Building a Public-Private Strategy for Global Market Development: Refocusing Research and Extension to Serve Small-Scale Farmers in Egypt*

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Abstract

The phenomenon of globalization is rapidly changing how the world food system operates. In particular, multinational firms are rapidly moving to capture major urban markets in both developed and developing countries through vertically integrated systems. In the process, they are linking with large-scale producers who can supply uniform products to specification and on schedule. If this phenomenon continues unchecked, small farm households in developing countries will be further marginalized, resulting in increased rural poverty, hunger and environmental degradation.

This paper describes a new project in Egypt that is designed to assist small-scale farmers to become players in the global food system. The basic premise of the paper is that by focusing on high-value, labor-intensive horticultural crops, small-farmers can participate in these global markets and, in the process, improve their household income and quality of life. However, to do so they need assistance from research and extension in knowing what and how to grow specific high value horticultural crops. In addition, they need additional information about market specifications in key markets, as well as information about international marketing channels so they can successfully partner with reliable export firms.

The paper outlines the fundamental factors that need to be considered in developing a successful global market development strategy. The paper then outlines the approach being implemented through the USAID funded Agricultural Export for Rural Income project in Egypt to enable research and extension to partner with the private sector firms and nongovernmental organizations (NGOs) in assisting small farmers to supplying key markets in the European Union (EU). This paper has direct implications for research and extension systems in other developing countries that seek to reduce rural poverty by increasing small farm household income and employment through diversification into high-value agricultural products.

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INTRODUCTION

The progressive removal of international trade impediments and the increasing demand for high-quality food products in high-income countries have resulted in the rapid globalization of the world’s food and agricultural system. International agribusiness firms are moving quickly to capture key markets by building vertically-integrated, demand-driven supply chains (Dolan, et. al., 1999). Moreover, a combination of technological and economic factors continues to affect the structure and function of agribusiness arrangements (Key and Runsten, 1999). As a result, larger, more specialized farms are linking to global supply-chains, leaving small-scale farmers to cope with falling commodity prices due to increasing global competition and farm subsidy programs in developed countries (Singh, 2002).

Egypt is beginning to refocus its agricultural development strategy toward increasing farm income and rural employment through expanded exports of high value horticultural products. Large-scale commercial farmers in Egypt are quickly mobilizing to supply fruits and vegetables to global markets, especially in the European Union (EU). However, small-scale farmers, who produce more than 85% of total agricultural production in Egypt, lack the technical and marketing skills needed to take advantage of these new market opportunities. Without immediate assistance from research and extension, the majority of small-scale farmers will be left behind resulting in declining incomes, nutrition and quality of life.

Purpose

The purpose of this paper will be to outline the key elements of a strategy being implemented in Egypt to strengthen the capacity of agricultural research and extension to assist small-scale farmers in participating in new global markets.

Problem: Research and Extension are Unaware and Unprepared to Respond to the Implications of Globalization for Small-Scale Farmers

Public research and extension organizations in Egypt and many other countries have yet to recognize the implications of globalization on the agricultural sector, especially for small farmers. Consequently, they are unaware and poorly prepared to help small-scale farmers diversify into high value commodities and to become more “market driven.” Several reasons contribute to this problem, including 1) the traditional orientation of scientists to focus on theoretical problems and 2) the dominant paradigm of developing and disseminating “supply driven” technologies to increase the productivity of basic commodities. As a result, research and extension workers continue focusing on basic commodities that are declining in value with little awareness of rapidly expanding domestic and export opportunities.

Developing a Strategy to Involve Small-Scale Egyptian Farmers in Export Markets

Over the past 3 years, CARE International has organized a few groups of small-scale farmers throughout Egypt to produce regular green beans for markets in the European Union (EU) (CARE Egypt, 2003). Through these efforts, they have been able to demonstrate that small-scale Egyptian farmers can learn the requisite skills and knowledge needed to be competitive
in the global economy. Also, this experience supports the premise that Egyptian researchers, 
extensionists, and farmers must become more “market driven” and work together if small-
scale farmers in Upper Egypt are going to become important players in exporting high value 
horticultural crops.

An important goal of the Linkage Component of the AERI project is to reorient and support 
research and extension teams so they can successfully educate and train small-scale farmers 
about the skills and knowledge that are needed to produce high-quality products that can 
compete in export markets. In addition, CARE Egypt, through the AERI project, is helping 
small-scale farmers get organize into nongovernmental organizations (NGOs) that will 
enable them to achieve economies of scale. Finally, it is recognized that farmers, exporters, 
as well as research and extension workers need to work together in a public-private 
partnership toward the common objective of expanding high value exports. This strategy, 
which is being implemented under the USAID funded Agricultural Export for Rural Income 
(AERI) project, will be outlined in the remainder of this paper.

**FRAMEWORK**

There are several fundamental factors to consider in linking small-scale Egyptian farmers to 
global markets, including:

1. To determine which crops small-scale Egyptian farmers can successfully 
   produce, based on comparative advantage, to supply export markets in 
   European Union (EU) countries, including specific windows of opportunity for 
   winter fruits and vegetables,

2. To understand the minimum quality and food safety standards necessary to 
   export to key markets (e.g., EurepGAP standards for the EU),

3. To understand the steps, procedures and players in the international supply 
   chain between Egyptian producers and European consumers and, finally,

4. To determine the most effective approach to organizing small-scale farmers into 
   groups to ensure adequate volume of production and economies of scale so they 
   can become reliable suppliers to these markets.

Solving these problems will not be easy, but it can be done if the public and private 
sectors are involved in an integrated approach. Next, each of these factors will be 
considered individually before outlining a comprehensive approach to strengthen 
research and extension so these public sector institutions can assist small-scale 
Egyptian farmers in expanding their export of horticultural crops to the EU and other 
countries within the region.

**Identifying Potential Crops for Export.**

Many factors need to be considered in identifying specific crops that small-scale 
farmers can successfully produce for export. First, there are basic production factors 
such as natural resources and climatic conditions, including soils, availability of 
irrigation, temperature and humidity that affect the possible growing seasons for 
specific crops. A second set of concerns would be to identify those crops that small-
scale farmers can successfully grow initially, without major capital investment or risk.
Third, there are essential transportation and supply chain factors that must be considered, such as the availability of reliable exporters willing to work with small-scale farmers, including access or availability to pre-cooling facilities, the distance to grading, packaging and shipping facilities, etc. All of these factors must be carefully considered and compared when selecting the first commodity or two to be pursued by small-scale farmers.

**Identifying Potential Markets for Promising Export Crops**

The other side of the coin is to determine which of these promising crops have export potential in likely markets. This analysis must be done on a “crop by crop” and “country by country” basis. For example, Egyptian farmers may be able to successfully grow cantaloupe, but can they supply the market at a time when they have a comparative advantage in relation to other global competitors, such as Morocco, Mexico or Brazil? This decision is based in part on when demand exceeds supply in specific markets, as well as which markets can be supplied most efficiently, based on transportation costs and logistics. For example, the price of table grapes in the UK market is very high during April and May, but declines sharply during June as other suppliers enter the market. In the case of transportation costs and logistics, the Italian market can be reached in 5 days by reefer container, while the UK market requires 10 days.

Finally, the Western European market is relatively stable, except for a few niche markets; therefore, new exporters must compete with existing suppliers for market share. On the other hand, Central and Eastern European markets will expand incrementally as their respective economies develop.

**Meeting Quality and Food Safety Standards**

Product quality and taste standards differ from country to country, and some countries have higher quality standards. For example, German consumers prefer table grapes with higher sugar content (e.g. > 16% sugar) than UK customers (13-14% sugar). In addition, they prefer a slightly yellow or “golden” white grape (reflecting the higher sugar content), while UK consumers prefer a white grape that is light green in color. Some preferences reflect varietal differences, while others reflect the environmental conditions under which the crop is grown for a specific market window (i.e., heat units during the prime growing season versus growing the crop in a protected environment which would increase production costs).

Food safety standards are the other requirements that farmers and exporters must satisfy and adhere to in supplying particular markets. For example, major retailers in the EU will only procure horticultural products that are EurepGAP certified. These EurepGAP standards will be increasingly applied to all fresh fruits and vegetables sold within the EU. Therefore, small-scale Egyptian farmers must be trained to meet these minimum EU standards.
Understanding Roles and Responsibilities in the International Supply Chain

Most post-harvest handling of horticultural crops will be organized by reliable export firms, since farmer groups, organized as NGOs, will not have the capacity or expertise to export products directly to an EU country. At the same time, research and extension workers, as well as the leaders of farmer organizations should understand the essential steps and procedures, including the costs and benefits of using alternative channels (e.g. air and sea), to supply particular markets. In addition to the post-harvest grading, packaging and shipping requirements, these agricultural leaders should be familiar with the wholesale and retail distribution channels in key markets, since different production and post-harvest practices can affect shelf-life and product quality. Based on a systematic analysis of supply chains for specific products and countries (see below), market research teams will conduct conferences and workshops to explain and compare alternative supply chains for supplying specific markets with different products. As a result, producers and exporters should view themselves as partners as they work together to increase the export high quality horticultural crops to EU and other countries.

Getting Small-scale Farmers Organized into Producer Groups

In Egypt, CARE has developed a very successful model for organizing and linking producer groups with reliable exporters. Over the past 2-3 years, they have started with a relatively simple crop (regular or “bobby” green beans) that small-scale farmers can grow without difficulty. In addition, there is an alternative domestic market for green beans; therefore, the risk of producing this crop is minimal.

The CARE model is to organize the small farmers into an NGO that contracts with one or more exporter for a specific production area (e.g., 80-100 fedans) for delivery within a 3-4 week window. The NGO, in turn, contracts with individual members to produce the required number of fedans following specific management practices as detailed in the export contract. In some cases, the exporter supplies the seed to the NGO that, in turn, distributes the seed to its contract growers, deducting seed costs at the time of harvest. It is the responsibility of the NGO to monitor the performance of its members and, where needed, to sanction those producers who fail to follow the required management practices.

The difficulty with horticultural crops is that there is a relatively inelastic demand for most horticultural crops within the domestic market. Thus, excess or inadequate production creates high price volatility. Therefore, farmers are prepared to enter into production contracts for export crops, since they are guaranteed a market and price if they meet product specifications. This model has been particularly successful in producing green beans for export and is now being extended to cantaloupe.

**APPROACH**

The small-scale farmer, export market development strategy being implemented in Egypt directly addresses these factors through an integrated approach that seeks to build public-private linkages through the following activities and investments:
Training Public-Private Teams to Identify Potential Market Opportunities

Public-private teams, including research and extension personnel, are being trained to collect and analyze primary and secondary data so they can systematically assess potential market opportunities in selected European countries. This training begins by first conducting market research in Egypt, including a step-by-step review of the supply chain for specific horticultural crops. Participants are trained to conduct interviews with key players in these domestic supply chains, starting at the farm gate and ending with end users. In addition, they are trained to identify key supply problems faced by wholesalers, retailers, processors and/or other end-users, such as chefs in major tourist hotels. In addition, they collect longitudinal data on the supply, demand and price for different commodities throughout the year. This information enables them to identify possible high value market opportunities.

After these public-private teams have developed rudimentary market research skills, they are sent to The Netherlands to apply these new skills in a European country. The Netherlands is the primary venue for this training, since it is functions as a major wholesale market in Europe for all types of horticultural crops. In addition, most traders speak English and are very knowledgeable about the quality requirement for different European markets. Finally, Wageningen University and specialists in the European horticultural industry are available to explain how these supply systems function. In addition to observing and collecting data in the wholesale markets, participants also conduct interviews at the retail level, with procurement agents for the major supermarket chains, as well as with the high-end “green grocers” that specialize in very high quality horticultural products. Once these market research teams have honed their market research skills, they are ready to move on to the next stage, which is to actually collect and analyze market research data in one or more EU countries on specific crops that can be grown by small-scale farmers in Egypt.

Identifying Specific Market Opportunities in Selected EU Countries

Next, a four or five-person Egyptian team, including at least 2 public sector and 2 private sector representatives\(^\text{ii}\) is sent to one or more selected countries to carry out on-the-ground market research. They will study both the food distribution system for horticultural products within the country, including import procedures and potential trade barriers. They will identify the most promising importers, including both wholesale traders and/or grocery chains (retailers). They will conduct interviews with buyers or procurement specialists for specific crops, with the goal of identifying product quality specifications for each crop, minimum food quality standards and possible windows of opportunities (i.e. when supplies in this market are low, which would affect product price, and/or when Egyptian products would be of higher quality than competing supplier, which would allow Egyptian farmers to increase market share). As a result of this market research, the public-private team would identify specific market opportunities, including product specifications, market windows, and information on potential buyers or importers.
Conducting Business Development Outreach Activities

After assessing and prioritizing the most promising export market opportunities, the market research teams are expected to conduct: 1) business development conferences, 2) in-service training courses for extension specialists and the extension field staff and 3) training courses or workshops for interested producers, especially members of export-oriented farmer associations. The purpose of these outreach activities is to inform and educate farm leaders and exporters about these potential export market opportunities and to facilitate the development of production contracts between exporters and organized groups of small-scale farmers. In addition, these teams will be trained to develop business plans for farmer groups in different governates of Upper Egypt to assess the economic feasibility of producing and marketing specific crops for these export markets. It is essential that research and extension personnel are directly involved in these business development activities, so that farmers, exporters and all public sector representatives are all moving toward the same objective; that is to assist small-scale farmers in expanding the export of high-value horticultural crops to the EU or other promising markets.

Funding Public-Private Teams to Carry Out Market-Based, Technical Research

Public-private technical teams have been organized to carry out on-farm research on specific high value horticultural products that can be grown by small-scale farmers in Upper Egypt. Team members include research and extension specialists as well as representatives of farmer associations and export firms. The problems that these teams address are defined by specific market opportunities that have been identified through market research studies in the EU.

Research projects to address these problems are being funded through an “impact grant” program that is designed to quickly allocate resources to these public-private teams to carry out on-farm research that will develop production and/or post-harvest technologies that will meet or exceed the quality specification for specific export markets. The expected output of this research would be technical packages for each crop; technologies that can be passed along to small farmers through training programs and technical supervision by the field extension staff.

For example, if there is a market opportunity for a specific type of cantaloupe during key winter months in one or more EU countries, then the “melon team” would carry out on-farm research to field test the quality and productivity of different melon varieties in different locations of Upper Egypt. It is well known that heat units affect the maturation and sugar content of melons. In addition, some varieties may not be suitable for open field production during January and February in Upper Egypt, but could be successfully grown under protected cover. In short, these public-private teams will need to focus on all key factors associated with producing high quality cantaloupe or other crops for export based on market specifications and windows.
Working with Farmer-Based NGOs to Disseminating Specific Production Technology

As noted earlier, CARE Egypt has a mandate to organize 6,000-8,000 small-scale growers into new, small-farm NGOs through the AERI project. The goal of the Linkage component is to provide technical backstopping and support by linking these NGOs to market opportunities in Europe. By funding these public-private teams to carry out an integrate program of market and technical research, the goal is to develop and field test production and post-harvest technologies that will be appropriate for small-scale producers. At this point, the responsibility shifts to the exporters, who will negotiate production contracts with these NGOs, and the extension field staff that will provide training and technical support for these farmers as they grow these crops. When unexpected problems arise during the growing season, the technical teams for these crops will be on call to diagnose and, where possible, to make recommendations on how specific problems can be solved. Only by engaging in an integrated team effort can research and extension workers play an instrumental role in helping small-scale farmers become active and sustained players in these emerging global market opportunities.

EDUCATIONAL IMPORTANCE

This paper addresses globalization and the vertical integration of the world food system as a critical issue facing small-scale farm households in developing countries. The thrust of this paper is that if research and extension can be refocused and strengthened, globalization can be transformed into a new opportunity for small-scale farmers. The strategy outlined in this paper is designed to strengthen the linkages between research and extension, and with farmer groups and exporters with the goal of helping small-scale farmers diversify into high value export crops. This strategy, if sustainable, has the potential to substantially increase farm income and rural employment and, thereby, serve as an important approach in combating rural poverty and hunger in Upper Egypt.

LITERATURE CITED


EUREP, 'Euro Retailer Produce Working Group', is a platform of leading retailers in Europe active in the retail business of the agricultural food industry. EUREP uses GAP as production standards for the certification of “good agricultural practice” in the agricultural and horticultural industry. These GAP standards will be increasingly applied to all fresh fruits and vegetables sold within the EU.

The typical team will include an agricultural economist, a technical specialist for the crop(s) being investigated, plus a farmer group representative, a trade associate representative and, possibly, a representative from the Ministry of Foreign Trade. The foreign trade representative is optional, depending on whether the local Egyptian Embassy is willing to assign one of its commercial attaches to provide follow-up support in these market development activities.