

Agricultural Market Information Systems for Centralized and Noncentralized Marketing Organizations in Taiwan*

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I. Introduction

Accurate and timely market information improves marketing decision-making and enhances pricing efficiency for agricultural produce markets. As a facilitating function of marketing, agricultural market information services are usually supported by government programs in many countries for the beneficiaries of the programs are not only limited to farmers and marketing firms but also to consumers (Kohls & Uhl, p.332). For providing an effective public information system, factors of institutional, technological and socio-economical are closely related to the performance of market information system. Above all, different marketing organizations determined the structural features of the information system.

Marketing organizations for agricultural products can be broadly distinguished as these with centralized wholesale markets, through which products pass between growers and consumers, and those without (noncen-

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tralized). The essential features of these two types of systems reflected in the geographical distributions of products, sellers and buyers and market information during the marketing process.

Organized wholesale markets in Taiwan have been established for most of perishable and unprocessed farm products such as vegetables, fruits, hogs and fishes. While, traditionally, noncentralized type of marketing are also prevailing for some agricultural products such as chickens and eggs.

This paper attempts to compare the established market information reporting systems for these two types of organizations. Operational aspects of reporting systems in Taiwan are firstly mentioned, and then two systems are compared in terms of function and organizational nature.

II. Reporting System for the Centralized Wholesale Markets

The market news reporting system for major farm products traded in Taiwan's wholesale markets has been set up since 1974. The purposes of the system are aiming at developing the function of orderly marketing and serving as a guidance of marketing policy (PDAF, p.37). The origination of the program was based on the provisions of Agricultural Products Market Transaction Law. This law states that the government should provide the market information services for the traders. Under this regulation, the whole market news reporting system, hence, is implemented by the government through incorporation of wholesale market authorities.

1. Organization of the system

In the beginning, 34 reporting stations were set up in the vegetable, fruit and livestock (mainly hogs) wholesale markets for reporting daily transaction

news to the information center in the provincial government. The number of reporting stations has been gradually expanded to include wholesale markets of fish products, flowers and poultry. By 1990, there are totally 60 reporting stations, each for a wholesale market.

For the purpose of extending the information dissemination services, 520 service stations were gradually established in addition to the reporting stations. The service stations are set up in various producers organizations, local government and local markets. Reporting stations and service stations are connected through videotex network for transmitting the market information.

2. Contents of market information

The daily information reported by the system included various categories of agricultural products trading in the wholesale markets. There are totally six kinds of products and 391 product items. The product items are further classified into 1187 product specifications based on various varieties, treatment, weight or qualities. The numbers of product categories reported in the system are shown in Table 1.

For each product, reporting information includes quantity transacted; range of prices including upper, middle, lower and average prices; along with a summary of market situation and weather conditions.

In addition to the general wholesale market information, a special program for cooperative marketing transacted at Taipei wholesale market was connected through the videotex system for transmitting the market information to local farm cooperatives. It is noted that the scope of this program is limited only for those commodities shipping to the wholesale markets in Taipei City, to which most of the agricultural cooperative marketing are destined.

3. Communication media

Since a large numbers of markets and product items are involved in the market information system, and daily information should be transmitted immediately after trading has finished at each market, to operate efficiently for the whole system, modern communication vehicles with high speed and easy use becomes indispensable.

Table 1. Number of Product Items Reported in the Wholesale
Market Information System

Commodities	Number of Markets	Number of Items	Number of Specifications
Vegetables	12	98	236
Fruits	12	52	133
Fishes	20	192	357
Livestocks	22	3	3
Poulties	2	4	4
Flowers	1	42	454
Total	69	391	1,187

Source: Kuo, Y.C. (1993) , P.15

At earlier stage, daily trading information of wholesale markets was passed to the information center located at Department of Agriculture and Forestry in Nantou through teletype system. Due to high costs and inconvenience in operation, transmitting tool has been changed to adopt the Chinese Videotex system since 1987 (Wu & Hwang, p.1-2). To provide traders and public access informa-

tion service with ease, various media channels are available for further dissemination of daily market information. These alternatives includes:

- (1) Users with personal computer terminals can be connected directly with the videotex network. All service stations equipped with this facilities.
- (2) Market news sheets are available in all the wholesale markets, and are also displayed on notice broads of the markets.
- (3) All information stations are open to telephone inquiries.
- (4) Through newspapers and radio programs.

A simplified organizational chart of the system is shown in Fig.1.

III. Information System for Noncentralized Markets--- The Case of Broilers

1. Origin of Information system

In contrast with centralized wholesale markets, the structure of marketing of chicken in Taiwan can be characterized as noncentralized market. Most of chicken growers in Taiwan sell their broilers directly to local wholesalers or slaughterhouses without either centralized wholesale markets, or vertically integrated with feed supplies and food processing firms.

The competitive structure of marketing as well as the biological nature in chicken production, results in unstable market prices and following cyclical patterns. Chicken growers often suffer losses whenever there is over productions and complain that they are in a weak position in bargaining with dealers. It is thus believed that to provide growers with more market information would relieve some difficulties in production adjustment and help them in making their marketing decisions. Consequently, a program of broiler market information ser-

vice was established in 1990, which was financially supported by the government and operated through the Poultry Association (Kuo, 1992,).

2. Organization of information system

Among the farmer's organization in Taiwan, the Poultry Association is recognized as one of the most efficient. The Association was organized by several groups representing various functions of chicken production and marketing such as breeders, growers, slaughters, dealers and cooperatives.

For implementing the information service program, an Information Board

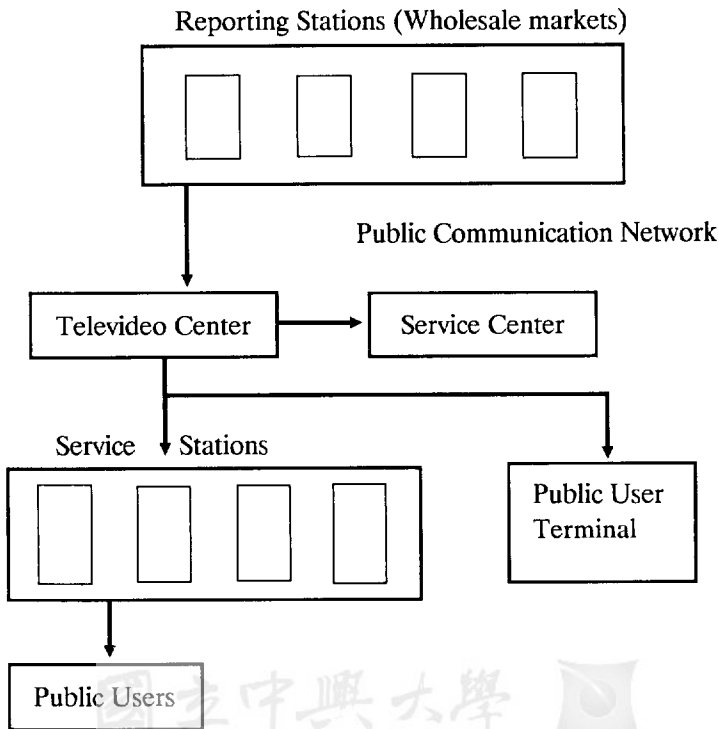


Figure 1: Organizational Chart of Wholesale Market News Reporting System in Taiwan

was set up as the headquarter of the system. The members of the Board include not only representatives from each of the group organizations but also from government agents. Important policies are decided in the Board, while the executive office perform the daily information operation.

To be practical and effective to collect, compile and disseminate broiler market information, it is rely heavily on widely dispersed local chicken growers organization. Various level of local growers are organized in a hierarchical framework. Four regional information centers were established for transmitting the information collected from 16 local stations. Among local stations, there are totally 80 local reporters distributed around the production areas. In addition to the broiler growers' organization, information is also collected from sources of slaughter firms, marketing cooperatives and local dealers. The framework of organization is shown in Figure 2.

3. Information collection and dissemination

Chicken growers' organization play an important role in implementing information program for noncentralized market live broiler. The process and some regulations of daily market information collection are listed as follows:

- (1) Local reporters should report to local stations by telephone no latter than 8:00 A.M. every day.
- (2) Each local station must transmit daily information sheet to the regional center by facsimile before 8:30 A.M..
- (3) The execute office collect information sheets from regional centers, then check the data with the information from sources of slaughter firms, cooperatives and dealers, and finally disseminate the information sheet at 9:30 A.M.

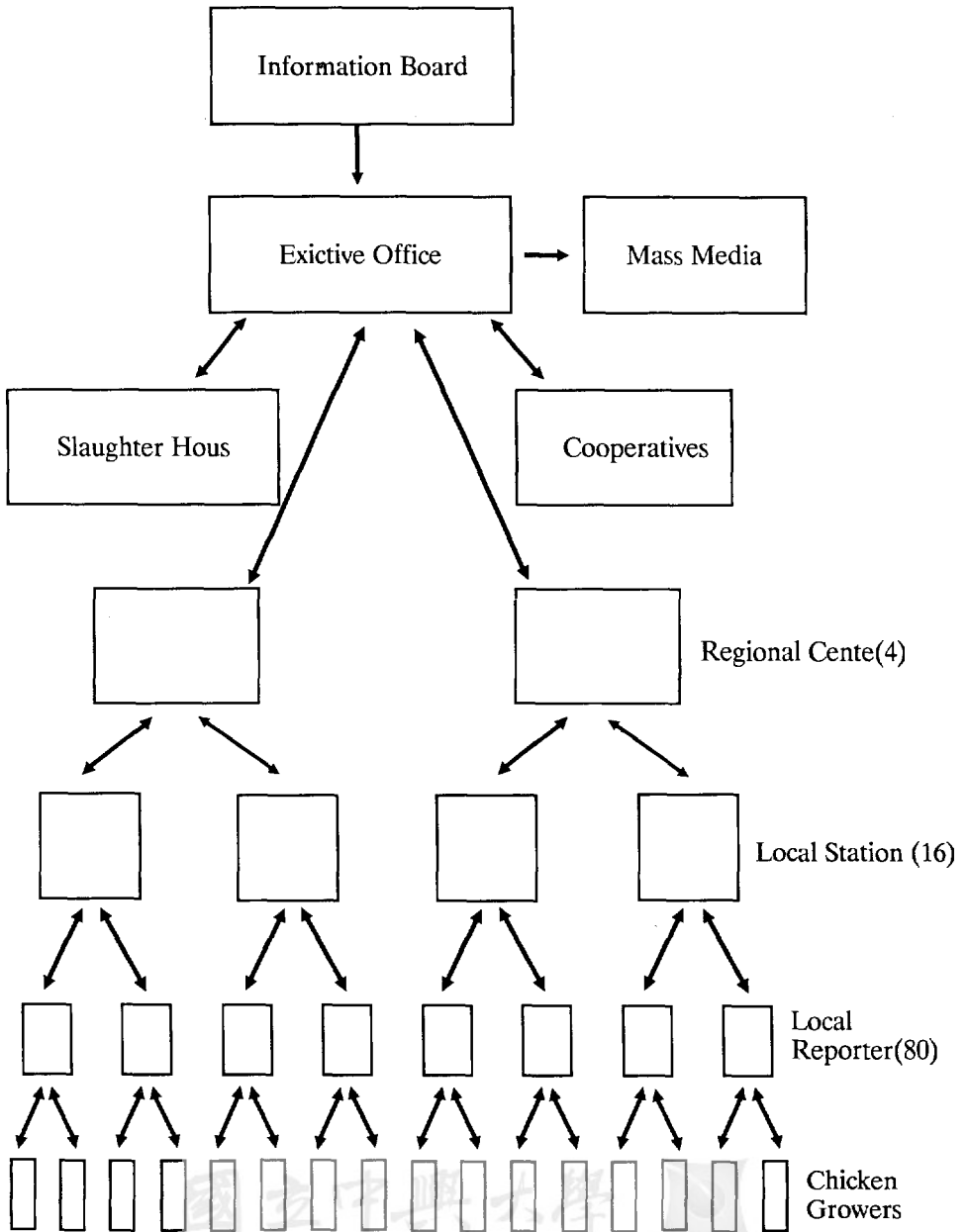


Figure2: Organization of Information System for Chicken Growers

The contents of daily market news sheet included:

- (1) Actual trading prices in various regions one day before reporting;
- (2) A list of regional reference prices for reporting day;
- (3) Supply and demand situation of local production areas; and
- (4) A summarized market analysis or precaution notes.

Daily market information of the system are distributed to the local chicken growers organizations in the reverse direction to information collection. The information is also extended to public users through daily newspapers and by telephone. Moreover, a monthly information newsletter is issued by the Poultry Association. About three thousand copies are distributed to the members of the Association.

IV. Comparison of the Two Information Systems

Strictly speaking, without a common basis, it is difficult to compare the performance of market information systems for different market organizations. In comparing the foregoing centralized and noncentralized market systems, we are dealing with different commodities traded in different marketing organizations. A great number of product items are covered in the information system of centralized wholesale market; while only a single broiler product is reporting in the noncentralized system.

Under such conditions, the comparison will be limited to focus on some features of demand for the market information and problems encountered in operating the market information reporting programs.

1. Needs for market information services.

The fundamental feature of a centralized wholesale market is that com-

modities and traders are physically collected into a centralized location for the operation of exchange and distribution functions. In contrast, in a noncentralized marketing process, farm products move from farms into the hands of dealers or processors without utilizing the services of the established terminal facilities (Kohls & Uhl, p.255). As a result, the exchange function of noncentralized markets are operated at production areas of widely separated locations.

The distinguishing features of the marketing organizations lead to the differences in pricing mechanisms for the two systems. In a centralized market, either auction or bargaining pricing scheme is applied, prices are discovered in the presence of all potential traders. Market information are, therefore, open to the public. Traders and producers are easier to get the information whenever they wish even without any formal information service.

In the case of the noncentralized market, prices are discovered privately by a single buyer and seller at each shipping point. Thus third parties are unaware of the process (Buccola, p.583). Consequently, it is difficult for both traders and producers to collect information from the widely scattered transactions.

Accordingly, it seems that traders and producers in noncentralized markets need an effective information service more urgently than in centralized markets.

2. Organizational aspects

The establishment of the wholesale market reporting system in Taiwan is rather governmental oriented, in the sense that there is a mandatory requirement for the centralized markets to offered market news to traders. Therefore, the tasks of information collection and dissemination are operated through the organized wholesale market authorities. By contrast, for the broilers' case, it is more producers oriented. The operation of the system rely heavily on the

chicken growers' organization based on the voluntary cooperation.

3. Nature of the information

Generally speaking, information reported in the centralized wholesale markets are more complete than that in the noncentralized system, where information of a single commodity is reported. Since large numbers of commodities are reporting, for effective and efficient purposes, advanced telecommunication and computer facilities should be employed in the centralized markets system for transmitting and compiling the great amount of data. Thus, from the view point of costs for providing the information, there is economies of scales in the centralized market system. This implies that costs per unit of information is lower in the centralized system than that of noncentralized system.

In a centralized market system, data collections are quoted directly from the transaction records of the organized markets. Thus, actual transactions prices and quantities are reported. While in noncentralized system, local transaction information are reported by the local reporters, scattered around the production areas, most of them are the chicken growers. Consequently, some subjective element is unavoidable. The different ways of reporting do not mean that information in centralized system is more accurate than that in noncentralized system. Since the information contained in the centralized system is limited to these portion trading in the wholesale markets, transactions outside the wholesale markets are not included. Based on the statistics, in 1991 around 50% of the farm production are sold through the channels other than the wholesale markets. On the other hand, to eliminate possible bias from noncentralized reporters, information from dealers and slaughter houses are also collected and checked.

V. Concluding Remarks

The foregoing comparisons of market information systems between centralized market organizations in Taiwan may be rather incomplete, in the sense that generalization of the differences may possibly be limited to the specific cases. However, the essential point to be stressed in the comparison is that in establishing an information service program for agricultural markets, characteristics of the prevailing marketing organizations, should be carefully examined and taken into consideration.

The distinct characteristics in the two systems are mainly inherent in the different pricing mechanisms from which the market information is generated. These factors in turn affect the operation and performance of information collection and dissemination. The concentrative natures of pricing mechanism in centralized market system make it easier for the operation of information program. In contrast, the greater demand for market information in noncentralized market, seems to favor the effectiveness of the performance of the noncentralized program.

For further improvement, to be integrated closely with other information system, e.g. production, export, import and policy information, will be the direction for both systems.



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「集中型」與「分散型」農產 品市場資訊系統之比較*

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摘 要

市場資訊之提供不僅可協助運銷決策且可促進市場之決價效率。而市場資訊服務系統之運作包括資訊之蒐集，編整與傳播，其績效則因市場組織結構型態之不同而有所差異。本文旨在比較「集中型」與「分散型」兩種農產品市場組織其市場行情報導系統之績效。兩者之差異主要在於兩種市場決價制度之不同。

「集中型」市場指農產品集中交易之批發市場。批發市場之行報導學務由農林廳主辦，共設立60個報導站及520個服務站，行情之蒐集與傳送則透過電傳視訊網路執行。因交易之集中，資訊亦較集中，且可依市場實際交易紀錄報導。

「分散型」市場則以肉雞交易為例，因交易之分散，行情報導有賴養雞協會組織各地區之學者報導，資訊之蒐集較為困難，而學者對資訊之需求亦較殷切。

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