



BACKGROUND TECHNICAL PAPER

Extension and Advisory Services Rural Extension Services for Agricultural Transformation

Prepared by:

Dr. Abou Berthe, Country Director SG 2000 Mali

TABLE OF CONTENTS

LIST OF ABBREVIATIONS.....2

1. EXECUTIVE SUMMARY3

2. BACKGROUND7

3. CHALLENGES8

3.1 Participation 11

3.2 Coordination and scaling up of goods practices 12

3.3 Market-driven extension and rural advisory services 13

3.4 Tailored advice..... 13

3.5 Inclusiveness in extension and rural advisory services..... 13

3.6 Financing insecurity..... 14

3.7 Institutionalization set up..... 15

4. OPPORTUNITIES..... 16

4.1 Up-scaling opportunities of technologies22

4.2 Institutional opportunities24

4.3 Financial opportunities.....24

4.4 Partnership opportunities25

5. SUGGESTED ACTIONS/WAYS FORWARD26

6. ESTIMATED COSTS (AS DETAILED AS POSSIBLE)28

7. RECOMMENDATIONS AND CONCLUSION29

LIST OF ABBREVIATIONS

AEAST : Agricultural Extension and Advisory Services Transformation Agenda

AIS : Agricultural Innovation System

AVCD : Agricultural Value Chain Development

CSO's : Civil Society Organizations

EAS : Extension and Advisory Services

FLP's: Farmer's Learner's Platforms

IFAD : International Fund for Agriculture Development

NARES: National Agricultural Research and Extension Systems

NGO's: Non-Governmental Organization's

RAS : Rural Advisory Services

T&V : Training and Visit

VC : Value Chain

VCD : Value Chain Development

1. EXECUTIVE SUMMARY

In most African countries, small scale farmers constitute the major part of the supply base and are therefore key players in improving productivity and food production on the continent. However, to do so, they need to be able to compete in tradition (urban markets) and emerging institutional markets from the globalized agri-business system that is providing food and fiber to growing markets. In Africa, extension and advisory rural institutions inherited from colonies were commonly recommended by the donor agencies that helped create these public agricultural extension or advisory systems.

The practices of extension was based on three major paradigms: (1) public led Technology Transfer with Training and Visit system (T&V system); (2) public and private Advisory Services and; (3) Non-formal Education (NFE) involving Farmers Field schools (FFS) and Facilitation Extension where front-line extension agents primarily work as “knowledge brokers” in *facilitating* the teaching–learning process among all types of farmers (including women) and rural young people.

The evolution of extension services is related to changes in development objectives and goals which involved achieving national food security, improving rural livelihoods and maintaining natural resources. As governments consider how to strengthen their extension systems to achieve their national agricultural development objectives, they need to consider how these different extension functions relate directly to these overall national goals.

During the second half of the twentieth century, most national extension systems primarily focused on transferring agricultural technologies that would increase the productivity of major crop and livestock production systems in achieving national food security. This primary extension objective was greatly reinforced and enhanced during the Green Revolution, when improved technologies, especially for wheat and rice, were transferred to the many farmers who benefitted, particularly in Asia.

In Africa, where the Green revolution did not work, the extension goal was to help small-scale farm households, especially among the rural poor, improve their livelihoods by i) increasing their farm income, ii) achieving *household* food security, iii) organizing into producer groups (i.e., empowerment), and iv) increasing their access to health services and education for their children.

To increase farm income to Improve Rural Livelihoods, many nations and some agricultural extension systems are shifting their attention to the broader goal of improving rural livelihoods. To achieve this goal, national extension systems will need to enhance the technical, management, and marketing skills (i.e., human resource development) of all farmers, but especially small-scale men and women farmers, as well as the landless, indigenous populations, rural young people, and other vulnerable groups. In considering how best to implement the extension objective of improving rural livelihoods, it is necessary to differentiate among types of farm households (i.e., subsistence; commercially oriented, market oriented, and commercial farmers).

Organizing or Empowering Farmers by Building Social Capital within Rural Communities helps to improve rural Livelihoods. This will be important, if not essential, to organize farmers, including women farmers, into different types of producer groups and then help link these groups to markets for appropriate high-value crops and products in addition to other information, organizations and research. Failure to do so may result in other value chain actors continuing to capture the majority of the profit from these high-value enterprises, while farmers continue carrying the risk of producing high-value, perishable products.

With the degradation of natural resources (soil poverty, negative climate change events), it became increasingly difficult for most small-farm households (i.e., under 1–2 hectares) to maintain their productivity levels. Some national extension systems began refocusing more attention on improving rural livelihoods by shifting more attention to the diversification and intensification of farming systems.

The Training and Visit system, was able to increase agricultural productivity without significantly raising costs. However, it did not allow the intensification and diversification of farming systems. Therefore, to achieve both agricultural growth *and* to increase farm income now requires a broader extension focus, including farm management, marketing, and credit programs. In pursuing this more farming systems approach, the extension system needs to switch from merely “delivering messages,” to engaging farmers in the learning process. The reason is simple: Every farm is different and farmers know more about their respective farms than any extension field worker can ever know. This shift in focus toward a more balanced teaching-learning *extension* paradigm not only helps farmers learn but also helps the extension staff learn *from* farmers, especially innovative farmers. Under the *extension as teaching* paradigm, extension field workers relied on research stations and/or central administration to determine what lessons should be taught to farmers. However, under *extension as a learning* paradigm, extension workers must learn from the farmers being served, as well as listen and link to research and markets, in setting extension priorities. Therefore, under the extension as a learning paradigm, farmers and extension agents should work together in setting priorities so that their annual work programs directly address farmer needs.

The challenges facing most public extension systems today is that due to their top-down organizational structure, continuing commitment to technology transfer, and their lack of adequate financial resources, most systems are neither prepared nor able to effectively increase farm income and improve the livelihoods of the rural poor. In addition, these public extension systems lack the necessary resources (especially training and program funds as well as information and communication technologies, or ICTs) to keep their staff up to date and able to actually carry out more innovative extension program activities in the field. As a result, many development specialists have called for alternative service providers or recommend that these public services be privatized or turned over to NGOs.

With emerging markets in urban areas as related to sustainable economic growth, there is an opportunity to move toward market-driven extension which place increasing emphasis on emerging market demand. African economies are in the process of transformation with

changing food consumption patterns. Under these conditions, extension can shift its focus toward increasing farm household incomes and improving rural livelihoods.

In this changing national and global development context (availability of more technologies, information and communication technologies, changing consumption), public extension systems need to move toward a more facilitative role in working with small scale men and women farmers, and to work in closer partnerships with both private-sector firms and civil society organizations. However, one of the major difficulties with any government agency, including both agricultural research and extension, is how to bring about these institutional changes that will formally engage these primary stakeholders (i.e., small-scale men and women farmers), as well as with other key organizations in both setting priorities and collaborating on the delivery of needed services. For extension organizations to be effective in a dynamic market-driven economy, extension officials and their field staff must listen to the clientele served, as well as to private-sector firms, banks, NGOs, and other service providers. These changes will not happen unless there is formal agreement for a more decentralized decision-making structure, including formal mechanisms (e.g., farmer advisory committees, boards, etc.) at all system levels to get needed input from the clientele being served.

Transition from public to increasingly private extension services is undergoing in Africa and will experience strong development in the future under the partnership of multiple stakeholders. Various models to privatize a public extension system and to make it farmer-driven were carried out in Africa. Under the National Agricultural Advisory Services (NAADS), farmer groups in each district were provided from NAADS, so they could contract with private-sector firms, NGOs, and researchers in providing specific services. In addition, district-level governments are involved in providing some funding for those extension activities and in helping set priorities.

Creating a totally new organizational and management structure for a national extension system takes considerable time, both in hiring new staff members and in getting farmers organized so they can help set extension priorities and then monitor extension programs and expenditures.

Building Public–Private Partnerships to Improve Technology Transfer can improve the efficiency of extension services in food staple value chains. Well trained input-supply dealers as retail outlets are selling a range of products (e.g., seeds, feed, fertilizers, and pesticides) in local communities in response to market demand. Most of these firms have limited technical and farm management capacity upon which to advise farmers. Much of the information they pass along to customers is what they learn from input suppliers and from other progressive farmers, not what they learn from agricultural research and extension institutions. However, nearly every farmer who purchases production inputs must go to these retail outlets, and in the process he or she will ask what the retail dealer recommends either to increase yields and/or to deal with specific problems.

Because input supply dealers are a primary source of technical information for many farmers, most public extension workers view them as unskilled competitors who “just want to sell more products to farmers.” Although that observation may be partially true, input supply dealers do

improve their technical, management, and communication skills in order to pass along reliable information to their farmer clients and thereby remain competitive. Therefore, research, extension, input supply dealers, and farmer cooperatives must learn to work together to ensure that farmers receive consistent, up-to-date, and accurate technical information about how they can increase their agricultural productivity, as well as how they can diversify into new high-value crops/products that can help increase their farm household income.

Multi-stakeholder innovations platforms offers good potentials from one way to two-ways extension services approaches. One important way of achieving this goal is for research, extension, and private sector dealers to hold regular information-sharing meetings at the district level to discuss production problems, research findings, and recommended practices before and during each growing season. For example, under the SG 2000 Agricultural Development Support Program Model in SAA focus countries, private-sector representatives, and farmers organizations sat in stakeholders workshops to help review and assess annual extension work plans.

2. BACKGROUND

In most African countries, small scale farmers constitute the major part of the supply base and improvements in productivity and food production will need to come from them. However, to do so, they need to be able to compete in tradition (urban markets) and emerging institutional markets from the globalized agri-business system that is providing food and fiber to growing markets. Most small scale farmers supply the price-driven wet markets, but have difficulties accessing the value-driven institutional markets. To compete and remain competitive, small scale must increase volume, quality and consistency of supply as well as productivity. However, endogenous constraints (small scale production, poverty, high illiteracy, ill-health) and exogenous constraints (poor transport, infrastructure, poor access to credit, insufficient government and institutional support, etc.) make it difficult for them to compete.

Consequently, because of lack of economies of scale (low volume of marketable surplus), they need to collaborate among themselves and with other actors in the market chains. However, they do not do so, as they lack information on the market and business skills.

Increased food prices in 2008 have forced national governments, Non-Governmental Organizations (NGOs) and International Organizations (World Bank and FAO) to assess the need for increased investment in agriculture. Increasing population, a decline in investment in agriculture productivity and the pressure of climate change have contributed to an apparent looming shortfall in production in the short and medium term. High food prices in some countries have led to social unrest and this will be a continuous problem with consequences for all nations if it's not addressed.

While increased investment is part of the solution, the way these investments are channelled requires better coordination and a more integrated upstream and downstream approach from the agricultural sector.

Extension services can contribute by facilitating the development of collaborative markets groups of small family farmers, while building relationship with and development market required to deliver the product demanded by the various retail markets and consumers. Christoplos et al., (2011) define extension or rural advisory services using the Global Forum for Rural Advisory services definition as 'consisting of all the different activities that provide the information and services needed and demanded by farmers and other actors in rural setting to assist them in developing their own technical, organizational, and management skills and practices so as to improve their livelihood and well-being'.

The historical development of the agricultural extension and advisory services in Africa has been closely related to that agriculture and rural development. It has been characterized by variability and inconsistencies since the colonial era to the present and has been primary influenced by the interests and focus of the government in power/and/or by the primary funding agencies especially with respect to the external funded agricultural project interventions.

Liberalization has bred different actors in extension delivery such as the public agencies, private service providers, produce organizations and Non-Governmental Organizations (NGOs).

Unsustainable extension system of the pre and immediate post-independence era, remained operational until the World Bank led Agricultural Development programs based on using the classical Training and Visit (T&V) extension system from 1975 to 1995.

The perceived lack of success of public agricultural extension services in many countries has led to new approaches being tried in reorganizing extension services. In some countries, such as India and China, public extension have been decentralized to the district/county level and these public extension systems are pursuing a more market-driven approach. In other countries, different models have been tried, involving both private sector firms and civil society organizations (CSOs) in an attempt to find more effective approaches of providing basic extension services. Also, in some countries, there has been an attempt to shift the cost of extension services to farmers themselves, with limited success.

Markets, not technology are becoming the primary driver of agricultural development and extension in many countries; therefore, more attention is now being given to the concept of agricultural innovation system (AISs). The difficulty is that agricultural innovations can come from many sources, from local to global and most are market-driven. Consequently collaboration among stakeholders of the AIS is required.

Current approaches to agricultural extension involve decentralized, pluralistic and market-driven extension and rural advisory services approaches involving: (1) partnership, (2) people centered participation, (3) farmers organizations and (4) fund mobilization through shared responsibility among all the stakeholders. However, time must be given if these approaches are to stand the test of time. Effort must be intensified to see how the benefit from the approaches in the enclave coverage can be extended to every part of the nation. The enabling environment like development of viable markets, communication and other infrastructural facilities can be provided for the exploration of these approaches.

The crucial role of agricultural Extension (i.e. farmer education) in the social and economic development of the nation cannot be over-emphasized. Never before in African history has the necessity for educating and raising the productive capacity of our farmers been as importance as it is today. Increased agricultural productivity depends primarily on the acceptance of cultural and technological changes at the rural farm level.

3. CHALLENGES

Rural advisory services (RAS), also known as agricultural extension services (AES), as a broad function is supported by many actors including government workers, the private sector, civil society, and farmers themselves. Advisory services help farmers to access information on technologies, markets, inputs, and finance, and upgrade their farming and managerial skills.

These services are indeed complementary to development of new technologies because they support their uptake.

Extension is a much needed investment in the human and social capital of the rural population. There is currently an enormous need to mobilize agricultural extension services for food and nutrition security, health and to achieve a range of rural development goals (poverty reduction, preservation of the natural resource base, etc. However, urgent efforts are required to:

- enhance women's and men's access to and knowledge about new technologies;
- ensure that farmers and other actors in value chains can deal with changing markets;
- enable farmers to understand, mitigate and adapt to new climate change challenges;
- support rural communities to manage their natural resources more effectively;
- assist farmers to make optimal use of their available resources to ensure access to food and income for their families.

Rural extension services must also address rural livelihood needs related to better nutrition, dealing with the impacts of HIV/AIDS on labour for farming, local institutional development (e.g. cooperatives, women's associations) and promoting job creation. There is a growing realization that many of the urgently needed reforms in addressing food security, market development and climate change will only be effective if strong advisory institutions are in place to empower and provide a foundation of support to rural populations to reach markets, to access technologies and to influence the policies that affect their lives.

Today, few agricultural extension service providers can meet this challenge. Capacities are limited in terms of human resources, effectiveness of organizations, funding and, most importantly, leadership and direction. In relation with the complex issues of agriculture development for food security and climate farming livelihoods, there are mounting calls for 'more extension', but this has not yet led to a consensus on what these scaled-up extension services should actually consist of. If mistakes of the past are not to be replicated, more awareness is needed of what has worked and what has not, what has proven sustainable and what has not, and who has accessed and benefited from different forms of extension services. Challenges that need to be addressed if the potential of agricultural extension is to be realized include:

➤ **Decentralization**

Decentralized extension services are becoming a feature of evolving agricultural extension services in many countries. Extension services are decentralized in the expectation that the services will be closer to the client, and thus more relevant. The main reasons for decentralization of rural services by governments include:

- a desire (or demand) to roll back the role of the State due to central government failings or complexity of local issues;
- an inability of the State to continue to finance a whole range of services, and;

-a view that democracy is best served through devolved functions with enhanced participation at local level.

Strong central institutions are needed to create a framework within which it is easier for local government to operate, and a shortage of administration expertise at central level is bound to be even worse at local level. Similarly the financing constraint is likely to be even greater for local governments, who find it difficult to raise taxes to pay for local services or to impose sanctions on those unwilling to pay. In practice, fiscal decentralization may provide central governments with a convenient excuse for abandoning certain functions and does not guarantee improved delivery.

Decentralization is seen also as a means to improve the relevancy and the responsiveness of extension to the local context. These, together with sustainability, should be the main criteria to rate the success of decentralized extension. Many problems and solutions are location specific. In terms of relevance this should give a clear advantage to the local provision of advice. However, administrative boundaries rarely coincide with agro-ecological zones (nor with socio-economic situations); there may be a large diversity of situations within the purview of a local government, while the capacity to adjust the advice to local conditions (or to specific groups) may be negatively affected by decentralization. In particular, good linkages with agricultural research may be difficult to establish at local level if there is no research facility in the region.

In areas where centralized extension is generally weak, such as limited coverage, low effectiveness and low cost efficiency, its less likely to be improved directly by decentralization. Decentralized services also seek to increase coverage cost-efficiency and there are cases where decentralization was accompanied by increased resources (Garfield et al., 1997). Rivera (1996) sees three main policy directions dominating the decentralization of extension: structural reform to improve institutional responsiveness and accountability, fiscal decentralization to share extension costs with local governments, and farmer participatory involvement in decision making and management of extension. These policy objectives echo the three motives indicated earlier for decentralizing, and suggest possible remedies to the risks they entail. But will governments who want to reduce extension budgets be willing to initially maintain the same levels of spending and delegate control over it?

➤ **Pluralistic**

The practice of extension services has shown that the scope of extension and advisory services is beyond one single actor. A clear conclusion is also that there is no simple answer to questions about who should provide extension and how. Public investment in extension services is increasing in some countries, but this is after a long period of steady decline. This revival of commitment to extension is heartening and long overdue, but it needs to be informed by lessons from the past about the failures inherent in choosing a very limited palette of methods and organizational forms through which to channel new resources. There is no single approach that can simultaneously increase market-orientation, food security and mitigate climate change, but the rush to deal with these 'crises' has sometimes carried with it unrealistic hope for just such a 'silver bullet', while in fact country and even location specific solutions are required.

A decade ago, there were hopes that various forms of private advisory service providers would fill the gap created by weakened public agencies, i.e., that the vacuum in service provision would create a market that private service providers would recognize and that they would scale up their businesses to profit from these new clients. Private advisory services indeed provide services to a limited clientele, primarily related to high value products and relatively well-off producers. Input suppliers are increasingly providing information regarding new varieties and planting methods, but these usually fail to reflect the need for impartial advice and issues related to sustainable natural resource management.

Private advisory services are essential and provide a sustainable service for their clients, but there is now a general acknowledgement that there are hundreds of millions of poor farmers, particularly women, who are not likely to access the services provided by these private sector actors who, if they are not subsidized with significant levels of public funds, will only serve better off farmers. Institutional pluralism through different service providers must be matched by pluralism in financial flows if extension is to be broadly accessible. Private investment will not address the needs of all farmers. Hence, targeted public investments in extension will remain crucial, even when services are carried out by non-state providers (NGOs, CSOs, etc.).

3.1 Participation

A most difficult challenge is the creativeness of extension and rural services efforts to be responsive to the needs of rural communities, farmers and especially to gender issues (women, youth, etc.). Extension service work is increasingly concerned with responsive planning. In today's globalization context, the pace of change is accelerated, and people are continually involved in it, either as passive elements or as active citizens, more often as mere project recipients or targets. Development projects are delineated to help people adjust to change, for example to new agricultural policies or market demands. Also, at times, but not as frequently, they are directed to help grass-roots groups and rural communities to build change projects that are relevant to their own needs and aspirations. Both situations require planning and the preparation of different types of extension programmes.

Among other challenges facing extension to become truly responsive to local conditions and concerns are facilitation of constructive inter-organizational collaboration/coordination; fostering greater local self-reliance through individual capacity building and local institutional development; addressing financial insecurity and low educational levels of extension staff; and the specific interests of engaging indigenous knowledge, farmers inventiveness and farmer-to-farmer communication.

Improving the coverage of poor and vulnerable small scale farmers including women and youth is a main major challenge. Smallholder farmers output is vital for food and nutrition security, poverty and agricultural growth. To promote innovations, there is a need to keep on evolving, starting with a flexible menu, and keep evolving and changing it.

A biggest challenge is the transformation of our agricultural extension services from the old stereotype of connecting researchers and farmers is to being innovative, discussing and working

with farmers, researchers and the business community. As a policy maker, educating people and sensitizing them to understand the farming sector is important to avoid inaccurate, inappropriate policies.

Farmer organizations in many countries recognize that there are serious gaps in access to appropriate and impartial advice and are beginning to search for ways to identify, choose and provide services for their members. This represents a potentially important form of farmer-driven extension, but as yet these services are generally limited in scope and most farmer organizations are struggling to balance a range of demands for extension with other often more pressing tasks. Furthermore, these farmer organizations and their higher level federations are often weak, especially in terms of representation of their members and inclusive of male and female smallholders. They themselves need advice in order to develop their organizations and their capacities to empower all their members (and potential members) in product marketing, in policy formulation, and for setting priorities for inclusive services. Farmer organizations are not the only way to make extension more accountable. Decentralization, if well planned, can increase accountability through subsidiarity. The ways that extension services are financed can be a way of holding them accountable for the quantity and quality of services they provide. When the client pays (perhaps with public financial assistance), this forces service providers to adopt greater client-orientation to ensure their economic survival.

3.2 Coordination and scaling up of goods practices

Stakeholder coordinating mechanisms are important to provide a common framework in which all actors can operate. Managing small scale farmers agricultural extension services pose a challenge for coordinating between and among the actors of a value or commodity chain. Various experiences are available across on inter-organizations (SG 2000 Farmers Learning platforms -FLPs, Farmers Field School -FFS, Farmer to Farmer -F2Fs, Innovation platforms-IPs, etc.), but these have not been evaluated to improve the know-how. There is a need to take stock of the best practices in terms of inter-organizational collaboration to design alternatives strategies for improved collaboration.

Increase in agricultural productivity at a scale is increasingly complex. This complexity challenges the capacity of both extension workers, farmers, farming systems and even the environment. This means that what matters for agricultural development and achieving the above situation is the capability of people to be effective and productive economic agents. It is here that capacity building comes in. Therefore, building and strengthening organizational and institutional capacity is seen as the heart of development practice. There is hardly anybody who is a fully-fledged adviser having completed a technical school, college or university course. And throughout the person's life, innovations and changes of all kinds mean that additional or different knowledge, skill, and attitudes are required to face the new challenges posed by our changing environmental conditions.

It is therefore crucial for any extension organization to think about how to qualify its staff for the tasks ahead of them. Enhanced food production is essential to food security. Human capacity building is key to efficient food production as well as rural development, especially for

developing countries. Solving the problem of food security needs a forceful infusion of developed human resources; otherwise food production will be hindered. Extension professionals are increasingly required to have well developed technical skills across a broad range of food and farming systems, well developed socio-political perspectives on the place of farming in society through constant building process. Consequently, capacity building for rural development and agricultural extension is important with appropriate and updated methods for agricultural extension workers.

3.3 Market-driven extension and rural advisory services

Following the liberalization of markets in relation structural adjustment, public sector agencies began to decline and there was a hope that local and international NGOs would contribute to filling the gap. Activities have been contracted out to these organizations on a significant scale. While these organizations have in many cases shown ability to innovate and provide greater flexibility in responding to the demands of poor farmers, their capacities to scale up these efforts have proven limited and the costs of their services are in many cases higher than the public agencies they were expected to replace. The same has often happened in contracting out to private advisory firms. Contracting out with increased costs is only justified if the impacts of such services are also significantly greater. There is a need to learn from initial experience in contracting out to find new ways to create competitive markets for extension services and find new ways to combine contracting out with different forms of publicly funded contracts based on performance criteria. There are also opportunities to learn from how private traders, processors and retailers have contracted extension services to ensure a reliable and timely supply of quality agricultural products.

3.4 Tailored advice

A further major challenge is the capacity to provide timely advice that fits the need of specific farmers in specific circumstances. Adaptation to unpredictable market and local climate shocks demand a new paradigm that rejects blanket advice. This will have different implications for extension systems that provide detailed one-on-one advice to individual farmers and those where extension staff –to-farmer ratios makes such approaches enviable, but both require approaches that recognize that farmers will inevitably unpack and repack the packages they receive. Part of this is the challenge of synchronizing and making accessible the materials, credit, training and information (at the right place, time and format) needed to ensure that innovations are accessible and transaction costs minimized. Another aspect is the aforementioned need for skills in critical thinking and problem solving, which are a precondition for extension agents to understand what is happening when their packages are unpacked.

3.5 Inclusiveness in extension and rural advisory services

Addressing gender, age and ethnic differences and the specific needs of these groups of farmers and entrepreneurs is also a challenge for equity issues. With regard to equitable and inclusive rural development, extension has often been portrayed as exemplifying the problem, rather than

contributing to the solution. In addressing the challenges listed above, groundwork can be laid for either more efficient extension for those who already possess high potential for growth, or extension reform can be a way to create a more level playing field for rural development more generally. Women have an important role in agri-food systems, different ethnic groups have different links and obstacles to reach different markets, youth often have very limited access to information and inspiration related to agriculture and rural development, which has in turn contributed to alienation, rapid urbanization and in some countries highly problematic aging of the agricultural workforce. Extension is not a panacea for addressing any of these trends.

Extension alone cannot make research developed for well-off farmers accessible to their poorer neighbors. But extension must be part of more comprehensive solution to equity challenges by involving wider sets of stakeholders in innovation systems and among the government, private sector and civil society.

Pluralism is almost certain to prevail and deepen with respect to organizational forms, methods and institutional structures. Opportunities for increasing the effectiveness of extension are to be found in two areas: (1) First is to better apply the lessons that have been learnt in recent years by carrying out long overdue structural reforms towards pluralistic, demand-led and market-oriented extension systems; (2) Second, some of the strongest demands for ‘more extension’ are coming from unexpected areas: expansion in the provision of climate information, growing food security programming, the changing aid-for-trade agenda and comprehensive reform in global agricultural research for development. All imply the need to apply existing knowledge but also to explore the necessity and relevance of changing extension forms within new development agendas, aid architectures and institutional structures. Technologies are available to integrate new agendas in extension services such as health and nutrition, but these have to be mainstreamed.

3.6 Financing insecurity

Financial insecurity is a main challenge of agricultural extension services in Africa. In most countries, state funding has declined following the structural adjustment policy. There has been a renewed interest in funding agriculture among African countries in line with the commitment to Malabo declaration of using at least 10% of national budget for agriculture. Many countries have met this commitment. However, currently the state funding contributes probably only to 50% of what is required and this therefore allows coverage of only about 60% of the countries. The quality of funding of agriculture also varies from country to country. Input subsidies have regained impetus, without accompanying efforts of strengthening extension services for improved uses of subsidized inputs.

The financial issue is also central, and compounded by the fact that decentralization is occurring in a context of decreased faith in (public) extension. In this context, the central level is unlikely to provide the support required to facilitate decentralization. At the local level, where extension needs to be re-created as a farmer-driven service, farmers have also learned to be skeptical. Will they invest in it and get organized to obtain the best out of it? Will they accept to share costs, as needed to compensate for the decrease in public funding, and also to ensure accountability?

And if so, can cost-sharing be done without prejudice to poor farmers or to other key policy objectives (e.g. environmental protection). Sustainable extension services need government commitments and effective, sustainable financing forms. Agricultural extension projects have shown that the injection of project resources can mobilize extension efforts for a short period of time, but also that the sustainability of these projects has generally been very poor.

3.7 Institutionalization set up

A main challenge raised by various actors is the balancing of investments in extension supply and demand and is a huge gap in the extension system. There is a growing body of knowledge about how to increase demand-drive and how to improve the quality of services, but these two aspects of extension reform are not always pursued in a coherent and coordinated manner. If the voice of farmers is made stronger, but the capacity of extension to respond is limited, the result will inevitably be disappointment and distrust. It is important to involve a wide range of service providers, as well as farmer organizations, in stakeholder processes to create institutional environments wherein the supply and demand for extension services are both supported. However, challenges remain in applying these approaches in a systematic and sustainable manner. There is a lingering faith that support for either increasing the capacities of advisers or the voice of farmer organizations will create more effective collaboration. Investments in both the supply and demand for extension are needed if the equation is to balance.

The lack of regulations, rules and a national strategy regulating extension in most countries remains a big gap. The emergence of new roles (facilitators and brokers) in extension practices called innovation intermediaries, pose a major challenge to the dominant technology transfer model and allow for the rise of facilitation model. Consequently, extension approaches require participatory and group learning and networking with extension agents acting as facilitators.

Human resources are key to extension reform. However, addressing human resource limitations is a major challenge for innovative extension and rural advisory services. Extension is no longer a matter of simply providing information about set technological packages to farmers. It is now generally acknowledged that advisers need skills in how to facilitate discussions and coach different stakeholders in natural resource management and market supply chains. They must shift from lecturing to being able to empower farmers themselves to learn about how to manage their farms and crops. The uncertainties and variability inherent in climate change and market trends mean that they need to help farmers consider a menu of options and reflect on probable risks rather than promoting standardized advice. These tasks require skills in critical thinking and problem solving, which were discouraged in the extension bureaucracies of the past.

These skills are currently beyond the capabilities of most public sector extension agents. Furthermore, the average educational level of advisers is dropping in many countries due to weakened education and training institutions relevant for agriculture and rural development, competition for quality staff from better paid job markets, and loss of experienced personnel due to HIV/AIDS. Agricultural education for farmers themselves (such as that provided by agricultural high schools) is an important component in efforts to enhance their capacity to

demand and utilize extension advice, but these institutions are also in a serious state of decline in most countries. Plans for extension must reflect this human resource crisis and include concerted and sustainable investment strategies.

4. OPPORTUNITIES

More and more agricultural technology will be available and commercialized by the private sector. Private sector will play an increasing role in agricultural extension services. Most firms recovered the cost of advisory services through the sale of inputs (Swanson, 2008). Pluralism is almost certain to prevail and deepen with respect to organizational forms, methods and institutional structures. Opportunities for increasing the effectiveness of extension are to be found in two areas: (1) first is to take stock and apply the lessons that have been learnt in recent years by carrying out long overdue structural reforms towards pluralistic, demand-led and market-oriented extension systems; (2) second, some of the strongest demands for 'more extension' are coming from unexpected areas: expansion in the provision of climate information, growing food security programming, the changing aid-for-trade agenda and comprehensive reform in global agricultural research for development. All imply the need to apply existing knowledge but also to explore the necessity and relevance of changing extension forms within new development agendas, aid architectures and institutional structures.

Extension is recognized as a strategic component of new institutional frameworks at national, regional and international levels, such as within the Global Partnership on Agriculture and Food Security and other emerging structures to address climate change adaptation and mitigation. Processes are underway regionally through, for example, the Comprehensive Africa Agriculture Development Programme (CAADP) and a range of other regional initiatives, as well as within national efforts to strengthen food security and trade. Institutional changes are underway to ensure that extension becomes an integral part of the new institutions that are emerging to deal with agricultural, rural and environmental change, and also for extension systems to become better aligned with national priorities and smallholders' demands.

If the voice and experience of the extension community are to be heard, platforms at global, national and local levels will be needed that include, or led by key extension actors. The policy dialogues that are underway in agricultural development, food security and climate change at all three levels will become more relevant and evidence-based if people knowledgeable about extension are 'at the table.' The extension community has valuable experience in what it means to put policies into practice in rural areas.

The need for an integrated perspective is particularly important at local levels. With decentralization and more pluralistic arrangements, progress is being made in promoting the subsidiarity of extension services and in making them accountable to farmers. Yet, more exchange for learning and coordination among local government, the private sector and civil society is still needed. The shift of responsibilities to local levels has often not been accompanied by a shift of resources or readiness to pay the relatively high recurrent costs of these services. It has also been difficult to transfer human resource capacities from ministry-led

bureaucracies to local government. Decentralization must include clarity regarding needs and objectives and strong leadership to make sure that the effectiveness and sustainability of extension is also recognized as a local responsibility, albeit often with financial support from central government. Decentralized extension must not become the responsibility of everyone and nobody, but should be managed by professional service providers specialized in agricultural and rural development. New forms of collaboration, coordination, communication and cost-effective access to new innovations (e.g. by using modern ICTs) are crucial for decentralized extension providers to enable them to respond to these new challenges and to keep up-to-date with their knowledge and skills.

Many of the new institutional challenges in enhancing extension effectiveness will require a fresh look at an old and often forgotten institution - agricultural education. Agricultural high schools and colleges are an essential channel for investment in the capacity of both farmers and extension agents to adapt to new tasks and rethink their roles. Great demands and grand expectations regarding how farmers, and those advising them, should undertake the range of tasks described in this report need to be matched with investments in their capacities. But this has often been a missing link. The search for quick fixes to pressing problems has distracted attention from those institutions that are required as the foundation for developing the skills and knowledge base that are required.

Agricultural extension reform exemplifies what needs to be done to promote aid harmonization and alignment with national structures and priorities. This required moving towards pluralism through policy reform. It is a clear indicator of whether the Paris Declaration on Aid Effectiveness (agreed upon in 2005) is impacting on the services actually reaching the rural poor. Better harmonization and alignment will require changes in the ways that extension systems have been supported in the past. Extension interventions have suffered from weak harmonization, whereby different donors, NGOs and research institutions have promoted different 'models' even in the same countries. This has not led to pluralism, but rather to fragmentation where each aid agency has promoted a different service model in each province, district or even village, with little choice provided to the ultimate clients of these services.

Alignment has also been poor, as these interventions have been managed with little effort to support policy reforms and the development of understanding and principles for more effective service provision at national level. Donors, NGOs and researchers have frequently concentrated on creating structures to implement their projects at the expense of finding ways to sustainably serve farmers. Extension capacities have too often been borrowed or rented for project implementation, rather than developed. Investments in extension training have dwindled, just as outside agencies have 'poached' those remaining staff with high skill levels for their projects.

In order to reverse these tendencies, institutional development efforts should be reinforced by building on the comparative advantage of different actors in different localities. Much can be learnt from extension projects, but only if attention is paid to the realities of institutional development right from the start. It is thus not just about the introduction of new models and methods. Pluralistic extension relies on changing the rules of the game, and strengthening the

capacity of actors to understand and take advantage of these new rules through better coordination and contextualization.

The goal should be new markets for services and trusting, synergetic relations among a range of service providers and their clients. This will require well considered structural and organizational support for increasing the quality and quantity of supply of services, both in public and private sectors, paired with investments in the capacity of farmers to demand services, primarily through farmer organizations.

Moving from privatization to selective commercialization and accountability gives an opportunity to make extension service work for agricultural transformation. During the 1990s, declining confidence in the effectiveness of public sector extension agencies led to the emergence of an alternative paradigm, where it was assumed that market-based solutions and privatization of extension provision could become an effective and sustainable base for pluralism. Experiments were undertaken by many governments and aid agencies. At the same time, the decline of public extension agencies was leading to increases in private sector investments in extension services. Today, services for relatively well-off commercial farmers are increasingly dominated by private advisory services, but these investments are rarely serving the rural poor.

In many countries, privatization (often undertaken by the mere withdrawal of funding for public sector agencies) resulted in the majority of farmers losing access altogether to impartial and independent advice. This experience showed that creation of a level playing field for private extension providers is very important, but that this needs to be part of a wider reform process which promotes pluralism while recognizing the need for public financial support. If the poor are to attain and retain access to extension it has now been recognized that public finance is essential. However, this does not mean a return to the free public service approaches of the past. Publicly funded but privately provided extension can be combined with measures to place resources at the disposal of poor farmers and their organizations. Most importantly, the ways that services are contracted can greatly enhance the accountability of extension to farmers.

Markets for extension services can work, given the proper stimuli and structural reform. Public sector agencies may still have a role in provision of information through mass media, provision of certain public goods (e.g. environmental protection, and ensuring that resource-poor farmers and neglected groups are included) and in quality control related to private service provision. Or, public sector delivery may occur, but closer to the farmers, through local government. These agencies may also have a role in arranging opportunities for farmers to hear from a range of private service providers (for extension and other agricultural services) so that farmers can then make more informed choices about which services best meet their needs. Global experience has shown that appropriate roles for public sector agencies will differ from place to place. The 'either-or' discourse on public or private service provision is therefore becoming more nuanced. This has led to a shift of focus from blanket statements about who should provide extension, to a search for better ways to guarantee that all service providers are genuinely accountable to the clients – male and female, poor and rich - that they serve.

➤ *Prospects for improved governance of extension services*

To better serve their constituency, including the poor and women, extension needs a stronger voice; vigorous analysis and guidance on policies, principles, approaches and investment; enhanced interaction and dialogue; and the synthesis of innovations. Due to a confluence of factors - rising food prices, the L'Aquila Joint Statement on Global Food Security, stressing the importance of agricultural extension services, renewed donor interest in agriculture and advisory services, and a broad commitment to restructure global agricultural development institutions - there is major opportunity to strengthen and support extension. There is also a great need for the extension community to guide these new efforts (i.e GFRAS). The GFRAS mission is to provide leadership and advocacy on pluralistic, demand-driven rural advisory services that promote rural growth and help the poor within the global development agenda.

GFRAS has an important global role to play, but will need to work closely with a range of partners if it is to have impact on extension practice. Regional networks of extension practitioners are currently few and far between (compared with regional research and farmer organization networks).

AFAAS has been established to service the needs of the African extension community. The role of AFAAS is to enhance market access for farmers, strengthen capacity, document and share best practices, and start an extension knowledge management system in Africa. One of the major tasks for GFRAS will be to develop a strategy to encourage and support the development of regional networking such as AFAAS.

There is a big opportunity for extension and rural advisory services to alleviate poverty, improve food, nutrition and health security and reduce risk.

Extension has long been justifiably criticized for being biased towards farmers who are wealthy, male, have good market access and controlled environmental conditions. Extension is not always to blame, as advice may only be demanded by and useful to those with access to markets, and capital for inputs or labour. Because of this, a road or a credit programme may actually be the most effective investment in making extension pro-poor. One aspect of this is to mobilize extension for flexible livelihood support through initiatives that encourage the diversification of the strategies through which the poor are themselves managing the risks that they face. The poor and those who are vulnerable to climate and market uncertainty and variability need new forms of extension to help them to understand such risks and manage them. Services must be flexible enough to respond to the varied and changing demands of the poor who are struggling to deal with overwhelming challenges to the future of their farming systems.

As part of this, extension services need to provide or link to information and knowledge regarding weather and climate change, market prices, regulatory structures, quality standards and consumer demands, and access to financial services if they are to help the poor to deal with the changing landscape of risk.

Despite long-standing recognition that extension usually fails to reach the poor, insufficient progress has been made in overcoming traditional elite and gender biases. The potential of a

pro-poor extension to ensure the viability of smallholder farming needs to be proven. New policy declarations, such as the L'Aquila Joint Statement on Global Food Security, are calling for new efforts to transcend these long-standing biases in rural development efforts. However, there are dissenting voices that question the value of supporting marginalized farmers. There are those who claim that pro-poor rural development falsely 'romanticizes' smallholder agriculture. This narrative is based on assumptions that the rural poor and indeed many relatively better-off farmers should abandon agriculture and 'do something else' since they will in any case fail in the new global agrifood system and cannot contribute sufficiently to global food security.

These claims are being used by some to justify withdrawal of publicly financed extension services targeted to the poor. This critique furthermore suggests that the wealthy can afford to pay for their own services (including extension), and that the provision of subsidized services for the poor will merely delay a needed transformation. Despite considerable evidence that smallholder agriculture can be effective both in terms of production and in poverty alleviation, such arguments are gaining traction within many governments and ministries of agriculture. Questionable claims about supposedly greater efficiency in large-scale farming are even being used to justify the transfer of ownership of large tracts of land to commercial investors for plantation agriculture.

Counter-arguments for continued public finance of extension services for the poor need to be anchored in a clear analysis of options for rural household food security and the rights of the rural poor, even if their livelihoods appear to be approaching tipping points. Extension may support smallholders under stress to modify and thus hold onto existing production systems when failed farms results in acute human suffering or activities that undermine other goals and national commitments -i.e. where lack of livelihoods, loss of land and alienation lead to political unrest.

Extension may, in many cases, have little impact on production among the poorest farmers, but this implies the need to shift attention to local rural economic development rather than merely declaring the rural hinterlands to be 'unviable.' Where the poor are leaving their farms, extension may help former farmers to 'do something else.' Globalization is indeed drastically raising the thresholds for commercial smallholders in terms of demands for quality, timeliness, bulk, food safety and certification. Extension is not a panacea that can help all farmers to engage in markets. Some will indeed fail and markets for some products are becoming dominated by large farmers. Some of these farms create a significant level of employment for rural people, whereas others do not. At the same time, there are many examples of smallholders engaging effectively in markets with relatively modest public investment in extension or none at all, including fair-trade marketing, organic farming and production for local markets. Extension can ameliorate some of the negative aspects of transformations that are underway in agrifood systems that exclude poor farmers. It is important to find such opportunities and target extension investments in these areas.

Large farmers often have privileged access to inputs, services and markets due to their position in society, whilst the poor may actually produce with greater economic efficiency.

New attention to addressing the problems of fragile states has brought with it a realization that provision of livelihood support services to the large proportion of the poor who are still smallholders is an essential part of any peace-building strategy. Extension is a tool by which populations under stress can see that their government cares about their livelihoods. Where there is a sufficiently profitable market there will be a demand for extension and a supply of services.

In order to impact on the livelihoods of the poor, policy-makers must recognize that the poor require a range of services. For example, semi-subsistence farming is important as a way to cushion the effects of market and climate uncertainty. The poor may need to retain a subsistence buffer for their household food security in order to take the risk of engaging in markets. The gender roles noted that women are often responsible for the food security of the household and therefore concentrate on subsistence. Even if market-oriented agriculture is an increasingly important way for the poor to escape from poverty, it is important to recognize that the poor rely on a mix of strategies to manage the risks that they face and consequently require a mix of extension support.

Another example of where extension can make an impact on the food security of the most vulnerable households is through advice related to ‘home sciences.’ This used to be a significant task for extension in the past, and is now making a comeback in extension efforts due to acknowledgement that food security is about consumption and healthy utilization of food and not just production.

Maximizing the nutritional impact of the food that is available through better preservation, storage, processing or preparation practices may have greater impact on the wellbeing of the poor than trying to increase yields on tiny plots.

Particularly, in isolated areas distant from major markets, there may be little market access, which in turn suggests that extension should give priority to crops that support subsistence or are intended for local markets. There may be potential to increase capacities to collect and bulk certain commodities for trade in more distant markets, and to promote high value – low volume products, but the poor sustainability and spread of many such initiatives suggests the need to assess potential competitiveness of these products in a realistic manner. There is rarely a ‘silver bullet’ to link isolated producers to markets without major government investments (usually in infrastructure).

In higher potential areas, with good market access, extension is more likely to be able to combine poverty alleviation objectives with commercialization.

Pro-poor extension also requires recognition of indirect impacts on poverty through labour markets. As noted above, it is inevitable that many of the rural poor will leave smallholder farming. Extension for other forms of farming and processing enterprises can make some contribution to poverty alleviation by supporting the wider rural economy. Extension for the poor is thus not only about advice related to smallholder farming, but also advice on how to benefit from the rural economy through livelihood diversification. Jobs in processing,

agritourism, market access services, ICT services and other areas may require different skills and understanding. Business development services or vocational training may be the most appropriate form of extension for the rural poor who are diversifying their livelihoods or leaving farming altogether.

Extension has a special role in helping the rural poor to manage risks related to extreme events. Seed and input provision are often a part of humanitarian responses in post disaster and post-conflict situations. Such input provision is not ‘extension’ per se, but it is often carried out by extension agents and they can have a central role in informing those providing such assistance about what is appropriate in the affected areas, where inputs could be possibly provided from local sources and also helping farmers learn to use new varieties.

Over the past two decades much attention has been given to the need to overcome gender biases in extension. Overcoming gender bias requires attention to what stands in the way of equitable service provision.

Gender inequality persists in the agricultural sector because it is deeply rooted in gender relations in several areas that are crucial for farming: Gender relations at household level, land and property rights, access to agricultural inputs, extension services, credit and financial services, business development services, agro-processing, just to name some of the most significant areas. Extension is in many countries tasked with promoting agriculture for cash crops, either for export or to achieve national grain self-sufficiency. These goals may clash with objectives of reaching female farmers as they may have little or no incentive to adopt or plant cash crops because they will not control the income resulting from this production. They often prefer to concentrate on subsistence crops and/or petty trade or casual labour because these are sources of income that they can more easily control. Extension may therefore not be able to achieve gender equity because the broader policy environment, including priorities for research, finance, etc., is not equitable. Gender equity in access to extension services requires attention to gender roles in households, society, agriculture and rural development more generally.

Extension is an arena where the underlying goal conflicts in rural development, economic growth, household and national food security and poverty alleviation come to the fore in concrete decisions about extension targets. Rather than ‘shooting the messenger,’ the failures of extension in supporting gender equity should be seen as an indicator of the importance of more closely analysing how approaches to agricultural knowledge and information systems and overall policies fail to equitably address gender. Context is key, but this does not mean that extension is powerless to overcome its biases. Extension actors can choose to be pro-active and challenge key constraints to gender equity, for example by including legal advice in their services or directly challenging gender relations at household levels through facilitating discussions in farmer organizations or cooperatives.

4.1 Up-scaling opportunities of technologies

A value chain development approach offers opportunities for scaling up in agriculture extension and services. Scaling up aims at increasing the number of farmers and small producers with

sustained market access, translating into improvement of their welfare. Thus, the objective is not to scale up VCD projects, but to identify from the outset how to expand the long-term benefits of VCD to more beneficiaries by ensuring sustainability and leveraging additional resources and expertise. It also means increasing income benefits for those beneficiaries included in the chain. Direct beneficiaries typically include small producers, processors and traders. Sasakawa Africa Association interventions focus on small producers and processors, but women, and other actors working along the VCs are also targeted for the scaling up.

An Agricultural Value Chain Development (AVCD) approach is based on a comprehensive analysis of the entire commodity chain, from producers to end-market consumers. Inherent in the VC approach is an acknowledgement that in addition to the target group, there are other stakeholders in the chain and that they are interrelated. For example, improved business opportunities for processors or other downstream actors can have a positive influence on small holder farmers who are the target to meet food security and poverty reduction in most agricultural transformation initiatives. For example, intervention aimed at reducing postharvest losses and improving the quality of products and market access in the VC can have a greater impact on poverty reduction, nutrition and health.

VC models can vary according to country, commodity, local context, presence, nature and capacity of VC actors, policy framework, business environment, etc. Consequently the process of scaling up VCD results can also vary according to these factors. There are three most common types of VCD organizational models: producer-driven, buyer-driven and intermediary-driven. In certain circumstances, we also observe commodity VCs where marketing arrangements or prices are controlled by governments. These models are not good scaling-up examples because they tend to distort markets and/or crowd out the private sector. Whatever model is pursued, scaling up VCD results can be horizontal (more products or VCs covered) and/or vertical (more farmers integrated into the VC or more benefits accrued to the same farmers).

Once VCD results are established as a result of a program intervention, scaling up those results may entail either expanding the VCs to include more farmers; or helping farmers move up the chain and obtain higher revenues from value-added processes, such as when staple millet-sorghum cooperatives in Mali start doing collective storage and marketing.

Scaling up should be imbedded in the VCD program or project. It is a forward looking to plan and implement a project in way that allows components to be scaled up to multiply the results in the future. This means the project design should consider how investments, policy dialogue and knowledge management can influence various stakeholders (public, private and the target communities) and leverage resources, knowledge, social and political capital from others actors to bring positive results to a larger scale in a sustainable manner (IFAD, 2015).

The designing and implementation and scaling up of a VC approach, by a project or program design teams and project management units can rely on a number of pathways and actors. Which pathways present an entry point for scaling up will depend largely on contextual factors

and the levels at which the majority of the constraints are found: (1) policy level; (2) project level; or (3) knowledge-sharing level.

Typical pathways for scaling up a VCD intervention will involve all three levels: policy engagement, projects and knowledge management. When a project is being designed and/or implemented, it is necessary to: identify the VCD policy obstacles and how they will be overcome to allow scaling up; define a VCD model or approach that the project will support; consider how the interventions can be replicated/scaled up once project resources end; identify who will do the scaling up (i.e key drivers for scaling up below); and specify the knowledge management processes that will be used to share VCD results and information with scaling-up partners.

Various opportunities are emerging for a successful scaling up of technologies through agricultural extension and advisory services. These include:

4.2 Institutional opportunities

Whatever VCD model (producer-driven, buyer-driven, intermediary-driven or other) is adopted, some sort of organization of farmers is required. Farmers' organizations help by achieving economies of scale for procuring inputs, reducing produce collection costs, minimizing transaction costs of dealing with other VC actors, enhancing value-added through processing and better handling/storage, and helping producers cope with asymmetrical relationships in VCs. They can also be extremely effective in representing farmers' interests and improving their bargaining power with private companies. In many instances, IFAD VCD interventions can build the capacity of these farmer groups so they become the main drivers for scaling up and for building partnerships with other actors along the VCs.

Another important institutional dimension for scaling up is the creation of stakeholder platforms where chain actors can meet and agree on terms of trade within their chain, as well as raise common issues and challenges that they can address jointly. For example, in Ghana's Northern Rural Growth Programme, district VC committees were created to address on a regular basis all issues related to the VCs. In Madagascar, regional and local offices of Chambers of Commerce were seen as the institutional anchors for these types of platforms.

4.3 Financial opportunities

In general, public-sector resources in VCD interventions should only be used to "prime the pump" until the private sector can come in and take its appropriate place in the VC, either as buyer, investor or main source of finance. Subsequently, public-sector resources should only be used to finance public goods, such as infrastructure (warehouse, electricity, communication networks, etc.), basic education and research, as well as to provide a conducive policy and regulatory environment where inclusive VCs and agricultural market development can thrive. Conversely, private goods, credit, labour mechanization postharvest equipment, processing units, marketing, etc., should be the domain of the private sector and farmers. The financing of value chain intervention involve two important aspects of scaling up.: (1) In the public good

domain, identify the public institutions (central and local governments, ministries, committees, etc.) that have the fiscal authority to invest or influence VCD and include them in the decision-making process of the VC interventions so that they understand what is expected of them in the long run; and assess their capacity to continue financing these aspects of the VCD once the intervention is completed; (2) For activities that require private-sector financing, VCD interventions should make sure that whatever temporary subsidies they support can eventually be financed by the private sector. A typical example of a problematic response of many projects to the absence of VC financing instruments is the use of matching grants as a substitute; it is difficult and financially unsustainable to scale up such grants. VCD interventions should build up the capacity of VC actors and related financial institutions to develop and use more sophisticated VC financing instruments. Examples of such instruments that require further development and can be used to financially scale up VC interventions are warehouse receipt systems (e.g. in Mali), input on credit with the involvement of financial institutions as intermediaries (e.g. in Ghana), and guarantee fund schemes.

4.4 Partnership opportunities

Partners involved in the extension and advisory services are the private sector, producer organizations, donors and governments at different levels. Within a VC project, the most important step is to identify the key potential VC partners that will address the needs of the target population, and to understand these partners’ business models and risk/profit drivers. The initial VCD intervention or project serves to learn about these VC partners, and broker the relationship between them by setting up institutional arrangements that can maintain a fair distribution of gains along the chain while satisfying product requirements of the target market. Other donors might either replicate the design features of the VCD intervention in larger projects, or – more.

Opportunities and partnerships for scaling up technologies

| Opportunities of up-scaling technologies | Partners |
|--|---|
| Availability of productivity enhancement technologies | Individual farmers Village development committee Local extension agents |
| Models for participatory innovations process (FLPs, FFS, etc. | |
| Availability of postharvest loss reduction technologies, materials and equipment | Farmers organizations, postharvest service providers, NGOs, local equipment manufacturers, NGOs, Financial institutions, Public extension |

| | |
|--|---|
| Business models for improved access and use of postharvest handling and agro processing technologies (equipment/materials, storage techniques, etc..) | Farmers organizations, local equipment manufacturers, Microfinancial institution, NGOs, extension, financial institutions |
| Business models for input and market access(input shops, collective marketing, warrantage credit, etc.) | National agricultural research and extension systems (NARES), Farmers organizations, Agrodealers, NGOs, etc. |
| High vulnerability of rain fed agriculture to climate change negative impacts (drought, dryspell, etc.) | |
| Availability of climate smart technologies for resilient rain-fed livelihood systems | |
| Improved access to inputs (input shops, Self-help revolving funds) | Farmers organizations, agrodealers, NGOs, extension, financial institutions |
| Improved to market for products (Commodity exchange stocks, seed exchange stocks, cooperatives based aggregation and selling | Farmers organizations, agrodealers, NGOs, extension, financial institutions |
| Innovative approaches in funding extension services (levies on export commodities, decentralization funds, outsourcing financing, embedded advisory services | Public or Private bodies. Local governments Farmers 'associations, NGOs Other partners |

5. SUGGESTED ACTIONS/WAYS FORWARD

To overcome the challenges and tap into the opportunity, there is a need for an Agricultural Extension and Advisory Services Transformation Agenda (AEAST) to promote agricultural transformation in Africa. This EASTA should be based on the vision of modernizing Africa's agriculture by increasing value added in the sector and promoting agricultural value chains responsiveness to market demand and regional and global competition. In this context, actions will continue to focus on enhancing agricultural productivity, diversification, commercialization, promoting livestock farming and aquaculture, sustainable forestry and fisheries management; strengthening institutional capacity, enhancing efficiency of support services, and developing human resources in the sector.

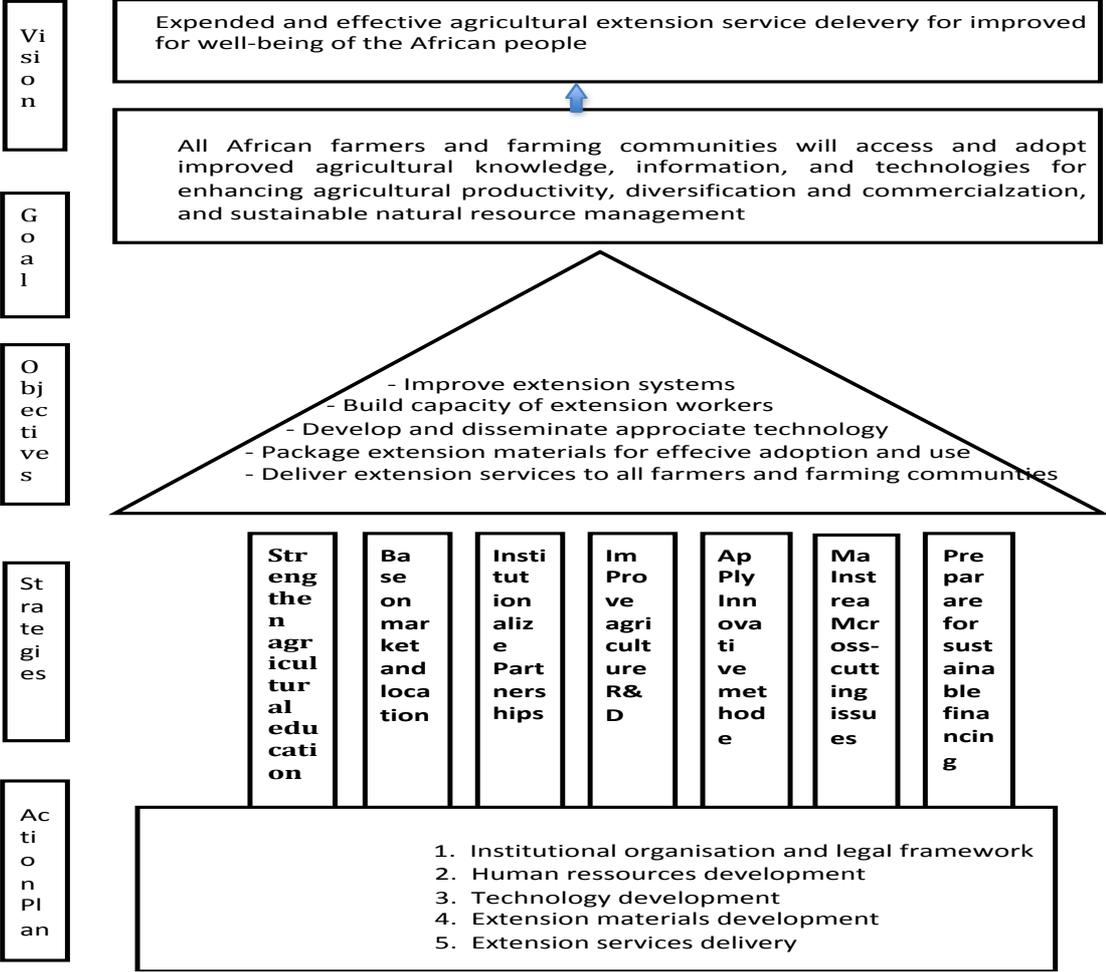
To achieve this vision requires application of new techniques, technology, and innovations; technically sound use of agricultural inputs and mechanisms; competent and effective human resources to support, provide services, and coordinate; and technology methods, and sufficient and appropriate instruments as well as an enabling environment for farmers and farming communities to access and adopt new techniques and technology effectively and efficiently.

Currently, although significant research and development and extension of agricultural techniques have been undertaken by a number of stakeholders, access to and adoption of new techniques and technology by farmers and farming communities is quite limited. These problems arise because of lack or limited agricultural extension services, regulations, and system; lack of human resources, funding, techniques, and technology; lack of extension materials and packaging; and limited agricultural extension methodology and means.

Addressing these problems requires preparation, strengthening and support of mechanisms and regulations; and development of human resources, techniques and technology, as well as methods and means to provide extension services on the basis demand by users and markets. If African states promote and increases investment in agricultural extension, labour productivity in the agricultural sector and land productivity will increase. Thus agricultural extension in Africa is the foundation and tool to provide effective agricultural extension services for farmers and farming communities to make well-grounded decisions that will increase productivity, diversify, commercialize agriculture and increase income. For agriculture as a business, farmers want technologies, services and access markets and extension/advisory services policy and related practices should meet these challenges for an effective agricultural transformation in Africa.

There is a need of a conceptual framework for comprehensive extension and rural service policy based on the following aspects; vision for agricultural extension service; Goal and objectives; strategies (demand-driven, institutionalizing, regulations and partnerships, strengthening agricultural education institutions, technology development, packaging and learning, agricultural extension approaches and methods, mainstreaming cross-cutting issues in agricultural extension services, sustainable financing of agricultural extension services); action plan (institution organization and legal framework, human resource development, technology development, extension materials development, extension service delivery); financial and implementation framework (financial support, implementation framework); Monitoring, Evaluation and Learning (Figure below).

Conceptual framework for a comprehensive extension and rural advisory service policy design



6. ESTIMATED COSTS

The development and sustainability of extension and advisory services (EAS) rests foremost on financial viability and the availability of finances to maintain the system. This has been the bane of public sector investment in extension and the most critical factor limiting the expansion of the private sector delivery. But farmers are reluctant to pay directly for MOAS, particularly those services that are purely advisory. While public sector market-oriented advisory services in Asia – a review and lessons learned extension has difficulty charging directly for advisory services they have introduced a number of cost recovery mechanisms such as levies and revenue-generating activities. The private sector, however, has fared much better by embedding the cost of MOAS in commercial transactions. In some cases the public sector has contracted private sector operatives to provide these services. The principle discussed previously of public and private goods holds true from case study experience. Farmers are willing to pay for advisory services as long as they recognize financial benefits and profits from the services paid for

7. RECOMMENDATIONS AND CONCLUSION

It should be emphasized that no nation will have real growth in the agricultural sector without effective extension service. The total eradication of agricultural development problems can be achieved through extension service approach if the role of extension is properly conceived and effectively administered.

Africa needs to support farmers, faced with a very complex situation. There is a need for an important support system including measures to promote professional organizations and institutions and to support agricultural production. However, farmers do not have the feeling of being supported by them effectively. The extension system is ill-performing and focused on crop production especially field crops (cereals). The use of modern means of communication can diversify the sources of information of the farmer and ensure better coordination between the actors involved in agricultural production. It also allows proposing an information offer diversified and adapted to the different categories of farmers. New approaches to ICT for agricultural development and natural resource management exist to overcome extension challenges and new concepts are emerging for participation, learning and problem solving between the key players. Today, African farmers are increasingly asked to respond to the challenges facing them. The profound changes occurring in the agricultural environment also require them to have more knowledge in agronomy and related sciences, management, accounting, marketing and business. The availability of extension agents and the ability to exchange and validate new techniques and/or productions to introduce at the farm level by researchers and specialists, are highly desired. Due of its status, the national system of agricultural extension could probably be an answer to the needs of pooling local resources and opening to international networks. This is related to the need to restructure the system, from the organizational and functional points of view, and to strengthen its human resources by mobilizing sectoral competences and external resources. Analysis of informational needs of farmers should constitute the basis for building the extension offer.