

# STRENGTHENING ECONOMIC EFFICIENCY OF GOVERNMENT FOOD MARKETING AGENCIES IN DEVELOPING COUNTRIES

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## I. Introduction

The assurance of adequate food supplies is critically important for political stability and economic development in developing countries. Therefore, there is a growing tendency for increased government intervention in the food marketing system (especially for cereal grains) through the operation of government food marketing agencies, i.e., through either cooperative systems under government directives or state-owned food marketing agencies, or through direct intervention by government departments. In most Asian countries the market share of such government food marketing agencies is more than 10-15%, and in the countries with centrally planned economies the share is 90-100%.

The management and economic efficiency of the government food marketing agencies is attracting increasing attention as it affects the efficiency of the entire food marketing system of a country. Many such government food marketing agencies are suffering from a huge amount

TABLE 1 SHARE OF RICE PURCHASE BY GOVERNMENT FOOD MARKETING AGENCIES IN ASIAN COUNTRIES, 1982

Countries	Share of marketable surplus (%)
Bangladesh	15
China	95-100
Indonesia	10-25
Korea (South)	40
India	30
Nepal	5-10
Philippines	10-15
Sri Lanka	10
Thailand	10

Source: C.Y. Lee, "Food Marketing in Asian Countries: A Brief Overview," in *Food Marketing in Asian Countries—Reports of 9 Countries*, FAO Regional Office for Asia and the Pacific, 1983, p. 3.

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of "debt" (in one case, the debt is as much as 50 times the marketing agency's assets). There are several reasons for this. *First*, because of government food subsidy and social policies, government food marketing agencies are often compelled to buy at a high price and sell below cost. When government compensation for sales at subsidized price is slow it causes large financial losses to be incurred by the food marketing agency. *Second*, to implement socioeconomic policies, the government dictates marketing policies and programmes such as at what prices to buy and sell, how much to buy from where, how long to store for, etc., leaving very little room for the manager of government food marketing agencies to make management decisions based on business efficiency. *Third*, most of the government food marketing agencies have a low asset base and depend mainly upon government financing for their operations. *Fourth*, government food marketing agencies often cannot operate under the profit concept similar to that of private enterprises and there is no incentive for managerial efficiency. Auditing of financial statements of government food marketing agencies in many developing countries is often 3-5 years behind, and therefore it is difficult to assess their financial performance.

This situation contributes to increasing marketing costs and managerial inefficiency of government food marketing agencies and it hampers the implementation of more reasonable price and marketing policies, which results in an increasingly heavy financial burden for the government.

This paper attempts to analyze the concept of management efficiency of government food marketing agencies as well as measures to improve their economic and management efficiency.

## **II. Planning for Government Food Marketing Systems**

### **1. Objectives of Government Food Marketing System**

In almost all developing countries, the government maintains a certain quantity of food grain under direct government control in order to achieve socio-economic and, sometimes, political objectives. There may be some variations, but in most countries government food marketing systems have three basic objectives: (a) to ensure a supply of staple food to the public, mostly urban; (b) to ensure price stabilization by reducing seasonal price fluctuation, and; (c) to ensure equity so that the benefit of price policies reaches small farmers and food is available to low-income consumers.

In order to achieve these objectives, certain activities are required to be carried out by the government food marketing agencies. It is necessary to clearly define required activities which are to be carried out in order to achieve the objectives. Each of the defined activities require costs,, which need to be clearly identified. Table 2 shows illustrative objectives

TABLE 2 SOCIO-ECONOMIC OBJECTIVES OF PUBLIC FOOD MARKETING SYSTEMS AND REQUIRED ACTIVITIES

Objectives	Required Activities	Main Costs
1. Food Supply	a. Incentive purchase price b. Procure in advance c. Store for timely supply d. Transport to designated depots e. Store for emergency	Subsidy Interest Storage, Interest Transport Storage, Interest
2. Price Stabilization	a. Market intervention (sell when price is high and buy when price is low) b. Store for sale when price stabilization is necessary	Difference between buying price and selling price Storage, Interest
3. Equity	a. Increase buying stations in rural areas to reach small farmers b. Increase selling stations in urban areas to reach low-income group c. Distribution to low-income group at lower prices	Transport, Staff, Facility, Equipment Transport, Staff, Facility, Equipment Staff, Subsidy

required activities to achieve such objectives, and the main cost element in carrying out the defined activities.

## **2. Alternative Strategies for Efficiency**

In formulating food management and marketing policies, the government should consider various alternatives to achieve the given objectives at minimum cost. One of the major considerations is the marketing channel for the government-controlled food procurement and distribution, i.e., what role the government food marketing agency should play in the government food marketing system, and how resources and managerial talents of the private sector can be utilized to supplement the role of the government food marketing agency to achieve the given socio-economic and political objectives of the government food marketing system. The policy alternatives are summarized in Table 3.

## **3. Food Management Plan**

Based on the defined objectives of the government food marketing system and strategies to achieve the objectives most efficiently, it would be possible for the government to formulate an annual food management plan. The annual food management plan would include:

- a) Food production and demand estimate;
- b) Food supply plan, including import and foreign aid to fill the gap, if any, between production and demand;
- c) Estimated quantity of food which comes into the marketing system, and estimated market shares by government, cooperatives, and private sector marketing agencies;

TABLE 3 ALTERNATIVE STRATEGIES TO ACHIEVE OBJECTIVES OF GOVERNMENT FOOD MARKETING SYSTEMS

Activities	Government Food Marketing Agency	Cooperatives or Private Agencies
1. Import	Monopoly	Import contract through bidding
2. Domestic procurement	a) Monopoly, Procurement directly from farmers b) Monopoly procurement but through buying agents	a) Competitive procurement b) Field buying agent for government food corporation
3. Transport	a) Monopoly transport by owned and rented vehicles b) Monopoly transport by government transport agency	a) Sub-contract transport through bidding b) Sub-contract local transport only
4. Processing	Monopoly processing by owned processing facilities	Sub-contract processing
5. Storage	Monopoly storage in owned or rented facilities	Sub-contract storage at regional or field level
6. Distribution	Monopoly distribution directly to consumers through sales depots	Wholesale agents or retail agents for government food

- d) Quantitative target to be handled by government food marketing agency; national, province-wise and district-wise targets;
- e) Procurement price and selling price;
- f) Food security stock, size of stock, where the stock should be located and instructions for when and at what price the stock should be released and how it should be replenished.

The food management plan should be formulated annually before the crop season starts so that the implementation agency may have time to prepare for carrying out the plan.

### III. Institutionalization of Efficiency in Government Food Marketing

The food management plan provides basic guidelines under which the government food marketing system should function and it serves as working instructions for the operation of government food marketing agencies which are responsible for carrying out the plan. For efficient management and operation of the government food marketing agency it is necessary to devise an institutional mechanism to stimulate the government food marketing agency in order to make efforts to improve its operational and managerial efficiency.

#### 1. Separation of Government's Functions from Business Functions

The first step to be taken is to clearly distinguish the socioeconomic and political functions of government from commercial and management

functions of the government food marketing agency. Most of the government food marketing agencies in developing countries, being wholly government-owned organizations, are expected to carry out government directions, including price stabilization and food marketing subsidy programmes. In the course of carrying out such public functions, the government often makes it impossible for the food marketing agency to function like a business enterprise. This situation causes inefficiency in management and operation, higher marketing costs, high operational losses and makes the government food marketing system inefficient and expensive.

A government food marketing agency should be expected and encouraged to carry out business functions just like any other commercial enterprise. A mechanism must be devised to distinguish clearly between the losses due to its managerial inefficiency and those due to "envisaged additional costs" to carry out socio-economic and political policies of the government, such as price stabilization programmes, food security, subsidized marketing, or emergency food distribution.

Setting objectives, making decisions on basic food marketing policies to achieve the objectives, and formulation of food management plans should be the function of the government ministry or department. The function of the government food marketing agency is to implement the targets for the government food marketing sector provided in the food management plan in the most efficient and cost-effective manner.

## **2. Food Management Contract**

Under the principle of separation of government functions from business functions, the government food marketing agency should be able to estimate the required costs and the funds to carry out the tasks established by the food management plan prepared by the government. The costs can be estimated based on survey and analysis, and on past accounting records.

Based on such preparatory work, the government and the food marketing agency should discuss and agree on the costs to implement the government food management plan.

### **a) Estimated Required Costs**

In practice it is difficult to determine exact costs for the total operation. However, a practical approach is to agree on rates or tariffs for specific operations such as storage costs per ton/month, processing costs per ton, interest costs per ton, transport costs per ton/km, overhead staff costs per ton, etc.

### **b) Allowable Physical Losses**

It is necessary to fix allowable physical losses which occur during transport, storage, and handling processes. It can be expressed in terms of percentage of total quantity of food handled.

### **c) Required Operational Funds**

Operational funds for food procurement should be provided by the government to the food marketing agency.

Once the costs are agreed upon, the manager of the government food marketing agency should be given authority to make the necessary managerial decisions to implement the tasks efficiently and to fulfill the targets within the given time period, according to the costs agreed upon. The management of the food marketing agency should be rewarded or should be held responsible for the outcome of the work.

In order to perform the given tasks efficiently, it is necessary for the government food marketing agency to formulate detailed operational plans to handle the target quantity. In order to monitor the progress and evaluate the performance of the management of the operation, it would be useful to introduce criteria for measuring efficiency.

The above measures will clearly highlight the efficiency of a government food marketing agency and will allow it to operate like a commercial enterprise. The measures will show what should be the costs to be borne by the food marketing agency under the "contractual arrangement," and what should be the costs to be borne by the government, such as subsidy costs.

### **3. Food Management Special Account**

In order to maintain and control the financial aspects of implementing the food management plan, it would be necessary to establish a "Food Management Special Account" within the government budget system. The special account is a "pool" for all the revenues and expenses related to food marketing management. The income of the account would be all the sales proceeds from sales of food, and the expenses will be all the costs related to food security reserve operations and food procurement and distribution as estimated following the prescribed procedures. Perhaps the largest portion of the expenses will be the government food subsidy (difference between high procurement price and low selling price).

If the balance in the Foodgrain Management Special Account is running low due to the government food management policy then it is the government's responsibility to replenish the account, and it should not be shown as the food marketing agency's losses. The account can be replenished by: a) sales proceeds of food aid; b) food subsidy budgetary contribution, and c) government's borrowing from central bank. The food marketing agency will charge the expenditures of food security and marketing management activities to the account up to the amount agreed upon with the government.

#### IV. Evaluation of Efficiency of Government Food Marketing Agencies

In order to enforce managerial efficiency, it is necessary to introduce certain criteria to evaluate the efficiency. In general, efficiency (or productivity) can be evaluated by:

$$\text{Efficiency} = \frac{\text{Output produced}}{\text{Resources used}}$$

In practical terms, the efficiency has to be expressed in several practically quantifiable measurements so that the efficiency of a government food marketing agency can be evaluated. Harper-Kavura proposes the use of six criteria (gross margin as percent of sales, profit as percent of sales, total capital as percent of sales, return on total investment, return on owners' investment, sales per employee) for any food marketing enterprise ranging from a government marketing board with 67,000 employees to a food retail shop with one employee.<sup>1</sup> However, the government food marketing agency is charged with socioeconomic tasks to perform and its manager does not have the freedom to manage the four elements of the marketing mix (product, price, place, i.e. marketing channel, and promotion) to achieve the optimum mix. Application of purely commercial criteria should be qualified and modified when we want to measure the efficiency of the operation of a government food marketing agency. If we apply socio-economic criteria, such as procurement of grains directly from farmers in remote areas to assure higher farm-gate prices, stock-piling of food stocks for emergency purpose, direct distribution to low-income urban consumers at cheaper prices, etc., then what appears inefficient from the pure cost point of view may turn out to be required (and therefore "efficient") services from the point of view of government policy.<sup>2</sup>

Therefore, in measuring the economic efficiency of a government food marketing agency, it is necessary to introduce criteria which measure efficiency (or performance) in fulfilling the socio-economic tasks given by the government. The main use of the efficiency indices would be for use by the manager of a public food marketing agency for its internal managerial control and improvement of efficiency. The criteria given in Table 4 will be useful for this purpose.

There are several factors to be considered in applying the proposed efficiency criteria.

*First*, most of the terms used are easily defined following standard

<sup>1</sup> Harper-Kavura, *Performance of Agricultural and Food Marketing Systems*, FAO, 1983

<sup>2</sup> Kaberuka emphasized this point in his study on Tanzania's National Milling Corporation. D.P. Kaberuka, "Evaluation the Performance of Food Marketing Parastatals" in *Development Policy Review*, Vol. 2, 1984, pp. 190-216.

TABLE 4 CRITERIA TO MEASURE ECONOMIC EFFICIENCY OF A PUBLIC FOOD MARKETING AGENCY

What to measure	How to measure	Remarks
1. Overall Targets		
a. Procurement target (%)	$= \frac{\text{Total Quantity Produced}}{\text{Target}} \times 100$	Domestic procurement only. Import and aid food are beyond management control.
b. Distribution target (%)	$= \frac{\text{Total Quantity Distributed}}{\text{Target}} \times 100$	
2. Equity		
a. Farmer's benefit (%)	$= \frac{\text{Price/kg Rec'd by Consumers}}{\text{Price/kg paid by Mktg Agency}} \times 100$	Often farmers are paid less than gov'ts minimum price.
b. Purchasing coverage (ha)	$= \frac{\text{Average Cropped Area Served by a Buying Station}}{\text{Average Costs of Operating a Buying Station}}$	Many buying stations are required to serve rural populations in remote areas.
c. Consumer's benefit (%)	$= \frac{\text{Price/kg Paid by Consumers}}{\text{Price/kg Rec'd by Mktg Agency}} \times 100$	
d. Distribution coverage (persons)	$= \frac{\text{Served by a Distribution Station}}{\text{Average Costs of Operating a Distribution Station}} \times 100$	
3. Managerial Efficiency		
a. Employee efficiency (ton)	$= \frac{\text{Total Quantity Distributed}}{\text{No. of Employees Capital Assets}}$	Quantity procured and in stock should not be double-counted.
b. Capital efficiency (\$)	$= \frac{\text{Total Quantity Distributed}}{\text{Total Overhead and Operation Costs}}$	
c. Cost efficiency (\$)	$= \frac{\text{Total Quantity Distributed}}{\text{Physical Losses}} \times 100$	
d. Physical loss efficiency (%)	$= \frac{\text{Total Quantity Distributed}}{\text{Total Transport Costs}}$	
e. Transport efficiency (\$)	$= \frac{\text{Total Weighted Transport Mileage}}{\text{Total Storage Costs}}$	
f. Storage efficiency (\$)	$= \frac{\text{Annual Average Stock}}{\text{Total Milling Costs}}$	
g. Processing efficiency	$= \frac{\text{Total Quantity Milled}}{\text{Total Quantity Milled}}$	



cost accounting or stock control procedures. However, in some cases more precise definitions may be needed. Clear instructions should be prepared based on such definitions.

*Second*, there should be an appropriate data base to calculate the efficiency indices. For this purpose, the management information system within a public food marketing agency should be functioning properly. If official auditing of accounting statements takes too much time, the efficiency indices can be prepared using the "unaudited" accounting records. Where such a data base does not exist the first task is to improve the internal accounting and management information system, at least to the level where "reasonably usable data" are produced regularly at the end of each crop year or financial year.

*Third*, the time frame of the efficiency measurement should be at least one year, although it would be more useful if similar indices can be produced for each crop season. Furthermore, the indices should be measured consecutively each year for time series comparison. After a few years "standard average figures" may be obtained against which annual figures can be approximately compared. Such time series analysis will provide a powerful information base with which the manager can evaluate the performance of the government food marketing agency.

## **V. Preparatory Requirements**

Under the proposed management contract arrangement, the government's financial responsibility will be clearly distinguished from the marketing agency's commercial responsibility and the managerial efficiency of the government food marketing agency will become clear. Such measures will enforce efficiency in the government food marketing system. However, in many countries preparatory work may be required to introduce the concept.

### **1. Management Information System**

It is essential to have at least a satisfactory-level management information system within the government food marketing agency. Essential information is: 1) cost account; 2) stock movement and position, and 3) physical losses. Such information covering all the branches and depots of the food marketing agency must be available to its head office at regular intervals, perhaps weekly or monthly. In the case of those public food marketing agencies whose annual financial statements are not available, even after several years (not even on an unofficial (unaudited) basis) the first task will be to establish such management information, preferably with help from a computerized system. The food stock position should be available at least on a weekly basis and the financial statements should be available on a monthly basis.

## **2. Marketing Costs Survey**

Based on the above management information system marketing costs can be surveyed. The marketing cost is defined as the total cost incurred in moving food from producer to consumer, with due consideration of the government subsidy and processing costs.

This survey should be carried out on an annual basis for major commodities handled using a well-designed survey format. The survey will be used to calculate the standard costs. Also, when the survey is carried out annually it will provide useful information to evaluate the efficiency of food marketing operations.

## **3. Standard Costs**

Based on the above preparatory work, or by making use of the present and past financial records or field surveys, it would be possible to estimate "standard costs" to procure, transport, store, process and distribute a given quantity of food at given locations and at a given time. An acceptable level of physical losses should be included. When proposed standard costs are calculated, they will serve as a basis for evaluating efficiency of government food marketing agencies. The costs can be reviewed and adjusted every year.

## **4. Staff Training**

To implement the proposed programme there should be trained staff both in the government department and the food marketing agency.

*First*, the government staff should be able to produce an annual food management plan well in advance of the season so that the food marketing agency has time to prepare its own operational plan. Also, the government staff should be capable of establishing and operating a Foodgrain Management Special Account.

*Second*, the staff of the government food marketing agency should be able to establish and operate at least a reasonably satisfactory management information system and should be able to determine "standard costs" of the business operation. Also, they should be able to establish detailed operational plans to implement the government's food management plan.

## **VI. Conclusion**

Efficiency in the public food marketing system is a growing concern in most of the developing countries. Mounting financial burdens for food marketing and subsidies due to dual pricing policy (higher purchase price and lower selling price) and inefficiency of government food marketing agencies are particular concerns of the government policy makers. It is often said that the subsidy should be gradually eliminated to make

the marketing system bear the full costs. It is also said that multiple marketing channel policy should be adopted under which cooperatives and the private sector would be allowed to participate more actively in the food marketing system and the government food marketing agency would be competitive in its managerial and operational efficiency.

There are many examples showing that after introducing multiple marketing channel policy and removing monopolistic privilege, the market share of government food marketing agencies has sharply declined, creating social, as well as political, concern. The government food marketing agency can play a very positive role in implementing the government food marketing policies under the multiple marketing channel system, but its efficiency should reach a level high enough to survive under the non-monopolistic marketing situation.

For this purpose efforts should be made to enforce economic and business efficiency in the public food marketing agency. The basic approach should be that micro-level objectives and business functions of food marketing agencies should be clearly separated from macrolevel objectives and policy functions of government, and measures should be introduced to implement such programmes. The introduction of a Food Marketing Management Contract System and Food Management Special Account would be useful.

If the above programme is introduced it will force the government to plan ahead and to maintain the foodgrain management special account, and the government food marketing agency will be forced to improve its managerial and operational efficiency. At the same time, clearly indicate how efficiently the food marketing agency has performed its tasks.

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