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Research On Effectiveness Of Agricultural Commodity Promotion

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DATA NEEDS FOR INTERNATIONAL MARKET DEVELOPMENT EVALUATION

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Introduction

The agricultural environment in the 1980s has forced agricultural policymakers in Congress, in the administration, and in the private sector to take a hard look at market development programs and to raise questions regarding their effectiveness. As a leader in this effort, the Foreign Agricultural Service (FAS) undertook two new initiatives: the implementation of a new market expansion planning system and the development of a framework for market development evaluation. The market expansion planning system was designed largely to help allocate resources by indicating which foreign markets and activities have the best sales return per dollar expended. In addition, the system attempts to integrate and focus diverse FAS resources on promising markets. Among the market expansion resources available to FAS are foreign market development and international trade policy activities, export credit funds, and collection of foreign market information.

FAS needed a conceptual framework and a methodology for assessment of cost effectiveness that could be adapted to a relatively wide range of market development activities across a large number of products in markets at different stages of economic and sales development and where the data base is often less than ideal. The system needed to be kept simple to be learned and implemented by FAS marketing specialists and field staffs in the Agricultural Affairs Offices and Agricultural Trade Offices, as well as by the FAS cooperator[1] home office personnel and field staffs. It also needed to be adaptable across a large number of products ranging from the bulk commodities to value added products with enough consistency to allow for cross commodity comparisons.

The market expansion planning effort consists of an annual examination of current and proposed new market expansion activities. Project design and evaluation techniques are adapted for use in determining a benefit/cost ratio for each of the projects or activities. Included in the analysis are: 1) an estimate of the magnitude of future United

States exports to each market that are attributable to variables other than market development activities; 2) the constraints to United States exports that current and proposed activities are designed to eliminate: 3) three-year cost estimates of the market development, trade policy, export credit, and market information activities necessary to eliminate the constraints; 4) an estimate of the additional United States sales generated over a five-year period by the activities associated with each constraint; and 5) a benefit/cost ratio for each set of activities or projects proposed to remove a particular constraint.

The benefit/cost ratios are a valuable management tool. The ratios for a particular commodity enable FAS and the FAS market development cooperators to examine the relative effectiveness of programs in different markets and different types of market development activities. The ratios indicate whether current funds should be shifted among markets and activities. They may also be used to determine the value of shifting expenditure from current to new activities. As management techniques are developed and validity is confirmed within commodities, cross-commodity comparisons may be possible.

Evaluation System

A major problem with the benefit/cost ratios is that the sales figures on which the ratios are based are at best good estimates. The use of informed, personal judgment by analysts in developing the ratios stems, in part, from a lack of good information on the quantitative impact of foreign market development activities on export sales. The body of literature concerning the success of agricultural product promotion is quite small and mainly limited to consumer promotion.

The objectives of the evaluation system are to: 1) determine the types of data needed and the techniques appropriate for the evaluation of foreign market development projects; 2) establish mechanisms to collect data which will be useful in judging the success of programs prior, during, and subsequent to their implementation; and 3) attempt to establish quantitative links between market development programs and sales in different markets which will be of use in future planning of activities and to provide a better basis for benefit/cost ratios.

FAS has classified market development activities into three categories as follows:

- Consumer Promotion — Food shows, in-store promotions, and consumer advertising, both brand name and generic.
- Trade Servicing — Maintaining contact, troubleshooting and "showing the flag" to keep importers aware of a continued interest, appreciation, and presence of the United States in the export market.
- Technical Assistance — Seminars on animal health and nutrition, demonstration processing facilities, feeding trials, and fine tuning

of processing facilities to increase the "demand pull" of United States agricultural exports.

Each of the three categories requires a different conceptual approach and presents unique problems in the collection of data to assess market development impacts. The conceptual base for consumer promotion is generally as shown in Figure 1. The consumer promotion activity is usually carried out in a campaign that may last from a few days to a few months or, in rare cases, on a more sustained basis. In any case, consumer response can be expected to peak during or immediately after the campaign and then to decline, presumably however not back to levels that it would have been in the absence of the activity. The area between the export trend *without* the activity and the export performance *with* the activity can be credited to the activity.

The conceptual base for trade servicing activities is somewhat different. These activities weigh heavily in more mature markets and are designed to maintain or retain an export level and trend that has already been established. Figure 2 indicates this concept. Basically the trade servicing activities can be expected to keep exports flowing at a more sustained rate than would be the case without the activity. Again the difference between the exports with and without trade servicing can be credited to the activity.

Finally, the conceptual base for technical assistance projects is different still. With most technical assistance projects it is expected that a "demonstration effect" will operate to spread the use of the new technology or techniques, eventually throughout the system. The traditional S-shaped innovation curve can be employed as shown in Fig-

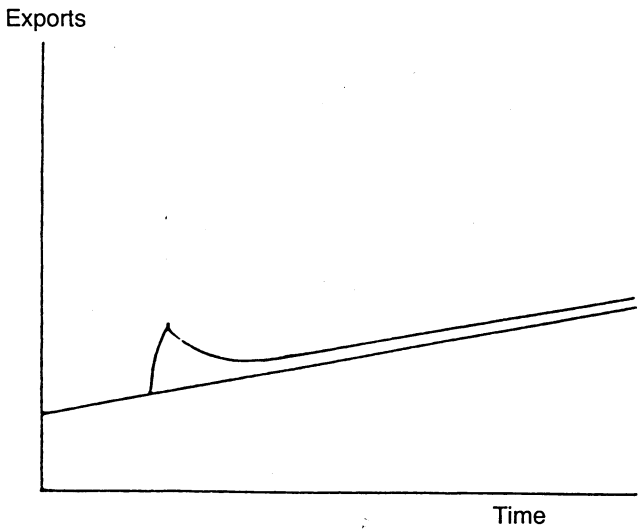

Figure 1. Consumer Promotion

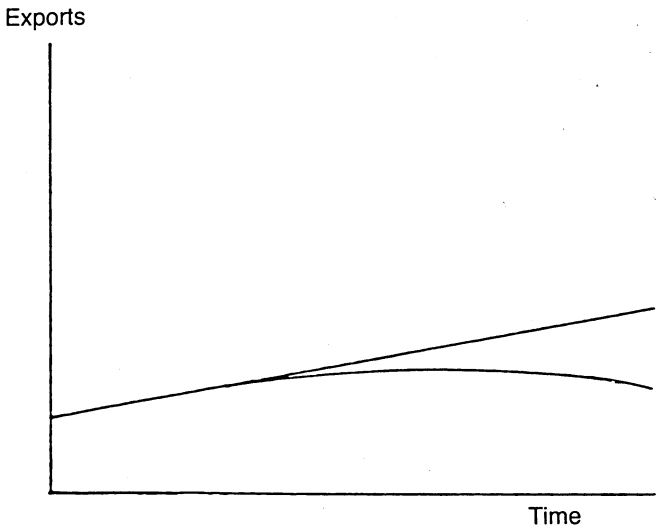

Figure 2. Trade Servicing

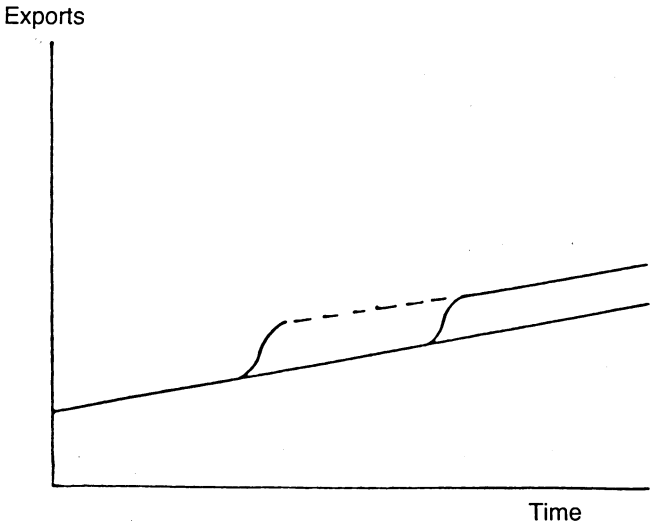

Figure 3. Technical Assistance

ure 3. In this case instead of measuring the actual course of the innovation of the technology itself, it measures the increase in imports resulting from technology adoption. A determination must then be made of the proportion of the increase in imports that will come from the United States.

In addition, it can usually be expected that even without the technical assistance project, innovation of the technology would occur and imports would increase. The beginning would likely be delayed and perhaps the innovation would take longer to reach a maximum. Thus the benefit from the activity would be the difference between the two innovation curves.

While the conceptual bases may not fit exactly each and every market development activity, they provide a framework for applying project design and evaluation techniques leading to calculation of benefit/cost ratios.

A wide range of data are needed to monitor and judge the success of market development programs. Two questions that must be asked are: What is the potential for United States exports to the country without market development activities? Is the environment conducive to market development efforts?

The answers require study of the country's macroeconomic situation including such variables as growth in GNP, population, foreign exchange earnings, external debt, employment, inflation, and other macro and policy variables that affect the country's ability to trade and specifically to import agricultural products. Commodity specific information must also be examined in conjunction with macroeconomic variables; factors that affect the supply, demand, and trade of the individual commodities determine the potential for United States agricultural exports. Examples of these factors are the price of the commodity and close substitutes, domestic production, government policies, dietary habits, and the quality and price of other exporter's goods.

Macroeconomics Analysis

United States exports of agricultural products are affected by variables other than market development activities. In fact, changes in these variables are often more important in stimulating sales expenditures.

One of the key factors affecting domestic and import food demand in a country are changes in population. Rapid population growth should increase significantly the demand for food and other agricultural items. Similarly, changes in population demographics often influence import demand.

The variety and quantities of foods purchased by consumers change as per capita incomes increase. The change in the quantity of food consumed varies by type of food and can be estimated by examining the income elasticity of the good. If the income elasticity of an item is greater than one, a one percent increase in income will result in a more than one percent increase in the quantity of the item consumed. Food products such as red meats, dairy products, and fruits and veg-

etables have high income elasticities and are often substitutes for wheat, fish, potatoes, or rice as a population becomes more affluent.

Employment levels and the composition of the work force are other important variables. For example, a large proportion of the female population in the labor force will increase family income and expand the demand for convenience food items. Perhaps most important, government taxation, investment, and monetary policies will affect income growth and food demand.

A close look at the export-import situation of a country is important to predicting the future foreign exchange liquidity of the country. The export component of the study should indicate the major types of agricultural and nonagricultural items exported, the future ability of the country to produce the items, other exporters of the goods, any price or quality advantage enjoyed by the country, major buyers of the country's exports, and future demand prospects. A similar set of import variables need to be considered such as the types of items imported, the future gap between domestic supply and demand, availability and prices of the imported items, and major suppliers.

Several types of transactions affect the currency and/or funds available to satisfy import demand. A number of these are revealed in the country's "current account balance." A country's balance on current account includes payments and receipts for international services such as transportation; tourist expenditures; investment income; fees and royalties; gifts and other private remittances; and military and other government international expenditures. In addition, a country may have access to credit or liabilities with international lending institutions that will affect its ability to pay for imported goods.

Commodity Analysis

To forecast or evaluate the success of market development programs focused on individual commodities, specific commodity demand, supply, and trade data must be considered. Annual production of a commodity is determined by the amount of land devoted to the crop, the yield of the commodity per unit of land and the number of times the crop is planted per year. It is also important that alternative crop returns be considered in forecasting a country's production. For example, an increase in the profitability of corn relative to soybeans will result in expanded corn acreage and less land devoted to soybean production. Policy actions such as subsidizing input costs, subsidizing or controlling prices, increasing agricultural credit availability, and imposing trade barriers also affect the agricultural supply structure.

A country's annual production may be absorbed by domestic demand. Alternatively, goods may be imported to satisfy the country's consumers of that commodity. The demand by a country's consumers for a commodity is influenced by a number of variables.

Agricultural commodities often serve as inputs for other food and fiber items. For example, cotton is one of the raw materials from which clothing is made. Wheat is the primary ingredient for bread and other pastry items while meat production often depends on feedgrains and soybeans. The accurate assessment of the demand for a specific commodity requires a knowledge of the final uses of the item. It is the demand for these final products that, in turn, determines consumption of the primary commodity.

The price of a commodity is one major variable that needs to be considered in determining the demand for that good. In most cases, an increase in the price of a particular commodity will reduce purchase by intermediate and/or final consumers. An indication of the impact of price changes on purchases is provided by the price elasticity of demand. Consumers will often reduce purchases more in response to price increases for a commodity with a large negative price elasticity than a commodity with a price elasticity near zero.

The prices of substitute commodities will also affect consumption of the commodity in question. For example, an increase in the price of pears relative to the price of apples could result in smaller purchases of pears and greater apple consumption. The magnitude of the substitution is indicated by the cross price elasticity of demand for the goods.

An additional factor that may inhibit consumption of a particular commodity is inadequate infrastructure to move, store, process, or consume the commodity. In many less developed countries, the lack of refrigeration in the marketing system as well as in consumer households inhibits consumption of fresh meat and frozen foods.

Market structure information is crucial to judging the success of market development efforts. An understanding of the potential journey of the commodity upon its arrival in the country is key to collecting market structure data. Potential importers, processors, distributors, and consumers of the raw commodity and its final products should be identified. Of these marketing channel members, those who make or influence the decision to import the commodity should be identified.

International trade data provides a quantitative indication of the country's response to underlying trade conditions. For example, high incomes and inadequate domestic supplies may suggest that a country has an excellent import potential. Import numbers may indicate that the country's foreign purchases fulfill this potential or continually fall short due to infrastructural or trade barriers. Of value in forecasting future imports are the magnitude, annual percentage change, and variability of past purchases of the commodity.

The specific data requirements, conceptual base and analytical methods will depend upon the specific commodity, country, and market development project under consideration. Successful market development planning and evaluation requires inquisitive investigation with

a broad perspective. In the final analysis the impact of market development programs cannot be quantified precisely. The approach described above will, however, provide the basis for sound judgment on relative program priorities.

FOOTNOTES

[1]FAS cooperators consist of some 55 producer associations and cooperatives that carry out export market development activities in cooperation with FAS. These cooperators, such as The American Soybean Association, United States Wheat Associates, United States Feed Grain Council, etc., obtain part of their funds from producer check-off, part from FAS, and part from host country collaborators.