This paper reviews and compares two market-driven strategies: contract farming and producer marketing cooperatives. In passing, the paper critiques the single-minded contract-farming emphasis adopted by the New Partnership for African Development and its Comprehensive Africa Agriculture Development Program (NEPAD-CAADP). Pursuing ideas put forward by Burt Swanson, the International Food Policy Research Institute and the World Bank, the paper concludes with recommendations for reorganizing extension systems in less developed countries.

Keywords: Agricultural extension, contract farming, producer cooperatives, institutional innovation, training.
Introduction

Public sector agricultural extension is at a defining moment. This involves a gradual shift toward decentralized, participatory, market-driven extension reform. Structural, financial and managerial extension reforms put forward since the 1990s have significantly altered extension system development worldwide. Increasingly emphasized is the importance of extension’s continuing role in marketing and the importance of developing market-oriented extension (e.g., Bahn and Jennings, 1990; Narayanan, 1991). Also at that time the World Bank via its Training and Visit (management) system sought to move extension toward a demand rather than a supply system of extension education and knowledge exchange. There was a gradual shift toward privatization, decentralized, participatory and market-driven extension reform. Swanson (2007) on missions for the World Bank helped to reorganize the national extension system in China (Swanson, 2007 and 2008, personal communication). Later, the World Bank at its international conference on Extension Reform for Rural Development (2002) and through the cases collected in its resultant five-volume follow-up to the conference (World Bank, 2004) highlighted the many successes in extension reform. Still, the concept and practice of market-driven extension is only beginning to take hold in the national extension systems of less developed countries.

Purpose and Objectives

The present paper draws on (a) Swanson’s seminal article on “The changing role of agricultural extension in a global economy” which appeared in the Journal of International Agricultural Education and Extension (2006a), (b) the conclusions of the International Food Policy Research Institute (IFPRI) that there are two key market-driven strategies open to smallholder producers, i.e. contract farming and marketing cooperatives, and (c) the World Bank’s World Development Report 2008: Agriculture for Development and its support for contract farming, producer organization and cooperation between these private orientations.

Organized into three main sections, the paper begins with the rationale for overhauling the purposes of public sector agricultural extension systems in the less developed countries. Two market-driven strategies, contract farming and producer marketing cooperatives are compared with regard to their implications for smallholder farmers. The New Partnership for African Development and its Comprehensive Africa Agriculture Development Program (NEPAD-CAADP) are critiqued for their single-minded stress on contract-farming without commensurate emphasis on cooperatives development. The final section considers the role of extension in developing and supporting market linkages for smallholder farmers.

To clarify the use of terms in the paper, cooperatives are distinguished from the more inclusive array of producer organizations. The paper concentrates on the two key market-drive strategies already mentioned, cooperatives and contract farming. Hence, the paper does not include discussion of all market-driven strategies nor the instances in which contract farming or cooperatives may be the only viable option or common model. The focus is on the two above-mentioned key market-driven strategies, first with respect to the ‘business’ of the public sector (Rivera, 2008a) but more importantly to highlight the importance of what the author considers the need for balance of powers between these two distinct private sector entities.

Rationale for Extension Reform

The World Development Report (WDR2008) on Agriculture for Development puts forward four policy objectives: (a) improve market access and
establish efficient value chains; (b) enhance smallholder competitiveness, and facilitate market entry; (c) improve livelihoods in subsistence agriculture and low-skill rural occupations; and (d) increase employment in agriculture and the rural non-farm economy and enhance skills (Overview, p. 19). Greater commercialization of agricultural systems and increasing trade liberalization dictate the need for different and better capacity on the part of the agriculture workforce in the 21st century. Global changes in the roles of the public and private sectors and the dramatic advancements in technology have also strongly impacted agricultural workforce development needs, especially with regard to extension development. The global reality and the increasing call for market-directed strategies to enhance smallholder farm income are central to current priority concerns about extension’s role and suggest the need for its overhaul (Rivera & Alex, 2008).

**Imperatives and Strategies**

Two imperatives are central to public sector agricultural extension’s development in the future. Neither is entirely new; what is new is their urgency and degree of priority for extension. They are (a) the knowledge imperative, which is associated with globalization and efforts to promote national innovation systems (World Bank, 2006), and (b) the market-link imperative, which calls for changing the focus and role of extension from food security to increasing farm income and rural employment (Swanson, 2006a).

Also, two key market-driven strategies exist for opening the pathway to smallholder farmers who seek to become involved in high-value agricultural production, according to the International Food Policy Research Institute (IFPRI) research contributors Delgado, et al. (2001, p. 2) and the IFPRI Director General, von Braun (2004, p. 14). These two strategies comprise contract-farming schemes and producer marketing cooperatives.

While this paper concentrates on two key market-driven strategies, other market linkages already mentioned (FAO, 2008a) as well as producer supply and processing organizations and groups (e.g. producer unions and syndicates, associations, and local development entities) are also significant in contributing to market-oriented arrangements. It goes without saying perhaps that a range of profit-making activities may be undertaken by producer organizations that contribute to market linkages via post-harvest storage and handling, processing or other value-chain supports. All are needed to bring smallholders into the market arena. As Swanson states (2008)

> All are needed, but it depends on the product and market. For example, if you are talking about Sri Lanka selling pickles to McDonalds in Japan, then contract farming is the only viable option. If you are talking about selling vegetables, chicken, pigs, eggs or milk products to urban markets, the producer groups are the more common model. (Swanson, 2008, personal communication)

In the *Journal of International Agricultural Education and Extension*, Swanson recommends that market-driven extension systems “be carefully considered by extension leaders in … developing countries” (Swanson, 2006a, p. 1), advice also advanced by the World Bank in its *WDR 2008: Agriculture for Development*, p. 128). The WDR2008 report outlines the World Bank’s perspective on strengthening farmer links to the market, stressing the investment role of the public sector and the emerging role of the private sector. This private sector approach has emerged as necessary in part because of government withdrawal from previously public services and lack of adequate development results. Globalization, increasing population and concerns regarding productivity further spur the dynamics of the market-link imperative.
The World Bank’s support for market-oriented extension is intended to foster an environment for private sector extension. In contrast, this paper makes the case for public sector extension to help smallholder farmers to develop market-driven arrangements. While the emergence of private sector extension services may be desirable once market-oriented arrangements are in place, the fact is that most extension systems of less developed countries are still provided via the public sector.

**Key Market-directed Strategies**

Of the several market-driven strategies for enhancing farm incomes for smallholder farmers, contract farming and cooperative marketing arrangements are considered key (Delgado, et al., 2001; von Braun, 2004).

**Contract Farming**

Contract farming schemes involve smallholder connections to one of a variety of business entities, such as corporate buyers, commercial companies and estates, supermarkets and processors, all of whom may be potentially helpful in overcoming smallholder asset constraints and providing technical assistance. Contract farming, according to Prowse (2007, p. 1) “clearly offers numerous opportunities for smallholders. It gives access to a reliable market, provides guaranteed and fixed pricing structures, and most importantly provides access to credit, inputs and production services (see, fertiliser, training, extension).”

**Marketing Cooperatives**

Marketing cooperatives also constitute a key strategy for farmers to link to markets, either by farmers becoming members of or else by establishing this type of organization. The U.S. Overseas Cooperative Development Council suggests that cooperatives in general are strategically important pathways to economic, democratic and social development in the global economy (OCDC, 2007).

**Alternatives**

Other strategies, other than contract farming and marketing cooperative organization, contribute to increasing farmers’ incomes and in some cases link farmers to markets although their main purpose may not necessarily be to create market linkage. These alternatives include farmer-to-farmer schemes and leading or prominent farmers (FAO, 2008a). In addition, new institutional arrangements are also being developed between government and producers, such as the Produce Foundations in Mexico, which are created, led and administered by producers with matching funds provided by federal and state governments, agricultural producers and the private sector. Such innovations are needed in less developed countries if farmers are to be effectively linked to markets.

Other needed institutional arrangements include (a) unified real estate registration systems and registering private rights to rural farm land; (b) self-sustainable rural financial systems; (c) rural information and advisory services and strengthening applied research and veterinary services where these do not exist; and (d) government capacity to analyze and respond to the impact of related sectors on agriculture. Agricultural markets and marketing information systems (MIS) are essential and too often lacking because of inadequate infrastructure, both institutional and physical (e.g., inoperative rail systems and roads riddled with unofficial toll payments) (FAO, 2001). Extension can play an important role in assisting producer groups to routinely monitor market information.

**Women in Agricultural Marketing**

Too often overlooked is the role of women in marketing and in the development of marketing organizations. Women in
Jamaica and previously in Ghana, are primary marketing agents. Extension practitioners and professionals in general need to be particularly aware of women’s contributions and potential in developing marketing organizations. In most developing countries extension can have significant economic impact by helping women to organize into sustainable producer organizations, especially those that serve emerging markets and high-value food products such as vegetables, fruits, and livestock products. In addition, it merits noting that women invest their farm earnings in the family in the form of better nutrition, health care and education for the children, which is a strong reason why extension systems should give more attention to organizing women’s groups to improve rural livelihoods.

**Contract Farming: Advantages and Disadvantages**

In contract-farming schemes, farmers become organized under the aegis of a private company. Carried out according to an agreement between a buyer and farmers, contract farming establishes conditions for the production and marketing of a farm product or products.

According to the WDR2008, “Contract farming is a system where a private sector firm provides farmers with inputs – such as credit, fertilizer and seed – in exchange for exclusive purchasing rights for the resulting crop” (p.128). However, this definition ignores two quite different contract-farming arrangements: marketing contracts and production contracts.

Indeed, there appears to be a tendency away from ‘marketing contracts,’ whereby farmers control the production of products, and increasingly toward ‘production contracts’ where companies provide the inputs, processing methods, and output standards, and the farmer becomes a manager of the production system (Rivera, 2008b, p. 28). The FAO’s FAQ website (2008b) recognizes the distinction between the two types of contracts in its statement, “the buyer commits to purchase the product and, in some cases, to support production through, for example, the supply of farm inputs, land preparation and the provision of technical advice” (FAO, 2008b).

Agricultural producers in livestock production (especially in the poultry and hog industries), are especially confronted with significantly changing relationships in their contractual relations with companies and their role in farming – specifically whether their future points toward their continuation as independent producers or to becoming company-directed field managers.

**Advantages**

Certainly both partners (buyers and farmers) engaged in contract farming can benefit from the contractual relationship. Farmers have a guaranteed market outlet, reduce their uncertainty regarding prices and often are supplied with loans in kind through the provision of farming inputs such as seeds and fertilizers. Purchasing firms benefit from having a more guaranteed supply of agricultural products that meet their specifications regarding quality, quantity and timing of delivery (FAO, 2008b).

Contract farming enables smallholder farmers to participate in new high-value product markets and improves quality standards, thus increasing and stabilizing farmers’ incomes. Because most farms in the less developed countries are smaller than two hectares, integrating smallholder farmers into global value chains is an important step towards reducing poverty.

**Disadvantages**

As with any form of contractual relationship, there are advantages and also potential disadvantages as well as risks. If the terms of the contract are not respected by one of the contracting parties, then the affected party stands to lose. Common contractual problems include farmer sales to
a different buyer (side selling or extra-contractual marketing), a company’s refusal to buy products at the agreed prices, or the downgrading of produce quality by the company. A frequent criticism of contract farming arrangements is the uneven nature of the business relationship between farmers and their buyers. Buying firms, who are invariably more powerful than farmers, may use their bargaining clout to their short-term financial advantage, although in the long run this would be counterproductive as farmers would cease to supply them. These problems notwithstanding, the balance between advantages and disadvantages for both firms and farmers seems to be on the positive side: contractual arrangements are more and more frequently being used in agriculture worldwide. Indeed, globalization and liberalization have popularized the concept of contract farming (Singh, 2006).

Singh argues, however, that agribusiness firms in India have been found to overprice their services, pass on the risk to the producers, offer low prices for produce, and delay payments. Some firms look at contracts only as a management tool and a strategy to overcome procurement and related business problems. He argues “Contract farming tends to shift production in favour of export-oriented and cash crops at the cost of basic food crops for the poor. This could lead to higher prices for food commodities and products, especially for non-contract farmers. The contract system could also lead to over-exploitation of resources. Firms tend to move on to new growers and lands after exhausting local resources such as land and water” (Singh, 2006).

Prowse (2007), although he favors contract farming, also notes that contract farming presents risks for smallholders. He cites examples: (a) contract farming can contribute to a loss of autonomy over farm enterprises; (b) substantial production risks are faced if the technology or the company’s forecast is inappropriate, (c) the firm’s exclusive purchase rights can depress producer prices, or lead to late and partial payments. Increased indebtedness is not uncommon, (d) contracts can be verbal and if written are not always in the vernacular.” (Prowse, 2007, p. 1)

On the other hand Prowse (2007) notes that contract farming presents risks also for firms. He states “There is a large risk of smallholders’ side-marketing inputs and produce: fertilizer can be sold to increase liquidity; and post harvest produce can be side-marketed to facilitate faster access to capital, to seek higher prices, or just to avoid repayment. The limited literacy and education of some small farmers may increase risks for the firm, and a widely-dispersed smallholder population certainly increases costs” (Prowse, 2007, p. 2). Nonetheless, contract-farming arrangements are, as Swanson notes (2008, personal communication) often the only viable option for linking farmers to markets and stimulating agricultural production that competes in the global arena. Contract farming arrangements also conceivably fill in the void left by governments in the wake of liberalization by providing access to inputs, technologies, credit and other services. Given its potential, contract farming is given a central role in the latest strategy by the Partnership for Africa’s Development (NEPAD).

Contract Farming in Sub-Saharan Africa.

To revitalize the agricultural sector, NEPAD and the African continent’s leaders created the Comprehensive Africa Agriculture Development Program (CAADP), a new framework to reduce food insecurity and poverty on the continent. Embedded in CAADP’s priority investment is contract farming: “a business model that links production to markets by enabling smallholder farmers to practice high-value agriculture and reach markets at all levels – national, regional and international” (NEPAD, 2006). This agricultural business model has been endorsed by NEPAD, the Africa Union, the Common Market for East
and Southern Africa (COMESA), the Economic Community for Western African States (ECOWAS) and the Southern Africa Development Cooperation (SADC).

In its East Africa Policy Brief (2006) NEPAD underscores that smallholder farmers are scattered across farmlands, keeping the cost of contract farming transactions high, and argues that this can be reduced through “effective farmer organisations that enhance business skills and the bargaining power of farmers” (p. 2). Almost as an after-thought, the policy states, “while contract farming has obvious benefits for smallholders, it is not a solution for every market development challenge. Poor infrastructure, weak contract enforcement, limited markets for financial services and political interference in product and input markets undermine the viability of contract farming arrangements” (NEPAD, 2006, p. 2).

To its credit the NEPAD Policy Brief lists various reasons why contract farming has not (yet) worked well in Sub-Saharan Africa; these include: (1) “Promoters bear high transaction costs because of poor infrastructure and dealing with individual farmers scattered over large areas. (2) Farmer organisations are weak. Most lack managerial, leadership and production skills. (3) International trade agreements put up barriers to trade and deny agricultural products from Africa fair access to world markets. (4) High production risks due to crop failure, resulting in insufficient volumes, or products that do not meet the standards. (5) Inability among farmers to predict prices or factor in unfavorable exchange rates and other marketing risks. This sometimes leads to buyers ending contracts prematurely. (6) Promoters take advantage of farmers’ weak bargaining position to exploit them” (NEPAD, 2006, p. 3).

Still, NEPAD’s East Africa Policy Brief states “Contract farming (CF) may have different definitions and motivations, but basically, it commits the farmer to produce and supply a specified agricultural product and the entrepreneur to buy at an agreed price. This relationship thrives where there are incentives and ways to monitor and enforce agreements” (NEPAD, 2006, p. 2). As NEPAD notes, contract farming arrangements are more significant with high-value crops and animal products, and cites Zambia, where “all the cotton is grown by contracted farmers” (2006, p. 2). It also claims that in many parts of Africa, “contract farming has proved effective in integrating smallholder farmers into commercial agriculture (ibid., p. 2),” and then cites Mozambique where, according to the Brief, “most of the more than 400,000 producers that benefit from CF are smallholders with less than one hectare of land” (ibid., p. 2). To further bolster the argument for the renewed emphasis on contract farming arrangement, the Brief estimates that by 2020, Africa’s demand for staples such as maize, cassava, rice, sorghum, beans is expected to rise as the continent’s population reaches 1.26 billion. This prediction, according to the NEPAD Policy Brief, “will create a big opportunity for contract farming, especially as half the people will be in towns and unable to grow their own food” (NEPAD, 2006, ibid., p. 2).

One wonders however whether Africa is once again off to a false start (Dumont, 1962; 1966), by insisting so strongly on the merits of contract farming.

**Cooperatives: Advantages and Disadvantages**

Marketing cooperatives are distinct from other producer organizations which include (a) fertilizer supply associations and processing plants, (b) local village-level groups, (c) unions and syndicates, as well as (d) advocacy cooperatives (Rondot & Collion, 2000). However, producer organizations, other than marketing cooperatives, often educate farmers about markets, e.g. input supply systems that educate through advertisements and on-the-ground training about the applicability of
their products to increased commercial production. Nonetheless, marketing cooperatives provide more inclusive guidance to their members regarding markets and market demand.

**Advantages**

In general, marketing cooperatives, as with other agricultural businesses, are a major tool in local economic development and are being used in innovative ways to serve rural constituents (Merrett & Walzer, 2001). Jones and Svejnar (1985) show the positive productivity effects of worker participation in management, profit-sharing and worker ownership in Italian producer marketing cooperatives, at one time “one of the largest and fastest growing systems of marketing cooperatives in industrialized Western economies” (p.1). Gall and Schröder (2005) note that cooperatives in general can make a unique contribution to new forms of food chain organization. Throughout history, rural smallholders have formed various forms of associations to confront access-barriers to the market. It is estimated that 250 million farmers participate in agricultural cooperatives in developing countries. Agricultural cooperatives are considered to be a fundamental pillar of rural development strategies, as well as a core institution in the process of governance, decentralization and agri-business development. In Ethiopia, agricultural cooperatives are advocated by the government as key market institutions to exploit Ethiopia’s agricultural growth potential.

There are however many challenges to growth in smallholder agriculture. Among them are (a) low-value goods, (b) market pressure from structural adjustment and market liberalization, (c) the undermining of existing markets by relief agencies, (d) oversupplied markets (e.g., the coffee market), (e) decline in commodity prices (including of so-called ‘cash crops’), (f) inconsistent policy with no medium- to long-term vision, (g) lack of market information, (h) poor organization and lack of scale, (i) declining infrastructure, (j) shocks from natural and civil turbulence, and (k) new trends in the wholesale and retail sectors regarding standards and regulations (Best et al., 2005). Nonetheless, Best, et al. (2005) cite examples of smallholder farmers who have confronted these challenges by (a) increasing competitiveness through achieving economies of scale and value addition by collective actions and improved production, post-production handling and processing, and marketing; and (b) diversifying their production, by incorporating higher value crops or livestock activities that have an identified demand (Best et al., 2005, pp.23-24.). Wennink, et al. note (2007), farmers’ organizations also play a significant role in social inclusion, in particular in promoting access of the poor to agricultural services.

**Disadvantages**

But cooperatives also have their limitations. Prowse (2007) notes they frequently lack managerial capacity, sometimes struggle to achieve coherence among a diverse membership, and are subject to elite capture. He suggests there is a danger of placing too many expectations on these often incipient rural efforts. This is true for marketing as well as other cooperative ventures.

Indeed, membership and joint ownership are central to the concept of cooperatives. Despite possible managerial problems, lack of cohesiveness as an economic interest group and the ever present possibility of developing privileged leadership in the organization, not to mention the free-rider problem where some individuals either consume more than their fair share of a common resource or pay less than their fair share of the cost of a common resource, even so cooperatives provide a way for producers to retain ownership of their produce as it moves through the supply chain.
“Major problems confronting cooperative development today are the legacies, misconceptions and mixed history of cooperatives in developing countries,” according to the U.S. Overseas Cooperative Development Council (OCDC, 2007, p. 37). Critical differences exist between groups that advocate for or represent farmers and cooperatives as group-based businesses with member ownership as a main principle (OCDC, 2007, p. 37). The real challenge, according to the OCDC, is to find effective ways to help fledging cooperative movements reach scale, “and reorient development professionals’ thinking to recognize the universality of cooperatives as one means to achieve poverty alleviation and economic opportunity in the developing world” (ibid., p. 37). Organizing women into sustainable producer organizations holds particular promise for enhancing rural livelihoods and economic development in general. Extension has a critical role to play in this regard.

**Institutional Innovation**

Cooperatives, to remain competitive, are increasingly forming alliances with other cooperatives or related businesses (Gall & Schroder, 2005, p. 3). Extension can play a strategic role in helping farmers create producer groups but also to negotiate directly with large-scale traders, exporter or value-added processors. Prowse (2007) advances the notion, which he attributes to the WDR2008, that “A greater focus on strengthening market-oriented producer organizations and dispute-resolution mechanisms between farmers and firms may increase the chances of win-win outcomes from this form of institutional innovation” (p. 1). In the ODI (Overseas Development Institute) *Opinion 87*, Prowse welcomes what he sees as the WDR 2008 “emphasis on mitigating risks by linking contract farming with market-oriented producer organisations….” (Prowse, 2007, p. 1). However, Carter (2008, personal communication), commenting on contract farming and its disadvantage for smallholders, states “…it seems likely that given the transaction costs involved in working with large numbers of small farmers, contracting buyers are likely to increasingly focus on a small number of capital-intensive producers who are able to invest in producing the quality and quantity that they require. This could have the effect, over time, of marginalizing smaller producers who neither can contract, nor find niche markets for their varied quality and quantity of produce.”

While Prowse applauds mitigating risks by linking contract farming with market-oriented producer organizations, Singh (2006) considers “contract farming has serious implications for existing agribusiness cooperatives” (Singh, 2006, p. 1). In such cases, he states “Cooperatives will likely have to compete with multinational firms in terms of providing competitive prices and other incentives to retain their producer members” (Singh, 2006, p. 1).

Certainly competition can be a major stimulus for the diffusion of new methods and ideas. Indeed, this proposition underlies the position of this paper, namely that if competition is created between contract farming and cooperatives, innovations (conceptual and technical) will come. NEPAD and CAADP might review the value of competition and include market-oriented cooperative development as part of their policy for Sub-Saharan Africa. However, while competition is generally desirable, it merits keeping in mind Singh’s argument that first “the smaller competitors must be strengthened in their organizational base” (Singh, 2006, p. 2).

**Institutional Change and Expanded Educational Networks**

Public sector extension systems in less developed countries need to shift some efforts from a production-orientation to a market orientation. For this to happen, two challenges must be confronted: (a)
institutional development through leadership that reorganizes its management to promote farmers’ preparation to engage in market-driven organizations, and (b) human resource management and development programs that operate in an expanded educational network.

_The Institutional Challenge_

The institutional challenge involves reorganizing extension to create strategic plans and special units with the purpose of developing information on market-driven strategies, in particular for smallholder farmers. Market analyses and market signals are important to priority setting for extension services, to help ensure that producers find profitable market opportunities for the products with which extension services are working.

Certainly productivity and production remain key areas for extension support to marketing. At the basic production level extension needs to promote (a) production technologies for decisions on: choice of crop or product to meet market requirements, timing production to market needs, and reducing production costs, and (b) post-harvest technologies for information on storage, processing and post-harvest handling practices. But equally important are (c) marketing extension services for help in linking producers to markets, organizing new marketing channels, improving marketing efficiencies, group formation and cooperative action in product marketing, and accessing government and private market services through production contracts, production credit or inputs, and specialized advisory services (Narayanan, 1991). Also, (d) market information systems (MIS) are needed to provide information on prices, market locations and knowledge of alternative markets, grades and standards, and quality requirements of markets.

The growing market-orientation for agriculture has important implications for extension services. Indeed market-demand is a crucial determinant for technology adoption, which must enable production to respond to market signals. An exclusive focus on production technology, ignoring market demand and farm budgets, has been the fatal weakness of many past extension programs (Swanson, 2006b, p. 4). Public sector extension systems need to engage in market analysis and demand for competitive, new technologies.

Applying knowledge to production systems and value chains requires educated and motivated human beings. Natural and financial capital may be essential but human capital, i.e., the stock of productive skills and technical knowledge embodied in labor is paramount for exploiting these forms of capital and for developing institutional and social capital.

_The Human Resource Management and Development Challenge_

A major challenge confronting extension in less developed countries is to design human resource management and human resource development training programs that include connection with a range of educational activities that relate to possibilities for farmers to link to markets (Rivera and Alex, 2008). To meet this challenge, more of the same is not enough. An agricultural workforce education network is required; one that connects formal education, inservice training, and nonformal outreach, as well as one that recognizes knowledge as the product of indigenous and modern experiments and learning.

Training is critical for building individual capacity to operate effectively within the sector as well as to build the specific capacity in individuals to further organizational objectives. For the latter, training must align with an organization’s goals in the form of development-oriented training, not _ad hoc_ or survival-type training (Gooderham & Lund, 1992). Understanding organizational goals is essential to strategic planning and the management of human resource development and a prerequisite to
capacity building. Greater commercialization of agricultural systems and increasing trade liberalization dictate a need for greater capacity on the part of the agricultural workforce, and makes the case for the overhaul of extension as a concept and practice.

**Conclusion**

Change today is global and rapid. A new paradigm has emerged towards a market-driven, agribusiness orientation, stressing comparative advantage in a highly competitive global market (Rivera et al., 2001, p. 4). This globalization and market orientation is placing new pressures on governments and their people to produce more, for both domestic consumption and trade. Contract farming schemes and producer cooperatives are important avenues toward meeting these demands in the context of current development needs, and extension can play a significant role of fostering farmer connections to these organizations and, further, to helping farmers develop fledgling businesses and cooperatives.

In the final analysis, clear challenges confront public sector extension in the less developed countries: (a) to support commercial interests, through contract farming and the development of producer cooperatives, (b) to advance the worth of human capital by strengthening human resource management and development programs, and (c) to promote a knowledge economy through the advancement of appropriate institutional innovations (Rivera, 2008b). The implication with respect to institutional innovations is that, when farmers are organized, then needed technical innovations are more likely to be explored and, if appropriate, subsequently adopted.

Government continues to bear various responsibilities vis-à-vis both the commercial sector and the general public good. Among these responsibilities is its role in balancing sector interests in agricultural and rural development.

Economists, albeit with cautionary notes, are beginning to call for re-expansion of the role of the state as an essential ingredient in policy development, regulation and the provision of basic services, as well as in facilitating export growth (Khan, 2006). The present market-oriented ideology is radically affecting the priorities and promise of agricultural extension. The challenges ahead for public sector agricultural extension and its reform are no longer issues of a system in transition but are inherently those that suggest major overhaul toward small farmer organization and income generation through market orientation.

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