In the Pacific region, the provision of extension services and farm management advice is similarly public sector dominated and has deteriorated markedly over the last two decades (McGregor, 2002). The effectiveness of the provision of farm management and farm business extension services provided by extension agencies has been inextricably linked to the effectiveness of these agencies as a whole. Skilled and experienced staff, adequate funding and access to resources are prerequisites for effective services offered. These have been sorely lacking.

In the mid-twentieth century, most Latin American countries set up extension services on a similar premise to the United States model. In the 1960s and 1970s the field of farm management was well covered at national universities, and farm management advice was also provided through the Inter-American Institute for Cooperation on Agriculture in Bolivia, Colombia, Ecuador, Peru and Venezuela. The structure was incorporated within a centralized extension system that was largely supply based and production oriented. However, there has not been a strong farm management tradition within the extension service and as an academic discipline at university level.

#### **Box 4** **Shifting focus of extension in Viet Nam**

Goletti. *et al.* (2007) report that in Viet Nam extension services are shifting their focus. Clients of extension services in Viet Nam are composed mainly of three groups:

- poor farmers with sometimes subeconomic farm sizes, and/or extremely weak links to the markets (the largest group and a large number of ethnic minorities);
- a group of better off farmers, producing for household consumption and for the market (they have some capacity for investment);
- a relatively small number of well off farmers, often called industrial farmers, who own larger sizes of land and have a good capacity to invest.

Principally extension has five approaches, i) technology promotion, ii) socio-economic development, iii) risk mitigation, iv) commercial services, v) agricultural commodity promotion. The Government extension system is concerned mainly with the first approach, targeting farmers capable of carrying out demonstration models and potentially interested in technology. The second focuses on poor areas and households, the third on the promotion of pesticides. The fourth approach considers farmers as customers; the agricultural extension staff are a link to the promotion process. In practice it means that agricultural extension staff have permission to act as sales agents for commercial companies. This is a main activity for many extension staff and adds to their income. In the fifth approach the Government is usually not directly involved. The ministry of agriculture implements a system promotion of production of key commodities through contract farming, including preferential measures, such as subsidized credit and preferential access to land.

In 2005 a decree gave a new orientation and framework to the extension system. Some of the differences between the new and old extension were i) a greater emphasis on poverty reduction and sustainability as goals of the extension system, ii) a greater recognition of the potential of non-state sectors to contribute to extension, iii) the promotion of more comprehensive approaches to training.

Since that period there have been several attempts to reform the extension services. The shift occurred in the 1970s as the wave of integrated rural development projects became common place. These changes had an impact on extension by combining a production focus with a broad range of support services, including credit, physical infrastructure, social organization and training. Special focus was placed on the organization of farmers and rural households, and the extension services covered both production and home economics aspects (Berdegue, 2005). The field of farm management received special impetus through programmes of agrarian reform when new types of agricultural enterprises different from the traditional family farm operations were created. A dualistic system of farm organization evolved and together with the small peasant holdings, new farm enterprises with larger land holding size and a greater volume of business emerged. In these situations the study of business management assumed particular importance. Agrarian reforms have more recently been accompanied by political-administrative decentralization with the role of technology

transfer being given to local level structures that respond to the demands of regional and local governments. Several models have been introduced that seek a more active participation of the different users of extension services. These will be discussed later in the chapter.

The demise of the public sector extension services has occurred at a time when smallholders' needs for extension services worldwide have become more acute. Farmers are being placed under increasing pressure to adopt a more commercial approach to farming and as noted previously the private and NGO sectors have not adequately stepped in to fill the void. Among those Latin American countries that abolished public sector advisory services in the 1980s and 90s are now considering re-establishing public sector models for small-scale farmers (IFPRI, 2006). There is also a resurgence in the role of public sector extension services as the examples of Ethiopia, the People's Republic of China, India – to name but a few countries – suggest.

**Box 5**  
**Extension services: India**

The public sector extension service varies somewhat between states. There is no single uniform extension system that serves as a panacea for all states. Even within states there are different institutional arrangements set up to address the problems differing in agroclimatic zones and categories of farmers. In general, however, the public sector extension service is divided along sectoral lines with each department covering extension advice, incentives and regulation. The hierarchy of extension services extends from central level to the region, on to the district and subdivision. At field level the extension service operates through the agricultural officer located at the circle level (group of villages) and at village level through the village level worker. An echelon of trainers of extension workers exist in the country through two forms of institutions: (1) the SAUs and (2) State Agricultural Management Extension Training Institutions (SAMETI). SAMETI is linked closely to the National Institute of Agricultural Extension Management (MANAGE) in seven states.

*Chandra-Shekara, P., 2003*

***Private sector extension service provision***

Privatizing national extension services has been led by strong lobbying from multilateral and bilateral donors. This shift has largely been the result of donor support for extension funding reform, with a greater contribution coming from private sources, e.g. supporting the provision of extension services outside the public sector. Frequently discussed alternative funding mechanisms include voucher systems, subcontracting extension to non-public actors and charging levies on commodities as a form of cost participation by producers. Extension funds and outgrower systems are also options. An important feature of alternative funding mechanisms remains the control of extension quality by the end users.



Private sector extension services are not altogether new in both Africa and Asia. Extension services organized along commodity lines have been part and parcel of the colonial legacy in these continents. Commodity based models were introduced in Malaysia, Mali and other countries exporting palm oil and cotton (Rutten, 1982; Eicher, 1989). The model followed a twin track approach, focusing on extension and research. The Mali case is characterized by smallholder farmers served by a self-financed cotton research and extension system located in cotton producing areas (Eicher, 2007). This is a typical example of how these private sector run commodity schemes were set up.

Private for-profit extension organizations appear to be well suited to serve the private interests of clients operating particularly in areas with good infrastructure and high potential in agricultural production. However, private sector involvement in extension is not limited to taking over the functions formerly performed by public sector institutions. Schwartz and Umali (1994) list different forms of extension by private companies. The most simple is when private input supply companies provide technical information to farmers when they purchase their products. For example, the Government of India (GOI) has combined strong public sector support with private sector extension service provision. As part of private sector extension, input dealers and traders have been trained to provide business advice through its Agropreneurial programme (Chandra-Shekara, 2005). Technical advisers attached to commercial supply companies also offer farm management advice but their work is largely limited to farm management linked to the materials and inputs provided.

Initiatives have also been taken to work with traders and buyers of agricultural produce to deliver market information. Private sector extension may be provided not only by companies wishing to sell to farmers, but also by those wishing to purchase from them. It should be pointed out that private extension then is not a stand alone activity, but is provided as a complementary service to others. Extension advice may be provided both to increase product quality to the benefit of the purchaser and as a way to promote partnership with suppliers.

An innovative approach to farm management that has evolved in both Africa and Asia is the concept of establishing outgrower schemes among smallholders. The approach followed is to identify lead farmers who, in turn, identify outgrowers. The outgrowers are guided and mentored by a lead farmer to form an interest group that is encouraged to mobilize finance and market collectively through the group enterprise. The approach is based on the principle of mutual trust and outgrowers are selected on the basis of social affinity. These models have been applied effectively in both Zambia and Pakistan.

In Zambia, different models of contract farming have been developed among smallholder farmers. In some cases the lead farmer or contract manager has a dual function of farmer and trader and are linked to networks of outgrowers through formal contract schemes where seeds and other inputs are channeled to smallholders by the farmer-manager and seeds and/or cash repayments are made in the course of the season. The contract manager is responsible for providing free extension advice.

Individuals within the government extension services may also give advice on a private basis. For example in Ecuador, extension agents effectively sharecrop with farmers. They provide advice and inputs (which they are able to secure on credit with the guarantee of their government salaries) while the farmers supply land and labour (Wilson, 1991; Umali, and Schwartz, 1994). Unlicensed individuals outside the public sector can also provide advice; Aneur (1994) reports that this is common in the People's Republic of China.

### Box 6

#### Outgrower schemes for advisory service support

##### *Agricultural Support Project (ASP), Zambia*

ASP is an agricultural commercialization programme under the auspices of the Ministry of Agriculture and Cooperatives (MACO), funded by Swedish International Development Cooperation Agency (SIDA). The objectives of the programme are to improve food security and increase income among smallholder farmers. ASP through the project promotes "Farming as a Business". A number of outgrower models have been developed of lead farmers as facilitators and providers of extension to group members of varying sizes (Model 1: up to 10 farmers; Model 2: 10–100 farmers; Model 3: livestock models; Model 4: formal outgrower model; Model 5: seed producer outgrower model; Model 6: market driven model; Model 7: distributor (cotton) model. All of these models follow a group formation process of savings first and social affinity. In the market driven models, traders situated in the village also participate in the group activities. The facilitator receives an incentive in the form of a commission for procurement of inputs or marketing of produce. The key to the success of the business models has been increases in productivity and income so that capital created can be shared among the members and actors.

In Uganda, a private sector model is being tested as part of the National Agricultural Advisory Services initiative. Under the scheme, extension is publicly funded but funds flow through FOs that have a controlling interest in fund allocation. FOs, in turn, have the option of contracting out extension services to private providers and NGOs. The initiative is based on the premise that small-scale farmers can "buy their way out of poverty" by paying for extension services. There is, however, little evidence to date to support this hypothesis and the financial sustainability of private extension schemes remains illusory (Anderson, 2007).

The role of the state is critical in such a model to ensure that the practices recommended by private extension organizations do not bring along negative externalities. Research by Davidson, Ahmad and Ali (2001) in Pakistan demonstrates this. The research findings show that private sector extension is more concerned with serving the needs of larger, resource-rich farmers to the exclusion of other farmers because of its primary interest in generating profits. At the same time it reveals that private providers work in stronger agrarian regions where markets are strong and a critical mass of produce is available.



It should be recognized that the market for private service providers can be very limited in some rural areas and often does not reach the more vulnerable farmers. As mentioned above, private sector service providers have not stepped in to provide commercial advisory services in many rural areas. The private sector has failed to extend its outreach into the more remote areas and hasn't contributed by providing farm management advice to small-scale subsistence farmers. The business aspects of the farm are risky. Agriculture is open to the vagaries of weather, markets and changing government policies. Moreover, many of the factors affecting the profitability of the farm enterprise, the willingness to pay for services and ability to pay for them have an impact not only on individual farmers, but on a whole region. The risks of failure in production and/or decreases in product prices produce a situation of co-variance of risk that impacts directly on service suppliers operating in the rural areas. Moreover, money is fungible within the farm household and can be used for a variety of productive and consumptive purposes. Fungibility in itself implies a risk in the sense that services may be required for both productive and consumptive purposes and cost recovery can occur through the generation of on-farm and off-farm income.

### **Box 7** **Agri-entrepreneurs**

The agriclincs and agribusiness centres aim at creating self-employment opportunities for unemployed agricultural graduates besides making available private specialized extension services to farmers through agribusiness ventures. The organization has established more than 1 160 agriclincs and agribusiness centres throughout the country. The institution conducts a training programme that covers aspects, such as agribusiness management, project management, post-harvest technologies, standardization, certification, crop insurance, farm implements, entrepreneur development and information technology.

The process of building up a demand for agripreneur advisory services, is to enhance awareness of the fact that the service provider is available around the clock and can advise on all topics including private sector new technologies and products. Following the training period the service provider receives GOI certification and is in a better position to serve farmers.

The training methodology follows four phases:

- Phase I** Participants are exposed to all possible agriventures by considering local conditions.
- Phase II** Graduates select a single or group of enterprises relevant to the conditions in their locality and conduct a market survey.
- Phase III** Graduates write their own bankable project based on the market survey.
- Phase IV** Mentoring and the provision of technical and management support to graduates during the initial stage of implementation (one year). During this phase nodal officers are expected to assist the trained agripreneurs in the field to set up agriclincs and agribusiness centres.

*Chandra-Shekara, P., 2005.*

The transaction costs for clients and service providers in rural areas also tend to be high. These are largely a result of the remoteness of the rural areas, the need to travel long distances to reach dispersed rural clientele, poorly developed rural transport and communication infrastructure, and lack of knowledge about the complexities of highly heterogeneous rural households. This combination of factors results in increasing costs of advisory services provided to farmers. Other problems that exist are the asymmetric information between client and service providers that results in moral hazard and an inability or unwillingness to pay for extension services provided. The challenge for government is to promote inclusive development with private sector involvement while also ensuring that development occurs in more remote rural areas.

### **Box 8** **Privatization approaches**

- *Share cropping systems.* In this situation the farmers provide the land and their labour, while the extension worker provides the input and advice. The extension workers with their contacts with inputs suppliers can easily obtain inputs, even on credit. All other costs, for example, such as labour are shared. The advantages are that the field may serve as a demonstration plot for other farmers in the community, the extension worker has a personal interest and may well motivate them to do their best, and the extension worker can work on this basis with multiple farmers.
- *Extension contract system.* The extension worker/firm may provide inputs and advice to the single farmer or group of farmers. Input costs will be recovered after the harvest and compensation is given by the farmer as some percent of the value of the enterprise, above some agreed target. If the harvest falls below the agreed target as a result of poor recommendations, or late supply of inputs, the compensation is proportionately reduced.
- *Village extension contract system.* An agricultural advisory committee consisting of representatives of farmers at village level hire consultancy. The consultant works for the village as mutual agreed upon by committee and consultant. The committee collects money from villagers based on some criteria, such as area/crop and pay for consultancy.
- *Contract farming.* An agribusiness firm provides inputs, technology and supervises production. The farmer is obliged to sell produce, as specified in quality, at a premium price only to the agribusiness firm. The farmer is supported in input, technology, production and marketing. The agribusiness firm gets quality produce at a reasonable price with the elimination of the intermediary.
- *Public extension through private delivery.* Agricultural consultancy firms are graded and certified by a government agency. Depending on consultancy capacity, extension services are awarded to competitive bidders at different levels, i.e. state, district, village. The cost of the service is shared between government and clients, i.e. farmers in different proportions. If clients are not happy with the service, the consultancy can be replaced by others.
- *Service for vouchers.* Farmers are not provided with public extension service, but are given vouchers depending upon the size of land, type of enterprise and type of information needed for certain years. Farmers can use these services trading the vouchers to any agricultural consultancy/firm, whether public or private, but after the period the farmers have to pay for all the services fully, as and when they receive them. These vouchers will go to other farmers, i.e. the next priority group. Thus gradually farmers are empowered and public service is gradually withdrawn.

With the failure of the private sector to step into the gap that public extension services left, there has been a call for a greater involvement of the “third sector” in development. This consists of FOs, professional producer associations, co-operatives, NGOs and other private-collective associations. These actors in the organized rural sector have increasingly taken over support service functions.

### **NGOs**

The fear of market failure and government inefficiency has been responsible for the emergence of NGOs in the development arena since the 1990s. Over this period many NGOs moved away from providing humanitarian assistance towards a more active development role oiled through bilateral donor funding. For example, in Mozambique in 2005, NGOs employed 840 extension workers as compared with 770 within the public sector system (Gemo, Eicher and Teclemarium, 2005).

In rural areas that can be classified as complex, diverse and risk-prone – where many farmers cannot afford to buy advice and government services are often very weak – NGOs have developed a niche for themselves and are often the main providers of extension services. Not only do they provide the services themselves, but they have been responsible for developing methodologies for research and extension that subsequently have been adopted by the public sector (Farrington and Amanor, 1991).

The NGO provider model has been embraced by donors as well as governments. The NGOs involved in extension service delivery demonstrate a much higher level of success than delivery through the public sector largely because of their decentralized operations and potential to behave in a more commercial manner. NGOs are often able to combine a business-like organizational culture with a concrete social/welfare agenda. Some NGOs have shown themselves to be efficient in implementing grassroots development projects besides delivering specific training programmes. The presence of appropriate types of local intermediaries is extremely useful in reaching a larger number of farmers and providing localized services.

However, there are serious implications of NGO delivery of farm and enterprise business services. NGOs are dependent on donor funding for their operations and in spite of claims of sustainability, they are often not in the position to sustain the extension services provided after donor withdrawal. While the experience of NGOs, such as the Cooperative League of the United States (CLUSA), the Canadian development agency, Agence Canadienne de Développement International (ACDI) and relative programme Volunteers in Overseas Cooperative Assistance (VOCA) and Technoserve, suggest that very valuable farm level impact can be achieved, and that there is an increasing number of local NGOs that do not possess the capacity and skills to promote business management extension. Many local NGOs require skills development training in the same way as farmer clients.

In order to develop and strengthen the outreach and performance of local NGOs, there is sometimes a need expressed through government policy to provide short-term financial support and active encouragement to non-governmental participants. In some cases government retains responsibility for a large part of the cost of the service, at least while the new service providers are getting established. This is justified similarly to the infant industry

protection argument. Government could, under this model, subcontract actual delivery of extension advice while stipulating a period over which they financially support the NGO in extension service delivery.

### Box 9

#### Business management centres: Chile

In Chile a model started in 1995 and quite widely used is the Business Management Centre (CG). The concept is based on the service centres model developed in some European countries. The Ministry of Agriculture set up several CGs that work with small- and medium scale-farmers, through farmer associations, in diverse regions of the country. This provides an example of government supplied farmer based services. The CG provides farmers with management services that respond to client demand.

The system is based on outsourcing with private entities and NGOs providing support services. The CGs formed by small producers are provided with financing from INDAP and FIA. The CGs provide management and entrepreneurial advice based principally on an economic, financial and technical analysis of available production and marketing alternatives. The scheme has been set up in such a way that the financial contribution of the institutions involved decrease gradually over time with the shortfall being taken up by the farmer group. The CG experts make regular visits to FOs to gather information, conduct management training and monitor record-keeping practices.

*Berdegue, J., 2005*

#### **Cooperatives/membership based organizations**

In most developing countries, there is considerable evidence that the effectiveness of extension supply services greatly improves depending on the degree that farmers themselves are implicated in the governance and the delivery of extension services. This presupposes that farmers have organized themselves in FOs at village, district and even national level. These organizations could be either commodity based or more generally focused. In some countries demand for management training and extension advice have come through these organizations. As stakeholders in the governance of these services, they participate in programming and build modalities for extension delivery and evaluation. The participation of their members enables them to identify needs more precisely and adapt the content of the programmes to their demands.

FOs are particularly effective in assisting the more vulnerable members of the rural community towards farm business development. These groups generate economies of scale and act as an important political lobby if well organized and mature. A sound economic and political base strengthens their bargaining position vis-à-vis the public sector, as well as larger national and multinational agribusiness ventures. Once local organizations have developed the capacity to manage as independent entities they can be organized into higher level apex institutions and associations. Consolidation and leveraging can be achieved by joint input purchasing, by owning fixed assets in common, by consolidating output and by coming together to form an association. Successful associations will eventually become self-supporting. The organization of farmers also provides a political forum and “voice” to more effectively lobby for common interests. Government policy can ultimately be influenced through the establishment and development of lobby groups such as farmer processing and trade associations.

FOs may be both consumers and providers of information and extension services (Umali and Schwartz, 1994). Larger, more formal organizations, such as the Argentine Association of Agricultural Experimentation Groups (AACREA) and Ugandan National Farmers' Association (UNFA) tend to provide more advice than they consume. They are financed to do so either by membership dues through a combination of product revenues (a percentage of annual profits and sales revenues), NGO and donor funding. Smaller organizations are more likely to consume advice, though they might also generate and share information internally.

The “farmer first” extension approach of FOs suggests a fundamental change in the way extension is treated; away from a situation where farmers are recipients of extension messages planned for them by government to where farmers demand the services they want. Bringing about this shift requires that farmers are empowered to do their own planning and identification of their needs. Furthermore, it means that farmers must negotiate their demands with extension service providers, both public and private. How this is done in practice varies considerably but the bottom line is that farmers cannot be “forced” to make changes. They have to “want” to move and largely by utilizing their own resources.

The farmer-to-farmer extension approach is an alternative model of FO based on group-based learning, cross-visits, farmer trainers and farmer extension agents. The approach has strong self-learning elements as well as group level cooperation. The model originated in areas where government services have been weak or non-existent. In some cases the approach relies on external facilitation. Farmer-to-farmer extension is best recognized by the experience of Farmer Field and Business Schools. Farmer Field Schools (FFSs) are based on non-formal education methods, focusing on field observations, season long research studies and hands on activities. During the season they provide a learning environment and attempt to build the capacity of the group. More recently market-oriented farm management has been introduced through Farm Business Schools (FBSs) based on the same principles as the FFS – experiential, participatory, problem solving, etc. The basic concepts involved in the FBS are adult non-formal education, facilitators with experience in farm management, building groups/group dynamics, hands on learning, group study and follow-up.

The FBS has been developed as a stand alone concept but could be organized as a second round training for those farmers that are commercially minded and have graduated from a season long Farmer Field School. Under this model extension workers or lead farmers fill the role of facilitator and require a first round training in farm management. The FBS calls for a reorientation of the extension service towards farm management and marketing. The FBS concept has been introduced by FAO through pilot projects in Botswana, Zambia, Malawi, Nigeria and Kenya, with full support from government.

Currently attention is also being given to farm management in French speaking West Africa. A growing number of countries in the region are focusing on cash crops and value adding-activities, and policy-makers realize that farmers are only willing to continue producing if they understand the benefits in doing so and the choices that they are given. Farm management service provision is of increasing importance and the subject is perceived as new and innovative. Of particular significance is the approach developed since the 1970s in Senegal, Burkina Faso, Cameroon, Chad, Mali, Benin, and the Ivory Coast by the French development agency, Centre de Coopération Internationale en Recherche Agronomique pour le Développement (CIRAD) under the Management Advice for Family Farms (MAFF) programme. The objective of MAFF is to improve farm profits in order to meet family household needs. The content of extension is a combination of technical and farm management topics. In general, groups of 15–20 farmers meet at fortnightly intervals, and sessions regularly include field visits and demonstrations. Group members select from among the modules and themes available. The sessions are facilitated by extension advisors with support from a MAFF coordination unit, which provides for regular training, information, monitoring and evaluation (M & E). These are two examples of the new emphasis being given to farm management by membership organizations.

**Box 10**  
**MAFF methodology**

- Enables the farmer and his family to analyse their own situation, to look ahead, to make choices, to monitor their activities and to evaluate the results. It takes into account the technical, economic, financial and social aspects of their farming activities;
- capacity-building process for men and/or women farmers covering agricultural production, organization of labour, management of cash flows, etc.;
- learning process including training, record-keeping, exchange of practices and utilization of farmers' expertise; provides tools for improved decision-making on technical and business aspects of production, calculation of gross margins, cash flow management, etc.; hence making use of measurements, prices, etc., which assumes farmers' ability in calculation and writing;
- set within the social context: participants and their groups are part of networks for exchanging practices and local knowledge; they are members of FOs and often are among their leadership;
- aimed at developing farmers' driven delivery services, with strong participation of FOs often in a governing position; this is often a means to forge partnerships with other actors such as NGOs or private extension providers.

*Source: Faure, CIRAD*



### **Decentralized extension services**

Decentralization is a process of institutional change that follows the principle of subsidiarity where decisions on service provision are taken close to the point of demand. Decentralization of extension to local governments has proceeded rapidly, in the 1980s and 1990s, especially in many Latin American countries and is now underway in Asia (Eicher, 2007). As part of the decentralization process, the roles of the actors involved in the delivery of extension are redefined. The process aims at improving the delivery of extension advice making most of local knowledge, engaging local participation and ownership and utilizing local resources. The process of decentralization enhances transparency and accountability and builds capacity at a local level, which can be applied to the provision of other services. The role of central government is to take responsibility for policy formulation, the development of national extension strategies and defining regulatory frameworks and standards for goods and services.

Decentralization can improve the representation of farmers and local entrepreneurs and better reflect customers' interests. It also offers the chance to match public services more closely to local demands and preferences, and to build more responsive and accountable government from the bottom up. Common needs of the clients can be identified more clearly. A degree of local level control often makes it easier for service providers to address needs, focus on objectives and ultimately better manage service provision. The flexibility associated with decentralized management and the accompanying mechanisms for resource allocation and service provision ensure that the localized service providers and facilitators are in a better position to support local initiatives. These factors are also more likely to ensure sustainability.

Forms of decentralization are being promoted in developing countries from Asia to Latin America. An example of a decentralized model in the Latin America region is the National Agricultural Technology System (NATS) of Colombia that works at the level of the departments of agriculture and the Municipal Agricultural Technical Assistance Units (UMATA). This model is a response to the administrative decentralization that has been implemented in Colombia, which has delegated to municipalities the responsibility of offering and providing rural sectors with technologies and agricultural advice. The UMATA receive assistance from several central institutes of the ministry of agriculture engaged in research but maintain a capacity, albeit limited in terms of farm management extension, to define priorities at the municipal level and to agree on and identify demand. Priorities are negotiated locally.

It should be pointed out, however, that the benefits of decentralized service provision are often few and far between. In the Philippines, for example, local government has taken responsibility for the provision of support services, through a pluralistic set of service delivery mechanisms including the municipalities, NGOs and the private sector. The record, however, shows that performance has been weak. Local government lacks the technical expertise required to provide effective advisory service support. The programmes being followed are largely commodity based and farm management advice is totally lacking.

A broader and more common example of decentralized extension services has been the Local Economic Development Agencies (LEDAs) that emerged in the mid-1990s largely in Latin America in the framework of the Central America post-war reconstruction process. Initial experimentation of this approach was promoted by PRODERE a major programme in support to the peace agreement, implemented between 1991 and 1996 by several United Nations (UN) agencies – United Nations Development Programme (UNDP), United Nations High Commission for Refugees (UNHCR), International Labour Organization (ILO), Food and Agriculture Organization (FAO), World Health Organization (WHO) and the Pan American Health Organization (PAHO).

Following the Central American experience, LEDA schemes were subsequently created with the support of the United Nations Office for Project Services (UNOPS), ILO and other agencies in areas affected by major political conflicts and/or accelerated transition to market economy (Eastern Europe, the Balkans, Cambodia and Mozambique). The approach considers the local territory (a spatial and social unit corresponding to administrative entities such as provinces, departments or regions) as the primary space in which economic development takes place. It is at the local level that linkages in economic development are managed. The LEDA process also assumes that local economic development is best approached as a multi-stakeholder endeavour involving private, public and non-profit actors. In this framework, farm enterprise development is a joint responsibility of the public and non-profit sector to promote and support the capacity of entrepreneurs to develop their farm businesses. LEDA facilitates access to management services of strategic importance (credit, technical assistance, business development services, marketing, etc.) that are often unavailable in rural areas of developing or transitional countries.

Some services are provided directly by LEDA while others are facilitated through service providers. Those services directly provided are of general interest for farmers and rural entrepreneurs. These include market research services, enterprise promotion services, networking services and actions oriented to establish partnerships with local development experiences in donor countries. In some cases credit is made available to promote micro, small and medium enterprises supported by a full range of non-financial services including farm business management advice. Technical assistance is provided for the formulation of business plans and during the start-up and consolidation of the new enterprise and market outlets identified. Training opportunities are also made available.

In conclusion, it should be reiterated that decentralization, deconcentration, contracting/outsourcing, public-private partnerships, and privatization have all started to transform conventional models of public sector agricultural advisory services. In addition, new actors have entered the scene to provide and finance advisory services, including NGOs, FOs and community-based organizations. Private sector companies provide embedded advisory services, which are integrated in commercial transactions such as sale of inputs or contract farming. Innovative advisory methods have gained ground, such as group-based and participatory approaches. However, revitalizing public sector advisory services is also an important reform strategy and one that should be recognized as significant.



## 2.6 FARM MANAGEMENT STAKEHOLDERS

Public sector extension services cannot be viewed in isolation from the other actors in the system. While each individual producer is a manager, farm management information and advice are shared responsibilities of farmers, public sector extension workers and consultants. The concept of farm business management in effect extends beyond the farm level. Farm business managers, can also be employed by input suppliers, traders, commercial farms, farmers' associations, NGOs and other service providers. Although farm business management refers to the farm as a unit, there are many stakeholders involved in rural areas that require skills in farm business management. The categories of stakeholders include farmers, FOs, NGOs, the private and public sectors and donors.

**Table 2 Stakeholder categories in farm management**

| Category  | Stakeholder  |
|---|--|
| <b>Farmers</b>  | Urban vegetable farmers<br>Fruit growers<br>Export crop growers<br>(e.g. cotton, cocoa, oil palm)<br>Poultry farmers<br>Cattle raisers<br>Short cycle animal owners<br>Small-scale and large-scale staple crop producers<br>Specialized crop producers, such as Indian herbs, organic sesame, non-traditional export crops<br>Large-scale farmers  |
| <b>Special groups, often marginalized and very vulnerable</b> | Female headed farm households<br>Young farmers<br>Farmers holding undeveloped land<br>Households affected by HIV/AIDS<br>Immigrants  |
| <b>Farmers' organizations</b>                                 | Small farmers' associations<br>Members of farmers' associations<br>Fishermen and livestock associations<br>Chambers of agriculture   |
| <b>NGOs</b>   | Extension agents – field level<br>Subject matter specialists (SMSs) (middle level extension service providers)<br>Community associations and societies<br>Local financing structures (small credit associations)   |
| <b>Private sector</b>   | Commercial dealers (inputs, agriculture produce, export crops, processed crops)<br>Industrial producers<br>Small-scale producers<br>Financial institutions supporting agricultural projects, such as donor agencies, banks<br>Large-scale producers  |
| <b>Agro-industrial stakeholders</b>                           | Government marketing and export boards<br>Multinational Corporations   |
| <b>Public sector</b>  | Policy-makers and their advisors<br>Decision-makers in service-providing institutions<br>Decision-makers in governmental and parastatal agencies<br>Trainers of extension personnel<br>Rural schools<br>Service providing agents (extension workers)<br>Development projects and programmes<br>National and international agricultural research institutes<br>Teachers in colleges and universities<br>Media |
| <b>Donors</b>   | Governments as donors<br>NGOs as donors<br>Private sector as donor<br>Development partners as donors   |

The categories represent two groups of stakeholders: decision-makers and service providers who support the decision-makers. Support to agriculture requires a broader response and farm business management advice must be seen in a broader framework, beyond the farmgate. The presence of these stakeholders in the agricultural sector suggests that business advisory services are necessary not only for farmers, but also for other actors along value chains. Business advice is required by different actors at several levels. Commitment to the promotion of farm management advice raises fundamental questions about the relevance of the conventional modalities and objectives that have steered extension programmes for many years.

## 2.7 FARM MANAGEMENT EXTENSION METHODS

A management technique is, in this context, defined as “any formal method or procedure that is employed to generate information used by a decision-maker to analyse and specify possible solutions and to monitor and evaluate the progress and effectiveness of a solution that was chosen and implemented” (Rehman and Dorward, 1984). Management techniques are both a means to an end (information) and an aid to problem solving. Its relevance is its ability to generate information that can be used for solving problems in a given decision-making situation.

Farm management advice has two purposes: i) to get farmers to consider and manage their farms as a business; ii) to prioritize and direct agricultural extension activities. Farm management extension methods can be classified into three major groups:

- basic methods of farm management decision making, mainly used to achieve the first of these purposes;
- methods of presenting farm management solutions that are intended principally to serve the second purpose;<sup>7</sup>
- methods of providing information on farm management.

### ***Basic tools for farm management decision-making***

The basic tools of farm management include diagnostic techniques and planning. Diagnostic techniques are those that help a farmer to recognize and define a problem initially, while planning methods are used for comparing alternative solution strategies. Most of the conventional farm management tools fit into these two broad categories. Diagnostic tools include “farm performance analysis”, which consists primarily of analysing the farm by comparing its financial results and the components of its production and marketing system with benchmarks, either internal to the farm business or external in comparison to other farms. Management decisions are based on performance comparisons.

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<sup>7</sup> There is no hard and fast distinction between the purposes of these first two sets of methods. Farm management extension workers use not just one method, but often combine several of them in the light of specific circumstances.

While diagnostic techniques analyse past events, planning implies consideration of the future. Planning techniques explore, analyse and evaluate future possibilities. In this sense the boundaries between planning and diagnostic techniques are often blurred and diagnosis may lead to intuitive planning, while planning-aids incorporate or require prior diagnosis (Rehman and Dorward, 1984; Olu-Okelola and Errington, 1998). The most commonly used tools are described below:

**Budgeting** procedures are perhaps the most commonly used techniques in planning. Budgeting is another farm management method that estimates costs and returns of alternative strategies and/or actions. It enables a choice to be made between alternative plans by comparing the financial results. This is an empirical method in that the plans reflect possible combinations of the farm's scarce resources. The object of these plans is to improve the farm's financial situation. However, budgeting cannot claim to maximize results. Depending on whether the plan is for a simple change or complete reorganization of the farming system, a partial or "whole farm" budget is prepared. Budgeting does not draw up a plan it only evaluates it in physical and financial terms. In this sense it is a planning aid. The actual plan is drawn up using a combination of experience, judgment and intuition (Barnard and Nix, 1973). Budgeting and its variations – partial and break-even – lie at the core of conventional farm management analysis.

**Farm business planning** is a procedure for organizing a farm business to make the best use of its scarce resources. The plans are submitted to farmers so that they may choose the one that they think is best suited to raise income and to improve the standard of living of the family. The plans characterize different farming systems in varying degrees of detail.

**Linear programming** and its progeny are mathematical techniques that formulate the resource allocation problem as a system of simultaneous equations, whereby an objective is maximized within the restrictions imposed by the quantities of resources available. The methods were used widely in the 1960s and 1970s, but owing to the need for good quality information and computer facilities have been regarded as less relevant for use in developing countries. Its difficulties stem partly from its conceptual and computational assumptions.

**Programme planning** is also used to select farm enterprises while taking into account the resource constraints of the farm. All of these budgeting techniques rely on gross margin analysis as the basic farm management method used to assess farm enterprise profitability. Although budgeting and programme planning have their critics, they are widely popular and this can be explained by their simplicity of use, and the fact that it aids the heuristic approach to decision-making rather than imposing an analytical framework on the decision-maker.

Other more specialized farm management methods include the preparation of financial statements, balance sheets, cash flow analysis, risk management, labour and machinery planning and farm investment appraisal.

In some countries farm management extension has maintained more of a technical cum farm economics focus. In Malaysia for example, farm management was traditionally conducted by the Department of Agriculture with the aim of transforming traditional farming systems to commercialized production systems. While the guiding principle in the identification of enterprises is the availability of markets for farm produce, selection of activities has to be technically compatible with the farming system. Farm business plans were prepared based on market appraisals, enterprise budgets and technical information including schedules of crop rotations accompanied by financial viability analysis (cash flow analysis).

### ***Methods of disseminating farm management solutions***

It is not enough to identify solutions to farm management problems. The solutions need to be effectively disseminated to farmers and appropriate ways developed to ensure broad outreach and cost-effectiveness. Examples of ways to disseminate solutions include pilot farms, pilot areas and farm model plans. These farm management methods are used mainly, but not exclusively, to orientate agricultural extension work. They enable a large number of farmers to practice farm management whereas the basic methods are usually applied to only a small number. They may be defined as procedures for working out and presenting solutions to farm management problems. Their purpose is to explain management concepts to farmers and offer them suitable solutions.

***Pilot farms.*** Pilot farms are used for demonstration purposes to illustrate to groups of farmers selected problems of farm management. Pilot farms are chosen based on their degree of representation of a large category of farms in the area. Farm plans are drawn up between the extension worker and farmer using farm business planning methods described previously. Groups of farmers could visit the pilot farms where farm plans and technical and economic aspects are analyzed. Message would be conveyed to farmers by both extension workers and lead farmers.

***Pilot areas.*** An alternative form of dissemination involves the selection of a pilot or demonstration area. This could consist of a few hundred farms where a concerted agricultural improvement campaign is organized covering all aspects of farming over a specific period of time. In some cases farm business plans could be drawn up by extension workers (as in the case of pilot farms) after a thorough analysis of the farming system and its vicinity. While the pilot farm method means that only one farm in the area is supervised by extension workers, in a pilot area several farms would be covered.

***Local area based programmes.*** An alternative approach is to develop area based extension programmes covering a season or calendar year. The critical point is the need to establish priorities for extension work at local level. Farm management as a branch of applied economics has the analytical tools to enable extension services and research organizations to prioritise their areas of work. Under this method a small team of agricultural extension workers (both general and specialist) and farmers draw up a programme for a farm whose size and system are typical of the local area. The team studies the performance of the more successful farms in the vicinity. After discussion, the team draws up a programme that takes into account aspects of marketing, production planning, setting investment priorities and

financing while proposing technical actions and practical recommendations for extension work. Such a programme, however, only provides a framework to guide extension workers and would need to be tailored to suit the needs of each farm. This approach has the merit of obliging extension workers and selected lead farmers to discuss the problem of a given type of farm so that decisions about enterprise diversification and commercialization can be taken.

**Model plans.** A model plan is intended to highlight the economically optimum production process for a farm with predetermined resources, constraints and techniques. In the early days of farm management extension in developed countries, model plans were drawn up for various kinds of farms in a particular agricultural region using linear programming. The approach, however, faced some difficulties. In the first place, the model plans needed to be presented in a form convenient to the farm management adviser. Second, the comparability of model plans needed to be validated before being circulated. Otherwise, the plans chosen would be too advanced in relation to the successful farms in the area (which would discourage both the extension workers and the farmers), or not advanced enough in which case they would not be useful.

Farm management specialists in a great many cases use elementary methods and techniques. One of the reasons is the need to ensure that extension workers achieve a broad outreach among farmers. The more sophisticated methods and tools require more time in data collection and analysis and are more prone to be used to provide advice to individual farmers. The time required restricts the use of these methods and in practice, only a small number of farmers can be assisted. However, individual methods are certainly necessary, particularly to train leaders who can influence other farmers in the same locality.

### **Methods of providing information on farm management**

**Handbooks and mass media.** This includes the preparation of farm management handbooks, analysed reference data and periodical publications. They comprise the traditional range of mass extension methods. Farm management handbooks and handbooks of reference data and statistics have been compiled in many countries. Specialized periodicals, each issue dealing with a number of management problems explained in a manner that can be understood by a large number of readers, are sometimes published and are found to be very useful. In some countries articles on farm management are published in local farming journals with the intention of informing large numbers of farmers on a particular topic. Workshops and seminars on farm management, intended primarily for young farmers, can also be arranged with the aim of recruiting new members for farm management extension groups and explain management problems.

**Participatory farm management extension (PFME).** In a PFME, the principal task of extension workers is not first and foremost to transfer agricultural expertise and technology to farmers. Instead, the role of the extension worker is to facilitate an in-depth situation analysis by the farmers themselves at the beginning of the relationship between the extension service and a community. Once farmers become aware of the root causes of their problems and identify the most pressing of these, the extension workers could provide technical

knowledge and technologies, which may be useful to resolve the problems identified. To perform well in a PFME, extension workers not only need agricultural expertise but also good analytical, pedagogical and facilitating skills (Dorward *et al.*, 1997).

**Group methods of extension.** Group methods of extension play an important role in allowing extension workers to more readily meet with groups of farmers during a single visit. The success of these meetings, however, depends on a number of factors: (i) the number of farmers taking part: there should be 10 to 20 participants at the most; (ii) frequency of meetings: several solutions are possible, ranging from a series of regular meetings (e.g. every fortnight for a whole season) to a session lasting several days and devoted to a specific topic; (iii) preparation of meetings by the extension worker: must be done very thoroughly and requires a great deal of time; (iv) active participation by the farmers (and possibly their spouses): it is essential that farmers discuss matters among themselves so that they come to realize what their particular difficulties are; and (v) duration of the group: each group should remain as long as it is needed to carry out the programme, e.g. a crop year. Groups could commonly meet on farms and use their farm performance data for analysis and discussion.

In many developing countries group extension methods are being increasingly used. Experience in some countries suggests that when groups of farmers are organized to meet extension workers regularly, the teaching and learning of farm management is enhanced. Furthermore, the foundations are laid for other forms of mutual assistance in production and marketing. The demand for assistance through advice on farm management is generally increasing, though in some countries there is evidence that this is mainly requested more by commercial farmers; demand appears to be lower by smaller-scale producers who request help with production, policy and rural development issues much more than with business management.

## 2.8 FARM MANAGEMENT EXTENSION WORKERS

Public sector extension workers typically consist of SMSs and front line extension staff. The SMSs are responsible for technically supporting front line extension workers who are in day-to-day contact with farmers. The front line extension workers have a more general agricultural orientation. The SMSs include crop production, animal husbandry, farm mechanization, agricultural marketing, farm management and others. However, the position of farm management specialists has over the years declined in importance.

Many of the anglophone countries in Africa and others in Asia continue to maintain specialist staff in farm economics and farm management. These farm management specialists, however, are often not directly involved in extension. They are too scarce a resource and smallholdings are too small for direct involvement to be cost-effective. Farm management extension workers are usually situated at national, regional and in some countries district level and have a role to play in coordination, both vertically (between national and local services) and horizontally (liaison with agricultural research and education). These specialists have the potential to stimulate and supervise front line public sector extension workers as



well as other NGO-private sector change agents. As previously noted, farm management extension is gaining in importance as it takes on the responsibilities of market information and research.

### Box 11

#### Estimated numbers of advisory service staff

Bahal *et al.* (1992), assessed the number of extension workers, worldwide at 600 000.

Anderson and Feder (2006), estimated the total personnel of public sector advisory services as 400 000.

Hu and Huang (2004) estimated the total number of advisory services personnel in The People's Republic of China alone to be about 700 000.

*Sources: Bahal R., 1992, Eiche C. K., 2007, Anderson, J. R. and Feder, G. 2006, Hu and Huang, 2004.*

In most developing countries, public sector positions in agriculture are being cut back, salaries are low and the effectiveness of government extension services is being increasingly questioned. In all countries, studied extension workers and farm management specialists are, to a greater or lesser degree, considered to be too few. Extension services lack the funds to meet the growing needs of farmers. With the shift in focus towards NGOs and the private sector providing consulting advice, specialists in farm management can also be found in NGOs, private consulting bodies, and universities, and other educational establishments. The move towards a more pluralistic extension service support opens up opportunities to resourceful and well qualified personnel, particularly in the technical area of farm business management. Pluralistic extension service support needs to build on the capacities in farm business management available in countries at all levels and in all institutions.

It is difficult to quantify the resources available and the demand for farm management advice. Simple ratios of numbers of farmers per adviser are often misleading: other factors, such as communication and marketing infrastructure and the quality of economic data available, affect the actual impact that advisers can have on farms. It seems safe to conclude, however, that in general farmers are able to gain access to information from various sources, although much of the content of the message continues to be production focused. As the demand for farm management advice rises, some form of rationing of this specialist advice occurs. This takes the form either of a service mainly to those farmers who can pay, or a service offered only to those producers who are selected by advisers for their own professional reasons. Criteria that have been used are typically farmer progressiveness, ease of access to the farm and the larger scale of farming.



In many countries within the public sector there is not only a shortage of suitable recruits, but the professional qualifications of the existing farm management advisers are often inadequate. This is attributed to their basic training, the salaries offered, their working conditions, lack of professional standing and the inadequacy of in service training methods. It is true to say that extension work in farm management is not always rationally organized and that action is needed to make it more productive. There is potential to make general advisers responsible for farm management advice; this is one of the most effective ways of increasing the number of farmers who benefit from the management approach. It is also clear that the farm management specialist should have a university degree or its equivalent. The consequence is that the standard of recruitment of farm management specialists would have to be raised.

The role of extension workers has also changed over the years from a provider of information to a facilitator and/or broker of information from different sources (Alex *et al.*, 2002). Field staffs of agricultural extension services are not just conduits of information, but advisors, facilitators, and knowledge brokers. In order to be effective as “agents of information exchange” they require knowledge of different sources of information and they have to be able to obtain it quickly to assist farmers making timely decisions. Consequently, all extension workers need to be skilled in accessing, processing and sharing information. This implies a fundamental change in the way extension workers operate. They have to learn how to interact and become listeners and facilitators.

In order to assist farmers in obtaining information on how to sell and to whom to sell, from whom to buy inputs and what to produce, extension workers need to provide advice on production and market opportunities. As farmers become more market-oriented, extension workers must also become more market-oriented. If farmers cannot sell what they produce, then much of the extension advice on production techniques will have been wasted. There is consequently, a need among extension workers to build up farm management skills in order to communicate these extension messages more effectively. Extension workers have a vital role in this process of information dissemination related to marketing and management. As a starting point it is crucial for extension workers to know the kind of information that farmers need. It is not necessary for front line extension workers to process data to information. The role of the extension worker as generalist is to facilitate this process and ensure that information is communicated between farmers and members of the rural community. Without such information and skills extension workers would not be equipped to develop an explicit role for dialogue with farmers in extension contacts and this would be highly detrimental to promoting participatory processes that lie at the heart of any effective extension strategy (McKillop, 1974; Watt, 1975).

**Box 12****Qualities needed in a farm management advisor**

- (i) **Competence.** A sound grasp of farming techniques as well as training in economics and specialization in farm business management. Good farm management advisers need to understand the concepts, tools and techniques of the discipline and have the skills necessary to provide practical and useful advice to farmers.
- ii) **Ability to win the farmer's confidence.** Farm management advisers need to gain the respect of the farmer and this can be achieved by coming from a farming background, understanding the farmer's mentality and providing sound professional advice.
- iii) **Discretion and tact.** Farm management advisers need to be bound by professional secrecy and tactful enough to avoid upsetting and embarrassing farmers in difficulty (especially during group discussions) and be ready to help without interfering.
- iv) **Teaching ability.** Farm management advisers should not merely advise, but should help the farmers to make their own decisions through economic reasoning.
- v) **A sense of responsibility.** Although it is the farmer who decides how the farm should be managed, the farm management adviser does carry some responsibility. Consequently advisers need to be prudent and responsible.
- vi) **Team spirit.** The farm management adviser works in a team with other local agricultural advisers and with specialists. The adviser must also be able to instill a team spirit in the groups of farmers that are formed.
- vii) **Authority.** Farm management advisers need authority not only to put their views across to farmers but also when working with other agricultural advisers to draw up extension programmes, a procedure in which they play a key role.
- viii) **Organizational ability.** In the course of a year they will have a wide variety of tasks to perform, which means that they must draw up a scale of priorities.

## 3 Farm management training

*A transformation is needed of agricultural extension with greater emphasis placed on developing the capabilities and capacities of farmers in terms of solving management problems and decision-making. These changes require appropriate training programmes of extension workers and farmers as well as adjustments to the formal education curricula. The chapter describes and appraises different types of training programmes in farm management conducted globally.*

### 3.1 THE NEED FOR TRAINING

The number of public sector extension workers worldwide is in the hundreds of thousands. These consist of subject-matter specialists, field workers and multipurpose people. To these can be added the tens of thousands of change agents working with farmers and drawn from the ranks of NGOs and the private sector. The balance of staffing between the public, private and NGO sectors may have shifted over the last decade, but the absolute numbers involved and the deficiencies in knowledge, skills and ability in all developing countries and countries in transition are still considerable. About 39 percent of the public sector extension personnel worldwide have secondary level and 33 percent an intermediate level education (Bahal *et al.*, 1992). Moreover, within each region there is much variation in basic academic qualifications of front line extension workers and SMSs. There are also wide differences in training received. In Africa most front line extension workers still have only a secondary school diploma. A common problem, particularly among the public sector extension services, has been the budgetary cutbacks as a result of severe economic austerity measures. These have extended over the last decade and have resulted in poorer quality and training of the staff retained.

Shortages of adequately trained extension personnel limit the effectiveness of extension services in most countries. This is true at all levels: farmers, field extension workers, farm management specialists, their supervisors and regional and national programme managers. Extension workers, in particular, possess limited skills in farm management. This subject has not been adequately mainstreamed within the traditional government extension services. Also within and among private and NGO extension service providers the capacity and skills in farm business management are weak. Staff are generally young and lack the practical experience and specialized expertise necessary to provide effective and credible management advice. For farm management extension to be effective, training is essential.

Training is an integral part of farm management extension work and is important also in itself for long-term development and sustainability. The need for farm management training stems from the realization that farm households lack the skills and competencies to take the opportunities created by the liberalized economy. Training is the catalyst to make both

farmers and extension workers conscious and aware of the opportunities that exist and provide the skills needed to enhance farm business profitability and competitiveness.

It is thus considered imperative to develop strategies for capacity building within all sectors and with multiple actors along value chains. This translates into an urgent need to build technical capacity, in particular, in the business aspects of farm management for extension staff and farmers, by developing an in-house training capacity and providing appropriate training materials.

Training can be directed towards five levels of personnel:

- front line extension workers (public, private, NGO sectors);
- trainers of front line extension workers (public, private, NGO sectors);
- SMSs with previous background in economics and farm management;
- farm management SMSs;
- policy-makers and programme managers.

Training is also required for farmers, both male and female, recognizing that farm women are actively involved in many aspects of farming. Training programmes are needed for each segment of extension staff and farmers, depending on their need.

Extension programmes need to be backed by a body of professionals trained in farm economics and management who are qualified to: diagnose farm business performance; identify farm and market problems, opportunities, solutions and priorities; develop objective and sustainable support; provide information for more informed decision-making; and are able to communicate effectively with the various institutions and actors along selected value chains. This core body of knowledge should not be located and limited to the public sector.

The nature of farm management extension education, as any other technical area, calls for specialized knowledge and skills, understanding and attitudes: knowledge of technical subject matter in farm management, practical skills in applying the concepts, tools and techniques for application in rural areas and skills in communicating and teaching farmers both individually and in groups. Extension workers require knowledge and skills in understanding and applying the concepts and tools of farm management combined with competencies communication and human development.

### **3.2 TRAINING APPROACHES AND TYPES**

From a review of various farm management training programmes conducted in developing and transitional countries, both traditional and experiential approaches have been applied (FAO, 2003). In the traditional design of training programmes, trainers set the objectives, contents, teaching techniques, assignments, lesson plans, exercises and evaluation. Training

design is largely made by the training staff themselves. In the experiential approach, the trainer incorporates experiences where the learner becomes active and influences the training process. Experiential training emphasizes real or simulated situations in which the trainees are expected to eventually operate. In this approach the objectives are jointly determined by the trainers and trainees. Trainers primarily serve as facilitators, catalysts or resource persons. Elements of the experiential learning approach can be incorporated in the more traditional model, providing opportunities for field and simulated classroom exercises within a workshop environment.

Extension worker training in farm management has been conducted both as pre-service and in-service training. Pre-service training has traditionally been classroom oriented, following a set curricula and syllabus for a given duration. In-service training programmes have been offered periodically to develop the skills and knowledge of incumbents. In some situations the two forms of training have been combined.<sup>8</sup>

### Box 13

#### In-service training programmes in farm management

**1. Induction or orientation training.** This is given immediately after joining the organization to introduce extension staff to their positions. It supplements whatever pre-service training the new personnel might have had. Induction training, however, is usually more focused on providing a general understanding of the organization and the role of extension workers within it.

**2. Foundation training.** Foundation training is in-service training appropriate for newly recruited personnel. Foundation training is made available to employees to strengthen the foundation of their service career. The training is usually provided at an early stage of service life.

**3. Refresher or remedial training.** This training is offered to update and maintain the specialized subject matter knowledge of incumbent extension workers. The training deals with new information and new methods and is needed to keep extension workers at the peak of their possible skills development and prevent them from getting into a rut.

**4. On-the-job training.** This can be either ad hoc or regularly scheduled training in farm management, where a longer term training curricula is broken down into shorter discrete schedules adapted to suit the time availability of the trainees. It is usually used by subject matter farm management specialists to train front line extension workers. It has also been used for extension workers to train farmers when developed into a structured training curriculum. This form of training is generally problem oriented and often includes formal presentations, informal discussions and opportunities to try out new skills and knowledge in the field.

*Haim, A. & Ali, M., 1997*

<sup>8</sup> The Ethiopia Rural Capacity Building project funded by World Bank and SIDA provides an example of a combination of both formal pre-service and practical field level in-service training for front line extension workers or development agents. The curriculum covers, in addition to technical subject matter, farm management and marketing.

### **3.3 PUBLIC SECTOR SUPPORT FOR TRAINING**

Prior to structural adjustment, ministries of agriculture in developing countries were serious recipients of donor support and one of the subject areas targeted for funding was training of extension staff. However, with the reduction of donor funding in support of public sector extension services the capacity of extension workers in farm management deteriorated markedly.

The decline of the public sector services has had a profound effect, reducing staff morale and resulting in an exodus of skilled personnel at all levels. Similarly, at institutions of higher learning, training in farm management has declined to insignificance because of poor job prospects as a result of a freeze in the employment of public sector staff, which was previously the major employer of farm management diploma and degree graduates. The residual skeleton farm management extension staff in extension systems are spread too thinly on the ground to be effective. The situation is compounded by the practice of assigning extra extension roles to the already overstretched farm management staff. In some situations staff without a background in farm management are deployed to carry out farm management extension tasks. In short, the public extension system suffers from a critical lack of capacity in farm management extension and is not equal to the challenge of enabling a critical mass of emerging commercial farmers to acquire market access skills.

With the virtual disappearance of donor support to the public sector and the emergence of the private sector and NGOs in extension service delivery, training programmes offered have tended to be more ad hoc and devoid of strategic content. In these situations, government support to farmers has largely been withdrawn without the development of a cohesive alternative strategy aimed at enabling farmers to operate effectively in the changing market environment.

To be effective and sustainable there is need for a coordinated and structured approach to the building of national capacity for market driven farming that ensures that all farmers requiring the services have access. To date, the public sector extension system lacks the capacity to put in place a coordinated nationwide training programme for farmers because of the inadequacy of skills among its own staff. Formal training in agriculture places low priority on increasing the numbers of well trained employees. Students with a university degree in agricultural economics, in most countries, could be well placed to find employment in all sectors but this is often unrecognized by ministries of education. Moreover, the production oriented training of the majority of the extension staff makes them ill-equipped to oversee a shift to market-oriented farming.

The following section reviews formalized farm management training programmes in developing countries and countries in transition directed towards extension personnel and farmers. The section describes examples of training programmes directed through public sector support in different regions of the world to build skills and competencies of extension workers and farmers. The effectiveness of extension, in all forms, depends on the ability to build up adequate staff that is properly trained to professional level.

Government agencies responsible for farm management extension services have in the past decade provided in-service training to extension personnel. The efforts have clearly been more common in countries with a strong, centralized government structure with adequate finances and capacity to support such programmes. In Malaysia, Bangladesh, Pakistan, Thailand, Ethiopia and India the public sector has led in extension staff capacity building.

#### **Box 14**

##### **In-service training: Thailand**

In Thailand the Department of Agricultural Extension provides a training programme in farm management, agribusiness and marketing concepts and methods that include the following aspects: approaches to increased production and income and key points to improve resource use and tools used in farm management extension. The government sets aside a budget for this purpose annually. The department stresses the importance of extension workers being able to understand the management problems before giving recommendations to the farmers. Hence the emphasis of the training are: (1) how to conduct a simple farm survey; (2) how to analyse input-output data; (3) how to prepare a farm plan and budget; and (4) how to keep farm records and accounts.

*FAO, Asia Country Review, 2004*

Where training has been provided the content has been production oriented and the quality of the training variable. The farm management content of courses is often negligible. In Pakistan, for example, only 8 percent of the total credit hours for a two-year programme was devoted to farm management. Sri Lanka's Department of Agriculture also conducted its farm management training programme through in-service training institutes at district training centres. The training programmes again focused on crop production and post-harvest technology but included topics on women in agriculture and farming systems. In Kenya, Zambia, Uganda and the Philippines training has been earmarked not only to government officers but to NGOs, local government and the private sector.

Donors and government agencies have been examining their role in training and extension. Recognition of the potential contribution that they can play in the flow of information to farmers has established a positive environment in many countries to launch cost-effective strategies to train public sector extension workers and farmers. As part of the capacity building efforts some organizations have designed Training of Trainers (ToT) programmes.

Nine years ago FAO carried out a series of regional expert consultations to look at the status of farm management and its potential role in development. The findings of the consultation pointed to the need for a revived thrust in farm management extension. The situation highlighted the poor suitability of the farm management training available at the time and the weaknesses in extension materials used. Moreover, training of field staff was noted as being a limiting factor and inadequate in terms of its frequency, timeliness and



relevance. The consultations reiterated the view that past training efforts had largely been theoretical and provided to extension staff as part of pre-service preparation. Contributing to the poor extension effort has been the inadequate support provided by SMSs who required refresher courses in technical aspects of agriculture as well as comprehensive programmes in marketing and farm business management.

FAO through a range of farm management extension projects in Africa, the Pacific Islands and the Caribbean has developed ToT programmes in farm management as part of “refresher” training for extension workers. Training programmes were designed as one-off three week in-house refresher training courses.<sup>9</sup> Trainers that had undergone the training were expected to conduct follow-up formal curricula-based training programmes for front line extension workers. In some countries the front line extension workers could modify the training materials and use them for informal extension with individual farmers and groups.

Within the public sector delivery of farm management training to farmers relies on the policy priorities of departments of agriculture and the extension services in particular. This has not always been forthcoming and extension often appears as a low priority of Government. In the South Pacific region extension workers have faced problems of lack of support within Government. The absence of support has prevented sustained follow-up training and the opportunity to apply the methods learned. This has often proved to be a major stumbling block for replication and “scaling up”.

#### **Box 15**

##### **An inventory of farm business management training programmes: South Pacific**

- supplementary curriculum based courses offered by tertiary institutions;
- externally funded regional training designed for extension workers interfacing with emerging commercial farmers;
- training of farmers in farm management as part of an integrated decision support service of the public sector extension programmes;
- training of farmers in business management as part of rural development projects operated by different organizations;
- externally funded farm business training incorporated in youth farming projects.<sup>10</sup>

*McGregor, A, 2002*

<sup>9</sup> The FAO Farm Management Training materials and farm management extension handbooks have been directed towards providing generalist front line extension workers with remedial training in farm management and extension. The training can also be directed towards higher level extension workers (subject matter specialists, programme directors) to enable them to add to the knowledge and skills that they already have.

<sup>10</sup> Reference here is made to the FAO supported “Future Farmers Project, Tonga”.

A variation of the traditional ToT model is cascade training that has been applied in a number of FAO donor funded field projects in Asia. The Cascade Training Model consists of three major activities that are largely experiential based and integrally linked. These are (i) a trainer of trainers' course; (ii) a networking approach to training; and (iii) institutionalization of extension planning.

The model was developed to improve the efficiency and sustainability of the training planning process. In this way it recognizes the importance of training trainers, but also of establishing a sustainable and "institutionalized process" of curriculum development and evaluation. The cascade model targets "local" level trainers (government and non-government), encourages networking and strongly emphasizes message identification, delivery and packaging. It is based on the premise that in order to institutionalize training, local institutions need to increase their capacity to effectively manage their own staff development, from training need identification to monitoring completed training programmes. This is important because the skills and knowledge is intended to remain with and be used by local institutions long after project inputs are gone. Institutionalization is linked with the concept of sustainability. The model consequently attempts to minimize the effects of regular transfers of trained trainers by targeting locally based institutions and is consequently reliant on a networking approach to training.

### Box 16

#### Training of trainers cascade training model (FAO)

*TOT course.* The TOT course is based on an experiential learning approach that focuses on highly participative classroom exercises and regular field verification activities. The course curriculum is centred on "everyday training practice" and covers analysing, designing, developing, conducting and evaluating the components of training. The TOT course encourages the institutionalization of the training planning process by focusing attention on the design of new training interventions; upgrading existing training programmes; and continuous need identification, training programme planning and training curriculum development.

*Networking approach to training.* Networking is encouraged and reinforced. TOT participants are deliberately selected from a wide range of local institutions. Consequently, from the onset of the course they are exposed to many differing roles and diverse experiences and they are encouraged to build trust, understanding and consensus among themselves. These skills are complemented with additional team building exercises during and after the ToT course in order to encourage the establishment of an informal and hopefully formal networking process. The networking of trainers not only provides high quality locally based trainers, but also establishes a permanent and accessible training resource within the district.

*Institutionalization of training planning.* Comprehensive planning for training is encouraged within and between the various districts-based institutions. The preparation of comprehensive training proposals by local institutions (detailing the curricula, lesson plans, training materials and evaluation tools, feedback activities, and budgets) not only encourages a quality-based approach to training, but also helps to institutionalize training within the institution's planning process.

*Hitchcock, D., unpublished concept note, 2000*

The success of the cascade model is fundamentally reliant on the utilization of the ToT graduates and the establishment of the trainer network of local level institutions. The challenge facing training providers and receivers is the shift away from donor dependency and moves towards a self sustaining approach that is reliant on the mobilization of local or internal resources to fund training and extension. This objective lies at the core of the approach.

### **3.4 PARTNERSHIP PROGRAMMES WITH FARMERS AND FARMER ORGANIZATIONS**

With the virtual disappearance of donor support to the public sector and the emergence of the private sector and NGOs in advisory services, there has been an effort to channel farm management training programmes directly to farmers. Donors recognize that the success, value and effectiveness of extension programmes depend on the degree to which farmers themselves are an integral part of extension delivery. Focus of attention is placed on forging partnerships with farmers; incorporating farmer-to-farmer approaches and working with both informal groups of farmers and more formal FOs at village, district and national level. These activities have been encouraged by donors so that the demand for management training and extension advice would ultimately emanate from the farmers' organizations themselves. As stakeholders in the governance of such services, farmers – either individually or through their organizations – could participate in designing and implementing training programmes and systems for extension delivery and evaluation. Participation of their members is expected to more accurately identify resources, opportunities and needs. Capacity building shifted to farmer groups – their leaders and members – with an expectation that members would ultimately be charged for extension services.

The United States Agency for International Development (USAID), German International Cooperation Agency (GTZ), and SIDA have in particular recognized the need to develop farmers' entrepreneurial skills and have provided targeted assistance towards specific farmer groups and especially those producing high value products. The brunt of this training has been through international and local NGOs. Training programmes, however, have mainly been short term, running for a period of one to two weeks. In Africa, NGOs, such as ACIDI-VOCA, CLUSA, Technoserve, are examples of organizations providing such support. These examples are similarly experienced in other developing regions. The efforts, although significant for the respective groups, are broadly insignificant from a national perspective. For every farmer group that benefit from such training there are thousands of cases that are not reached.

### **Box 17** **ACDI-VOCA**

The USAID funded NGO, ACDI-VOCA has been involved in the development of the maize industry in Kenya in partnership with other stakeholders. ACDI-VOCA has also collaborated with other agencies such as the Kenya agricultural commodity exchange (KACE) and Hanns-Seidel-Stiftung (HSS) of Germany to offer farmer training in Kenya. The lack of skills among farmers to undertake farming as a business was identified as one of the drawbacks limiting the development of the maize in Kenya.

ACDI-VOCA's training curriculum reflects a desire to expose farmers to business skills as rapidly as possible. The one-week training course teaches the fundamental principles of agribusiness intended to influence change in perception and behaviour from subsistence to business farming. The one-week course is taught as "Farming-as-a-Business" curriculum helps teach farming as an enterprise that can generate profits as well as feed the family. It develops a framework to facilitate the farmers' understanding of basic business terminology, i.e. input costs, labour costs, and gross income, as well as discussing supply and demand.

The curriculum acknowledges that farmers who are subsistence producers are often too risk-averse to embrace market driven farming unless the benefits associated with the changes are simply and clearly demonstrated to them. The approach adopted is to provide them with a better understanding of the economics of farming and the dynamics of price, yield and harvest loss on farm profit. The course develops the understanding of basic marketing concepts from farmers' own past experiences in traditional markets. Work planning and recording keeping, as tools of farm business management, which are critical, but largely absent among the small farmers, are given considerable coverage. Aspects of credit and savings and its implications for emerging farmer entrepreneurs are covered.

*ACDI-VOCA (2005)*

FAO has also begun preparing training materials at farm level for use by farmer facilitators and farmer groups. The concept of the FBS has been developed based on field level experiential learning throughout a farming year. The schools are founded on the principles of "learning by doing" and "farmer to farmer" learning over a season-long learning cycle. The FBS training is targeted at farmer leaders who are willing to organize and work in small groups in order to build their capacity to respond to market demand. Sessions consist of small group discussions, demonstrations, practical exercises and fieldwork as the case may demand. The FBS is a novel approach to skills development through experiential learning and is currently being tested and tried in field programmes in Pakistan, Zambia, Malawi and Ethiopia.

**Box 18****FFS network western Kenya: Farming as a business course**

The ACDI-VOCA curriculum has been adapted for use by a number of organizations. One such example is a network comprising graduated FFS groups based in western Kenya. Here the training specifically promotes the development of a recently introduced and increasingly popular sweet potato variety among farmers of the network. The newly introduced potato variety possesses desirable market attributes, but the network did not have the requisite business and market skills to enable the exploitation of these potential benefits. Through the efforts of an American Peace Corps volunteer, sponsored by the FAO, the network has been building capacity for business and marketing skills for immediate application to the potato enterprise. The network leadership and selected rank and file members have attended the training. The course develops a framework to facilitate the farmers' understanding of the basics of business farming, which considers input costs, labour costs and gross income from the sale of their harvest, as well as discussing supply and demand. The training provides a simplified approach to learning selected concepts and tools of business. The programme has an inbuilt mechanism for self-sustainability of the training activity with some of the members earmarked as future trainers for other members of the network. To ensure that the skills are nurtured and developed there is a programme of field follow-up after the training.

*ACDI-VOCA (2005)*

In West Africa, CIRAD has been actively involved in providing farm management advice for small family farms (Senegal, Mali, Burkina Faso, Côte d'Ivoire, Cameroon, and Benin). Farm management in this region has similarly shifted from a production focus towards the market (local and export). Agricultural extension has tried to respond to the new demands of farmers within a shrinking environment of public sector resources. As in east and southern Africa, FOs, NGOs and private companies have emerged to provide support and advice. French technical cooperation has supported these initiatives with a focus of what they have termed MAFF (Faure, 2001; Faure and Kleene, 2002). The difference between the MAFF approach and the USAID supported NGO initiatives in Africa is that a more integrated production-marketing focus is provided by the former. MAFF recognizes the link between farm family consumption, farm production and commercialization, which "affects the decision-making process" (Gastellu *et al.*, 1997). The choice of farm activities, the organization of family and casual labour, and the management of family resources are recognized as an integral combination of management decisions. The main distinction between this approach and the anglophile concept of farm management is the choice of decision tools and the need to ensure that family food security is adequately covered before farm enterprise diversification is encouraged.

**Box 19****Management advice for family farms**

The approach redefines the role of the agricultural extension worker, as “animateur” or facilitator. The extension worker promotes collective learning dynamics and conducts informal training programmes that include literacy training, calculating food balances in addition to the more conventional training in farm enterprise budgets. The content of training is both technical and managerial (techno-management). The training aspect of the MAFF is expressed in the progressive scheduling in time of the themes addressed. This takes into account the needs expressed by farmers and anticipates the main events in the farming season. It promotes an active teaching approach and avoids long formal classes. The phase of training in concepts and tools can last for more than a year in some situations (Faure, 2001). The process is participatory, relying on exchanges between farmers and joint analysis of results obtained. Learning is experiential and based on learning through demonstration. In many cases the MAFF process can be managed by FOs and the aggregate information is useful for them to negotiate better prices or service conditions for marketing or the supply of inputs.

*Faure, G. 2001*

Other innovative farm management training models in Africa include Swaziland Water and Agricultural Development Enterprise (SWADE). SWADE is a parastatal involved in planning and implementation of large-scale irrigation schemes. SWADE focuses on the provision of farm management training to farmers with access to irrigation and has developed a training strategy for farmers entitled Attitude Competence Application Process (ACAP) that combines technical and farm business management training. The methodology calls for the formation of farmer groups, skills training and follow-up mentoring and highlights the need to invest in systems of farmer based capacity building.

There is an increased interest among organizations in francophone Africa to provide farm management extension support. In particular, state companies such as the cotton buying companies of Burkina Faso (SOFITEX) and Mali (CMDT) and the National Extension Institution of Côte d’Ivoire (ANADER) as well as FOs such as the cotton farmers organization in Burkina Faso (UNPC-B) and the Federation of NGOs of Senegal (FONGS). The impetus for this interest has been the need to develop farmer capacity to become a responsible partner in a contract farming arrangements to the benefit of both parties. Extension organizations are becoming more and more convinced of the usefulness and relevance of participatory methods and the importance of group dynamics to increase the involvement of farmers in programme design and governance of service delivery.

As noted in the previous chapter, the demise of public sector services in Latin America left a void in extension delivery that was partly filled by civil society and member organizations. Greater recognition has also been given to the need for farm management advice through the public sector and in collaboration with FOs. This new area of technical expertise has begun to emerge in Mexico, Colombia, Ecuador and Chile. In Ecuador, a Master in Business



Administration (MBA) degree in agricultural economics and rural development was launched in 2000 and is targeted towards extension workers employed by public sector institutions. In 2001 the technical units involved in PROMESA technology transfer trained 200 extension agents to work in the private sector on issues dealing with entrepreneurship management. These changes are indicative of a common trend occurring in the Latin American region.

### Box 20

#### Latin American training programmes

*Chile.* In Chile, for example, INDAP has implemented various training programmes addressed to their own staff and that of private companies that supply INDAP with technical assistance services for their users. In most cases, this training has centred on production techniques although there are some training examples in production systems and an extension level course on competitiveness. A course called “approach and methods to rural development planning at local level” has been imparted by an NGO to over 250 technicians, most of whom are linked to technical assistance and to INDAP.

*Colombia.* The demand for farm and agribusiness management is being covered by some NGOs (Fundación Carvajal, FUNDESAGRO, FUNDEJUR, CICADEP, CIPEC, among others), SENA and some universities that offer this type of specialization as extracurricular activities.

*Mexico.* The Rural Development Leaders Program (ICRA, RIMISP and SAGAR) offered a specialized four-year duration course that formed 153 technicians, 54 of which were extension agents. This course followed a systems approach in designing development projects and plans, integrating actors to the regional realm and executing development plans aimed at production units.

*Bolivia.* The country does not have a formal training programme for extension agents, only isolated initiatives scattered in time and space. The private sector has regularly participated in training tasks, but it too does not organize a programme, but modules or short and isolated activities that resemble in-service training. Only some specialized programmes such as potato seed production have succeeded in training technicians, through their attendance to international programmes or specialized courses imparted outside of Bolivia.

*Ecuador.* PROTECA in Ecuador launched a training programme for extension agents (in the country and abroad) but it did not include farm management or agribusiness, only extension techniques and technical-productive training, thus contributing to strengthen the productivity approach that characterized this rural extension project. The National Financial Corporation, CFN, in agreement with IDB, carries out the Entrepreneurial Services Program, which serves agricultural sector companies. It works through the use of coupons, which constitute one of the pillars of the micro-enterprise training programme.

*Peru.* Peru does not supply specialized training for rural extension and administration service providers. Extension agents indicate that their sources of greatest knowledge are short courses offered by universities, some NGOs and information captured in Internet. A small percentage reveals having taken courses abroad and almost none has received training on service enterprise management. They also indicate the lack of financing instances to allow their access to training or electronic communication infrastructure, which would facilitate capturing regular and specialized information.

*Brazil.* The emergence of larger-scale commercial farming has spontaneously led to the development of agribusiness and management based extension services, largely provided through the private sector.

*Berdegue, J., 2005*



### 3.5 PROGRAMMES WITH THE PRIVATE SECTOR

In Asia there is an increasing number of initiatives where farm business management training is conducted by the private sector. In Malaysia private sector training has been promoted through export based contract farming schemes. The training programmes are provided by exporters of farm produce and are aimed at ensuring that farmers comply with the standards and quality assurance requirements set. Exporters place high importance on farm record-keeping for auditing and traceability purposes under accreditation schemes. This gives an example of the shift in content of training required as a developing country moves up the development ladder of commercialization.

The GOI has also recognized the gap between the demands of farmers in assisting them to commercialize and the shrinking public funds for extension services. Government has been promoting the private sector (input dealers and traders) in the provision of extension support to small-scale farmers. This policy is national in scope and programmes are designed with the financial support of the public sector. One recognized scheme is the promotion of agripreneurship. The programme attempts to promote privatization of service delivery while supporting self-employment opportunities for young agriculture graduates. The concept was developed as a response to the increasing number of agriculture graduates that had difficulty finding employment. As a response the GOI sponsored the agripreneurship programme over its tenth five-year plan period. The scheme has had some success and is being closely monitored before scaling up to national level. It is recognized, however, that success will require policy support from both the central and state governments and networking with agribusiness companies and NGOs.

#### Box 21

##### **Promoting public-private partnership in extension service delivery: agripreneurship development in India**

This is a GOI sponsored scheme aimed at (i) supplementing public extension efforts; (ii) providing specialized extension services; and (iii) creating self-employment opportunities for unemployed agriculture graduates. Under the scheme it was proposed to provide free training to unemployed agriculture graduates for a period of two months in agripreneurship development. In addition to the training, the programme proposed to set up 25 000 agriclincs and agribusiness centres over a five year plan. Trained graduates would be eligible to take a loan and establish service centres. The agriclincs provide information based extension services to farmers on a payment basis. The agribusiness centres provide input supply, farm equipment on hire and other services.

The scheme was designed for fresh graduates passing out from agriculture universities, but has developed to include in-service candidates, or retirees, all of which would be willing to become “entrepreneurs”. The programme includes a two month initial training where participants are exposed to a range of possible agriventures (plant protection services, maintenance and repairs, seed processing units, ventures aimed at the production of critical inputs, technology kiosks, extension service consultancy, value-adding activities among others). The participants would be trained in setting up the selecting venture, conducting a market appraisal, prepare a business plan and negotiate financial assistance from NAMBAR.

*Chandra- Shekar, P., 2003*

**Box 21****Promoting public-private partnership in extension service delivery:  
agripreneurship development in India (continued)**

In this scheme training is not an end in itself. To ensure the result, “hand holding” support is given to trained graduates in the field through training institutes on a regular basis for about a year. The financial assistance received is used to cover the costs of hand holding. Assistance is given to help agripreneurs obtain licenses for input trade, conduct contractual and linkage negotiation with other organizations, assist agripreneurs to set up their business with or without financial support.

*Chandra- Shekar, P., 2003*

These examples suggest that training in farm business management is also required to strengthen the capacity of private sector service providers to analyse the demand for services, design appropriate service based packages and prepare training programmes to assist service providers to deliver effective and efficient services. New ways of conducting training needs to be developed as well as the preparation of demand responsive materials to guide service providers in advisory service delivery.

### 3.6 APPRAISAL OF TRAINING PROGRAMMES

#### *Training programmes*

As noted previously, FAO has embarked on a programme of curriculum development to produce regional training programmes in farm business management for trainers of extension workers in the Caribbean, Africa, Asia and the Pacific, Latin America and CEE countries. In some cases, depending on financial support, these trainings were followed up by farmer extension. Evaluations of the training programmes for extension workers and farmers have been conducted and lessons learned.

As a result of the FAO training efforts carried out through field projects, the standard of proficiency of extension workers in many countries improved by introducing them to aspects of farm business management. However, in some situations the effectiveness of these programmes was jeopardized as the training was organized, conducted and taught by inadequately qualified staff. It was also recognized in the course of the design of the training programme that the curricula needed to be more practical and based on classroom and field exercises. The evidence suggested that farm management could only be taught effectively if theory was accompanied or followed up by practical work in the field (Mc Gregor, 2002). This was seen to be a weakness and participants complained about the lack of follow-up support.

Although the benefits of training are usually taken for granted, some programmes could easily be regarded as a “black hole” with resources consumed without showing significant evidence of impact. This impression was augmented by discussions with farmers who had undergone farm management training. The criticism most commonly heard was attributed to the difficulty in making a clear connection between the techniques used and the impact felt. However, where trainings were both practical and relevant and farmers applied the concepts and techniques to commercial higher value enterprises, impact on both farm productivity and income was perceived to be more pronounced.

In view of the urgent need for additional staff with better capacity and skills, there is a need to impart a basic knowledge to a large number of extension workers. This, however, seldom happened. It was very rare that training programmes were seen as part of a broader strategy aimed at creating a critical mass of farm management SMSs with clear description of duties. The presence of a cadre of farm management trainers to provide technical support to extension workers and farmers is a vital prerequisite for the institutionalization and sustainability of farm business management. The core team of farm management specialists would be mobilized for onward teaching and support to front line extension workers. It became apparent from this experience that training courses had to be followed up by mentoring and refresher training programmes.

Another lesson learned was the need to better integrate farm business management into the work programme of front line extension workers. In the South Pacific region in particular, the focus on farm business management training by itself was inadequate and extension workers felt that the courses should have been better integrated with technical content. This was perceived to be an impediment to attempts to entrench farm management decision support services in regular extension activities. Staff regarded the farm management as largely unrelated to their service activities, which focused on providing technical support to farmers.

The emphasis on specific aspects of farm business management, however, would vary depending on the location and duration of the training programme. This has been the approach followed by FAO in designing regional training materials. Differences in curriculum development depend very much on the needs of extension workers and the development context within which they work. Where markets are more integrated, training materials for farmers have included farm management record-keeping, planning for the market, contract farming, investment appraisal as examples of the more commercial focus of the discipline. These materials have been developed mainly for use in extension staff training courses and with some adaptation are also suitable for use with some categories of farmers. In contrast, farm management training in contexts of farms with weaker access to markets has tended to concentrate more on farming systems development aimed at farm productivity improvements through technology transfer and demonstration.

In some contexts where levels of literacy and numeracy are low, farmers' capacity in these areas needs to be strengthened as a precondition for farm business training. These skills are often preconditions to effectively deal with the market systems into which they are linked. Some attempts have already been made to present the conventional farm management tools in a more appropriate and easier way to assimilate, particularly for use among illiterate farmers. The initiative taken by the University of Reading, United Kingdom, in teaching participatory farm management using symbols rather than numbers and words is one example. The approach has also been used in the preparation of the FAO farm management materials for Africa, albeit directed at extension workers rather than farmers.

With the promotion of enterprise development in rural areas many training programmes developed by NGOs and private consultants have adapted entrepreneurship training materials (ILO, Competency-based Economies through Formation of Enterprise [CEFE], India) to suit the conditions found. This has also suggested a different approach to farm management focusing on the preparation of business plans for new farm enterprises.

Berdegue (2005) in Latin America, highlighted deficiencies in the farm management training received in the past by extension workers. In his view these trainings were too localized. The training programmes reviewed in his study suggest that considerable effort was made towards preparing materials to suit specific local needs. These materials have been criticized as having been prepared in an ad hoc manner and of varying quality (Berdegue, 2005). What was perceived to be lacking is a general compendium of reference materials from which to draw in preparing local training programmes. However, he also notes some of the potential difficulties in preparing generic training materials that are both suitable and useful for extension workers and farmers. In short, the Latin American experience points to the lack of a concerted training strategy.

The findings suggest that training programmes are needed that are demand-driven and designed to reach dispersed farmers over a wide area. An important consideration is to provide specific farm management training based on the location of the extension worker and the comparative agro-ecological advantage of the area. Ways also need to be sought to lower the cost of training and ensure some level of cost recovery. Farm management training of this kind can be directed to individual farmers and groups of farmers to assist them in better managing their farm businesses and group related activities. This also calls for an assessment of the extent to which farm business management training should be regarded as a public good particularly among the poor. Another challenge is to find ways of using the private sector as trainers; and identify ways of scaling up and replicating at low cost. Ways also need to be found to decide how best to provide farm management support when there is a dearth of private sector entrepreneurs and business management service providers. In view of the amount of knowledge that must be imparted it is not possible to rely exclusively on formal training programmes. Alternative forms of training design and delivery need to be developed for in service training of extension workers.

### **Materials used**

The review also highlighted the weaknesses and low availability of relevant training materials. The training materials used in various training programmes globally (FAO, private sector, NGO) have tended to focus on the more traditional methods of farm management planning and investigation. Content includes much of the materials incorporated within OECD country farm management extension programmes. A typical farm business management manual contains modules on planning, implementing and monitoring of business plans, records, managing profitable farm enterprises and cash flow.

Although farm management is high on the agenda in most countries, a further observation is that little effort had been paid to adapt the farm management materials used among farmers in Africa and the Island States of the Pacific to specific farming systems while matching their levels of literacy and numeracy. While testing farm management training materials in West Africa, the conclusion was drawn that many farmers preferred symbols to words and numbers. Field testing revealed differences even within countries for which the material was developed. These included differences in inputs (fertilizer, plant protection measures), measurement units (baskets, crates, tins) and activities (irrigation, tractor use) carried out across the country and in simply understanding the symbols used (Kunze, 2003). This suggested the need to develop more generic materials for trainers of extension workers, but augmented by programmes aimed at developing their communication skills.

In a review of training materials prepared for CEE countries, Rolls (2001) notes a number of principles that should be adhered to in developing trainings curricula. According to the author materials should be simple to use and illustrated by examples, designed to encourage regular data recording and analysis by farmers as part of a continuous thinking process about the management of farms as businesses (Rolls, 2001). The materials suited for CEE countries, however, rely on the establishment of positions of farm management specialists fulfilling not only an extension function but also providing policy level advice. In this way farm management economists would have the role of collecting and analysing survey data and generating farm type models as standards for comparison. The training programmes should consequently have reference to the identification of homogeneous farming systems/models for comparative analysis purposes. The training content should also try to set user domains for farmers with different farm sizes, resource base, age (women, elderly, youth) and farm type (mixed farming/specialized). The programmes, moreover, should be designed in such a way that adequate time is set aside for discussions to be held with extension staff and farm management SMSs. This is very useful to check both the analysis of data and validate the interpretation of the results. In practice this may require the establishment of strong links and working relationships with university departments of agricultural economics as well as private consulting companies.

**Box 22****Good practices for the design of training programmes**

- Combine production and management information for selected enterprises and produce a guide to farmers on how to make sound and responsible decisions.
- Ensure that farmers provide an input into materials preparation – choice of topic, pre testing, evaluation of usefulness and diffusion of the farm management information to other farmers. Farmers writing about their experience are often influential on other farmers.
- Produce workbooks for farmers as a self education guide with a limited need for extension worker guidance.
- Form work groups consisting of extension workers and SMSs to produce farm management extension materials and take follow-up action following the formal trainings to reinforce and disseminate concepts and approaches. This is an example of how training can be directly linked to development action.
- Produce materials for data recording work with farmers as a step towards developing computerized systems

*Rolls, M., 2001*

In Asia and Africa printed materials, such as leaflets and handouts, are the most common method used for creating awareness among farmers of new agricultural technologies and enterprise opportunities. However, most of the materials reviewed focus on production technologies; farm business advice is minimal or altogether non-existent. Exceptions to this generalization, however, can be found in both continents. In Uganda, Zambia, Botswana and Malawi there has been a return to the production of farm management handbooks. In Bangladesh a handbook on Participatory Rural Appraisal (PRA) has been produced together with income and expenditure matrices on whole farm and farm enterprise basis. The handbook further provides farmers with an opportunity to share their indigenous knowledge of life experiences. The goal has been to improve the capability of agricultural extension workers and research scientists in dealing with their target clientele.

In Asia, although some countries are actively promoting farming systems approaches (Viet Nam, Pakistan) there is no official textbook on the subject and no access to farm management concepts and data. Each university designs its own teaching and training materials based on what they learned from previous training courses in the country or abroad. In all countries specialized educational and training materials, such as multi-media programmes, videos and posters, are lacking.

In Latin America training materials in rural enterprise development and farm business management have been produced for extension workers. These have gone beyond materials to support the primary training courses towards the production of handbooks and brochures for use by farmers. Weaknesses, however, lie in the adaptation and use of these materials among farmers and in particular small farm family units. As previously noted, the materials



produced are specific, dealing with localized problems and needs. In this context there is a need for the production of more generic training materials for potential widespread application (Berdegue, 2005). This finding contrasts with those found in Africa. A simple deduction is that both forms of training and extension materials are required. In all events the use of generic materials will need the close involvement of extension staff to adapt the information to the appropriate level of simplicity and ease of use. The starting point for extension workers to be effective in this adaptive role is to better understand how management decisions are made by farmers and how they can be improved.

### 3.7 FARM MANAGEMENT EDUCATION

Farm management extension and training cannot be seen in isolation from formal training programmes. Formal institutions include universities, schools and colleges providing academic and vocational education. These programmes are vital to ensure the long-term development and sustainability of the discipline. Most universities and colleges for future extension workers have well developed arrangements for teaching agriculture. They are commonly organized as Faculties of Agriculture, Forestry, Livestock, Engineering and Agricultural Economics and Management. Farm management is part of the curricula of the leading agricultural universities in most developing countries and is generally offered as a course within a broader agriculture or agricultural economics degree course.

However, in general the level of formal education in developing countries is weak. Where and if it is offered the topics covered are conventional as is the training delivery. Aside from undergraduate courses some farm management courses are also offered at graduate level in the more prestigious universities. The subjects covered include farm management investigation with a strong emphasis on quantitative methods (econometrics and operations research modelling).<sup>11</sup> Farming systems and extension is a more recent field of study that is being taught at some agricultural universities and research institutes in the Philippines, Viet Nam and universities in anglophone Africa. Agricultural extension is a course offered at most universities, although farm management and marketing extension are rarely included in the curricula.

In CEE countries there are formal farm business management programmes at most of the major agricultural universities. In general, subjects covered include economics, business and administration, trade, information technology, planning, sociology, business law, finance, production and management. This list is not exhaustive. There is clearly a potential at all of these formal education institutions to contribute to extension work in farm management. In Hungary the university has teaching and research interests in the government extension

11 In the Asian region the leading universities offering farm management courses are:

|                    |  |
|--------------------|--|
| <b>Thailand</b>    | Kasetsart University                                   |
| <b>Pakistan</b>    | Peshawar University                                    |
| <b>Bangladesh</b>  | Bangladesh Agricultural University                     |
| <b>Philippines</b> | University of the Philippines at Los Banos             |
| <b>Viet Nam</b>    | University of Can tho                                  |
| <b>India</b>       | Chaudhary Charan Singh Haryana Agricultural University |
| <b>Sri Lanka</b>   | Sri Lanka School of Agriculture                        |

The Czech University of Agriculture at Prague; University of Hungary in Budapest; University of Agriculture, Latvia; University of Agriculture Lithuania; Faculty of Agronomy, University of Zagreb; and the Extension Institute, Croatia.



services and students are given useful preparation for an extension service career. In some cases the universities also provide training directly to farmers acting as a bridge between the University's interpretation of agriculture as an academic subject and the practical realities of farming as a means of livelihood. The University of Agriculture in Lithuania contributes to strengthening the extension service by training of extension personnel associated with the Lithuanian Agricultural Extension Service.

At secondary school level (for students aged 16–18 years) CEE countries commonly have a well developed provision for vocational education in agriculture and are currently realigning their programmes to reflect the re structuring of the agriculture sector. The previous emphasis in the curricula on large scale production systems is changing in many schools to more specialized studies that include economics, business management and marketing with the development of computer skills. This training is intended to provide farmers and extension workers with the fundamental skills and entrepreneurial behaviour required to manage a private farm. This is a good example for developing countries worldwide of producing materials for secondary level, vocational training.

There is definitely a potential for universities to contribute to extension work in farm management. However, there are also challenges. What should be the balance of studies between traditional academic demands and the need to optimize employment possibilities for students? And what is the demand for students with training in agricultural economics? It is, however, recognized in many countries that a focus on management (in its fullest sense) and the shift towards a more commercial agriculture is a common trend and one that produces innumerable challenges that need to be met.

## 4 Performance and impact

*This Chapter assesses the performance and impact of agricultural extension service delivery. Given the diversity of agricultural extension services provided by the public, private and NGO sectors in their centralized and decentralized forms, broad generalizations of the economic contribution of farm management and their impact are hard to deduce. Many situation-specific factors impinge on the effectiveness of farm management extension programmes. A section of the chapter also appraises the tools and methods used in farm management extension and looks at their relevance and usefulness to farmers. The chapter proceeds to seek evidence of the impact of farm management extension on farm income, food security and poverty. The findings are based on results of literature reviews, case study research, expert consultation and first-hand discussions with project managers in the field.*

### 4.1 ORGANIZATIONAL PERFORMANCE

Most developing countries have experienced the debilitating effects of public sector reforms implemented over the past two decades as governments encountered public finance difficulties. Lack of funds has handicapped the effectiveness of agricultural extension work and especially farm management advice. These reforms have necessitated cuts in public sector budgets and staffing levels. At times of general fiscal constraints, extension budgets have more readily been squeezed because of weak political support (Eicher, 2007). With this as a starting point many problems have been identified associated with the performance of the public sector agricultural extension system. Some of these problems refer to the organization of the field service, the performance of field staff, weak accountability and the design and management of extension programmes. For example, weak accountability, linked to the inability to attribute impact, is reflected in low-quality and repetitive advice given to farmers, and in diminished efforts to interact with farmers and to learn from their experience. Problems are pervasive throughout the different regions of the developing world. While this is an extensive inventory, some of the more pertinent problems are elaborated more fully below.

#### ***Extension service organization***

There are constraints to the development of farm management that emanate from public sector inadequacies with respect to the institutional development of extension services. Notable is the absence of specialized institutions dealing with farm management and the low priority for farm management in formal education. This institutional failure is accompanied by the low level of the farmers' own education. This is paired with personnel insufficiently trained in farm management at both field and support levels. In most agriculture ministries/departments, key extension positions have remained unfilled for long periods, limiting the ability of staff to visit farms regularly and to conduct training sessions. In quite a few cases, workers have relied on externally funded projects to secure vehicles that enable them to remain mobile.

In many countries field level extension is badly organized. The numbers of extension workers are too few relative to the area covered and are consequently inefficiently managed. Furthermore, aside from their field work, extension workers are often given administrative assignments that add to their workload. Work programmes are frequently of an ad hoc nature with insufficient guidance provided on the content of extension programmes and their means of execution. There is often failure in providing a regular service of systematic advice to project beneficiaries: there is no structured timetable of extension messages; no regular farm or village visits and no efficient system of feedback of results and beneficiary needs and problems. Moreover, there tends to be little control over field staff activities with sanctions and penalties very rarely imposed for weak performance. Improved solutions to these problems can be achieved with the introduction of more effective management procedures as well as a change in the work environment.

### **Box 23**

#### **Common problems of extension programmes**

- Shortage of extension personnel;
- low motivation of staff;
- undefined role of the field level workers;
- lack of funding for extension activities;
- low staff mobility;
- ineffective field level organization;
- inadequate supervision of field staff;
- lack of feedback on staff activities;
- inefficient allocation of staff time;
- lack of credibility in the eyes of farmers;
- low availability of relevant extension materials;
- inadequate technical backing in specialized farm management;
- and
- inappropriate training programmes.

The lack of support for front-line extension workers also extends to a lack of necessary equipment and tools. Vehicles are scarce and the budgets to operate them are limited. Computers and software are often unavailable or inaccessible, particularly in more remote locations. Finally, there is little or no access to a good knowledge base to support field staff, a theme to be discussed latter in more detail.

## **Morale**

Low public sector salaries and underutilization of staff have led to the demoralization of extension personnel resulting in low motivation and commitment. Public sector field staffs widely perceive their conditions and terms of service to be poor. Complaints relate to the level of remuneration, lack of housing in the field, lack of transportation, poor promotion prospects and high turnover with irregular transfers to other duty stations. While these failures are often specifically within extension service, there is a more general malaise across government that is caused by inadequacies in resources, management and leadership. The problem is exacerbated by the widespread perception in developing countries that agriculture is a low-status occupation. As a result, it is common to find new entrants to the public service ranking the agriculture ministry as their least preferred location. The low status afforded to the sector by senior policy-makers and politicians often means that ministries of agriculture are the least well resourced wing of government, perpetuating the perception that it is not a good place for ambitious employees to work. Career incentives for good hard work are also missing and there is little adequate staff supervision. Field staffs are often subject to rare and unpredictable visits from superiors where quick decisions are made and judgements arrived at on the basis of inadequate appraisal. With the demise of public sector extension, there has been a tendency for staff to seek alternative employment opportunities. The public sector service is in competition from the private and NGO sectors for staff who can work well with farmers.

## **Field performance**

In many African countries, HIV/AIDS has also had a debilitating effect on public sector employment. In Swaziland, for example, over 50 percent of the Ministry's front line extension workers have died over the past decade. Field staff is often young, inexperienced, poorly trained and ill-equipped to cover their general agriculture tasks without taking on additional farm management responsibilities in addition to time consuming administrative duties. The wide range of functions and tasks and the responsibilities accompanied by them are often too great a burden for field staff to cope.

### **Box 24**

#### **Extension worker coverage**

The last global consultation on agricultural advisory services was conducted by FAO in 1989, and has not been updated since then. In 1988, the average ratio of advisory service agents to farmers was 1:1 800 in Africa, 1:2 660 in Asia & Pacific, and 1:2 940 in Latin America. Because international comparisons provide important benchmarking information for national-level policy planning, these discrepancies document the need for a renewed international effort to collect data on the capacity of agricultural advisory services.

*IFPRI, 2006*

Field level extension workers, moreover, require backing from technical SMSs whose job is to provide supervision, guidance and instruction. Front line extension workers require a supporting technical echelon with a large diversity of skills, but this support is limited and absent. This is particularly prevalent for farm management, which in some extension systems is a position provided at regional or district level. Many public sector extension services simply do not have the human and financial resources to offer farm management support in a concerted way.

Another limitation to the impact of extension efforts is the lack of credibility of government field staff in the eyes of farmers and the rural community. The poor image is not illusory, but very real, having been formed over the years from the failures of past programmes and efforts. This attitude among the rural community is a fundamental barrier to the receipt of advice from field workers. A significant reason for lack of credibility is that extension programmes have too frequently failed to address the problems that people consider to be the most important. Improved solutions to these problems might be achieved by introducing more effective management procedures and changes in the work environment.

## **4.2 FARM MANAGEMENT TOOLS AND INFORMATION**

### ***Tools and practices***

Studies were conducted by FAO on the relevance and usefulness, to both extension workers and farmers, of the farm management techniques, tools and methods learned through training programmes.<sup>13</sup> Despite the almost universal favourable comments about the content, delivery and usefulness of the training programmes there is evidence that shows that the participants have seldom formally incorporated the use of many of the techniques taught in their day-to-day activities to a substantial degree, either in providing decision support services or in conducting in-country training workshops for farmers. A common response in the studies carried out was that extension workers who participated in the training programmes had tried to apply the tools and techniques to their on-going work, but faced difficulties.

The studies suggest that the issue of extension workers and farmers failing to apply the tools and techniques to smallholder farming conditions emanate from the answer to three questions. First, if the technique(s) is suitable to the situation in which it is being used. Second, if the data used is accurate and reliable. Third, if extension workers who use the tools are capable of doing so. Farm management techniques and tools vary quite considerably and some techniques are more complex to use and require more data. Their usefulness varies depending on the degree of expertise required and the amount of data needed for their use. Many of the conventional farm management techniques have been criticized as too complex, erudite, data-dependent and time consuming (Harding, 1982; Dorward, 1991) and too far removed from the experiences of smallholder farmers. These farm management techniques usually assume high input and output relations, homogeneity and stability of farming conditions, and separable and identifiable enterprises.

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<sup>13</sup> Training programmes have been developed by FAO within a broad portfolio of projects in Africa, the Pacific and the Caribbean regions.

A common difficulty cited was the lack of support received from within the extension organization. Some participants found that their supervisors, who were responsible for setting work plans, did not provide adequate opportunity for them to apply the tools and techniques to the field situation. Participants also surmised that supervisors felt insecure about extension workers using analytical methods that they themselves were not familiar with. There was a failure by management in public sector extension services to recognize the relevance and usefulness of farm management and realign work plans and field strategies accordingly. This could be traced to a broader public sector malaise, mentioned previously, of inadequate resources, management and leadership. As a general rule a technique should only be used if it matches the capability or resources of those using it.

Another factor to denigrate the relevance and usefulness of farm management in developing contexts is the structure of farming. Smallholder farmers proliferate and are so diverse to make it difficult and costly to apply farm management tools and methods in the field. In many countries extension workers cover too many farm units of different types and sizes and farmers with different capabilities, interest and resources. Farming systems are generally heterogeneous and dynamic, commonly based on multiple cropping systems, and characterized by constant change between seasons and disparate resource endowments. As such there is not a perception of a strong need for the use of the techniques learned. A further observation from the South Pacific is that smallholder farming systems are simply too complex to apply even basic farm management techniques. Participants highlighted the problem they were likely to face in trying to apply these techniques for farmers with a large number of crops (sometimes more than a dozen) growing on a single piece of land. In response to the recommendation that they should try to define these cropping patterns as a single mixed cropping activity<sup>14</sup> and do their budgeting calculations on the basis of this definition, the participants argued that there was no clear system of cropping to allow them to do so. Neighbouring farmers tend to grow very different sets of crops. This observation was confined mainly to dealing with short-term small crops (often with volume surplus to subsistence needs for commercial sale). This reality makes the provision of blanket recommendations often inappropriate.

Furthermore, the kind and amount of data on input-output relations and the cost-price projections required in making individual farm plans of different types and sizes in different areas are enormous and in most cases lacking. As a result, farm planning and development has not been seriously taken up in most developing countries. In Bangladesh, for example, the majority of farmers interviewed were found to be lacking an appreciation of the perceived advantages that new practices and technologies had on their farm operation. The advantages of new technologies had to be demonstrated to them. Farm plans, budgets and other tools of farm management were recognized as helpful in solving problems of adjustment to external stimuli, and farmers look to extension workers to provide the guidance that they need in these subject areas. Similarly, with the transformation from traditional to commercial farming in Malaysia and the introduction of market-oriented extension services, farmers were seen to be generally more appreciative of farm management and farm business advice from extension workers (FAO, Asia studies).

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<sup>14</sup> Following Dillon and Hardaker (1993), we use the term "farm activity" rather than farm enterprise. The former is defined as "a specified method of producing a crop or operating a livestock enterprise", while the latter is "the production of a particular commodity or group of related commodities for sale or domestic use".



### Box 25

#### Technical factors restricting the use of decision support tools in Pacific smallholder farming systems

- Relatively complex cropping sequences (mixed, sequential, multi-tier cropping and inter-cropping) often carried out on small and irregular plots of land. There can also be arrangements between families to share land or crops.
- Mixed cropping patterns of tree and root crops make the task of measuring income and cost problematic.
- Interactions between crops are many and varied and need to be taken into account in assessing yields and their variability.
- Long production cycle of tree crops with variable lengths require the use of complicated discounted cash flow methods of analysis.
- Many tree crops have multiple outputs that are individually small in value but, when combined, can be quite substantial. The task of measuring and valuing all of these outputs is complex.
- Multiple destinations tend to predominate for most products and each market destinations has its own structure, characteristics and requirements. These differences complicate the process of estimating market prices.
- It is often difficult to estimate the output from farm family consumption where there is no direct farmgate or market price, i.e. coconut and other products that have multiple outputs that cannot easily be valued.
- Wide variability in key economic and physical parameters as a result of seasonality, changes in growing conditions and input-output relations over time.

*Adapted from Fleming, E. et al., 2005 & McGregor, A., 2002*

The studies further highlight that one of the most common techniques adopted by farmers was the gross margin. However, the evidence showed that there were serious methodological difficulties in collecting farm management data and applying farm management techniques. Gross margin analysis, the most simple and core tool used in farm management is often misunderstood and misused. All too often no account was taken of the concept of opportunity cost. A simple comparison of gross margins per area of land was inadequate. Moreover, for effective use it needs to be context specific. It is not always a good guide for resource allocation in many farming systems and particularly in the South Pacific where land is abundant relative to labour (Fleming, 2005; McGregor, 2002). The same applies to most countries in sub-Saharan Africa. Return to labour is a more appropriate indicator of profitability. However, labour itself presents considerable measurement difficulties given that mainly family labour is used, work patterns are variable, observation of labour allocation is difficult to manage and recall is inaccurate. Farmers and family labourers are typically treated as fixed resources. However, in South Pacific farming systems farmers and their family members often choose to work a few hours per day, even with no outside income source (Fleming, 2005; McGregor, 2002). In all developing countries there are difficulties in valuing labour. In some contexts

farmers take advantage of off-farm employment opportunities that enable them to switch their labour supply between farming and other pursuits. Some smallholders typically engage in many village activities that they value. Because these activities are not included in the formal economy, it is very difficult to estimate their worth. Estimating the value of leisure is also a challenging task.

This assessment of the use of farm management tools and methods needs to be looked at from a less gloomy perspective. In situations where extension workers interfaced with emerging and fully commercial farmers, the data base was often better and the potential to apply the tools more apparent. Moreover, development bank officers who attended the training programmes tended to make greater use of farm management techniques than extension workers. The main reason for this outcome is the requirement for budgets to be prepared by farmers seeking a loan to develop their farming activities. Hence, the use of farm management techniques was more commonly built into the everyday work of loan officers than was the case for extension workers.

The formal application of farm management techniques is only one part of the expected outcome of the training programmes conducted. Another outcome was that the training changed the orientation, awareness and thinking of participants when carrying out their work. Discussions with participants about their work routine suggested that some success might have been achieved in this way. The idea that these extension workers could help farmers develop their farming system was more clearly evident among participants once they had completed the training. It was clear that the training workshops had raised awareness among extension workers of the tools available to diagnose problems, develop farm plans and make recommendations for adaptations to their farming systems. It became apparent that participants began viewing farming systems in a more informed manner than was evident before the training. In particular, the whole-farm approach and the concepts of net cash flow, profit and gross margin appeared to be more firmly entrenched in their minds. This was considered an important change because prior to taking part in the training, extension workers tended to view improvements to the farming system solely in technical terms. There was a total absence of understanding the principles and concepts of farm economics. This was a positive outcome and one not to be underestimated.

These have been some of the challenges to farm management over the last few decades and a large part of the reason from the exclusion of farm economics in mainstream extension programmes.<sup>15</sup> It should be noted, however, that a difference does exist between the use of these techniques among extension workers and farmers. Most management techniques will only be of use to the farmer if they are assisted by the extension worker and this will require a reassessment of extension worker roles and performance.

With the advent of farm commercialization and the subsequent transformative changes occurring within the farming system, the question is raised how farm management can best be incorporated into extension programmes. As shown in the previous chapter training programmes have been developed for extension workers and farmers and group extension methods promoted to ensure greater cost-effectiveness of data collection and dissemination of information. Where farm management has become (or is becoming) an important

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15 A noticeable example was the design and implementation of the World Bank's T&V system of the 1970s and 1980s.

component of extension programmes, it tends to be limited to using the techniques to analyse profitability in terms of costs and income. Insufficient use is made of tools by farm management economists to examine issues that have implications on the strategic management of farms. More is needed to make farm management relevant, cost-effective and sustainable.

The limitations imposed on the application of any management technique to assist farmers with their decisions have long been recognized and the concept of recommendation domains advanced (Hardaker, 1984). Many of the more traditional farm management techniques assume that economic rationality and profit maximization are the defining motives of the farmer. However, in practice this is rarely the case (Harding, 1982; Dillon and Hardaker, 1993). As is well recognized among economists, this represents only one of a series of objectives or goals that the farm family may wish to attain; risk avoidance and maintaining food security and prestige may be equally or more important motives. Similarly relationships are often rooted in reciprocity and mutual obligation rather than money. In farm management research there have been attempts to allow for the inclusion of these other criteria. This though requires more detailed information and the skills of not only extension workers but specialists in farm management and consequently the message will be more difficult to communicate with farmers.

Farm management methods need to take account of the complexity of farmers' environments and farming systems. This exposes the dilemma of choosing between simpler, cheaper and more transparent methods, with all the dangers of oversimplification, and the more holistic, expensive and complex approaches where the underlying assumptions are less obvious. Harding has argued that farmers need more than package instructions and specifications as they introduce new technologies on their farm (Harding, 1982). This divide is even more recognizable as farmers move into commercial agriculture and need to take into account market demands for farm enterprise diversification.

### **Data and information**

In many countries there are deficiencies in collecting information and creating and using databases within the extension services, which is a vital prerequisite for the application of farm management principles and tools. Extension workers and farmers are provided with inadequate data to make informed decisions. With lack of farm management information there is a lack of focus on the decisions to be made by farmers in order to develop a profitable farm business given their available (or acquirable) resources.

As noted previously, the application of farm management tools depends first and foremost on the availability and quality of data collected. For this purpose farm record-keeping is an important prerequisite. A factor limiting the use of the farm management tools by extension workers and farmers is the reality that very few farmers keep adequate records to facilitate their use. Evidence suggests that record-keeping is rarely done in a concerted and comprehensive manner (FAO, 2003). This lacuna means that key data, especially crop yields

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10 The microfinance linked rural enterprise development support scheme by a private Bank – Hatton National Bank 'Gami Pubuduwa Scheme' – GPS.

and labour use, are often unavailable. Sometimes the skills and methods are unavailable and in other cases farmers do not recognize the benefits. The cost of the time involved in data recording tends to outweigh the expected benefits. A more strategic approach is needed to introduce farmers to keeping records. In short, the message to be conveyed is that record-keeping need not cover the entire farming system but should be streamlined and targeted towards those commercial enterprises that contribute a large part of the farm family income. With this approach farmers will more assuredly recognize the benefits to be gained. Moreover, recording data is insufficient and inadequate unless it is combined with development of the skills of farmers to use effectively the data collected to improve farm management decision-making.

While farm management advice is essential for farm commercialization, it is not always appreciated by farmers. Efforts have been made to provide information to farmers from data collected through surveys, expert consultation and interviews with farmers. As previously noted, Farm Management Handbooks and Manuals (FMHM) have been prepared with compiled and analysed benchmark information. In general, however, the data collected and used by extension workers lack reliability and much of the economic advice provided to farmers is not well based. There is a serious lack of consistent economic data on farm production, collected on a regular and prescribed basis and collated into reliable and up-to-date farm management handbooks.

As a result farmers often have misgivings about the advice given. With this lack of confidence in the extension worker they are reluctant to discuss confidential matters relating to their farm business. Part of this diffidence is the lack and unreliability of the information collected. The tedium of regular recording and the fear of external criticism into the management of the farm business are other reasons for the paucity of data of reliable quality. Confidence and credibility lie at the core of the problem. Unless farmers are willing to share their information with extension workers and farmers, the quality of the data collected and analysed will be poor and with poor information being provided, farmers will not value the advice provided.

These problems are largely insignificant, however, when it comes to collecting and sharing market based data and information with farmers. Market information includes product prices, data on market outlets and even potential business partnerships and linkages. The demand for this information by farmers is high. Also among commercially oriented farmers some of the fears are largely overridden by the expected benefits from better management particularly as they shift into higher value products where the perceived financial benefits are high. Although farm management advice has been slow to get under way, in many countries increasing numbers of farmers need assistance. Yet, this increasing demand outweighs the supply of extension workers with competencies in farm management. Skilled personnel are, consequently, needed to facilitate data collection and analysis.

### **Communication of information**

The problem of application can also be explained by lack of effective communication between farm management SMSs, extension workers and farmers. Farm management experts by the course of their training emphasize data collection techniques and analysis, and as a result there is often a breakdown in communication with front line extension workers and farmers. The issue is how extension workers and farmers can better use the information generated and communicated. Farmers receiving the results from the use of farm management techniques must be able to utilize the information effectively.

Traditionally there has been a strong emphasis placed on using personal and individual methods for farm management extension. Individual advice is regarded as the most effective method in terms of farmer acceptance, but is clearly limited in its impact on the farming community when extension resources are constrained. There is scope for more use of group extension methods supported by mass media. More effort is also needed to improve the communication between extension workers and farmers and among farmers to assist them in making more informed decisions. The information generated must be relevant to the needs of its recipients and be communicated to them in an understandable form.

### **4.3 IMPACT OF FARM MANAGEMENT EXTENSION AND TRAINING**

Farm management extension programmes are intended to contribute to agricultural development by (i) increasing farm income by guiding resource allocation and channeling farm operations towards enterprises that have secure markets; (ii) ensuring optimum allocation of scarce resources so that food supply needs are met and income can be enhanced; (iii) utilizing scarce family labour more productively by better planning of farm operations and diversifying farm enterprises into higher value activities. There is a relationship between farm management extension and increased management skills, profitability and income. Farmers who participate in farm management training are more likely to make changes to their practice and improve profitability. Training and extension programmes can influence change by delivering new knowledge and skills; by providing interaction with trainers and extension workers and by providing interaction with other peer farmers. These interactions provide opportunities for receiving new information and together with improved skills have been seen to improve farm profitability and income. The case studies examined in this section of the chapter should be treated largely as qualitative anecdotal evidence as documentation on the research methodologies used is weak.

Farm management changes on farmer behaviour are reflected by the quantity of goods produced, the quantity of inputs used and the prices attained for both purchased inputs and product outputs. Studies on the impact of extension have traditionally measured farmer awareness (and sources of awareness), knowledge (and testing of practices), adoption and productivity (Röling, 1995). While this sequence has a natural ordering, it is clear that real resources in the forms of skills and activities by both extension workers and farmers are required to move along the sequence. Awareness is not knowledge. Knowledge requires awareness, experience, observation and the critical ability to evaluate data and evidence.



Knowledge leads to adoption, but adoption is not productivity or improved farm income. These draw on a much broader set of factors. This should be recognized as the studies reported in this section address in different ways, different stages of this sequence. It should be pointed out, however, that evidence is scanty and it is very difficult to empirically show, as there are issues of attribution. It is, moreover, rare that baseline data is collected to enable a comprehensive evaluation to be conducted. However, there has been anecdotal evidence and some “quick and dirty” assessments made of farm management extension projects in Kenya, Nigeria, Philippines and Malaysia.

### ***Small-scale farmers with market access***

The majority of farm management interventions in developing and transitional economies have focused on small-scale farmers with market access. Farm management extension projects in Kenya have facilitated a shift towards higher value, income generating activities. In some areas, farmers’ groups have been established to generate economies of scale for its members. Both activities have resulted in increases in farm income. In Kenya there was a marked change of attitude and behaviour of extension workers in those districts where a five year GTZ farm management extension project was operating. The role of farm management in extension gained more weight in these areas with realization that technical recommendations passed on to farmers without financial and economic analysis of their implications, were in fact misleading them. Other achievements included a shift from mainly subsistence production with maize as the major enterprise towards double cropping and diversification of farm enterprises into value-adding activities (Maingi, 1996).

Similarly in Nigeria the application of farm management has contributed to agricultural development by making underemployed farmers more productive by better planning farm work and showing how labour can be used more productively. Farm incomes were increased by guiding resource allocation and farm operations towards enterprises that had secure markets. Project implementation ensured that there was optimum allocation of scarce resources while ensuring that food supply needs were met and income enhanced (O. Ogunfowora, 1985). Farm business analysis and planning studies in Nigeria further revealed that farm production and resource use efficiency could significantly be improved by making simple changes to farm practices and organization. Also in the formation of policy, farm management studies have quantified the degree of farmers’ response to different levels of product prices.

In the Philippines a number of pilot projects were carried out to test new extension methodologies using farm management and related techniques to increase farm income. In the mid-1990s there was a model extension project implemented by the Agricultural Training Institute of the Department of Agriculture, funded by the Japanese International Cooperation Agency (JICA). Three pilot sites were selected; one in the province of Bataan with six farmer-cooperators using farm record-keeping in low cost farming/production; another in Antique using group study method for processing fish by the Rural Improvement Club and bamboo craft by 4-H Club members and a third site in Cavite using demonstration farms for the different fertilizer applications for high value vegetable crop production. A series of orientation meetings, rapid assessment and seminar-workshops for the farmer-



cooperators and extension workers were conducted with the assistance of an expert and Extension Method Research Committee from other agencies. The committee was tasked to come up with an improved training system and guidance for extension workers. Results of the project show that increases in income were achieved as a result of the model extension activities with regular consultation with extension workers, the organization of farmers for group activities and continuous practice of farm record-keeping.

An evaluation on the performance and impact of farm management extension was conducted in Malaysia (Chwee, 2005). The findings show that over 53 percent of farmers interviewed stated that the project had increased their yield and income following the training programmes. The trainings were both technical and management based. In the case of rice farmers, 60 percent reported that the reasons for the increase in yield and income are mainly because of the adoption of “rice check” technology. These increases were attributed to the technical changes made in their farming practices. One rice farmer specifically mentioned that after receiving training, he had changed his farm practices especially in the use of better varieties, land levelling, and topping up his fertilizer application. This had resulted in his rice yield increasing from 4.9 tonne/ha to 7.4 tonne/ha per season with an average monthly income increase from RM 400 to about RM 900.

The study went on to show that 80 percent of the carambola fruit farmers reported that with their participation in accreditation schemes, combined with training from the farm advisors, their production had increased by about 10 percent. In addition the percentage of Grade ‘A’ fruits had increased from 30 percent to 60–70 percent. These carambola fruit contract farmers reported that their average monthly income had risen from RM 400 to RM 3 000. This was mainly attributed to the higher prices they received for their quality fruits. Forty percent of the vegetable growers also reported that with their participation in group farming projects and certification programmes, their average monthly income had increased from RM 500 to RM 1 000.

The increase in yield and income of both the carambola fruit and vegetable growers was attributed to their participation in farm accreditation schemes that required farmers to maintain proper farm records. With these records and the advice from extension workers, the farmers reported that they were better able to track their fertilizer and agrochemical usage and make changes accordingly, especially in the types, timing and quantity of chemical and fertilizer application. The changes in farm operations resulted in the production of high quality products that command higher prices. In addition, as contract growers for fruit exporters, carambola fruit growers were given training in marketing to include pre- and post- harvest fruit handling, grading and packaging to cater for the overseas and domestic market requirements. The farmers noted the market related changes that had occurred following the training.

The above observations confirm the hypothesis that farm management training particularly in marketing coupled with the farm record-keeping requirements under the farm accreditation schemes could improve small farmer's capacity to make changes in their farm business resulting in enhanced productivity and income. While it is widely known that farmers rarely keep farm records this shows that fruit and vegetable growers could be motivated to use farm records effectively as a tool to assist them in making changes to their farming activities and improve performance.

Some of this evidence suggests income gains. However, this cannot be attributed solely to extension and training. The impact of farm management cannot be seen in isolation of the broader range of factors, some of which are outside the control of extension services. Biophysical conditions, socio-economics, infrastructure, support services and government policies all have a part to play in increasing farm productivity and income. The non-availability or inadequacy of services that support more market orientation, commercialization and value chain improvements was explicitly mentioned as a constraint along the value chain. Moreover, independent single services are likely to be less effective than the provision of a package of support services. The role of farm management interventions in poverty reduction is, consequently, largely indirect.

Improving market success often requires investments. However, despite the many microfinance efforts made, access to credit was mentioned as deficient. In some cases the available financial services were not appropriate for the clients, in terms of procedures, duration, interest rates etc. The studies conducted also shed light on the factors preventing farmers from substantially increasing farm income. The review of programmes in Africa and the South Pacific region suggest that greater impact could have been achieved if farmers had access to capital and the means to address production related constraints. Where credit or savings were accessed, farmers were sometimes hesitant to invest in changes. Because of their inexperience with new ways of production and marketing and the often inadequate information available, the risks of change were high. High cost of investment can often be an entry barrier to more profitable markets not only for small-scale farmers. For the more vulnerable smallholders even modest-looking investment needs can be a barrier to entry to more profitable practices. Moreover, low yields, bad or mixed quality produce, inadequate technical expertise, lack of improved practices and quality inputs, poor knowledge and inefficient tools and machinery for post-harvest treatment and processing make it difficult to be competitive and allow access to higher value markets.

Another factor to take into account is the varied educational level of the farmers concerned and the often low standard of literacy.<sup>16</sup> These and social barriers make it difficult to get farm management methods communicated to and adopted by the target groups of farmers. However, if the parents are not literate, there is often a son or daughter in the farm household who is and who may be able to take on tasks, such as simple record-keeping and explaining documents to the parent. Problems of lack of literacy are likely to decline as the better educated rising generation takes over.

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<sup>16</sup> Lack of education is particularly a problem in Melanesia where normally the main farmers are women who have had little education and find it difficult to get access to extension advice.

It was also clear from the group discussions conducted that few farmers (predominantly subsistence) had clear ideas about how to pursue commercial opportunities, the roles played by market intermediaries and the value these intermediaries add to a product. They also lacked knowledge of the potential for profit that is likely to arise from changing farming practices and how to manage the additional risks that confront them with greater commercialization.

However, it should be pointed out that farm business management cannot be provided in exactly the same way for the broad range of potential clients situated along the value chains. Farm management programmes should adopt a value chain approach and design interventions for the different participants. These interventions will require combinations of private and public sector farm business management support. Support along the chain is more likely to facilitate the provision of embedded services. Finally, the evidence shows that the more up-market the programme the greater the possibility of it becoming sustainable.

### ***Impact on the poorest households***

A key remaining question relates to the extent to which the provision of technical advice is a priority for the poorest groups of rural people. Many of these people do not themselves own land or are not able to adopt new technologies because of the requirements for purchased inputs. The evidence from the studies conducted in Africa and the Pacific is that farm management has not been regarded as a priority for many farmers, service providers and policy-makers working with the most vulnerable households (Kunze, 2002; Fleming, 2005). The conditions prevailing among marginal farmers make improved farm management a low priority and in some cases even redundant. One reason for this is that farm management advice is difficult to assess and the benefits are not immediately visible or attributable.

Moreover, as a demand driven discipline, farm management depends on the general development of agriculture and there is a widespread belief that farmers generally make “good decisions”. The small farmer context also plays a part especially in more remote locations with high incidence of poverty and food insecurity. Attributing factors include low levels of market integration, weak FO, low levels of technology and lack of specialization of specific enterprises.

A study carried out in Njombe District of Tanzania, attempted to identify the role of farm management in reducing poverty. The evidence shows that even small subsistence farmers do apply farm management tools, although intuitively, and their goals are more concerned with risk mitigation. The study suggests that there is a relationship between farm management skills and increases in productivity, income and poverty reduction. The study, however, also points out that farm management training and extension cannot be treated in isolation of structural issues, such as farm size, land tenure, access to markets and the provision of support services. (Isinika and Mdoe, 2000).

There are also cases where the impact on the most vulnerable farmers, particularly those situated in less favourable areas, has been less significant. In rural areas where markets are weak, the business enterprises promoted tended to be relatively simple and low-cost, with little scope to add value. Subsistence farmers found it difficult to adopt a more market-oriented perspective because the struggle for survival did not leave enough space for exploring changes and taking risks. The subsistence attitude of these farmers was ingrained as a result of the high risk environment within which they live. Many resource poor farmers have reservations about commercialization, and markets are often perceived as a threat rather than as an opportunity.

In these contexts the provision of farm business management advice cannot be viewed as a substitute for the basic needs of education, social welfare and infrastructure. Any approach aimed at eradicating poverty must focus on the root causes in each particular local environment. The argument raised is that poverty results from markets that are inherently inequitable, because they are based on unequal resource allocation, skills, education and power relations. Unless poor farmers are assisted to increase their resources, skills, and bargaining power, it is unlikely that they will benefit from stronger market linkages. Often the most critical external support needed is rural finance to ensure enterprise development and growth and to realize economies of scale in buying inputs and marketing produce. However, in many situations rural finance for farm enterprise development is not available. Some of the projects that have been designed as part of a broader poverty alleviation strategy have included the provision of farm business management together with rural finance.

Among those projects which have a mandate to ensure that interventions benefit disadvantaged groups, the issue of how to reach these clients has proved to be problematic. There also seems to have been a lack of any systematic attempt to identify their needs with respect to extension service provision and design. Support needs to be more comprehensive, including upgrading skills and the development of social capital and this requires government intervention to assure access and availability. Programmes should also include measures to address empowerment, gender equity and the other factors that marginalize these populations. A successful programme could include the provision of subsidized services that integrate poor farmers into mainstream markets.

In the ASP Zambia case study the specific beneficiaries were monitored to measure impact. The results show that a substantial fraction of very poor producers used services and benefited from them. However, this did not include the most vulnerable households (ill people, single-headed households, etc.) although they were often members of farmer groups. This evidence is largely supported by experience with the use of microfinance. The poorest and most vulnerable households are more likely to benefit from income and employment opportunities created as a result of a more dynamic economy as a result of market expansion.

### **Impact on women**

Agricultural extension has traditionally been male gender biased. In the overwhelming majority of developing countries, extension services have been staffed predominantly by men. The percentage of female personnel in agricultural advisory services has been estimated at 11 percent in Africa, 15 percent in Asia and the Pacific, and 15 percent in Latin America (Bahal, Swanson and Farner, 1990). Only in countries such as the Philippines have women field staff been deployed in sufficient numbers and with sufficient resources to become effective extension workers among women farmers. Extension has focused not only on technical solutions, but on providing these solutions to male farmers. Male farmers have largely been the persons receiving access to training, information, inputs and services (Jiggins *et al.*, 1997). As commercial farming has developed, farm management advice has similarly been male dominated, both with respect to the service deliverer and the recipient. The organization and functioning of the extension services themselves are often inadequate in responding to women's issues and designing gender sensitive training and extension programmes (FAO, 1993; Saito and Weidemann, 1990; Gittinger *et al.*, 1990).

This bias is illustrated by the findings from the review of farm management training programmes conducted. Where residential training has been given, basic physical facilities have been absent. Residential training rarely provides separate washing and sleeping accommodation for men and women and facilities for the care of babies or young children. These factors have prevented women from attending. Furthermore, women's daily workloads do not usually allow them to be absent from home for residential training and even attending short courses create problems in arranging substitute care.

There are also other constraints that affect the women's role in farm management. These include the legal and cultural status of women affecting their access and control over scarce resources, inputs and services (Olawoye, 1989). This in turn is closely related to property rights and inheritance laws (Jiggins *et al.*, 1989a). Furthermore, the time spent by women in collecting water, firewood and fodder, as well as their reproductive and household functions, prevent them from effectively running a farm business. These factors trade-off basic household self-provisioning goals and care of the family against production for the market (Jiggins *et al.*, 1989b; Horenstein, 1989).

Within the family decision-making is shared in various ways. In some cases, decisions may be made jointly by all the family members, while in others there may be division of responsibility between the sexes. In Africa and Asia women play a critical role in farming and are often key decision-makers. This has implications for farm management extension services. However, many projects and extension programmes do not acknowledge this fact and remain directed at the mirage of an assumed patriarchal farmer. In order to understand the decision-making roles and responsibility there is a need to gain insight into the local culture.

Market-oriented farming by women farmers exhibit wide differences throughout developing countries. On the one end of the spectrum are those households where the husbands are in charge of the major decisions governing the utilization of land and the other where women are in control. The latter is the case where the husbands have either passed



on or are engaged in off-farm occupations. The current winds of change sweeping across developing countries for women empowerment also continues to encourage women to take up income generating activities. In many countries, as farming is becoming more commercial many farm households are moving closer towards the model of an autonomous economic unit where production and consumption is divided and sales of produce are integrated and controlled by a single decision-maker.

These limitations need to be adequately addressed. Extension workers will need to identify for each individual farm, both the physical boundaries and the decision-making boundaries. This is necessary in order to determine the boundaries with respect to access to resources, resource sharing within the family and the farm management objectives. Farm management advice, consequently, needs to be carefully tailored in order to address gender specific issues.

### ***Impact of education and training***

Education and training are widely acknowledged as contributors to national economic wellbeing and growth. Countries with higher levels of income generally have higher levels of education; human capital, which includes both formal education and informal on-the-job training, is a major factor in explaining differences in productivity and income between countries (Hicks, 1987). Advances in knowledge (including diffusion of knowledge) is the most important of the factors which contribute to productivity growth, followed by changes in the quality of labour (of which education and training is the major component) (Blandy & Brummitt, 1990). Specific, or on-the-job, training is an important factor in increasing productivity. According to the World Bank (1997) learning (which includes education and training) is the mechanism which has the potential to facilitate development and change of individual, work organizations and institutions.

Education impacts on behaviour, decision-making, and outcomes. Welch (1970), found that education affects productivity through improving the quality of labour, the ability of the decision-maker to process information, select inputs and allocate them across competing uses. Education improves the outcome of decisions. A number of studies also suggest that the better educated are aware of a greater number of possible options of change through better communication and information flows from sources of information (Rogers, 1995; Longo, 1990; Thomas, Ladewig and McIntosh, 1990; Riesenberg and Obel Gor, 1989; Jones, 1963). When combined with the enhanced ability to select the best of these options, better awareness will lead to superior outcomes for farm businesses with better educated farmers.

A final body of literature which suggests that education improves responsiveness and adaptability and alters values and attitudes encourage development (Foster, 1987; Holsinger, 1984). The interaction between participants which takes place during training time, before and after sessions and at breaks, allows individual farmers to compare their values and attitudes with group norms. Farm businesses which participate in training are more likely to make changes to their practices which are designed to improve profitability. Education and training in farm management impacts on the performance of the farm business by increasing farmers' awareness of the range of options available to them while developing the skills to



improve decision-making and attitudes that encourage change. Successful change is the link between education, training and increased profitability.

Those who participate in formal and informal training are more likely to subsequently make successful changes to their practice, compared to the level of successful changes among those who do not participate. Most changes to practice are influenced by interaction with, and information from, a number of sources, including peers, experts and training events. Family, extension workers and other farmers are relatively more important in prompting change for farmers with limited educational qualifications. Extension workers, other farmers and training events are important at all stages of the decision-to-change process. They are major sources of awareness of subsequently implemented strategies and practices as well as major sources of influence on the decision to change. The opportunity for interaction with peers, family and friends facilitates changes in values, attitudes and beliefs. (Kilpatrick, 1997).

Education and training are one set of such sources of information, advice and influence on decision-makers. Education and training are able to influence change in three broadly defined ways: first, by delivering new knowledge and skills; second, by providing interaction with 'experts' (that is, facilitators, trainers or teachers); third, by providing opportunities for interaction with peers (that is, fellow training participants). Education and training presents opportunities for interaction with other farmers and with facilitators (who are also 'experts'), as well as opportunities for receiving new information. More research is needed into effective ways of designing education and training programmes so as to introduce farmers to multiple sources of information, which they can use as they make decisions about changes and as they implement new practices.

### **Conclusions**

The general findings of the studies reviewed indicate that farm management extension programmes are most likely to be effective where farmers have better access to additional resources and services: schooling, markets, and information. Among more commercially minded farmers there are greater prospects to increase productivity and income as they are more likely to internalise the changes required in the farming system in the challenge to promote more market-oriented farming. However, market-oriented farming will only be developed efficiently if extension service providers convert a substantial part of their extension programme focus to farm management advice. The type of advice needed demands careful identification of target beneficiaries, locations and background of trainers and extension personnel. Priority for farm management training and extension programmes should be placed on farmers with the potential to be entrepreneurial and locations that have market and support service access.

In practice, it is often very difficult to gauge the degree of market orientation of farmers. To what extent are they commercial or emerging in their level of market engagement? What proportion of farm output is sold commercially and how does this vary in vulnerable environments between years? Where on the poverty scale can most of the farm management clients be found? How can extension workers differentiate strategically? What kind of targeting process would be required? Would this be cost-effective, administratively plausible and morally acceptable? Many of the interventions described showed that there has been little differentiation between small-scale producers. However, there is evidence to suggest that the market orientation of farm management may not adequately benefit the most vulnerable households.

In some countries, extension workers involved in farm management often focus the decision support system on a small number of commercial farmers some of which may already be successful (CEE region). This observation is consistent with the orientation of farm management training programmes in the past where the tools used were seen to be more relevant to commercial farmers. Those farmers were also more likely to benefit from the advice and training provided.<sup>17</sup> A focus on commercial farmers is a seductive strategy for extension workers and trainers because the environment for providing advice and training is conducive. Farmers are receptive to advice and results for effort are relatively easy to discern.

In contrast in Africa, the Pacific and parts of South Asia farmers largely produce for their own family consumption. In Samoa, for example, 42 per cent of agricultural holdings were operated purely for subsistence purposes while around one-half of the holdings were predominantly subsistence with some production for commercial purposes (Fleming and Hardaker, 2005). The problem of a commercial bias extends to nature and content of the extension message. It has been observed that extension materials produced for the Pacific and much of Africa implies an intensive use of purchased inputs and materials and often ignores farm family consumption (McGregor, 2002). This finding suggests the need to develop differential extension programmes of farm management tailor made to specific farming groups in particular contexts. This conclusion suggests the need to develop two forms of management information systems (i) for fully commercial farmers and (ii) for small scale, market-oriented farmers for whom a socio economic bias in management may be necessary.

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<sup>17</sup> Facilitators in NGOs have been much less guilty of this offence, frequently focusing their efforts on less well-off smallholders. At the same time, however, they have seldom taught or used farm management methods in their projects with smallholders.

## 5 Issues

*The Chapter draws on evidence from the country reviews, regional studies and a literature review to highlight the major issues regarding the provision of farm management extension services in rural areas. Some of the issues identified refer to the broad range of advisory services while others are specific to public sector extension services. Both sets of issues are described in the sections below.*

### 5.1 THE NEED FOR A SYSTEMS PERSPECTIVE

The review indicates that in many cases farm management advice has been provided through donor funding and in project mode. There have not been many initiatives that intervene throughout the system as a whole taking a broader policy perspective. Government is often operating in developing countries without recognizing the dynamic changes that are occurring globally towards the market. There is rarely a strategic perspective developed by government that maps out a direction where extension efforts should be concentrated in the future. To do so requires an understanding of the role of public sector extension services, with ideas as to how best to promote pluralism in delivery of farm management advice. Clarity is needed on the type of advice offered and whether it is a public or private good. A strategic approach is needed that takes into account the broad range of actors along selected value chains each of which has different training and extension requirements.

An added dimension of complexity is the shifting role of the public and private sectors in providing advisory service support. As farming becomes more commercial and high value produce is directed towards regional and export markets, more specialized technical support are required. The higher up the value chain one goes the more important the role of the private sector. These services are rarely within the competencies of public service providers. Conversely, at the lower end of the chain, advice is often provided by government and at no cost. These issues also need to be taken into account as part of a strategic framework.

Farm management advice needs to be tailored to the demands of the different actors in the value chain and as part of a wider system of knowledge generation, exchange and use. A systemic approach comprises not only a wide range of advisory service providers (input suppliers, processors, export companies, NGOs and public sector extension services) but also research and educational institutions. Linkages need to be fostered between the multiple actors in the system and a strategy developed that is dynamic, flexible, able to respond to changes in the level of commercialization of farmers, rural entrepreneurs and the demands of specific market outlets.

## 5.2 PUBLIC-PRIVATE ROLES IN EXTENSION

### *State support of extension*

It is well recognized that government needs to alleviate the burden it places on itself by providing extension services to farmers. However, it was previously pointed out that the reduced role of government has not always been matched by a stronger engagement of the private and NGO sectors. Despite the proliferation of NGOs and FOs their combined effect has been localized and their overall coverage in terms of numbers of farmers reached, low and often insignificant. The question posed among the donor community, policy-makers and practitioners is what should be the role of government in this situation? Should government continue to provide services directly or alternatively facilitate their provision?

The findings of the study suggest that the public sector is still needed to support agricultural extension and will continue to be the major extension provider in most developing countries. The public sector extension services have an important role and responsibility to ensure that services continue to be provided to all farmers in all localities as a public good. A rational use of public funds might be assured by providing extension services to groups of farmers located in areas where there is no alternative service. Government provided extension advice is necessary to serve farmers and particularly the poor, in more remote areas (Farrington *et al.* 2002). The issue is where government extension services can best fit, both geographically and thematically.

Support to extension services, however, is reliant on a sound agricultural policy that promotes sustainable provision of advisory services. All too often this is lacking. Sustainability of extension efforts in the long run cannot be envisaged without a minimum of stability combined with public support. In order to ensure outreach, replication and scaling up a secure economic and institutional environment together with regional and national policies that are favourable for small farm commercialization are needed. Government also has a clear role in coordinating, facilitating and overseeing the pluralistic system of extension support and evaluating needs and opportunities for extension investment. There is also a need for government to support initiatives by strengthening the capacity of extension workers particularly those in the public sector. Training is essential to support these efforts and needs to be accelerated and scaled up. These responsibilities require that the public sector leads in the formulation of a national vision, monitors quality, and offers to upgrade the capacity of extension services. The multiple roles of government pose an increasingly complex challenge in this more pluralistic institutional environment.

Government also has a role in advocating policy change. Efforts could be taken to influence trade policies and to raise attention to the implications of these policies for small farmer commercialization. International trade regimes need to be taken into account and government has an obligation to help all actors to be more aware of how macro-level international policies impact on micro-level realities.

**Box 26****The role of government in extension service delivery**

- Organizing platforms for public and private actors to exchange information on bottlenecks and opportunities.
- Facilitate private sector investment in rural infrastructure and communications.
- Provide incentives for sustainable use of production resources.
- Invest in establishing private sector service provision especially through providing capital and credit support.
- Provide subsidies or co-financing for the development of high-risk interventions.
- Establish and enforce a commercial code that ensures fair and expeditious judicial processes for resolving contract disputes.
- Ensure the availability of production and price information to facilitate market activity and to monitor market progress.
- Assemble a body of knowledge on effective extension service provision through supporting research and ensuring that records of performance are kept and maintained.
- Build capacity of extension workers and farmers through training and extension programmes.
- Provide public goods for private sector advisory service delivery.

The role of government, however, has to be defined within specific country contexts to match national and regional capacities. There is no single unique role for government in the provision of advisory services in every country and different traditions and capacities will influence the role of the state. The ability of the system to perform these roles would depend on the pace of internal reforms that the system undergoes. Experience has demonstrated that it is often easier to change farmers' attitudes and behaviour than it is to change government. Internal reform is the greatest challenge to improve the performance of extension services.

***Private sector and the role of government***

A strong market for extension services, as observed, requires a broad range of service providers and a policy that prevents 'crowding out' private investment through subsidizing selected 'implementing partners'. More sustainable ways of public-private sector collaboration need to be explored. Much can be accomplished by the public and private sectors working together, complementing their strengths to promote technology development and encourage farm enterprise diversification and commercialization. NGOs and the private sector have an edge over public agencies in organizing and mobilizing human and financial resources together with the flexibility to use and adapt as required. These comparative advantages need to be recognized and ways found to create effective and sustainable synergies.

The role of the public sector in facilitating public-private collaboration is critical. The public sector needs to assess the feasibility of the different modalities of partnership and the benefits expected to accrue. For public-private collaboration to be sustainable the collaborative relationship has to be more beneficial than any independently operated advisory service support. An assessment of value for money through public-private partnership models need to be made. Finally, an essential responsibility of the public sector is to establish performance standards and monitor them to ensure that they are met. The public sector role is to regulate service quality.

### ***Donor role***

There is a record of donors and government being consistently misguided with respect to promoting market development. Funds are often used to subsidise extension service provision with inadequate attention placed on the negative effects of ‘crowding out’ potential private sector advisory service providers. All too often donor interventions have been inconsistent by inadvertently disrupting markets for extension services. Finance has been made available to carry out projects that are unsustainable resulting in vacuums being created when external funding is phased out.

It is apparent, however, that where markets are weak or non existent, private commercial extension service providers are unlikely to emerge spontaneously. The role of the public sector as service provider in these situations is clearly defined. Recognition is needed among donors of the use and effect of subsidies. In some countries public sector support is given to promote pro-poor policies focusing on disadvantaged areas. These farmers are expected to be reliant on significant state subsidies. More attention should be given to the use of ‘smart subsidies’ that combine a minimum of distortion with a proactive engagement in developing organizational and institutional capacities. (Katz, 2006).

## **5.3 ADVISORY SERVICE PROVISION AND SUSTAINABILITY**

### ***Decentralization and demand responsiveness***

Decentralized structures have the potential to encourage better quality advisory services that emanate from better local control and user orientation. It enables service providers to respond better to client demand and ensures greater accountability to service users. Farmers are also better placed to choose freely among a broader range of services on offer. Decentralization facilitates better feedback from farmers and other actors along the value chains providing an opportunity to influence policies. The more responsive advisory services providers are the more likely it is that at least a portion of the costs can be recovered and clients are more willing and able to pay.



However, there is a concern that demand-driven advisory services may be too narrow a concept because farmers are not always aware of the new technologies that can be demanded. Many important innovations (fresh fruits and vegetables in Israel, Mexico and Central America, kiwis in New Zealand, and the Green Revolution) are in fact “supply”-driven. Hence, the term “needs and opportunities driven” is increasingly being used and recognized as more relevant (IFPRI, 2006).

Even given these benefits in practice there is no automatic mechanism which ensures that decentralization will be more effective than centralized service provision and there is no blueprint on how to implement decentralization successfully (Gibson, 1997). Decentralization can also create problems particularly when local capacity is low, service providers are absent and demand is weak. Shifting power to the local level may open the door to interference by influential people, which can be difficult to control. Local authorities may take decisions that are just as contrary to the interests of small farmers as those taken at higher levels of governance. Those farmers with few resources are likely to find it difficult to make their voices heard also in a decentralized system. And sometimes farmers’ participation is used as an ‘alibi’, while real decisions are taken elsewhere. Decentralization should not glibly be regarded as a panacea. Nevertheless, the principle of greater participation of farmers and their organizations is essential for identifying and responding to their varied needs, to ensure their support, to strengthen their autonomy and to increase their responsibility. Good governance requires a range of strategies which can help to make use of the opportunities of a decentralized system, while avoiding its risks. This needs to be recognized by government and donors alike.

### ***Synergy between services***

Agricultural extension services often start with improving production in terms of quantity or quality. In many of the cases this includes training and coaching to enhance production practices. In other cases they target improvements in irrigation management or value adding. Only once farmers are confident within their existing production systems are they likely to be interested in farm management. Although a production-marketing sequence is often followed farmers require a broad range of services in order to enhance their commercial success. There is close synergy between production, marketing, farm management and the broader range of support services needed. There is also a demand for combinations of ‘bundles’ of services. Initiatives that recognize the synergies and linkages of combining the different types of support are believed to stand the best chance of helping to create successful, sustainable business enterprises. Farm enterprise development is likely to be more effective when finance and farm business management advisory services are delivered together. Moreover, with the expectation that extension services should be provided on a commercial basis, there is concern about the willingness and ability of farmers to pay for advisory services by themselves. This problem can be ameliorated when a broad range of services are offered.

### **Funding and cost recovery**

The growing demand for funds to promote farm management in the rural areas is placing a strain on public sector budgets. Donor funding has often been sought to fill the gap, although public sector support is not widely regarded as an attractive priority. Owing to the dearth of funding available it is increasingly necessary to find ways to reduce public sector spending. Funding extension is a central issue and mechanisms of cost recovery are critical for the sustainability of extension services. Public-private sector cost sharing arrangements are increasingly being introduced and are more likely to enable market forces to respond to economic realities.

Although, public-private sector collaboration is a long term goal, the practical reality is that in most rural areas there is a lack of private sector engagement and governments are opting for the provision of subsidies. In some contexts these are provided as a short term palliative to create competition in service provision. As the market for support services in these areas is often distorted anyway, these forms of assistance can be justified. In these areas it is also common to find non profit organizations that subsidize services to clients with contracts from donors intended to build the capacity of non-government business advisory service suppliers.

The findings of this review show that direct payment for farm management services by small farmers are not an established practice. Many farmers particularly in low income settings have considerable difficulty paying up front for any form of service provision. The ability of farmers to pay for farm management services depends largely on the profitability of the farm enterprise and the nature of the service. Knowledge services such as farm management and market information are intangible and the added value is invisible. It is consequently, unlikely to expect that training, technical assistance, or information services for farmers will ever achieve total cost recovery through the payment of user fees. The issue is complicated, however, as the ability to pay also depends on the different types of farmers (subsistence, emerging commercial and fully commercial) demanding the service. Although there is recognition by some farmers, particularly those more commercially minded, of the importance of the payment principle, there is no consensus on what an appropriate cost of training and extension should be and what proportion can be expected to be covered by farmers.

Farm management training and extension are likely to continue to remain a subsidized public good among small farmers until direct benefits can be realized and efficient delivery ensured. However, there are mechanisms by which these extension services can be subsumed. A very common strategy is to embed the cost of extension services in activities that generate income i.e. through interlocking linkages. Farm business management advice can also be provided through commercial linkages between larger and small-scale farmers on a contractual basis. Private sector commercial farmers through contract farming operations try to create a mutually beneficial situation that result in a sustainable 'win-win' situation for both actors engaged in the relationship. Contract farming usually involves larger enterprises developing contracts to smaller suppliers, but can also include a complex range of linkages in which small farmers develop linkages with other farmers as well as other actors in the

chain. Contract farming can provide economic security to farmers and are often an effective conduit for technology transfer. They also ensure timely supply of inputs and the costs of extension services are embedded in the sales of produce sold. Businesses that are engaged in farm produce procurement or input supply to farmers can also cover the cost of some of the knowledge based services by the price mark-ups charged for sales. The rationale for these strategies is to continue providing an unprofitable service in order to build or keep a client base for more profitable services.

**Box 27**  
**Embedded services**

- Generating income from a viable service to cover the costs of extension services. That is to say cross subsidizing using income from more profitable services.
- Facilitating business links between the farm business and rural finance. In this case the costs of farm management services are embedded in the conditions of loan repayment (piggy backing off microfinance).
- Supplying farm business management advice to larger more commercial farming ventures that can afford to pay the 'real rates' and using the profits to supply the service to smaller farmers. In other words cross subsidizing from larger to smaller clients.
- Obtaining income for extension services through the development of commercial operations that cover real costs (interlocking linkages).

*Kahan, D., 2007*

Another strategy to achieve cost recovery and sustainable impact is to organize smaller farmers and more vulnerable members of the rural community into groups, associations, clusters and networks that create economies of scale and reduce costs of training and advice. This is particularly relevant among underserved clients because of gender, ethnic and other social barriers and small-farmers resident in remote rural areas, where markets are weak. The field evidence suggests that there is considerable scope for viable extension services to be tailored to groups of farmers.

The experience of member organizations, mobilizing farmers and financial resources should be noted. In some West African countries contributions of members and FOs form about 5 to 10 percent of the overall cost of the extension system and in some exceptional cases could cover up to half of the expenditure (Faure *et al.*, 2002). However, coverage of the cost will vary according to the type of farm and the type of advice on offer. The financial contribution of the farmers is usually compatible with their means and as such will doubtless remain modest in comparison with the cost of the service. Nevertheless, it should be encouraged as a way of contributing towards full cost recovery.

In areas where markets are weak an incremental step-wise approach to cost recovery measures could be considered and the level of subsidy reduced over time. One reason for such a strategy is that farmers need time to adjust to paying for services that previously were provided as a free good. In some cases particularly with respect to farm management training, a demand for that service often needs to be created before farmers are ready to pay for it. While farmers may feel that they need a service or even use a service if it is provided free of charge, this does not automatically represent effective demand for that service.

Looking at available experiences it is clear that situation specificity is critical in finding the appropriate mechanism of cost recovery and extension services have to be analyzed within their own context.

## **5.4 GENDER AND POVERTY**

### ***Gender***

The potential of women farmers as entrepreneurs is not widely appreciated. Farm management extension services should be tailor made to women as individual entrepreneurs and within groups. Where groups already exist, capacity building can be more successful than forming a new group to which members are less likely to be committed. It is important for extension workers to acquaint themselves with the organizations and knowledge systems available at the local level to determine how they can be improved, rather than assuming that nothing of significance is currently available. For example, instead of forming entirely new groups for women, local informal work exchange or savings groups could be strengthened through short training exercises in farm bookkeeping, record-keeping, leadership, and democratic procedures.

While groups have proven to be a highly successful mechanism, they are not a universal panacea or appropriate for meeting all women's needs in agriculture. The poorest women in particular can find the costs of participation (of time, for example) too high at times of seasonal stress or greatest need. Care is also needed to sort out situations where collective effort is relevant and alternatively where individual activity structured or accessed through group membership is more effective and efficient. Rural women in developing countries possess skills and techniques which are an asset to the development process.

The farm management sections of agricultural extension services could be encouraged and supported to establish women's bureaux and to closely link them up with the farm management section. In some countries this is already occurring (Malawi, Zambia, Kenya). The interrelationship needs to be realized as women's domestic and agricultural responsibilities often leave little time for participation in business activities.

There is a need for gender focused capacity building activities in farm management. The introduction of FFSs and FBSs need to be better balanced in selecting men and women as facilitators of information flow. In some cases the selection criteria are biased to exclude women. Criteria set have included title to land, literacy, or cooperative membership.

The group concept is being deepened and expanded in a number of ways, as farm commercialization opens up opportunities for developing functional linkages between women's groups and agroprocessing facilities, wholesalers and retailers. In some cases group approaches to overcoming women's illiteracy, which is a barrier to effective mass communication through written materials, will need to be developed to strengthen women's ability to demand appropriate services.

### **Box 28**

#### **Designing training programmes for women**

- Adapt programmes to women's needs and skills.
- Allow sufficient time to enable women to acquire new skills and adjust schedules to fit women's existing workloads.
- Provide training in agricultural and other productive activities, not just home and family welfare topics.
- Emphasize activities for which there is an actual income generation potential.
- Ensure the involvement and full participation of women from poorer and less educated backgrounds.
- Use trainers who are not only technically competent and up-to-date, but who empathize with the needs and aspirations of rural women.
- Provide practical field experience in the use of innovations.
- Shift more resources to village based training rather than residential training.

### ***Reaching the vulnerable***

Donors have tended to polarise into two broad categories depending on their general policy orientation: those more market-oriented and those more poverty-oriented. This is, however, a false dichotomy stemming from historical and political trends that have separated these policy narratives. Although there is broad support for the market development approach there is still debate regarding its usefulness and relevance among poorer, more vulnerable farmers. The approach is particularly questioned by those who serve remote rural areas where markets function less well. These practitioners feel that market players have traditionally ignored or exploited the poor and that it is unrealistic to think that markets will work to their benefit on a large scale. Alternatively, proponents of market development argue that by not integrating small-scale and marginal farmers into markets they will be further excluded from the benefits of economic development. This has emerged as the single most significant challenge facing practitioners concerned with poverty alleviation.

There is scope for market mechanisms to contribute to poverty reduction. The challenge is not one of choosing between poverty and the market, but rather of identifying and prioritizing efforts in light of the opportunities and limits that the market presents. Of particular importance is the need for nuanced policies for those areas that will remain marginalized from the market opportunities and their relations to growth centres.

Hence, a key issue relates to the extent to which the provision of farm management advice is a priority for vulnerable smallholder farmers. Many of these people may not themselves own land or be in the position to change their farming system because of structural constraints and weak access to credit and markets. Under this context however, farm management messages might still have a useful role, but focusing more on the household as a consumption/production unit. The extension message would need to be broad based covering resource management issues within a livelihoods framework. This may also call for a range of management services that are more basic (pest control, equipment leasing, irrigation maintenance, social organization and information provision).

## **5.5 MONITORING AND EVALUATION**

Farm management extension and for that matter agricultural extension programmes in general have been noted by an absence of well designed M & E systems that capture organizational performance. Although, most public sector advisory services have a rudimentary M&E system based on activity monitoring as a standard instrument for public administration, they rarely go beyond activities, inputs and outputs. Monitoring, if at all, usually covers the number of clients visited, number of demonstration plots established, etc. Measuring the performance of an advisory service is methodologically less demanding than assessing impact because it avoids important attribution problems inherent in impact assessment. The evidence, shows that impact assessment studies have often left it unclear whether investments in agricultural advisory services had limited impact because the advisory methods applied were inappropriate, the training level of the advisory services workers was too low, the system was not managed well, the system was too centralized, etc. (IFPRI, 2006). The issue of attribution is a major challenge as has been selection of indicators. Impact assessment involves these far-reaching methodological challenges, because the impact of advisory services depends on the behaviour of farmers, which is in turn influenced by many other factors. Moreover, the selection of indicators measuring income are likely to send counterproductive signals by implying that more emphasis is given to outcomes rather than the process by which it is achieved.

Pluralistic advisory services involve additional challenges for empirical analysis. If there are multiple providers and mixed models, none of the service providers may take overall responsibility and credit. There would be a need for donors to harmonize their M & E systems and align them with country-owned systems, as laid down in the Paris Declaration on Aid Effectiveness (February 2005). The challenge of harmonization also needs to be recognized.



## 6 Implications

*The Chapter looks at the implications of the new challenges facing advisory services with special concern to public sector extension. One of the most important responses is to establish appropriate policies and programmes to enable farmers to operate their farm businesses in a sustainable way. Two types of implications are identified and discussed. One is the policy and governance environment and the second relates to the design and management of farm management extension programmes. While it is difficult to be prescriptive when conducting a global review, this Chapter offers some practical suggestions for policy-makers and programme managers involved in designing and managing public sector farm management extension programmes. In doing so it draws on the lessons from the review and more specifically on the issues identified in the previous Chapter.*

### 6.1 SYSTEMS FRAMEWORK

A commitment to the promotion of farm management advice raises fundamental questions about the relevance of the conventional modalities and objectives that have steered extension programmes for many years. Above all the new emphasis puts into doubt the usual assumption that support to agriculture can be seen as largely synonymous with support to farms and farmers. A broader, systems perspective is required that embraces a far wider range of extension needs, if a serious commitment to market orientation is to be maintained. Farm management advice is required by different actors at several levels along value chains. The systems view must be fostered through interventions that transcend a narrow project perspective.

Departments of extension within the public sector advocate for the interests of farmers, rather than looking at how to make the overall systems more effective. More attention needs to be placed on how to best enhance the dynamism of small-scale commercial agriculture. This is not always easy, however, as some value chain actors, such as middlemen, are regarded as inherently exploitive and there is resistance to support and strengthen their position. Better understanding is needed of the roles and functions of the different actors within the value chain. Ways are also needed that take into account the often diverging concerns of stakeholders. Efforts need to wholeheartedly adopt the value chain perspective, and target actions toward the tiers in the system that provide most leverage for improving efficiency and creating value. However, some caution is needed. The institutional systems are not always neutral in the setting of priorities and strategies for extension service provision. Strategic options are often chosen according to stakeholder interests and are led by the dominant actors in the system. Decisions need to be taken on the choice of farmers for focus of farm management extension; selection of specific value chains or the alternative of taking a more broad based diversified farming systems approach. In any situation the tools and techniques of farm management extension will need to be adapted in line with the policies set.

As previously noted, actions to develop a well functioning farm management and farm business extension service within an agricultural sector dominated by small-scale farming, with little capital investment requires a public-private-NGO partnership approach. The public and private sectors working alone cannot effectively deliver the required services. There is need for them to work in partnership in the delivery of farm management extension services to realize the benefits of each sector's comparative advantage in targeting different types of farmers.

Broad stakeholder involvement should be encouraged to include all advisory service providers to promote formal and informal learning of the dynamics and challenges of extension and other support service provision for farm management. Management of extension should be promoted through partnership arrangements between government, private companies and farmers to enhance access for smaller scale farmers. By promoting multiple source extension systems the possibility for competition between government, commercial companies and private consultancies should result in improved services. Within the system it is also necessary to ensure that service providers are supported to develop capacities to undertake roles that they themselves value and which they can be expected to pursue in the future. International organizations such as FAO could play a facilitation role to forge partnerships between stakeholders.

## **6.2 FUNDING THROUGH PUBLIC-PRIVATE PARTNERSHIPS**

In order to ensure that efficient use is made of scarce financing for farm management extension, collaborative programmes between the public and private sectors should be more readily encouraged. The underlying premise is that both the public and private sectors have their own unique characteristics and strengths which when combined offer superior public services resulting in a more efficient and effective means of delivery.

Government and the private sector could cooperate through a number of public-private partnership modalities including service contracts, management contracts, leasing arrangements and joint ventures.<sup>18</sup> Contracts could be undertaken with private sector consulting companies, business development service providers and universities. For example, in the Philippines as a result of decentralization, local municipalities have been given the authority to subcontract extension services out to different service providers. In some countries this form of contracting is supported by voucher systems to provide the client with a choice of the kind of advisory services they desire from a range of service providers. Leasing arrangements between the public and private sectors have also been used to ensure closer linkages between small-scale farmers and service providers. An example, of a leasing cum management contract is the GVAR, in Zambia, where the public sector leases land to the Trust which is responsible for research and extension on a commercial basis. Financing of the scheme is made through commercial farming and contract research with the balance of budget supported by donors and government.

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<sup>18</sup> Under service contracts, private organizations are engaged to help provide services that the public sector does not offer efficiently or effectively on their own. Management contracts are drawn up where the contractor is obliged to provide management services. In this form the contractor takes over responsibility for operation and management of a state farm or facility for a specified period of time. Under this arrangement government maintains ownership control. Leasing implies that the public sector remains the owner of a productive resource but allows the private sector to use the asset for a predefined period against a rent payment. Joint ventures are also a vehicle for public-private partnerships in which governments, businesses, non governmental organizations and others can pool their resources and generate shared returns by solving local issues. Under this model the government is the ultimate regulator, but is also an active shareholder in the operating company.

The positive experience with outsourcing mechanisms for extension service delivery in Latin America through NGOs, FO and the private sector should be promoted on wider scale and could be adapted for other regions. Under outsourcing schemes there will be a need to develop guidelines for and provide guidance to extension service organizations on how to most effectively operate in this changed environment. Training and enhancing the capacity of private companies and third sector institutions to compete in government tenders, understand financial aspects of extension delivery and develop extension programmes and management plans is required. Training guidelines could be prepared and successful examples identified in order to have real and replicable cases that may be used for both training and demonstration purposes. The entire range of public-private partnership modalities should be explored to secure investment, greater efficiency and impact and wider coverage, in promoting farm management extension. These could include formal partnership arrangements as well as less formal alliances that cover the spectrum of possible relationships between the different actors in the public and private sectors.

### 6.3 PROGRAMME STRATEGY

The need to develop a strategy for the provision of farm management advice is often raised as an important issue to be confronted. The findings indicate that strategies have not been coherently developed and actions have too often been pragmatic and piecemeal. Some of the strategic questions raised here are: Should public sector farm management advice be limited to specific farmers or farm types? Should public sector farm management advice focus on larger or more progressive farmers? Should there alternatively be equal access to farm management advice for all farmers? Should public sector service provision be directed to particular locations where private and NGO support is unavailable?

A conclusion from the study is that too few farmers and other actors benefit at present from farm management advice. Even if the proportion of farmers directly reached through public sector extension services is increased as a result of good organization and management in most countries it is likely to remain small for many years to come. Ways need to be found to maximize outreach and ensure cost-effectiveness and sustainability. Given the shortage of field workers in many developing countries 'innovative' ways of delivering services to larger numbers of farmers in the rural areas need to be sought. Strategies must aim at making efficient use of the scarce manpower resources. This issue is tied to the future of the small-scale family farm, and the observation that specialized farm management advice might have a more effective impact by prioritizing its efforts towards emerging commercial farmers, rather than trying to reach the entire rural population. Farm management advice could be provided as a priority to the most dynamic farmers (often the younger ones) and to those who are receptive to new ideas. The expectation is that once they have been trained they would show other farmers the road to future progress. Such a strategy, however, has serious political implications.

In all events it is proposed that differential strategies are formulated for specific farmers taking into account gender differences and potentials, with varying content and methods for dissemination. The strategy should also differentiate spatially between the more remote rural areas and peri-urban locations in proximity to markets. In all events a differential strategy cannot exclude resource poor farmers who will need continued extension support. For the emerging commercial farmers, farm management would focus on market access and the farm business. For the latter group, the content of the message would be different with a much stronger techno-management message as well as a focus on livelihoods issues and the development of life skills. Extension workers operating in the more remote rural areas are often the only representative of the public sector and act as a point of contact on a diverse range of matters. Rather than providing advice in all subject areas extension workers should take on the role of facilitators pointing enquirers in the right direction (Christoplos, 1996). They could also advise on general household management issues helping farmers to complete forms that may be required to access government assistance as an alternative to providing them with specialized technical knowledge.

In Africa, HIV/AIDS has had a devastating impact on the supply and quality of labour resulting in major problems of weed control. Ways need to be found to address this challenge and this can only be attained through a farm management message that combines technical advice on farming with ways of making more efficient use of farm resources. In both situations, however, farm management extension activities should adequately address women's participation. In Africa, the importance of women in farming is progressively increasing and in Asia they are becoming empowered with greater influence in decision-making. For example the Grameen Bank in Bangladesh provides a pioneering example of putting women at the cornerstone of development efforts. It is, consequently, recommended that as a matter of policy there should be equal access to advice for all farmers.

**Box 29**  
**MANAGE, India**

MANAGE has adopted a techno-management approach to the provision of farm management skills incorporating both practical crop and animal husbandry topics together with farm management. As some of the topics relating to farm enterprise diversification require specific technical training, the management aspects are common. The practice has been to outsource the preparation of the technical aspects of the training, for example mushroom growing, silk production, vanilla growing, dairying, to specialized institutions. In this all training materials are earmarked to the needs of the client and are executed through partnership arrangements between the management institution and technical bodies.

*Chandra-Shekra, P., 2001*

As the heterogeneity considerations are likely to differ markedly it might, in some contexts, be more effective to design projects rather than large scale programmes to capture the differences between target beneficiaries (Berdegue, 2005). In this way specific strategies could be designed to match the local context of particular target groups.

### Box 30

#### Intervention strategy: Nigeria

**Phase I *Short-Term Stakeholders Workshop.*** A Stakeholders Workshop could be organized to discuss the assessment report and validate the recommendations. The workshop would aim to build consensus among stakeholders (policy-makers, private sector, farmers, and NGOs) about the proposed recommendations. The workshop could also be used to develop programmes for strengthening the provision of farm management extension services. In addition, the workshop could serve to: (a) sensitize policy-makers on the benefits of investment in farm management and farm business extension services; (b) foster a good economic and technical extension linkage between relevant training institutions, NGOs and the private sector; (c) design an effective strategy (including funding mechanism) for a regular generation of farm enterprise management data gathering and dissemination, with the view to strengthening the extension delivery system.

**Phase II *Medium-Term Review of Farm Management and Farm Business data collection for policy formulation.*** A review of the use of farm management and farm business data collection methods, analysis for business and policy advice could be carried out. This review should take a thorough stock of the personnel, level of training and capabilities to use modern farm management and farm business data collection, analysis and interpretation skills. A review should be undertaken of the curricula of institutions providing higher-level training in farm management and farm business with the view of determining their relevance to promoting profitable and sustainable agriculture in Nigeria. Also, an assessment of technical support needs of these institutions for training high caliber farm management and farm business personnel should be undertaken. This is with the view of designing bilateral programmes for upgrading teaching facilities that support modern farm management techniques and farm business extension services.

**Phase III *Long-Term Capacity Building Activities and Logistics.*** During the long term, capacity-building activities could relate to human capital development (farmers, extension agents and policy-makers). Training alone cannot provide the required impact for promoting commercialized farming in Nigeria, but should develop in consonance with the provision of information technology equipment (communication and training equipments, transportation etc.) and assistance in the setting up of an effective system for farm management and farm business data collection and dissemination.

*Kormawa P., Awoyemi T. & Akimbile L. A., 2002*

#### **6.4 ORGANIZATION AND MANAGEMENT**

Compared to the debate on governance structures and advisory methods, the way in which extension services are managed has received comparatively little attention in the literature (IFPRI, 2006). A better understanding of the management of extension services is crucial in order to create effective and efficient services that address some of the major issues mentioned in the previous Chapter. These are challenges caused by the scale and complexity of extension services and the associated problems of M & E and the need for accountability. The experience of the T&V system with a prescription of the organization and management of the extension service was seen to be inappropriate as a single approach for all countries to undertake (Anderson, Feder and Ganguly, 2006).

In order that farm management advice can fulfill this role there is a need to introduce measures to improve the organization and operation of public sector extension services. In the countries reviewed, we have seen that the organization of extension work and especially of farm management advice differs widely.

In the emerging pluralistic systems of agricultural advisory services, the complexity of the related organizational structures poses considerable new challenges for organization and management, for example, linking different types of actors to bring different types of services to different or the same clients; establishing incentive systems to attract complementary services; integrating these incentives in M & E and performance management systems. The choice of the characteristics of an advisory service needs to match country specific conditions to determine which systems are most appropriate for a given situation. There is no one single optimal or best model, which can be identified, and 'best fit' extension organization models need to be devised.

What is important is to build capacity among policy-planners and managers to identify modes of providing and financing the services that best match the specific conditions and development priorities of a country. This perspective is strongly supported by the experience of general public sector management reforms in developing countries (Levy and Kpundeh, 2004).

While it is clearly undesirable to cast organizational arrangements into the same mould, there are certain 'good practices' and tenets that could be applied to most extension contexts, albeit with some adaptation.



**Box 31****Basic principles of 'good practices' in farm management extension service delivery**

*Pluralistic scope of extension services.* Farm management extension services should be pluralistic addressing the needs of small and medium scale commercial farmers as well as the majority of the country's less progressive farmers cultivating small fragmented plots. In reaching the vast majority of the individual small farmers a public funded extension service can be justified as lying within the public interest. This will call for strategies and methods of extension service delivery that are both effective and efficient in using scarce public funds.

*Differentiated content of extension.* The type of services offered by the service providers must be differentiated according to farming system, socio-economic characteristics of the farmers and gender differentiation. The advice given to farmers must be relevant and useful and as such the focus of this project is on the provision of advice on market access and farm management rather than pure production. The advice provided should assist farmers in diversifying production and orienting themselves towards the market. However, among some of the poorer less commercial farmers the type of extension advice would need to be broader providing farmers with basic 'life skills'. These are issues that should be studied in detail during the pilot phase.

*Eclectic mix of extension methods.* Extension service delivery should incorporate a range of different and cost-effective methods that enable as broad an audience as possible to be reached. A standing principle is to build upon on the existing knowledge base from a wide variety of sources. The use of farmer-to-farmer extension coupled with more specialized external advice should be pursued when appropriate.

*Farmer driven extension service provision.* Farmer managed extension services should also be promoted. This will ensure that the information provided is demand led, that service delivery is efficient and a sense of ownership and accountability can be created. This principle is guided in the belief that effective extension is best achieved by extension organizations directly controlled by the users. This requires a concerted effort to be placed in organizing producers and building a political platform and financial base where ultimately farmers would be in the position to contract directly to private and public service providers.

*Farmer commitment and financial contribution.* It is essential that the principle of payment for service provision is introduced at the outset. The amount of financial contribution by farmers is less critical than the principle and is likely to vary according to their social and economic characteristics. In all events, financial participation by farmers will reduce the overall expenses of the government for extension, making services more demand-oriented and effective and promoting a sense of ownership. The project should ensure that a thorough assessment of the amount of long term financial resources needed to support agricultural extension is conducted. This is a prerequisite for the long term financial viability of the extension service.

**Box 31****Basic principles of 'good practices' in farm management extension service delivery***(continued)*

*Broad based stakeholder involvement.* A broad stakeholder involvement in farm management extension should be promoted, that includes the range of extension providers (public, private and NGOs) while being open enough to allow other stakeholders to compete.

*Creation of partnerships and networking.* The approach that should be followed is to create partnerships and networking between all stakeholders involved in the agricultural knowledge system, with the project serving a facilitation role, and coordinating action among extension service providers (public and private). This also calls for the development of linkages and networks between farmers, service providers, training and research institutions and other support services such as finance. Ultimately it is important to place the obligations of performance on the service providers and promote a 'demand led' extension approach.

*Build up trust and confidence among farmers.* The extension services need to build up trust and confidence among farmers in the extension message that is conveyed. This should be done by ensuring that front line extension workers are providing a demand led message and that the advice is of high quality so that farmers feel confident in its relevance and application. This is also necessary to sustain motivation and confidence among front line extension workers.

*Decentralization of service provision and fund management.* Decentralized and locally managed resources make it easier to address needs, focus on objectives and ensure sustainability. Flexible and decentralized mechanisms will be needed for channelling external resources directly to farmer groups and create greater relevance, efficiency and sustainability.

*Impact in influencing national policy change.* The focus of the project will be placed on influencing national extension policies. This will require the involvement of all stakeholders in development and especially farmers. The aim is to promote policies that will provide a flexible framework for the design of incentives intended to create synergies between the different stakeholders. A commitment from government to facilitate extension service provision is crucial and adequate financial support should be provided on a regular basis through decentralized funding mechanisms.

*Adapted from Neuchatel Group; Common Framework on Agricultural Extension, 1999*

**Meso-level**

The recognition of the localized nature of farming has been an important source of pressure towards the devolution of extension services. In Latin America, the South Pacific and CEE countries, extension centres have been established at regional, district and local levels together with appropriate staffing to promote farm management extension.<sup>19</sup> The localization of extension services creates the possibility for better vertical and lateral communication and management. This ensures that farmers gain better access to farm management advice throughout the rural areas.

<sup>19</sup> In Latin America the term Business Management Centre is often used. In the Pacific region there are moves to promote Small Business Extension Units with similar functions.

Some centres have been constructed as joint ventures between central or local government or farmer cooperatives and private sector service providers. Government in many cases plays the role of co-financier or even sponsor with the private sector responsible for management and service provision. Many of these centres have adopted a 'one stop shop' approach to farm business management, largely catering for commercial farmers. These farmers are provided with a broader range of services as required. In some situations the services are outsourced as an alternative to maintaining in-house resources.

The extension centres could be set up as functional information centres where farmers are provided with information and the capacity to deal with a broad range of topics beyond solely production content. Information would be required on market prices, sources of input supplies and finance, international market quality, regulations and standards etc.

Within public sector extension services, decentralization to regional and district levels should be supported together with the establishment of farm management units to provide extension services to farmers and other actors within the value chain. Support by farm management specialists to front line extension workers is critical to ensure momentum and ultimately sustainability.

It is proposed that similar structures should be promoted in many country contexts, especially in an effort to improve the outreach and performance of public sector extension services. The district and local levels are the most important because local extension workers are responsible for the execution of extension work and it is here that the farmer comes into contact with the agricultural extension staff. The function of the regional and district level centre or unit would be to guide field level extension programmes in aspects of farm management by providing recommendations based on farm management analyses, and thereby providing extension workers with technical support in marketing and farm management. There is also a coordination function of working together with technical SMSs and ensuring more harmonious and appropriate field programmes. The regional and district service also has a role to play in cooperating with research and educational organizations.

### **Field level**

Extension work has all too often been seen to be insufficiently planned and supervised. Field level services in many developing countries lack a well defined organization with both a clear mode of operation and line of administrative control and technical support. There has been a noticeable failure on the part of front line extension workers to systematize their work and organize and plan their field operations over a season or year. Work programmes are frequently of an ad hoc nature with insufficient guidance on the content of the extension programme and its means of execution.

Given the shortage of field workers, ways must be found to make efficient use of scarce manpower resources. Where there are insufficient field staff available or there are problems of mobility, extension workers should consider concentrating their efforts over a limited

area in order to achieve a visible impact. This could be achieved through focusing efforts on critical areas within the larger district and reorganizing the extension service so that activities are planned and adequately supervised and work programmes are well defined and supported.

Another strategic option is to design and implement extension programmes in stages. In a first stage the pilot areas with demonstration potential could be selected for focus of concentration. In each of these areas a small number of progressive farmers could be selected to cooperate with the extension programme in setting goals and making plans to improve the organization and operation of their farms for higher productivity and farm income.

A structured management system for field workers is also required to include regular staff meetings and improved communication with project management. The system should be flexible but located within a structure of frequent and regular field visits. This can best be achieved through setting a timetable of field visits and ensuring that they are made according to a schedule that is known to the rural communities in advance. These are elements of the T&V system that make management sense.

There is a need for a complementary administrative system to support field level activities. This, however, needs to be nothing more than a set of elementary principles of management translated into procedures for organizing, supervising and instructing dispersed extension workers. The principles and procedures should provide field workers with a clear definition of tasks, responsibilities and goals set. The parameters of the approach should be set by field staff together with project management ensuring that a two way flow of information is maintained.

An extension strategy pursued in a number of countries is the establishment of Farmer Training Centers (FTCs) with demonstration farms or plots to exhibit commercial farming and test new improved technologies. FTCs have been set up at district level in Zambia, Ethiopia and Thailand, to name just a few countries. Through this modality extension workers are able to demonstrate commercial farming to other farmers in the vicinity. As the benefits of farm planning and development are demonstrated more farmers are expected to join the programme. Meanwhile extension workers and farmers would be trained through short remedial training programmes combined with experiential field school type programmes. As more people are trained and more farmers have acquired experience the programmes could be scaled up.

Greater emphasis also needs to be placed within extension services on training extension workers in designing annual extension programmes. This clearly should be conducted with the participation of farmers and within the available resources of man-power and finances. What is required is an approach that facilitates listening to the rural community, understanding their problems and reaching a consensus for wise decisions. A genuine learning process has to be developed that aims at tackling the peoples real needs and problems. Annual work plans would show what farmer groups or individuals will be taught, who is to be responsible

and the resources that may be required. The process should be followed up by evaluation, measuring progress achieved at regular intervals. This is necessary to be sure that the proper response is made and that the teaching and extension methods used are relevant and useful.

### **Networking and linkages**

Networking and linkages need to be developed between all stakeholders involved in supporting marketed-oriented extension. This calls for the development of linkages between farmers, service providers, training and research institutions. The broad stakeholder involvement should promote formal and informal learning of the dynamics and challenges of farm business enterprise development. Knowledge management can be assured through the organization of business clubs, or other associations which bring together farmers, the private sector, NGOs, and government. Donors or government could provide a facilitation role, and coordinate action among extension service providers.

Efforts also need to be taken to develop partnerships and relationships with institutions that can provide backstopping support. These include university departments of agricultural economics, private sector business service providers and NGOs with technical expertise in farm enterprise development and capacity building. These links are important to train extension staff, collect and analyse farm management data and generate information for dissemination to farmers individually and within groups as a forum for discussion, learning and lessons sharing.

#### **Box 32**

##### **Underlying principles of a farm management extension strategy**

- Maintain a balance between farm management advice which is given in the best interests of individual farmers and the needs of particular farms and broader considerations that derive from government policy towards the agriculture sector as a whole. These may be in conflict, to some extent, especially in extension work by publicly funded organizations.
- Use a general approach to farm management by extension staff in contact with farmers at local level, and have available a specialist back up service either within the Extension Service or through collaboration with other agricultural institutions with an expertise in farm management.
- Develop a strongly supportive agricultural economics information service through surveys and data collection on an area basis, to give the necessary economic data on which to base advice on the management of farms.
- Provide support to create teams of farm management specialists at regional level within countries to identify problems, the needs for Extension work to deal with these and appropriate methods for working with farmers whose needs have been identified.

## 6.5 Capacity Building

### *Extension service staffing*

Better use needs to be made of available extension staff in the public extension system. It is important to clearly define the different responsibilities of public sector extension staff for the provision of farm management advice. In effect there are three kinds of extension staff that currently play or should play a part in supporting farm management: (i) front line extension worker; (ii) technical SMSs; and (iii) farm management SMS. Front line extension workers are responsible for defining together with farmers priorities for action. Extension workers should recognize if and where there is a need for more specialized technical assistance. They should in the course of their work, work closely with farmers and get them to make their own decisions. In contrast the farm management specialists should be located at regional or district level and their main responsibility will be to assist field level extension workers. The qualities required of these officers call for a higher standard of recruitment and better basic training. Ways should be found to reduce the time spent by the farm management specialist on administrative matters as far as possible. In some countries there will be a need to recruit specialist extension workers with expertise in marketing and farm management. These specialists, however, should not work in isolation and closer integration and coordination between technical disciplines is needed.

While the role of extension workers is recognized, the functions of farm management specialists need to be revisited. The traditional task of the farm management specialist has been to provide training and technical support to front line extension workers. This role can be reinforced and strengthened by the additional function that farm management extension workers have of compiling and analyzing data on farm enterprise profitability for incorporation as standard data into farm management handbooks and the production of extension information for direct dissemination to farmers. The former output should be of value to front line extension workers as benchmark data that supplements their technical knowledge and skills. The latter has a direct extension purpose, requiring the technical expertise of farm management economists to analyse farm profitability as a result of policy changes on model farm types. While these roles match the conclusions of research conducted over three decades ago the recommendations have never been implemented to scale (Collinson, 1974 and Clayton, 1963). The more commercialized farming situation, however, calls for the reinvention of this role. This will, however, require structural changes to public sector extension services with concomitant financial support.

As mentioned previously there is a paucity of field level extension staff that has resulted in limited extension coverage in rural areas. Efforts should be made to develop a community level cadre of para-extension workers on a voluntary basis as a way of filling this gap. In some countries this has been very effective in promoting farmer-to-farmer learning and strengthening FOs. The concept is not new but its application to marketing and farm management is now increasingly being made (Ethiopia, Pakistan, Nicaragua, Guatemala). In some cases the training provided in farm management related subjects is supported by training in facilitation skills, conflict resolution and social mobilization. The concept should be further developed and adapted according to country specific conditions. Extension workers must now think more in terms of market opportunities, increasing farmer income



and as facilitators of information exchange they must be adept in participatory techniques and resourceful in drawing on a mix of communication methods and technologies. This is a new and different role for extension workers. A consistent theme running through this is that the extension worker is no longer seen as the expert who has all the useful information and technical solutions. Farm management extension requires extension workers to facilitate direct exchanges between farmers as a way of diagnosing problems, capitalizing on existing knowledge, exchanging experiences, disseminating proven improvements and even designing common programmes; as well as relations between farmers and extension service providers (private and public).

### ***Farm management training***

As this review has shown the development of the skills and competencies of extension staff through training is critical for the effective working of extension services. The dynamics and trends towards market-led farming necessitates more highly trained, specialized and technically competent workers, who know where to obtain relevant information and solutions to problems. There is clearly a need to continue building up human capacity through training programmes of various forms: pre-service, refresher training, and longer term experiential training. Training programmes of these kinds that include opportunities to undergo short and long term training, study tours in the country as well as overseas study tours could be used as an incentive to motivate extension to be more efficient in their job.

Training should be business oriented and practical with the trainees treated as clients. This should ensure that course content is demand driven and tailor made to the needs of clients as would the organization of the training, the duration and timing and mode of delivery. Graduation from these programmes should also be formalized by using registration and certification procedures to assure basic levels of professional competency. However, in most of the countries reviewed in this report, there is a lack of resource persons as trainers. Greater investment is needed to strengthen training institutions as back-up service providers. There is greater recognition now among donors that capacity building efforts are likely to be more sustainable than providing direct support to extension services. Donor support has increasingly shifted from substituting for service capacities to developing those very same capacities required.

Decision-making skills development, however, should not be provided to farmers as a single one off activity, but throughout the development of a farm business. This will require close follow-up and mentoring/counseling. Approaches such as group training, farmer-to-farmer training and learning are some of the modalities that could be developed in the future. A greater commitment is also needed on the side of the participants and this might be better achieved through providing 'tailor made' targeted advice combined with the design of methods for cost recovery.

A structured approach to in service training in farm management needs to be developed requiring analysis of the existing skills and competencies of the extension staff selected for training and developing a training curriculum that ultimately enables farmers to produce business plans. This calls for training that covers data collection and analysis of technical

and economic data, as well as the application of farm management tools and knowledge of extension methods and skills for working with farmers. Training programmes should also be designed, so as to encourage opportunities for interaction and sharing of knowledge and skills among broader groups of stakeholders. Further research, however, is needed to investigate how best to structure training to incorporate these opportunities for interaction. Effort needs to be taken to ensure that training programmes are directed to both field level extension staff and more senior decision-makers within the extension organization. This is an important principle: senior staff can create and support a working environment (including with resources) to facilitate the deployment of newly acquired skills and knowledge at service delivery level.

### **Box 33**

#### **Lessons learned**

- Any training programme should be designed on the basis of client demand. However, since farmers are often unaware of their own training needs, an important aspect of a programme should involve stimulating demand for the programmes' services. Programmes could identify specific training needs by looking at market opportunities and working backwards. By demonstrating the returns to be made from the training, demand can be stimulated.
- The content of training programmes must be tailor made to the needs and requirements of the target recipients, their level of literacy and ability to assimilate the information provided. It is important that needs assessments are conducted not only for farmers but for other actors in the value chain.
- The content of training programmes should be kept flexible and broadened in line with trainee demands. New topics of business management might be introduced that include contract negotiations, food quality, and food safety, technology development and niche market penetration. In all events these subjects would also need to be selected in line with client demand.
- Training programmes should be designed for different stages of the farm and enterprise development process. Farm business development is a process of change that requires the development of different management and entrepreneurial skills at various stages of enterprise growth. More emphasis needs to be placed on existing farmer entrepreneurs, even in the more remote rural areas, rather than on identifying and introducing income generating activities among the entire rural population.
- New ways of building local capacities need to be explored. For example, Success Case Replication and CEFÉ methodologies call on counseling as the main means of promoting entrepreneurship skills development (GTZ). This involves guiding individual farmers through processes of self analysis and problem identification with the objective of enabling the participants to solve their own problems. This is ultimately more empowering than the traditional ways of building local capacities.

**Box 33**  
**Lessons learned (continued)**

- Training of both field workers and farmers should be practical, continuous, regular, participatory and closely monitored. Priority should be given to short, practical and action oriented courses and theoretical topics should be linked to practical applications and demonstrations. Extension worker training in farm management should occur on a regular basis. Training should be concentrated and provided to field workers in manageable doses.
- A particular challenge for farm management extension is that of building capacities to undertake facilitation. Competent local facilitators are rarely available and especially within public sector agencies.
- Training should be largely 'experiential', practical and problem oriented, simulating the reality of the situation of the entrepreneur as farmer and service provider.
- Training should be cost-effective and aimed at maximizing outreach. This can be achieved by utilizing local training capacity, organizing farmers into extension groups reduce the transaction costs involved. Outreach can be assured by bringing the training to the clients in the rural areas and at times of the day convenient to the trainees. This may be done by sub-contracting service providers located close to the clientele, in the rural areas, or alternatively by establishing mobile training programmes. This will help to minimize the opportunity costs associated with the training.

Though training frontline extension workers in farm management is important and needs to be developed; this alone is not sufficient to ensure meaningful impact. Extension workers at different levels of authority within public sector extension services need to be supportive and require themselves a stronger understanding of market opportunities and policies that impact on farmers (Rasheed and van den Ban, 2000). Additionally, there are other stakeholders situated in the value chain that also need to be reached. The role of the extension worker is wider and deeper.

***Farm management materials***

In most developing countries, materials on farm management can rarely be found within extension circles. Didactic materials for training in farm management are also limited in availability. Moreover, the content is often treated conventionally and ill-suited to the needs of farmers. More innovative materials are required that address problems of illiteracy and numeracy. For the promotion of specific message participatory methods can be used together with innovative forms of communication e.g. drama and puppet shows.

Another weakness is the lack of materials for extension workers including pamphlets, brochures and simple information on aspects of farm management and marketing, produced by specialist advisers. An eclectic range of materials are needed for farmers, extension workers and senior management decision-makers to deal with extension in a systemic way. Materials also need to be designed for specific categories of learners in particular country contexts.

These could include:

- awareness creating leaflets on farm management;
- farm recording and accountancy forms;
- self learning and teaching materials for use by farmers, on the basic techniques of farm management;
- market information sheets for specific commodities and categories of farmers, on an area basis;
- advanced training materials for farm management specialists;
- adaptation of existing published materials and regional or global training programmes;
- booklets and brochures outlining issues for the strategic (long-term) management of farms.

Many of the extension offices, however, also require essential hardware including visual aids, slide projectors, and training material production equipment (video cameras, recorders, video editing etc.) as well as computer software. Training material production will require not only the equipment, but human capacity building and technical support. Adequate budgetary resources need to be set aside to develop this capacity and raise awareness of business opportunities for extension workers and farmers.

### ***Back-up services***

More emphasis should be given by government and donors to the provision of technical back-up services to support extension service delivery. These services include training of trainers, testing new technologies, assistance in business analysis and development of training material and extension materials. To this list can be added the actions necessary to facilitate multi-stakeholder dialogues, round tables and expert hearings at local and national levels where all kinds of market-orientation issues, strategies and policies would be discussed. This assistance is needed not only to support farmers but all actors in the value chain. A clear distinction between back-up services and extension services needs to be made and helps define the role of donor sponsored technical assistance programmes.

An important area of back-up service is the support given by 'core trainers' initially involved in implementing ToT programmes. Besides providing initial training they have a role to ensure that follow-up mentoring and coaching advice is available. For the market-oriented services to become and remain attractive and useful to all the clients it is essential that the direct service providers have continuous access to backup services that help to build, maintain and update their capacity.

There is a general concern, however, that back-up services are often provided with donor support by programmes and projects that treat capacity building as a discrete one-off investment. Back-up services need to be provided on a continuous basis to cope with changes and challenges that occur. Extension service providers need access to back-up services even after the external interventions have been completed.

The private sector, however, is unlikely to make such services widely available and the source of financing will need to a considerable extent provided by the public sector to ensure that these services are available on an adequate scale.

More attention needs to be paid by donors on the effective use of public funds. Institutional mechanisms and procedures may need to be set up that embed back-up service provision on a sustainable basis. Greater awareness of this role among donors is required and individual donors must be encouraged to provide assistance in a way that complements other donor agencies and government support. With more harmonized funding strategies greater clarity of options for exiting may emerge. Through well designed back-up service assistance donors may be in a good position to plan withdrawing support in a way that leaves the overall system intact.

### ***Formal education programmes***

At the formal education level, developing countries have a mixed provision for vocational education, including agriculture. Changes that reflect the new market-oriented nature of farming are required. In many schools specialized studies that include economics and business management and marketing and the use of computers are required. The fundamentals of managing a farm and of entrepreneurial behaviour in general, need to be developed for the future. Action to establish strong linkages between university departments of agricultural economics and farm management specialists in extension services constitute an important point of entry. A chain of support should be made available and provided by selected academic staff with a particular interest in farm management. Such staff could be involved in the collection of farm economics data and preparing it for specialist extension workers to use with front line extension workers interfacing with farmers. This could provide a measure of independence and objectivity in the collection, analysis and use of data. This kind of liaison activity could serve as a structure for:

- Preparing and providing regularly updated data and information on the farm enterprise and whole farm profitability.
- Giving formal training in the use of farm management analysis and planning to groups of extension workers.
- Assisting individual extension workers by accompanying them in coaching visits to farmers; an important method of farm management training.

- Helping to establish pilot farms on which to demonstrate the use and value of farm management.
- Preparing materials for use in training courses run by various agencies.
- Help to establish networks of local farmers and farm management advisers who have been successful and have enthusiastic experience of farm management.

In many countries, the annual number of graduates from various academic institutions teaching agricultural economics or business management will need to be revised and their output increased. More emphasis also needs to be given to building the capacity of people at a lower academic level, such as graduates from technical colleges and agricultural schools, in order to ensure that a wider impact is made on the farming community.

There is a need for universities, training colleges and vocational institutions in developing countries to review and update the agricultural curriculum so that they better prepare graduates for a career in commercial farming. Efforts should be placed on developing curricula in farm management and marketing given the need to prepare future extension workers for careers in both the public and private sectors. Specialized modules on aspects of farm management could be developed to complement other related courses. The modules, however, should be practical and field oriented.

The importance of formal education cannot be over emphasized. Focusing farm business management on young people in developing countries may well create a cadre of future commercial farmers, changing how young people from both rural and urban areas perceive farming. Young people attending school or university are already literate and have been stimulated to learn. They also tend to be more dynamic and highly motivated. This matches the entrepreneurial spirit required for farming to be managed as a business. Many students from rural areas, usually see farming as a last resort of employment, but training in farm business management, does not only mean that they can work on a farm, with business management skills and treat farming as a business, but these skills can be transferred to other business operations that they might take up in the course of their life.

### ***Performance measures***

The systems concept covers a more complex set of causes and effects than previously encountered in the agricultural extension discipline. As all actors involved in extension service delivery, along the value-chain are engaged as interested and active stakeholders, a new design for M & E is needed that takes into account these new concepts. Donors, governments, development agencies and the private sector need to know the effect that their efforts are having individually and in combination, at each level of the system (macro, meso, micro). This is necessary for both improving operations, ensuring due diligence and accountability, and providing feedback for learning purposes. Moreover it requires reducing the complex system of advisory support service provision into discrete parts with recognizable indicators attributable to specific interventions. A well formulated M & E system would provide stakeholders with a foundation for making improvements in approaches and methods.



As noted in the previous Chapter, conventional impact measurements are methodologically difficult to measure and alternative approaches that focus on outcomes are needed that take into account the systems framework. As capacity is often the ultimate goal of extension programmes, indicators of performance should reflect skills development rather than impact measures such as farm income and poverty reduction. Outcome can be more appropriately measured by looking at the capacity of the various actors in the system. This is a useful alternative to trying to trace and measure impact.

In this way, a M & E system has a useful part to play in the building of the capacity of the various actors along the chain. The design of a holistic M & E system that incorporates all of the value chain actors, providing them with an opportunity to reflect over their relationships as well as the skills and competencies required to promote a market orientation is required. Better understanding is also needed of the process of entrepreneurial skills development: the changes in attitude and behavioural patterns among farmers and the capacity for innovativeness and risk taking. The M & E system should capture these changes among farmer beneficiaries. This often requires, as a prerequisite, the establishment of a baseline and a system of follow up and review. The ASP project in Zambia has developed a system to rank farmers on the basis of selected criteria according to their level of entrepreneurship. Farmers are categorized as traditional; aware (of business opportunities); self confident; an emerging entrepreneur; and an emerged entrepreneur. Farmers are ranked and assessed periodically. The system provides an incentive to the project beneficiaries to develop their management skills and competencies. Similar systems should be designed as part of the M&E system focusing on capacity building as a performance outcome.

## **6.6 FARM MANAGEMENT INFORMATION AND EXTENSION METHODS**

### ***Farm management information***

The use of farm management methods requires as a pre-requisite the availability of quality data. The collection of accurate farm level data is a key to the success of farm management advice. However, in nearly all countries reviewed there has been difficulty in obtaining information from farmers. In many countries the number of farm records regularly collected and analyzed is insufficient for the effective implementation of farm management extension work. Moreover, the compilation of physical input/output data is often a complicated matter and economic data, especially for prices of commodities and means of production, are incomplete because of the weaknesses of the farm management specialization in extension services.

Suitable mechanisms for collecting and using such data are required and this is fundamental to the development of farm management services to farmers. Quality information can be ensured by using farmers more effectively as key informants. This requires good relationships between farmers and extension workers (front-line extension workers and SMSs). A starting point is greater recognition by extension workers of the usefulness and relevance of farm economics data and the resources needed to collect and analyse it. Simple methods of data collection and validation are needed. Farmers on their part should be encouraged to keep

regular farm records as this is often the best source of information available for extension work.

Farm data has also to be compiled and analyzed. Compilation could take the form of databanks of reference data, data handbooks and the preparation of standard data for benchmarking. Compilation and analysis could be carried out by field extension workers by themselves, but would more commonly require the skills and experience of farm management specialists. Farm management SMSs often have the task of analyzing data to produce the standard information needed for farm management handbooks to be used by front line extension workers in their day-to-day work.

Farmers must also be assured that the information they supply for farm management purposes will be kept strictly confidential and will not be divulged to the authorities and to other farmers without permission. Extension workers must be competent and capable of inspiring confidence and assisting farmers. Farmer extension groups should be formed and members encouraged to collect and analyse data together. However, more individualized, advice will also be needed particularly on subjects requiring confidentiality.

Data collection and analysis needs to be accompanied by training and instruction on the use and application of data. In order to improve cooperation between farm management specialists and extension workers there is a need to ensure that the latter have a grounding in farm management and in particular data collection and analysis.

### ***Farm management extension methods***

In many countries as a result of the low education level of extension workers there is a need to adapt and simplify traditional farm management concepts and tools for wider and more relevant use (Kunze, 2003). A challenge facing farm management extension is to identify and design farm management techniques that are less data dependent and rely on the skills and support of extension workers. Innovative techniques need to be developed that rely on simple and basic data and are applied through simple methods and practices. Information generated and disseminated also needs to be easily communicated.

Approaches developed should aim at collecting data at low cost and in a timely manner. An example, is 'benchmarking' as a tool combined with constraints analysis and farm profitability diagnosis. The methods enable extension workers and farmers to view the farm business from a holistic perspective and 'home-in' on the most pertinent problems facing the farmer; problems identified by farmers themselves. Checklists and multi attribute matrices to assist farmers and extension workers take more informed management decisions could also be more broadly used.

Farmers also need assistance on specific technical issues. Farm management can be applied to support the regular work load of technical SMSs and extension staff. The application of farm management to identify key problems and constraints has the potential to appreciably reduce the cost of agricultural extension work.

The tools developed for farm management also need to be adapted and applied depending on the context. Some farmers may keep records and analyse data on profitability by themselves while others may require the assistance of technical extension workers. A number of options exist: data can be collected and analyzed by the farmer with the help of the extension worker, or collected by the farmer and analyzed by the extension worker or collected and analyzed by the extension worker who then reports the results. The dynamic should be to move progressively from training and capacity building towards developing a relation of expertise between different parties. The change of focus away from dealing solely with individual farmers towards farmer groups and other stakeholders along the value chain imply that the farm management techniques and methods need to be broadened to deal with new topics of relevance to the changed perspective.

While farm management is important for farmers to measure the performance of their business this does not necessarily mean that all farmers have to be literate and numerate. As noted in a previous Chapter, participatory tools and techniques for farm management were introduced in the 1990s and have proved to be particularly useful in conducting needs assessments and diagnoses. The techniques developed involve farmers and are often simple to use. Participatory farm management has been applied on a test basis in Africa and has shown promising signs of success (Dorward *et al.* 1996). The current repertoire of tools and methods could be broadened to deal with specialized aspects of farm management and in particular market related issues. This would require close communication between experts and farmers with iterative design and testing. The benefits and effective use of methods would need to be validated in the light of the feedback received from farmers. Work is also needed to better understand the decision-making and management processes among illiterate and semi-literate farmers so that new tools and practices can be better developed.

### Box 34

#### Participatory farm management: tools

##### *Characteristics*

- Participatory
- Simplified
- Based on resources and/or money
- Suited for illiterate populations using symbols, objects or drawings
- Experiential learning

##### *Example tools*

- Participatory budgeting
- Participatory cash flow budgeting
- Participatory labour profiles
- Resource flow diagrammes
- Farm/household record-keeping
- Constraints analysis
- Market appraisal
- Whole farm planning

*Source: Adapted from FAO materials*

**Box 35****Participatory farm management: procedures**

- Groups of similarly endowed smallholder farmers with roughly the same mix of enterprises are selected by the community (via a wealth ranking or similar exercise).
- Within each group farmers identify and rank their perceived constraints.
- Opportunities that address these constraints are suggested and ranked.
- Quantitative data (cash value and quantities of inputs and outputs, labour etc.) on potential opportunities are collectively agreed on (based on the combined experience and views of both the farmers in the group and the researcher), using local categories and measures.
- Simple budgets (partial, whole farm etc.) are conducted with farmers to study the projected outcomes (in terms of costs and returns) of different opportunities that result from research.
- Results are discussed and compared and contrasted with individual farmers' own experiences and perceptions.

*Dorward, P. T., Shepherd, D. D. & Wolmer, W. L., 1997*

***Farm management analysis***

Given the scarcity of public funds for extension, specialized farm management expertise needs to be used sparingly. The tasks of farm management specialists have to be redefined and their services utilized in a way that ensures greater outreach among smallholder farmers. More emphasis needs to be placed on farm management analysis, using the information to influence both farm and policy level decisions. Diagnosis of this kind also provides a useful input into identifying the technical extension messages that extension services should focus on. While farm management analyses cannot be conducted on individual farms, there is scope to conduct regional or area based farm management studies that identify constraints and potentials, formulate strategies and design interventions necessary for change. Looking at the future is important both for extension workers and policy-makers. In the course of this work representative benchmark farms could be identified and farm management analysis conducted with the results formulated as extension messages.

***Communication and dissemination***

The study has repeatedly emphasized the growing extension role of FOs and producer organizations. Group based extension requires active participation by farmers and local community in order to articulate needs and mobilize their local knowledge. This mechanism has become even more relevant as extension workers grapple with the management needs of different actors along value chains. Group extension can, consequently, be justified on the

following grounds: (i) greater coverage and cost-effectiveness; (ii) a more effective learning environment through mutual reinforcement and group pressure; and (iii) a greater focus for joint action of group activities. The formation of farmer groups gives extension workers the opportunity to use group meetings for extending advice, demonstrating techniques and disseminating information.

The concept of participatory extension calls for increasing involvement and interaction of clientele in the extension process. Field staff are catalysts in this process, encouraging farmers to take initiative and exert effective control. The underlying tenets of the approach are the need for greater consciousness among farmers to use their creative potential through investigation, reflection and analysis. At field level, dialogue with farmers and other members of the rural community is encouraged in order to identify and analyze the root causes of a problem and identify ways of dealing with it. Farmers' knowledge and ingenuity, individually and collectively, is recognized as a major resource and solutions to local problems need to be developed in partnership. However, simply making information more readily available for farmers is not enough to ensure that it will be used effectively. Farmers should be encouraged to analyse constraints, seek out and test solutions and make choices. An atmosphere has to be created of collective learning. Exchange of technical and economic information between farmers strengthens their capacity to analyse their own situation. Exchanges between farmers can be enhanced by joint analysis of the results obtained. Field visits, on-farm experiments, demonstration programmes and study tours should be encouraged to reinforce these dynamics. Farmers tend to believe what they see more than what they hear.

The true test of participatory extension is measured by a further principle; progressive redundancy of field staff. This refers to the ability of the system to reduce its reliance on external group facilitators in favour of local lead farmers and group leaders. While this is an evolutionary process which occurs at different rates in different communities it creates in-built opportunities for lead farmers to develop a capacity to facilitate. The participatory extension approach includes the use of model farmers, demonstration plots and group extension methods. These methods are most useful for diagnosing problems, field testing and disseminating information. The active participation by farmers and FOs as well as close liaison with other support service providers and farmer organization in the planning and carrying out of agricultural extension work is vital.

Rapid changes are also taking place in the use of information technology to support extension. Mass media through radio, television, and Information and Communication Technology (ICT) have an important role to play in informing farmers about management and marketing issues. Information technology is tremendously powerful and needs to be harnessed by extension organizations for the benefit of farmers. ICT has the potential to erase these physical barriers by developing and applying appropriate interactive information mechanisms.

Exposure to mass media reduces the isolation of rural communities especially in more remote areas. Mass media needs to be used more frequently to disseminate market and management information. The advantage of mass media as a form of communication is that it is cheap and allows the public sector to continue to provide a basic service to all farmers. On the other hand the poorest are less likely to have radios themselves. 'Listening groups' and

mechanisms for radios to be shared by farmers are particularly relevant in these situations. A challenge is how the powers of information technology can be harnessed for the benefit of farmers without compromising the importance of human and unique local factors. These conclusions lead to a list of 'good practices'.

### Box 36

#### 'Good practices' in farm management extension

##### *Human resources*

- Consider the provision of specialists at regional and district level in farm management and marketing.
- Attain an appropriate balance between the number of technical specialists and front line extension workers to achieve optimum results.
- Utilise the scarce resource of the farm management SMS effectively to analyse problems identified by farmers.

##### *Organization*

- Organize farmers into groups to reduce the per unit cost of extension.
- Link and pull farmers up through farmer outgrower schemes.
- Organize teams of extension workers that provide technical support to farmer groups;
- Promote networking among farmers and other stakeholders.
- Managing extension services through partnership arrangements between farmers, private companies, NGOs and government.

##### *Data, methods and tools*

- Collect data on a group basis which is a relatively inexpensive method of helping small farmers.
- Improve the accuracy and quality of farm management data collected through group participatory methods.
- Develop tools and methods for adaptive use among illiterate farmers.
- Apply simple methods and use available time to the best possible advantage through concentrating on those farmers who will derive most benefit from farm management advice.
- Promote the use of farm management handbooks to assist extension workers in the field.



**Box 36****'Good practices' in farm management extension (continued)***Programming*

- Use farm management analyses and prioritize the general technical extension work.
- Target extension efforts in farm management towards those farmers most likely to benefit.
- Design programmes that take into account gender concerns.
- At local level ensure that extension workers establish annual programme plans with a focus of time on working with farmers.
- Arrange regular management meetings between SMSs and field staff.
- Fix a programme of regular visits to extension groups for extension workers.
- Ensure adequate supervision and communication through monitoring field activities and maintaining records of work carried out.
- Introduce systems of regular reporting to streamline report preparation and handling.
- Introduce innovative ways of attempting to recover costs of extension service provision.

*Communication*

- Ensure that the results of diagnostic studies are disseminated and shared with farmers.
- Select group methods of farm management extension work, which allow for a more active cooperation by farmers.
- Use innovative methods of dissemination of technical and management advice for example through pilot farms, model farmers, demonstrations etc.
- Ensure that there is a strong system of two-way communication between SMSs and field level staff and between the latter and the rural community.
- Prepare clear and concise practical recommendations for extension workers to convey to farmers and farmer groups.
- Supplement technical extension with the preparation of farm management extension materials.

## 7 Conclusions

This report shows that given the changes that have occurred through structural adjustment, market liberalization and globalization, a dynamic has been triggered towards farm commercialization. This in turn has seen changes in the composition of the farm enterprises with a movement increasingly towards cash crops and high value products directed to local, national, regional and international markets. These changes call for a concomitant shift in the content and nature of agricultural extension support. Farmers are requiring an upgrading of skills and competencies in farm management and marketing to more efficiently run their farm business, increase profits and farm income. The demand for agricultural extension in farm management and marketing has had prolific implications on the organization and functioning of extension services.

While structural adjustment policies impacting on extension service delivery has led to the demise of the public sector and the emergence of a more pluralistic delivery system including the private sector and NGOs as service providers, there are many gaps that need to be filled. The global evidence suggests that while a broad platform of advisory service support to farmers is necessary the public sector has an important role to fill by providing extension advice to small-scale farmers in the rural areas in partnership with the private and NGO sectors.

Evidence from World Bank projects shows that training and extension are very attractive investments with high rates of return. Investment in human resource development has traditionally been favourable and the most effective way to ensure sustainability. However, there is mistrust in promoting market-oriented extension. The attitude of donors, government service providers and farmers towards business advice and marketing has generally been negative with marketing, trade and business widely regarded as inherently exploitive activities.

More money needs to be made available within the public sector to promote market-oriented extension. In developing countries, support for extension is often designated as a lower priority than politically visible interventions. The reform of extension funding, consequently, aims at mobilizing funds from private sources. Frequently discussed are alternative funding mechanisms such as voucher systems, subcontracting extension to non-public actors, and charging levies on commodities as a form of cost participation by producers. Extension funds and outgrower systems are also potential options. An important feature, however, of alternative funding mechanisms is the control of the quality of extension by its end users.

For smallholder farmers and especially those that are resource poor, market orientation is a risky and even disturbing concept which poses a barrier to change. Markets are too often volatile with considerable risks for smallholders. Farmers, consequently, need to understand the implications of market orientation, from the outset. In turn, extension services have a role in reducing the perceived and real risks of increased exposure to market factors by providing a better understanding about how the markets function and awareness of the options available to farmers in a market-oriented environment. However, the attitude also among public sector policy-makers and managers needs to change. Focusing on markets and farm management is not in line with the traditional tasks and competencies of extension agencies.

Finally, the attitude of donors is also suspect. Despite an increasing shift of attention in the donor community towards farming for profit, development agencies are too often ready to directly finance extension services to support donor driven initiatives. This has proven to be financially unsustainable. The prospects for the sustainable provision of advisory services need to be analyzed and interventions designed in a way to promote their sustainability. More informed analysis of the impact on the market for extension services is needed in support of farm business management advice.

The prospect for an emphasis on farm management advice requires attitudinal changes so that market orientation can take hold in a sustainable way. For these attitudes to change a better communication between the private and public sector actors is needed. This can be achieved through the establishment of appropriate institutional mechanisms that create greater consultation and transparency of decisions taken.

The paper makes a case not only for pluralism in extension service delivery but recognizes that a systemic approach is needed among the different actors involved in specific sub-sectors or value chains. The broader based approach should ensure that the capacity of other players in the chain is developed by a wider range of service providers that include the public, private and NGO sectors. This requires some flexibility in collaborating with larger number of stakeholders. However, while the systems approach should be advanced there is a need to reinvigorate the public sector extension service.

By following this broad based approach there is also a need to produce training and extension materials that are demand responsive and adapted to the needs of the different stakeholders located in varying development contexts. Where materials are inappropriate or unavailable, innovative approaches are needed to promote farm management extension. This might include the development of new farm management techniques and methods of communication that deal with specific localized challenges. The development of suitable materials and training/extension programmes need to be supported by a reinvigorated public sector extension service. 'Good' institutional practices and mechanisms should be introduced to improve public sector extension performance. This in turn requires the design of a matching M & E system channeled towards the capacity building of extension workers and farmers as the ultimate measure of outcome.

As the implementation of farm management extension programmes is based on complex processes at different levels, involving a large number of stakeholders (farmers, institutions, public decision-makers, donors, etc), structures and mechanisms need to be developed in which the performance of the entire process of learning, adapting, reflecting is regularly reviewed and the activities, roles, and relationships of different actors and their effectiveness are evaluated. Stakeholders will need to assess together the performance of the actors in the change process. Platforms and processes to facilitate access to experiences are needed, providing an open and transparent atmosphere of exchange and a shared joint vision for enhancing farm household income through promoting and supporting farm commercialization. These issues reflect the future challenges.

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## Farm management extension services: a review of global experience

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This Occasional Paper presents the findings of a global review of farm management extension services. The review was conducted regionally in Latin America, Africa, Asia and the Pacific region as well as transitional countries of Central and Eastern Europe (CEE) and is composed of country studies and regional syntheses. Some 50 studies were commissioned regionally. The aim of the review was to provide insight into the provision of farm management extension services to farmers. The specific intentions were to: (i) assess the current status of farm management training and extension programmes; (ii) identify constraints and issues; (iii) review the performance and impact; and (iv) propose recommendations for the improved provision of farm management extension advice. The information provided by the commissioned case studies was supplemented by the findings of a broader literature review, expert consultations and field project experience.

The publication is directed towards three major audiences: (1) researchers and students who are interested in analysing research on farm management extension with the aim to support evidence-based changes in this field; (2) managers of agricultural extension services, policy-makers, consultants, development partners and financial institutions that are involved in formulating policies and designing programmes for farm level development; and (3) development professionals from other fields who consider the case of agricultural extension services as an example of reforming rural services. Programme managers and policy-makers can be found within Ministry of Agriculture – Extension Departments– as well as in NGOs and among private sector advisory service providers. It is hoped that the publication will also be useful and relevant to donors.

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