

# Changing extension paradigms within a rapidly changing global economy<sup>1</sup>

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## Introduction

Many countries are concerned with strengthening their agricultural extension and advisory systems, so they will have a direct and positive impact on national food security, rural livelihoods and the country's natural resources. A current problem of many national extension systems is their top-down management structure and the failure of policy makers to understand how extension systems must continue to change, reflecting the needs of all farm households, especially during periods of economic growth and changing food demand. In addition, other related problems, such as the lack of adequate financial resources, ICT capacity and properly trained staff, are all limiting extension's capacity to respond to these changing national priorities. As a result, many agricultural (research and) extension systems are having a declining impact on agricultural productivity, farm income and/or the sustainable use of natural resources.

As a result of these problems, some policy makers, scholars and donors think that public agricultural extension systems should be progressively privatized (i.e. let farmers pay) or outsourced to the private sector. Others believe non-governmental organizations (NGOs) have a comparative advantage in carrying out specific extension activities, since their staff members are more highly motivated. Therefore, these different players are becoming increasingly competitive

in pursuing donor resources, especially in developing nations. In short, these new arrangements raise important policy and institutional issues that must be carefully addressed in achieving specific national agricultural development goals.

This article will begin by outlining these different national agricultural development goals and their relationship with key extension functions. These are critical linkages that extension leaders and the donor community should consider as they work to strengthen increasingly pluralistic extension systems that will serve the needs of all farm households, including:

1. Achieving national food security through technology transfer, which was the dominant extension strategy in most developing countries during the 20th century;
2. Increasing farm income through a more market-driven extension strategy that will enable farmers to intensify and diversify their farming systems based on market demand;
3. Empowering farmers by getting them organized into groups (social capital) based on common interests, to gain more efficient access to both inputs and markets; and
4. Promoting sustainable natural resource management practices to address soil nutrient, land degradation, water resource and other major problems, including global warming.

## Conceptual framework relating national goals and key extension functions

Figure 1 on the following page illustrates the relationship between major agricultural development goals and different extension functions. First, to achieve and maintain national food security, technology transfer

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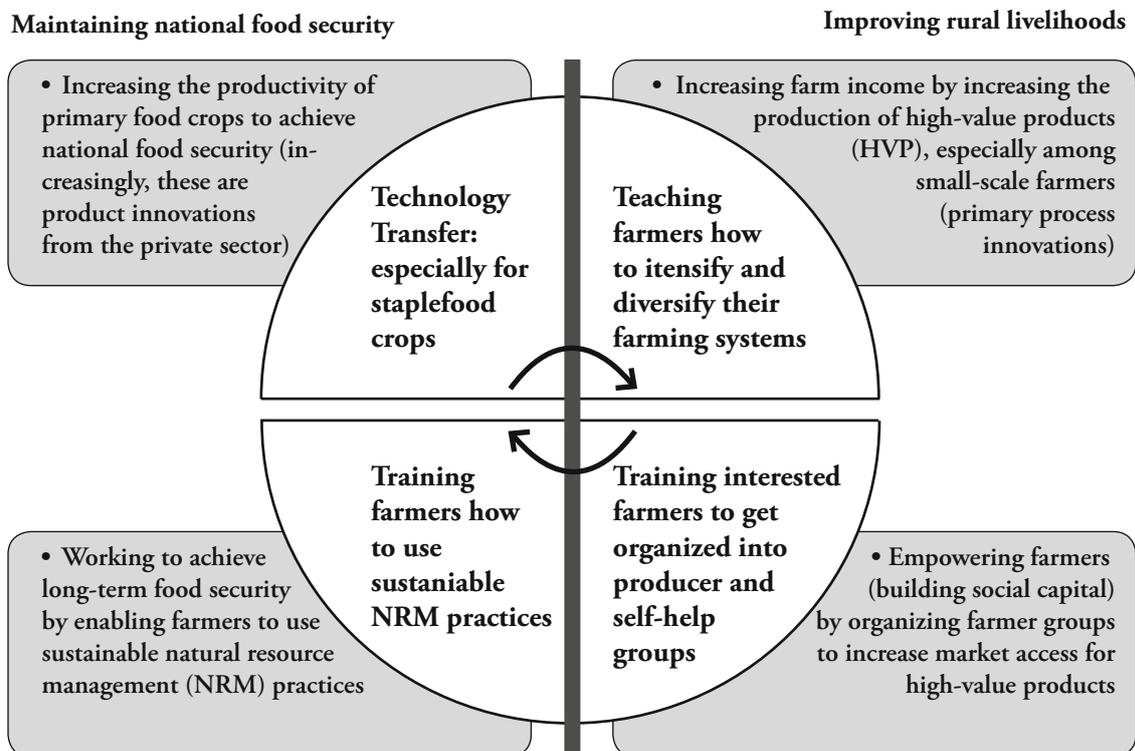
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for the staple food crops is a key function that must continue to be carried out. Early in the development process, before input suppliers are well established, extension agents can play a critical role in delivering technical recommendations to all types of farmers. As input supply firms develop, however, they will take over increasing responsibility for this technology transfer function, but the public sector can continue providing “objective” information on the specific technical options being promoted by different input suppliers.

When countries achieve national food security, it is common for staple food prices to gradually decline, reflecting the relative supply and demand for these products. As staple food prices decline, then small-scale farm households are in a dilemma. Their land base is too small to expand production and, with less income, it is increasingly difficult for them to purchase inputs and maintain their productivity levels. Therefore, they must pursue a different strategy and/or options by which they can increase farm household income.

At this point, there needs to be a “paradigm shift” where public extension shifts more of its focus and resources to a second national goal, which is to improve rural livelihoods (Swanson, 2008). A key element of this strategy is to increase farm incomes. To do so, the focus must shift toward the intensification and/or diversification of farming systems. However, the relative availability of land, labor, capital and local agro-ecological conditions will directly affect specific options that different farm households can pursue in diversifying their farming systems. Another critical factor is access to markets, including transportation, all weather roads and distance to different local, regional, national and, even, global markets. In short, all of these factors will determine which crop, livestock and/or other products can be successfully grown and marketed in each community, sub-district and district within a country, including access to available technologies for these different enterprises. However, to achieve this goal, extension must begin shifting more of its focus, resources and expertise.

Figure 1: Key functions of extension in achieving specific national agricultural goals



A third objective, directly related to the diversification of farming systems, is the need to get interested farmers organized into producer groups for different high-value crop and livestock products, so they can increase their access to both inputs and markets for those enterprises. Once these farmer groups are organized and gain experience, they are more effective in articulating their needs to extension and other agricultural institutions, including research. In addition, once women farmers begin working together in groups, they begin sharing information about improving family nutrition, hygiene and health care that can further improve rural livelihoods, especially for children.

Finally, for a country to maintain national food security over the long-term, it is critical that farmers individually and collectively know how to maintain their soil fertility, stop land degradation, and to make efficient use of increasingly scarce water resources. These are “public good” issues, which the private sector will generally not address; therefore, the public extension must allocate more time, attention and expertise to these growing natural resource management (NRM) problems. Another part of this problem is that most sustainable NRM practices cost farmers both money and labor, and there may be no immediate benefit from these additional costs. Therefore, it will be difficult to convince poor farmers to continue investing and using many sustainable NRM practices unless they shift to producing more high-value crops and products to increase their farm income.

### **Factors affecting the need for a paradigm shift to a more innovative extension system**

Until the recent economic crisis, most developing countries, especially those in Asia, were achieving significant economic growth. For example, most Asian countries averaged about 8% economic growth over the past 5 years, while many Sub-Saharan African countries achieved nearly 5%. When per capita income rises, food consumption patterns begin to change. For example, urban consumers start eating more vegetables, fruit, meat, milk, eggs and fish, while their consumption of staple food crops begins to gradually decline. Since most of these high-value products

are more labor-intensive, they represent a comparative advantage for many small-scale farm households at least until some commercial farmers scale-up their production, generally later in the agricultural development process.

As small-farm household begin pursuing these new enterprises, both small-scale and women farmers begin acquiring new technical, management and marketing skills. In addition, as they begin organizing producer groups to market these high-value products, then these participating farmers learn new organizational and leadership skills. These skills are particularly important as farmers become more effective in articulating their technical, management and marketing needs to extension and other service providers. In the process, some farm household members, especially older children, begin moving to off-farm jobs, such as post-harvest handling and processing of high-value products.

### **How to create a more innovative agricultural extension system**

The process and procedures for creating a more market-driven extension system for high-value products has been described elsewhere (see: Singh, et al 2006) and will not be repeated here. In addition, there are an increasing number of publications about agricultural innovation systems (AIS), including extension's role in this new conceptual framework (see: World Bank, 2007, Daane et al. 2009). However, what remains unclear about this emerging framework are the specific steps to be followed in operationalize these concepts in creating a more innovative extension system.

With respect to extension services for small-scale farm households, one critical factor is the source of new agricultural innovations. While research still plays an important role in this overall process, another key player during periods of changing consumption patterns in developing countries are innovative farmers who play an important “tactical” role. First, they identifying potential markets and then determine how best to produce and market specific high-value crops or other enterprises that meet the changing market demands within their area. As outlined above, the production

of most high-value crops or products is dependent upon available markets, agro-ecological conditions and available technologies.

Most of the production technologies for these high-value crops/products are already available somewhere within most countries or globally. However, it takes an innovative farmer to work out these production and marketing details. Once these innovative farmers have been identified by extension, then other small-scale and women farmers can begin learning about these new opportunities and then get started in producing these enterprises on a small-scale to begin increasing their farm household income. Figure 2 outlines the primary steps in this process of first identifying innovative farmers and then introducing other small-scale farm households to these new market-driven opportunities.

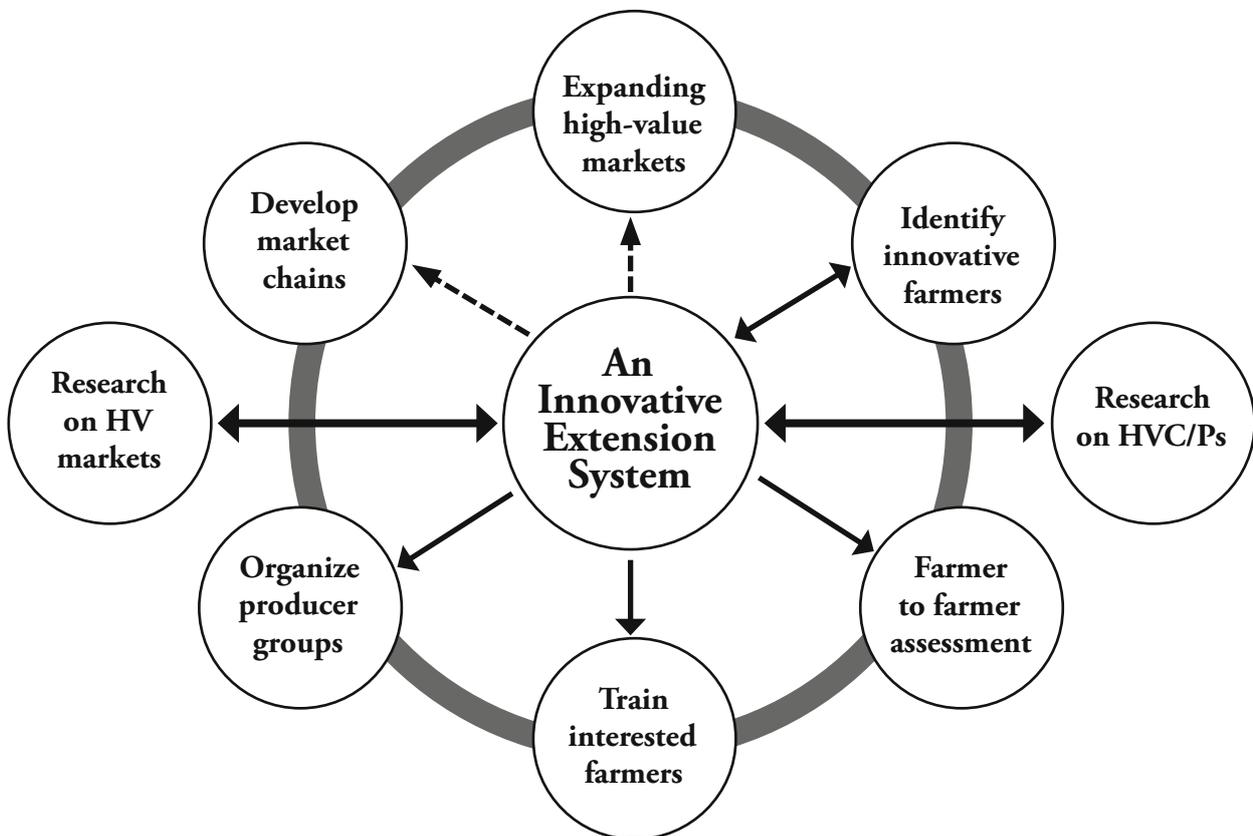
The local market-demand for most high-value products will be initially limited; therefore, extension must make farmers aware of the potential risks and how best

to deal with them. First, different farm households, based on land and labor resources, will need to diversify into the most suitable high-value products, as well as to lengthening the production period to avoid saturating the market at peak seasons and driving down prices. In addition, as small-scale and women farmers get organized, first into producer groups and then into larger producer associations, so they can begin supplying larger urban or even global markets with specific products (Mishra et al 2009). All of these activities will be sensitive to changes in the economy and markets, so farmers will need greater access to current market information.

### Conclusion

Based on the experience in different transitional countries, like China, India, Indonesia and Vietnam, both domestic and international markets for different high-value agricultural products are rapidly increasing. These changes in market demand offer important new

Figure 2: An innovative extension system strategy to help small-scale and women farmers diversify their farming systems and increase their farm income



opportunities for small-scale and women farmers to increase their farm income and, in the process, to improve rural livelihoods. These new high-value crops and livestock products are also more labor-intensive; therefore, these enterprises can create new employment opportunities during both the production and post-harvest handling of these products. As empirically documented in India (Singh 2006) and other Asian countries, agricultural extension systems that begin focusing on and facilitating farmer/market-driven innovations can play a significant role in increasing farm incomes, improving rural livelihoods and accelerating the agricultural development process.

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