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AGRICULTURAL MARKETING DEVELOPMENT PLAN FOR THE MAHAWELI AREA OF SRI LANKA*

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I. Introduction

Sri Lanka has now reached the threshold of self-sufficiency not only in rice production but in the production of commodities like potatoes and dried chillies and some of the vegetables as well. This achievement has to be attributed to the strenuous efforts of successive governments which were aimed at increasing the output of food crops through both the expansion of the cultivated area and the increasing of average yields.

At present, Sri Lanka is producing almost all the rice requirements of the domestic market and about 75% of subsidiary food crops such as cowpea, soya, greengram, and shallot onions. In particular, rice production in Sri Lanka would exceed domestic requirements in the near future. Time is ripe, therefore, for policy makers to look ahead and consider the transformation of the present paddy-oriented production into a cash-crop oriented production, along with a concomitant change in porduction-oriented policy towards market-oriented policy.

Under this circumstance, Sri Lankan government and FAO considered the project TCP/SRL/4511, of which main objectives are as follows:

1) To establish a nucleous marketing advisory unit and a marketing research and information system in the Mahaweli Authority to assist in marketing planning and in the profitable sale of the farmers' production.

2) To study the marketing system with special reference to environment, size, structure, marketing channels and organization and recommend strategies for improving the marketing of the crops by the settler farmers.

3) To prepare an agricultural marketing development 5-year plan for the Mahaweli Area to implement the recommended strategies and actions, and to prepare a development project proposal to implement the plan.

4) To train extension personnel, farmers and marketing staff in improved marketing practices.

This paper is mainly associated with the second and third of above objectives.

* This paper is abstracted from author's consultancy report on the project TCP/SRL/4511 for FAO and Sri Lankan Government in summer, 1986.

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II. Economic Situation of Sri Lanka

1. Agricultural Sector of Sri Lankan Economy

Growth rates in current price GNP have averaged 5% per annum for the first three years. The country progressed from the level of per capita GNP of Rs6,104 in 1982 to over Rs 9,219 in 1985 〈Table 1〉.

TABLE 1 **GNP at Current Factor Cost Prices, 1982 – 85**

Unit = Million Rs

	1982	%	1983	%	1984	%	1985	%
G.N.P.	92,720		110,664	5.0	136,638	5.1	146,005	5.0
Per Capita	6,104		7,179		8,759		9,219	
Agriculture	20,771	22.4	27,110	24.5	35,051	25.7	35,599	24.5
Tea	2,418	11.6	3,869	14.3	6,401	18.3	5,269	14.7
Rubber	770	3.6	983	3.7	1,092	2.1	1,164	3.3
Coconut	3,263	15.6	3,654	13.5	3,990	11.4	3,342	9.4
Paddy	5,484	26.3	6,852	25.3	8,359	23.7	9,379	26.2
Others	8,836	42.2	11,752	43.3	15,209	43.2	16,445	46.3
Manufacturing	13,601	14.7	15,958	14.4	20,890	15.3	21,849	15.0
Construction	7,959	8.6	9,807	8.9	11,180	8.2	11,640	8.0

Note :Currency unit = Sri Lankan Rupee(Rs)
Rs 1.00 = US$ 0.036
US$ 1.00 = Rs 27.95
Source:Annual Report, Central Bank of Sri Lanka.

However, agriculture plays a highly significant and critical role in terms of the economic scenario. On the average the Sri Lankan agricultural sector has a 25% share of GNP, while manufacturing shows 15% and construction 8.3% druing first three years 〈Table 1〉.

Agricultural sector in Sti Lanka can be largely characterized as food grain production which is keeping pace with the critical needs of the national economy. Over 80% of farm income is obtained from food crops, mainly paddy. About 26.2% of agricultural sector is composed of paddy only. Therefore, the structure of farm management is dominated by the single crop of paddy.

Farm population comprises more than half of the natinal population and the political, social and economic aspects of its role are of great importance in national development.

In view of the foregoing characteristics, Sri Lankan economy can be called a paddy/rice production economy. Thus, the agricultural sector in the Sri Lankan economy plays a vital role. Hence, the stability and growth of the agricultural sector has a direct bearing on the national economy.

2. The Accelerated Mahaweli Development Scheme

The Accelerated Mahaweli Development Scheme(AMDS) is a multi-purpose development programme, of which objectives are to alleviate the chronic problems of unemployment, food shoutages and to supply the increasing demand for electrical power in industries, households and rural electrification programme.

The AMDS was desinged to bring an unprecedented acreage under cultivation within a short period. Ultimately, the scheme is to develop and irrigate 14,000ha of new areas and improve additional 15,000ha of the existing areas. Approximately 113,000 families or about 600,000 people will be settled in the different areas. At the end of December 1985, the total nimber of settlers amounted to 10,040 families. By the end of 1987, 20,000 families will be settled. The settlement is planned to be completed by 1990.

Accroding to the Mahaweli Authority, the total number of new allotments estimated to be available in System "A" to "H" under the AMDS are 14,300 in System "A", 37,483 in System "B", 22,000 in System "C", 14,800 in System "D", Nil in System "E" and "F", 2,900 in System "G", and 10,000 in System "H", amounting to 101,483 allotments. Out of this number of allotments, the 101,483 allotments. Out of this munber of allotments, the distribution on the basis of nation ethnic rations will be 12,787 allotments of Sri Lankan Tamils, 7,509 allotments of Muslims, and 5,683 allotments of Indian Tamils, amounting to a total of 25,979 allotments ⟨Table 2⟩.

TABLE 2 **Description of the Mahaweli Area, 1985**

System	Blocks	Units	Settlers	Population
H-1,2,7.9	5	44	12,844	64,220
H-4	4	34	9,144	45,720
H-5	3	44	5,649	28,245
G	2	13	2,776	13,880
B	10	58	8,647	43,235
C	7	44	10,046	50,230
Uda Walawe	7	91	9,264	46,320
Total	38	328	49,106	291,850

III. Present Marketing System and Problems in the Mahaweli Area

1. State Marketing Organization

Agricultural Development Authroity(ADA), Department of Marketing Development(MD), Co-operative, Paddy Marketing Board(PMB), Co-operative Wholesale Establishment(CWE), Export Development Board(EDB), Agrarian Research and Training Institute(ARTI), and Peoples' Bank have not proved successful in competing with private enterprices where the marketing of agriculutral and food products and the provision of agricultural loans are concerned ⟨Table 3⟩.

TABLE 3 **Comparison of the Organizations involved in the Marketing Agricultural Produce**

A D A	A R T I	C W E	CO-OP	E D B	MARKFED
Objectives	Objectives	Objectives	Registration	Objectives	Objectives
1. To co-ordinate Agricultural dev. activities. 2. To supervise such activities. 3. To ensure the availability of inputs. 4. To approve officers for such duties. 5. To supervise marketing and storage facilities. 6. To maximise dev. of land.	1. To promote Agrarian Research. 2. To promote Training. 3. To acquire any movable and immovable property. 4. To open pilot project. 5. To import plant and machinery. 6. To undertake Agrarian Research	1. To meet the needs of co-op societies 2. To export. 3. To engage in wholesale and retail trade 4. To carry out such other activities as authorised by the societies 5. To carry on the business of banking and insurance. 6. To invest, acquire or hold shares or stock.	1. There may be appointed a Registar of Co-operatives	1. To advise the Export Development Council. 2. To recommend policies. 3. To recommend trade and finance agreements. 4. To formulate a national day plan 5. To monitor export dev. program 6. To facilitate export. 7. To carry out export potential surveys. 8. To undertake research in foreign markets. 9. To provide export consultancy services 10.To co-ordinate training courses.	1. To facillitate the work of member societies 2. To engage in business activities.
Inputs	Finance		Duties		Process
1. Planting material. 2. Implements 3. Fertilizer, chemical 4. Irrigation 5. Animal husbandry 6. Credit and Insurance.	1. Government funds 2. Earnings.		A. Registered Society which has as one of its objects the disposal of any article may provide its by-law contract with the member. 1. A. contract was signed by the society regarding such products.		3. To supply purchase, stores or distribute articles. 4. To co-ordinate the use of vehicles of member societies 5. To undertake member societies 6. To create a fund to facilitate the payment of fixed prices.

A D A	A R T I	C W E	CO-OP	E D B	MARKFED
Marketing 1. Pricing and statistics. 2. Transport and communication 3. Storage and warehousing Training Crash courses for training inagriculture Organization of the field staff 1. Work on electoral basis. 2. There will be direction for provinces and electorates.					Membership 1. All registered Co-op. societies. Capital 1. Sale of shares 2. Deposits 3. Borrowings 4. Profits 5. Grants 6. Sale of publications.

Since the policy of economic liberalization was adopted by the government the growth of private sector has received new impetus. For example the PMB in the paddy market dropped to 17% in 1984 from 35% in 1977. The PMB now plans to expand its trading to subsidiary food crops.

Little or no coordination exists among government institutions engaged in the marketing of perishable and non-perishable agricultural commodities. Furthermore, they are concerned with marketing business rather than providing support and services for marketing development.

The municipalities which are responsible for the administration of wholesale markets and local government bodies which are expected to supervise Polas(rural periodic market) are not deeply involved in the administration aspects of the distribution of the agricultural commodities due to the lack of recognition of the importance of marketing.

There are no laws, ordinances and regulations promulgated by the control government on the operation of agricultural markets at various levels. In the case of Colombo city, there is no body of rules or regulations regarding trading, minimum facilities, eligibility for trading, etc. Existing regulations on the administration and operation of Polas are not comprehensive. They only cover rents, rental agreements, and sanitation.

2. Smaller Farmer Marketing

There are two types of farmers' organizations in the Mahaweli areas, namely the Multipurpose Cooperative Societies(MPCS) and spontaneous organization such as 'Prajasalas'(Community Stores), 'Marandara'(Funeral Aid).

The other types of institution presently active in the Mahaweli Area are the "Turnout Groups" and the "Settler Development Societies", in addition to the ad-hoc and voluntary societies like"Marandadara(funeral aid) Societies". Of these farmer organizations the "Turnout Groups" mainly perfoming water management tasks, are comparatively successful. The settler development societies have not met with success in any System. The inherent shortcomings of these farmer organizations are the bureaucratic set-up, limited scope of activites, absence of decision-making by the settlers and poor response from the settlers. None of the societies have an agricultural marketing orientation.

Major objectives of the MPCS are to promote the economic well-being of the member, to sell agricultural and other produce of the area, to distribute consumer commodities, to encourage the saving habit in the farmers, to participate in social and common activities in the area, to conduct various projects.

At present a total of 108 MPCS are located in the Mahaweli Area. Of these 25 large scale co-ops and 29 small scale co-ops are in System 'H', one large and 26 small co-ops in System 'B', three large scale and six small scale co-ops in System 'C', and one large scale co-op and 17 small scale co-ops in System 'G'. In addition to these MPCS, there are five co-op complex in

System 'H' and four co-op complex in System 'G'.

The failure of the local MPCS to provide the service needs of settlers had accelerated to bring about the establishment of a type of experimental organization know as 'Prajasalas'(Community Store aimed at providing the consumer needs of the settlers) in the System 'C'.

the collective effort was encouraged by the government through the implementation of the cooperative movement, especially up to 1960. Its implementation was not well accepted by small farmers. This might be attributed to the individualistic nature of Sri Lankan farners. Furthermore, it is said that the Co-operative Movement was handicapped by corrupt leadership at the local level, leading to disenchantment among small farmers.

Mahaweli settler farmers are small scale farmers who are paddy-specialized. They are today producing individually a variety of commodities and are making an attempt find markets for them through individual endeavor. But the settler farmers have to content with numerous problems such as the smallness of marketable quantities, perishability of product, non-availability of transport, inadequate finances, lack of market information, low bargaining power etc.

3. Marketing of Paddy/Rice

The contribution made by the Mahaweli Area to the national production of paddy was just over 80,000M/T or less than 4% in 1981. During the last 5 years the paddy production of the Mahaweli Area increased to 325,714M/T in 1985 indicating 298% growth rate ⟨Table 4⟩.

With the abolition of the rice ration and the introduction of free trade in paddy in 1977 as paddy production reached almost self-sufficient level, the overall control policy was lifted, since then, paddy has been marketed through a two way mechanism: partial control and partial free marketing. This is again classified into three channels-the government channel, the cooperative channel and the free market channel.

The existing paddy/rkce marketing system in the Mahaweli Area relies heavily on traders who buy paddy on farms or in local markets. The marketing channels of paddy are characterized by long and often overlapping systems and by the presence of numerous intermediaries who contribute to an increase in marketing costs.

The PMB has to cpmpete with the private sector in the open market as the government removed most of the controls, restrictions and barriers with the adoption of policy of liberalized trade in July 1977. From this time, the volume of business of the PMB has diminished, and now accounting for not more than 8% on average during the last five years of the total transactions. This quantity is not sufficient to push up the price during the harvest season or to help stabilize prices during the rice scarce season.

The PMB performs the duel function of maintaining and suimulating farmgate prices for paddy. But the PMB procurement price was lower than

TABLE 4 **Comparative Statement of Production of Paddy in Sri Lanka and in Mahaweli Area**

	Extent cultivated (ha)			Production M/T			Average yield (kg/ha)	
	Country	Mahaweli		Country	Mahaweli		Country	Mahaweli*
			%			%		
1981	877,000	19,831	2.3	2,230,000	81,813	3.7	3,014	4,126
1982	845,000	22,304	2.6	2,156,000	89,369	4.1	3,260	4,007
1983	824,000	56,775	6.9	2,484,000	239,613	9.6	3,606	4,230
1984	990,000	72,530	7.3	2,420,000	320,405	13.3	3,706	4,418
1985	881,000	71,372	8.7	2,661,000	325,714	12.2	3,464	4,238

* Average yield of paddy for Mahaweli Area was calculated by dividing the production by the extent of land cultivated.

Source : 1) Central Bank of Ceylon, *Annual Report*, 1985.

2) Mahaweli : Files.

the market price of private trader. The price difference between them during the last six years appeared to be 22% on average.

In the PMB marketing system for paddy/rice, stocks of paddy generally flow from farmers to the PMB buying centers through either farmers themselves, MPCS or private agents, to rice mills of both PMB and private quota holders ⟨Figure 3⟩.

More than 90% of total paddy commercialized in Sri Lanka is marketed by private traders in open markets. Paddy is marketed through various channels, leading all together to seven channels, which cannot be subsumed under a monopattern compared with the marketing by the government of control prices. The existing marketing pattern prevails in the Mahaweli Area too ⟨Figure 4⟩.

The settler farmers in the Mahaweli Area have developed a habit of obtaining the advance payment under an agreement to sell their paddy at an agreement price in order to cover the cultivation expenses as well as consumption needs. The price under the mortgage system ranged from between Rs38 to Rs44 per bushel of paddy when the average market price was around Rs70 per bushel in 1985.

4. Subsidiary Food Crops and Vegetables

Several major food crops such as chillies, cowpea, greengram and soyabean have recorded a noticeable growth. Bombay onion has taken root in the country with production increasing up to 7,600M/T in 1985. But the Mahaweli Area produced more than one third of the national requirements of chillies in 1985, and it will produce more than 18,000M/T of chillies for 1986. Greegram, maize and cowpea are other crops in which the Mahaweli Area has made a break-through ⟨Table 5⟩.

The PMB operates a guranteed price system for subsidiary food crops. In its current context the guaranteed price acts as the floor price the farmer

TABLE 5 **Production of Subsidiary Food Crops in National Level and Mahaweli Area, 1985**

	National Pord. in '000 M/T	Prod. Mahaweli '000 M/T	in Mahaweli Prod. as a percentage of National Prod.
Chillies	35.0	12.7	36.0
Red Onion	41.1	.03	-
B. Onion	7.6	.03	.4
Maize	49.9	2.0	4.0
Kurakkan	10.1	-	-
Cowpea	33.9	1.0	2.9
Green gram	22.2	1.4	6.0
Black gram	20.6	.03	.1
Soya bean	16.2	.04	.2
Ground nuts	17.7	.04	.2
Gingelly	15.8	.03	-

Source: 1. Agricultural Implementation Programe, Ministry of Agricultural Development.

can get under liberalized market conditions. Therefore, a two way of mechanism of partial control and partial free marketing as in paddy is functional in the subsidiary food crops area. The marketing of crops can be divided into two channels-the public channel and free market channel of these, the free market channel predominates ⟨Figure 5⟩.

In private marketing system rural assembly agents, traders or collectors collect substantial food crops from the farmers and send them in private lorries to commission agents who pay the lorry hire and other handling costs. The subsidiary food crops are sold to retailers on wholesale basis and the commission agents sends the net proceeds to the suppliers after deducting 10% commission. Beside this marketing channel which is the commonest and most complicated there are 5 other channels ⟨Figure 6⟩.

Many vegetables grow in up country as well as in low country giving more or less similar levels of harvest in Sri Lanka. The extent of land under vegetable cultivation is about 120,000 hectares and the extimated production is around 600,000M/T. Vegetables form a very important part in the domestic budget in Sri Lanka and at present about 10% of the household expenditure goes on vegetables.

The MD and the Co-operative Marketing Federation(MARKFED) entered into the vegetable market to provide alternative marketing channels and assist the farmers to obtain a fair price for their vegetables. The participating of these public organizations in vegetable marketing has not proved successful in terms of transaction volume and price stabilization.

Private marketing channels handle about 95% of the marketable surplus of vegetables. The private traders maintain a regular clientele among the farmers through provision of multiple economic services and social relationships such as lending money for cultivation and other purposes, free transport of inputs, necessary seeds and other inputs etc. Consequently the farmers are obliged to sell their produce only to traders without bargaining over prices paid to them. They such as underweighing, underinvoicing etc. resorted to by their trader patrons 〈Figure 6〉.

This subsidiary food crop and vegetable marketing system in the Mahaweli Area is characterized by the numerousness of the participants throughout the marketing chain; inclusive of both government and institutions and private traders. Markets for the small farmers are not yet well developed in the Mahaweli Area. Itinerant buying and advance selling systems which are predominant in the Mahaweli Area exclude the small farmers.

Farmers of the Mahaweli Area had difficulties with marketing of their products due to the small amount of different products. Farmers and even the local intermediaries who purchase from the farmers do not undertake storage or other value added services since they have no cleaning, drying and storage facilities at their command.

Marketing problems of subsidiary food crops and vegetable in the Mahaweli Area are very complex, since farmers face 1) low price due to over-supply during peak harvest, 2) price fixing by buyers to the disadvantage of farmers, 3) lack of correct marketing information, 4) poor transport facilities, 5) absence of proper organizational infrastructure and 6) poor accessibility to credit. But the farmers are not well equipped to deal with these problems.

5. Rural Periodic Market (Polas)

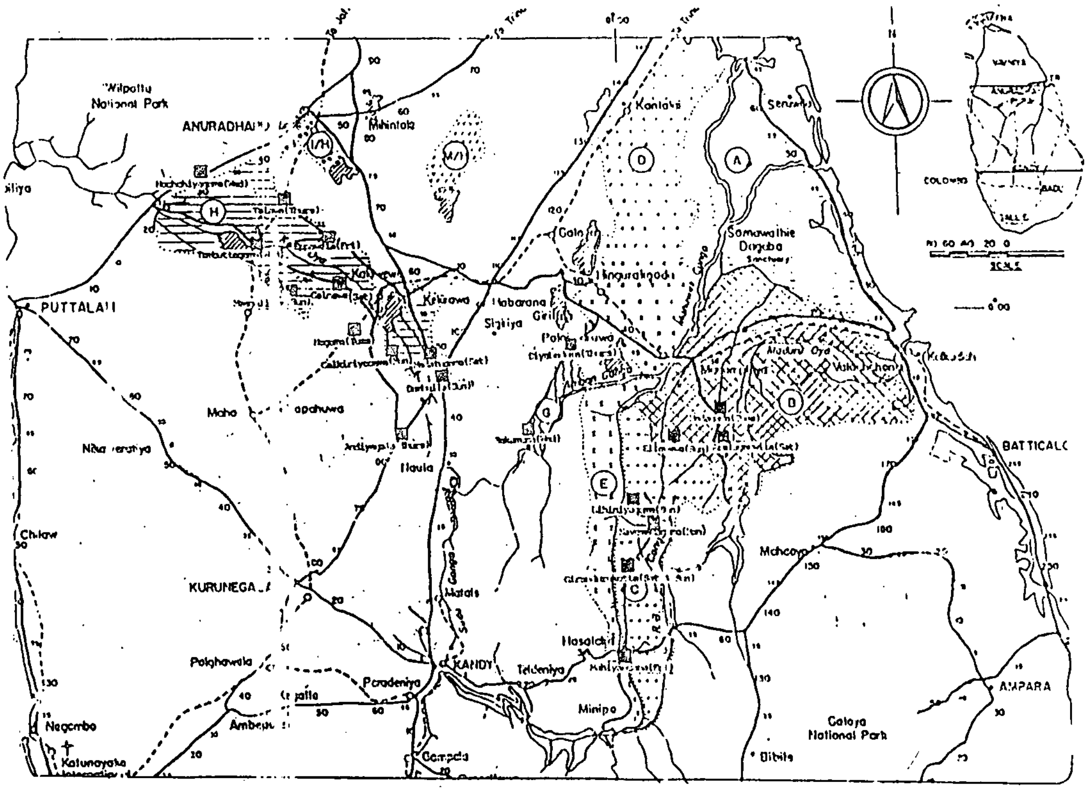
Periodic rural markets are commonly known as polas or assembly markets or daily market in Sri Lanka. The number of the Polas in Sri Lanka is about 550, most of these being massed in the eastern and southern part of Sri Lanka. In the Mahaweli Area there are 21 polas of which 12 are located in system 'H', four in system 'C', three in system 'B' and two in system 'G'. There are actually three Polas in system 'C', but Mahiyangana Pola located on the boundary was included due to its coverage and services 〈Figure 1〉.

The Polas which form an integrated post of the marketing system in the Mahaweli Area are being neglected by the local authorities that administer them. In Polas traders have stronger bargaining than farmers, and the allocated area is inadequate to accomodate both traders and customers.

Due to no proper shelters some of traders are compelled to make their sales on the road-side much inconvenience to motorists as well as pedestrians. Water and toilet facilities are hardly enough.

Based on the present writer's visits, to Mahiyangana, Talawa, Nochchiyagama, Tambuttegama and Galnewa Ploasm it may be said that the physical facilities are poor and unsuitable. 'Polas' are simply market yards with simple open-wall roofed stralls. Most of the market yards are not

FIGURE 1 **Distribution of Polas in the Mahaweli Area**



paved. Sanitary facilities, water supplies or even drinking water were not available in the Polas visited.

6. Marketing Facilitating and Physical Function

6.1. Agricultural Credit

Mahaweli systems have been divided into segment for agricultural credit purposes and each has been given to a bank. The bank which is responsible in giving agriculutral loans works in collaboration with the farm-level officers of MEA in assessing loan applications and also giving and recovering credit.

The informal credit operating system between farmers and private traders in the Mahaweli Area is a powerful mechanism which affects borrowers in a severe manner. An annual average of 48% of the farmers borrowers defalted during the last five years.

The subsistence level of farmers economy, the absence of strong farmers' organizations and the seasonality of crops make the farmers inevitably dependent on private money lending for agricultural inputs and even consumption needs. This dependence works to the farmers' disadvantage in a way that is detrimental to their progress.

6.2. Market Information

There are 28 state agencies collecting prices in various forms. They provide statistical data to government planners, researchers etc. Unfortunately, price data and market information collection efforts have seldom been related to objectives of system imporvement. The data are usually gathered and disseminated for purposes of achieving administrative objects.

The present public market information dissemination systems through the media are hardly effective in the Mahaweli Area, particulary with regard to rapid information on a day-to-day basis which is very vital for decision making. Thus, farmers have no other choice but to accept the prices offered by traders not only at farmgate but also at markets.

6.3. Marketing Education and Trading

There are 59 training centres in the Mahaweli Area but these training facilities are not duly utilized under proper management. The MEA itself does not have an education centre responsible for the education of those involved in marketing.

The training curriculums of these centres don't include training plans for better marketing and delivery of agricultural products.

6.4. Storage

Currently available storage facilities do no suffice to accomodate the rising demand; nor do they meet the needs of small scale produces, particulary at farm level.

The distribution of 394 stores in the Mahaweli Area all of which are of nonperishable goods, is mainly concentrated in townships or blocks and much of being in system 'H' and operated by the public sector. Farmers are unfamiliar with proper drying and storage technologies. The availability of storage facilities causes enormous losses of agricultural produce.

6.5. Standardization and Packaging

Standardization and grading measures hardly exist in the various marketing stages of each product. In the case of vegetables and fruits, grading at the farmers' level is entirely left to the farmers' and the trader' visual and subjective judgement.

There is no standardization in size and type of packing materials. Gunny bags, jute bags, bamboo baskets and coconut leaf baskets are commonly used for both perishable and nonperishable commodities.

7. Seasonal and Yearly Price Variation

7.1. Paddy / Rice

Price statistics show that PMB's distribution and enforcement operations succeeded in general in stabilizing the retail price of rice in the market before the trade liberalization. But the volume of the PMB has diminished controlling not more than 8% on average since the adoption of a policy liberalized trade in July 1977.

This quantity is not enough to push up the price during the harvest season or to help stabilize prices during the rice scare season, consequently leading to severe price the same period the farmgate price of paddy per bushel was higher than that of the floor price by 25% on average.

7.2. Subsidiary Food Crops

Production of subsidiary food crops has been seasonal and this is manifested in their significant price variations during any given year.

The analysis in seasonal price variation on selected subsidiary food crops(dried chillies, green gram and cowpea) reveals that price variations are uniform and followed a unsimilar trend for all the three subsidiary food crops. On all three crops the price exhibits a sharp seasonal movement, and a wider gap between the farmgate and wholesale prices during the period of storage.

IV. Mid-Term Agricultural Marketing Development Plan

1. Proposed Strategies for Marketing System Development

1.1. Objectives of Mid-Term Agricultural Marketing Development Plan

The principal objective is to simultaneously help the Mahaweli farmers achieve greater geographical production concentration based on comparative advantage, eliminate multi-intermediation for most of the food supply, introduce more efficient marketing practices and develop counter-balancing strength among market participants by keeping a reasonable number of traders at each level in the market chain in order to ensure effective competition and to increase the productivity of marketing agricultural products produced in the Mahaweli Area. Objectives are listed as follows:

1) to align marketing channels to induce the fair trading;
2) to establish and strengthen group activities of farmers to promote their effective competitions;
3) to raise effectiveness of participants in marketing;
4) to stabilize the price to ensure the income of farmers:
5) to evenly allocate marketing facilities for the balanced development of Mahaweli community;
6) to rationalize marketing facilitating functions;
7) to provide technical assistance and economic incentives to encourage Mahaweli farmers to adopt economically efficient marketing technologies and management practices;and
8) to provide educatiopn and training, public polices and economic incentives which will produce a competitive environment leading to higher real prices paid to farmers.

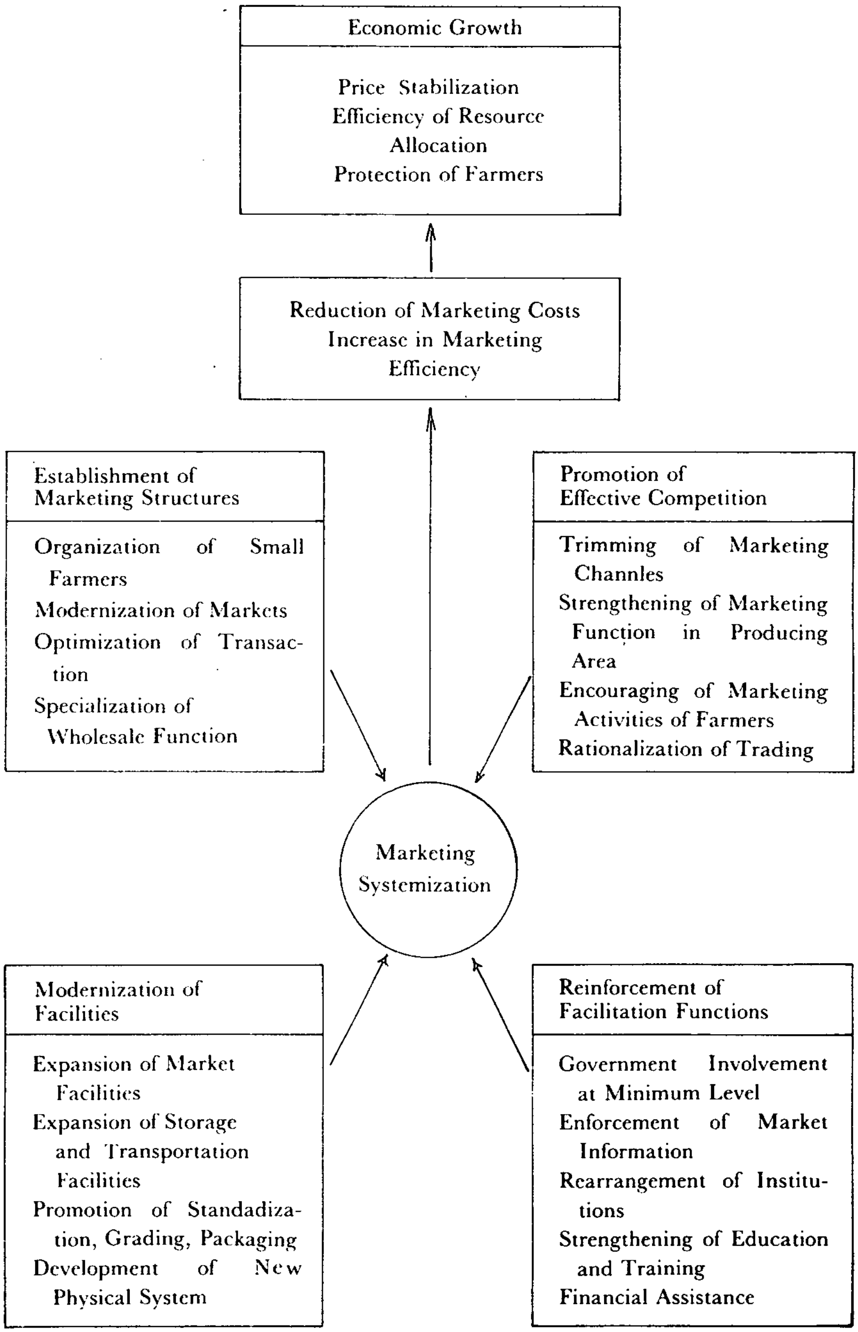
To achieve the stated objectives will require a coordinated program with concerted efforts over a number of years. In fact all of the components of the development plan call for the creation of permanent policies, on-going institutional interventions., investment in marketing infrastructures, training, and services and supports of Government institutions.

1.2. Basic Scheme for Marketing Development in Mahaweli Area

Bearing in mind the problematic situation which bas been fully discussed in the previous section, the marketing systemization of agricultural products is proposed via the follwoing mid and long term strategies 〈Figure 2 .

The stratetgies mentioned in the Figure are intended to reduce marketing costs, and increase efficiency and productivity in the marketing system to the benefit of all participants. The ultimate objective is of course economic growth and the development of marketing system through modernization of facilities, reinforcement facilitation functions, establishment of marketing

FIGURE 2 **Basic Scheme for Marketing Development**



structure and promottion of effective competition.

2. Alienation of Paddy/Rice Marketing Channels

The current duel system of paddy policy has not been successful because of the weakness and inefficiency in the free marketing mechanism. The possible measures are;(1) the current partial control system should be reorganized or supplemented, (2) a complete free marketing system should be permitted. It is also suggested that the government function is remained in the field of planning and releasing instructions for marketing.

Paddy is commonly stored in gunny bags. The storage of paddy before milling in silos would be far more efficient, but the construction land maintenance of modern silos at farm level is expensive. Therefore, to improve the paddy/rice marketing system it is necessary to build on "In Bin Drying and Storage System(improved Bissa)" at farm level.

Farmer's organizations are the most rational mechanism in the marketing channel of paddy/rice they can systematically expedite shipments through the distribution network. The farmers' organizations to be established and restructured in the Mashweli Systems must be allowed to carry out the purchasing, collection of taxes in kind, collection of paddy bartered with fertilizer and the related handling operations specified the government.

The complicated marketing system of paddy/rice should be converted to a joint shipment through farmers' organization intraregional marketing activities are proposed, and inter-regional marketing activities should be gradually introduced thereafter.

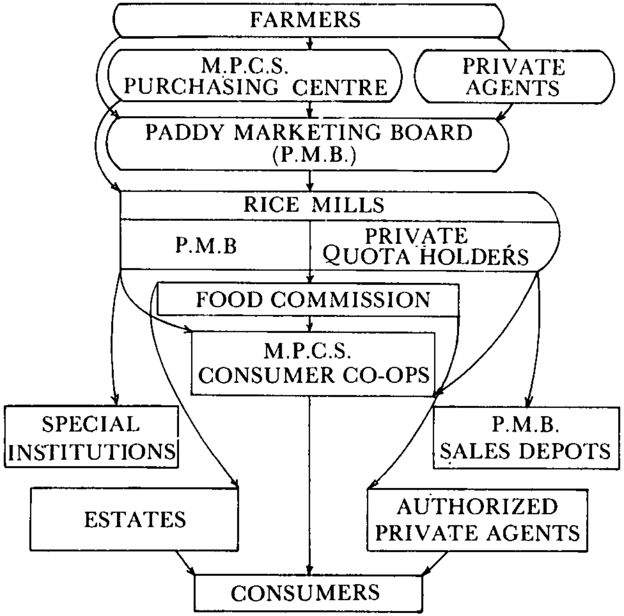
Proposed government marketing channels for paddy/rice procured by the government are: from farmer through farmers' organization to the PMB for the initial two years of the farmers' organzations. Launched marketing channel can be encouraged from farmers via farmers' organization to the PMB purchasing center 〈 Figure 3〉.

In the case of the private marketing system for paddy/rice, when the organization of farmers create a success and integrated marketing system for paddy/rice from farmers through farmers' organization and its rice to wholesalers as well as consumers of the Mahaweli Area is vigorously suggested 〈Figure 4〉.

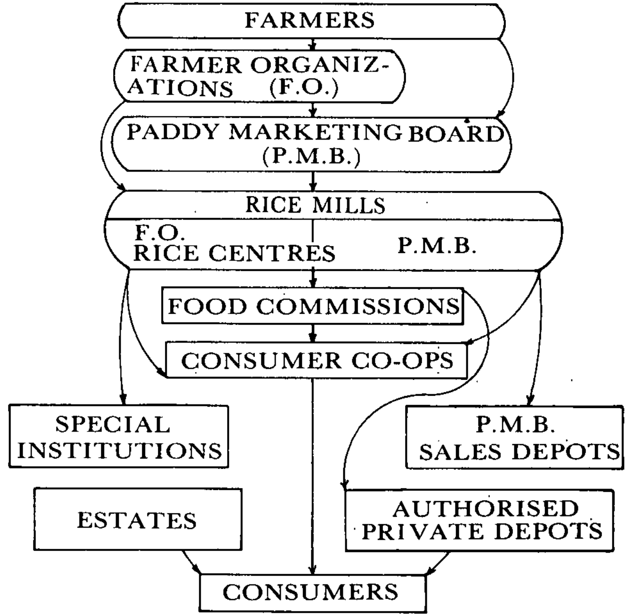
4. Reorganization of Marketing Channels for Subsidiary Food Crops and Vegetables

It is desirable to improve the subsidiary food crops and vegetable marketing channels in the Mahaweli Area that farmers should positively participate in the activities of the joint shipment. The marketing system should be shifted to an activity which is promotion oriented like a co-perative association. A prior and voluntary consensus among participating farms is a pre-condition for developing the joint shipment based upon the farmers' consciousness of their self interest and goals.

FIGURE 3 **Existing and Proposed Public Marketing Channels for Paddy/Rice in the Mahaweli Area**

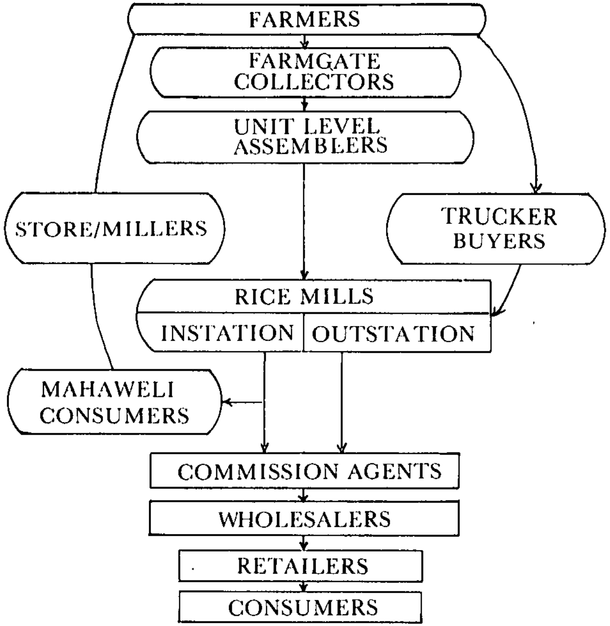


M.P.C.S : Multipurpose Co-operative Societies
: Intra Marketign Outlets
: Inter Marketing Outlets
Figure : Public Marketing Channels for Paddy/Rice in the Mahawali Area



: Intra Marketing Outles
: Inter Marketing Outlets
Figures : Proposed Public Marketing Channels for Paddy/Rice in the Mahaweli Area

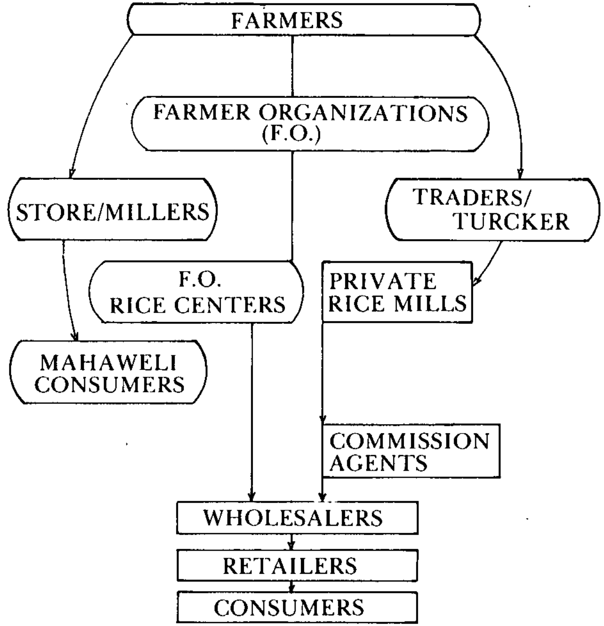
FIGURE 4 **Existing and Proposed Private Marketing Channels for Paddy/Rice in the Mahaweli Area**



: Intra Marketing Outlets

: Inter Marketing Outlets

Figure : Private Marketing Channels for Paddy/Rice in the Mahaweli Area



: Intra Marketing Outlets

: Inter Marketing Outlets

Figure : Porposed Private Marketing Channels for Paddy/Rice in the Mahaweli Area

It is suggested to organize and develop, on a selective basis, joint shipment bodies with the strong backing of the MEA to foster joint shipment based upon farmers' consciousness of their self-interest and goals. The effort of the MEA to organize the joint shipment bodies should be strengthened and gradually expanded as successful cases become available.

It is suggested the MD, CWE, PMB and MARKFED build stronger linkages to farmers and farmers' organizations in the Mahaweli Area like "Bee-line Transaction" through the establishment of purchasing contracts with them before they plant crops instead of direct market participations after harvest.

The proposed marketing channels for subsidiary food crops are: (1) by joint shipment by farmers' organizations to wholesalers, to retailers, to consumers, (2) by joint shipment by farmers' organizations to institutional buy ers, to retailers or to consumers, (3) by joint shipment to Polas, to Mahaweli consumers 〈Figure 5〉.

In the case of vegetables it is suggested that farmers jointly ship their produce from farmers organizations (1) to wholesalers, to retailers, to consumers, (2) to Polas to Mahaweli consumers, (3) to state institutional bugers, to retailers or to consumers 〈Figure 6〉.

3. Establishment of Farmers' Organizations

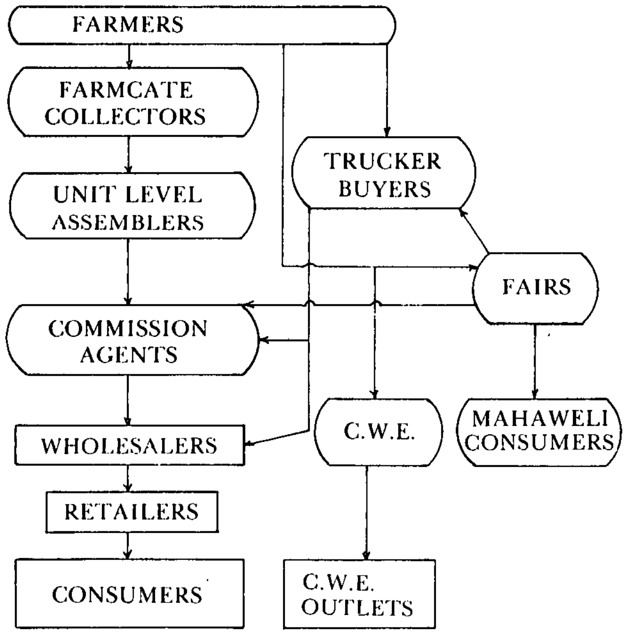
The MEA should provide leadership in initiating the formation of farmers' organization for conducting multi-marketing activities. In order to integrate small farmers into group marketing system, to establish secured market outlets, to improve post-harvest facilities, infra-structural facilities and to support services, government intervention has to make more effective. The vital component of technical assistance must also be increased.

Farmers' organizations must be planted at the grassroot by farmers themselves. With the help of trained organizers, they can start with a simplest task like assembling produce for established state marketing organizations which are sure outlets without sales risk. Thereafter, they could go on to distribute seeds and fertilizer on credit, and undertake joint shipment of produce to wholesale markets. Subsequently they could expand their activities into the operation of "Prajaselas", Polas, farm machinery pools, rice centers and finally to the provision of credit at moderate interest.

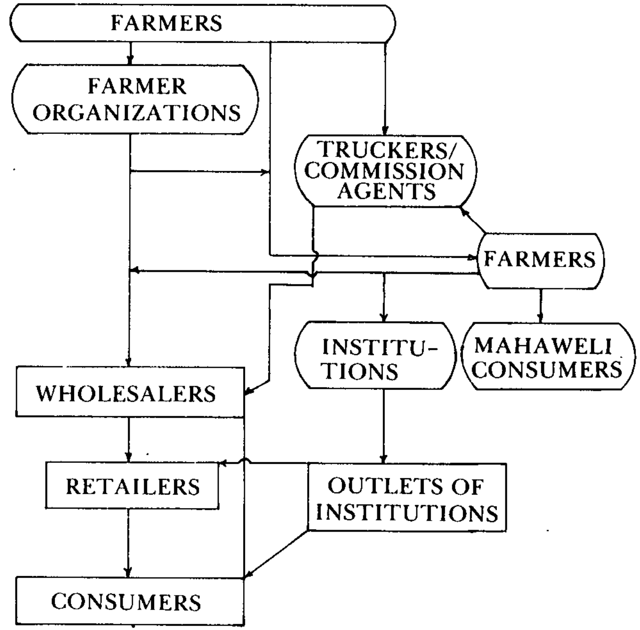
Farmers' organizations should be established only in pilot sites at the Unit level during the first two years of the five year period, and the expansion of the organizations can be undertaken across the Mahaweli Area with the success of these pilot sites. The next three years should be devoted to the overall formation of farmers' organizations and revitalization of the existing organizations as well as the stabilization of their regular activities.

In addition, social and other conditions necessary for accelerating the establishment of farmers' organizations are enthusiastic membership with strong motivation and confidence, homogeneity of membership, strong lead-

FIGURE 5 **Existing and Proposed Private and Public Marketing Channels for Subsidiary Food Crops in the Mahaweli Area**

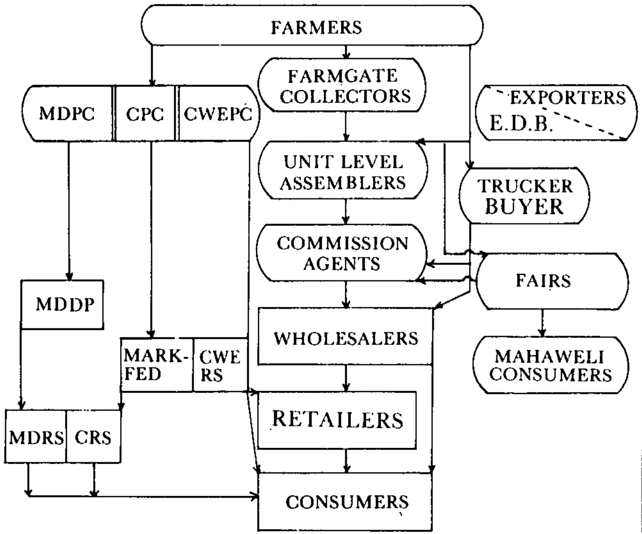


C.W.E. : Co-operative Wholesale Establishment
: Intra Marketing Outlets
: Inter Marketing Outlets
Figure : Private and Public Marketing Channels for Subsidiary Food Crops in the Mahaweli Area

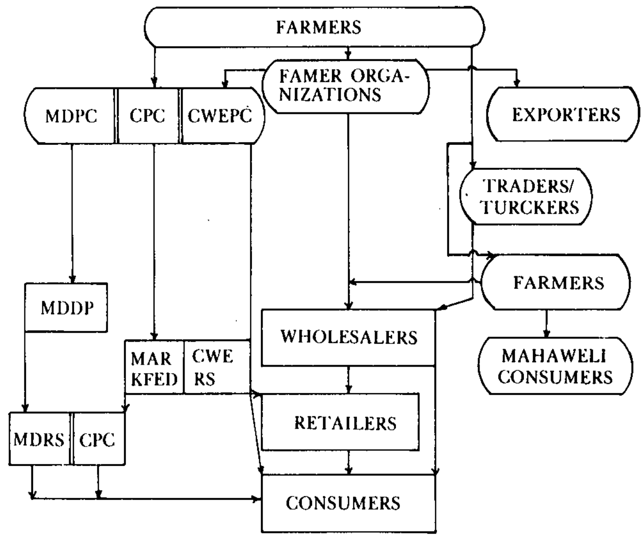


: Intra Marketing Outlets
: Inter Marketing Outlets
Figure : Proposed Private and Public Marketing Channels for Subsidiary Food Crops in the Mahawoli Area

FIGURE 6 **Existing and Proposed Private and Public Marketing Channels for Vegetables in the Mahaweli Area**



MDPC : Marketing Development Purchasing Center
MDDP : Marketing Development Distribution Point
MDRS : Marketing Development Retail Store
CPC : Co-operatives Purchasing Center
MARKFED: Co-operative Marketing Federation
CRS : Co-operative Retail Store
CWEPC : Co-operative Wholesalers Establishment Purchasing Center
CWERS : Co-operative Wholesalers Establishment Retail Store
EDB : Export Development Board
: Intra Marketing Outlets
: Inter Marketing Outlets
Figure : Private and Public Marketing Channels for Vegetables in the Mahaweli Area



MDPC : Marketing Development Purchasing Center
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CRS : Co-operative Retail Store
CWEPC : Co-operative Wholesalers Establishment Purchasing Center
CWERS : Co-operative wholesalers Establishment Retail Store
: Intra Marketing Outlets
Inter Marketing Outlets
Figure : Private and Public Marketing Channels for Vegetables in the Mahaweli Area

ership, genuine interest in management, financial incentives and support from governmental sources.

A total of 170 farmers' organizations in the Mahaweli Area are suggested during the period of five years which accounts for about 70% of total Units, consisting of 93 in System 'H', 9 in Stystem 'C', 31 in System 'B' and 31 in System 'C'.

Every farmers' organization should have in order to conduct group marketing activities 1) a joint workshop for harmonious teamwork, 2) a moderate sized warehouse and a ventilated cool storaging store, 3) a half-sized lorry (2.5 M/T), 4) a stall at Pola and 5) a rice centre ⟨Table 6⟩. The establishment of marketing facilities should have at least one year time lag after the formation of farmers' organizations, for it is hardly expected that such organizations will become financially viable within a short period to have facilities.

TABLE 6 **Five-Year Establishment Plan for Marketing Facilities**

Year / System / Facilities	1987 H	1987 G	1987 B	1987 C	1988 H	1988 G	1988 B	1988 C	1989 H	1989 G	1989 B	1989 C	1990 H	1990 G	1990 B	1990 C	1991 H	1991 G	1991 B	1991 C	Total
Workshop					3	1	1	1	9	1	2	2	12	2	4	4	24	2	8	10	83
Warehouse					3	1	1	1		1	2	2	12	2	4	4	24	2	8	10	83
Ventilated Store					2			1	9	1	1	1	12	2	4	4	24	2	8	10	85
Lorry					3	1	1	1	3	1	1	1	2	2	4	4	24	2	8	10	83
Rice Centre									9								6	1	1	2	10
Praja Sela					3	1	1	1	9	1	1	1	12	2	4	4	24	2	8	10	83

Committees should be established at the project and being endowed power and responsibilities at each level to make decisions through discussion and information.

The MEA should conduct training courses and workshops in the training centers of Systems, to enhance farmer leaders' and officials' skills in farmers organization operations and about 30% of the training curriculum should cover spiritual education on better community relations and the encouragement of thrift and savings in addition to marketing topics. The estimated number to be trained are 18 in 1987, 22 in 1988, 44 in 1989, 88 in 1990 and 174 in 1991. A total of US $ 1,943,346 will be required for the implementation of the five year farmers' organization programme.

4. Development of Polas

The major direction for the development of polas in the Mahaweli Area at this stage should be the introduction of a stronger element of marketing from the Uint levels and the coordination of marketing activities among farmers or between farmer and trader groups.

The number of Polas in the Mahaweli Area is moderate considering that a pola serves 2,500-3,000 farm household. This is almost identical to most of the Asian countries where one rural market serves about 2,000-3,000 farm households.[1] The average distance between Polas in the Mahaweli Area is 6.65 miles which is shorter than the average of 7.5 miles of most of the Asian countries.[2] Therefore it is recommended that the locations of the Polas in System 'B' be readjusted so as to have wider coverage based upon a standard found in most Asian countries.

The development programme for progressive and viable polas with minimum market facilities in the Mahaweli Area should be in the first stage of the five year period, regarded as an attempt to improve their marketing function. It is suggested that 14 polas be improved and 2 polas be relocated during the five year period. Of these Polas, five will be taken up in 1987, three 1988, four in 1989, two in 1990 and 1991 for improvement.

The physical aspects of Polas in the Mahaweli Area should not be too elaborate land expensive structures. A simple shed is enough to offer propect against sun and rain. Heavy concrete structures which require high investment are unneccessary. Instead of heavy investment in sophisticated physical structures, all the efforts financial support should be directed toward developmemt of software and manpower training with emphasis on both spiritual and practical education. The most suitable agency for implementing the pola development of plan and providing the necessary technical assistance is the MEA which possesses various marketing and professional manpower. Therefore, it is recommended that all the polas in the Mahaweli Area be acquired and operated by the MEA.

It is recommended that the following number of staff have to be trained to implement the five year development plan; Marketing Managers 18, Assistants 18, Accountants 18, and Stallholders 450. The training of Market Manager, Assistants and Accountants should be a resident program for five days and the education of Stallholders be itinerant programs. The training should be carried out under the technical supervision of the MEA.

The total cost of pola improvement for the five year is estimated at US$ 413,833 physical facilities investment and US$ 11,875 for training and management, a total of US$ 425,708. The model plans should be drawn up for the different types and sizes of Polas (Figure 7

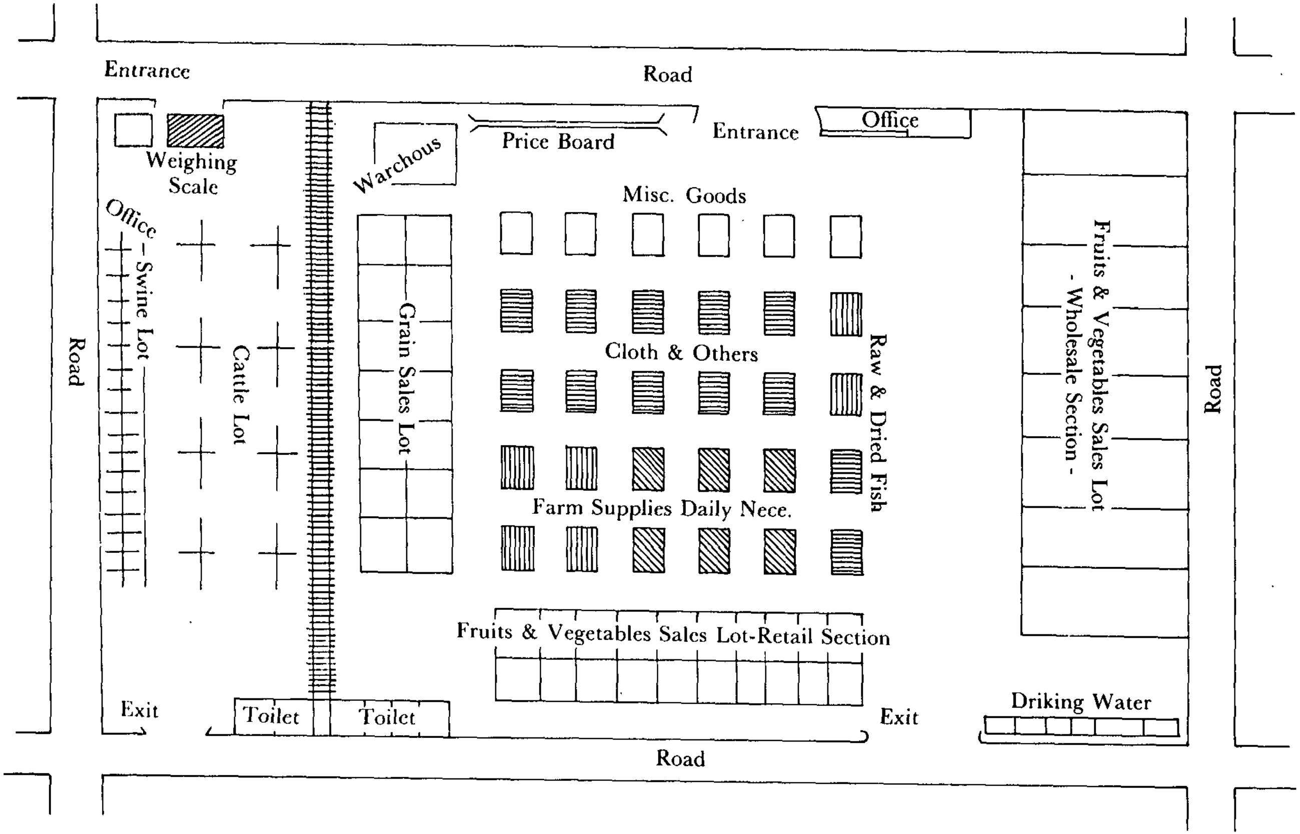
5. Development of Storage

The storage of paddy before milling in silos would be far more efficient, but the construction and maintenance of modern silos is so expensive that farmers cannot affort it. Thus a return to the silo used by the ancients in Sri

[1] FAO, Rural Markets -A Critical Link for Small Famer Development, FAO/DSE Asian Regional Evaluation Workshop on Rural Market Center Development Programme held in Bangalore, India, 28 April-2 May, 1980.

[2] J. C. Abbot, Marketing Improvement in the Developing World, FAO Agricultural Services Bulletin No. 58, FAO Rome, 1984.

FIGURE 7 **Proposed Layout of Pola**



Lanka is recommended. In the Mahaweli Area being provided with electric power it is desirable to help farmers build modernized "Bissa" to be used for storing the major crops. A modernized "Bissa"(a 63 square feet and 10 feet height) is ample for a farm producing 2 to 3 M/T of paddy ⟨Figure 8⟩.

An inexpensive 'Bissa' which uses readily available local materials can be adopted to local conditions. The building is a permanent structure constructed with a granite foundation, brick and cement wall, tin-sheeted roof. It would cost Rs 8,257(US$ 295) to a new system with no cost of land procurement and Rs 4,357(US$ 155) without the installation of one horse-power motor fan. Farms with no provision of electric power can build "Bissa" without the mortor-fan drying. When electricity becomes available, the motor and fan can be installed at an additional cost.

Ventilated cooling storage⟨Figure 9⟩ is recommended in System 'C' and System 'H', because it is a good method of storing potato, onion, carrots, chillies which are the products grown in these Systems. The construction cost of building a ventilated cool store is almost same as that for a "Bissa" without a motor fan installation.

During the first-five year planning period, it is recommended that the introduction of the modernized "Bissa"[3] be undertaken on a trial basis in the pilot sites where the farmers' organizations are established. When they become acceptable, the expansion of the technology should be regularized over the entire Mahaweli Area.

It is recommended that a total of 249 new sets of "Bissa" be built during the first five-year period. They specifies down 18 sets in 1988, 33 sets in 1989, 66 sets in 1990 and 132 sets in 1991. The total cost of "Bissa" development for the five year period is estimated at US $ 86,169.

6. Reinforcement of Facilitating System

6.1. Credit

It is recommended that timely and adequate availability of credit facilities be extended to small farmers' groups to foster their group activities in improving post-harvest facilities. Loan payment should be made within a reasonable period after harvest, but not immediately after harvest.

6.2. Marketing Information

It is recommended that the integrated marketing information network systems namely Agricultural Marketing Information Center be established in the MEA. Price information should comprise average, maximum, minimum prices on national, regional, provincial and city basis. And also these prices

[3] AFMA, *Improvement of Post-Harvest Fresh Fruits and Vegetables Handling: A Manual* FAO AFMA, Bangkok, 1986.

FIGURE 8 **Proposed Low Cost Modernized 'Bissa'**

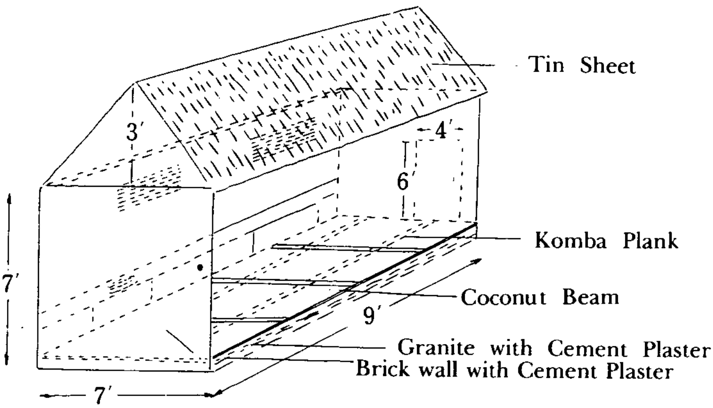
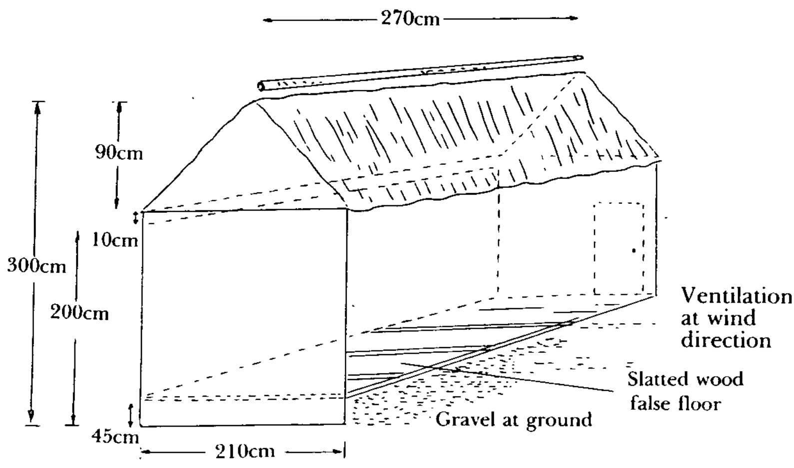
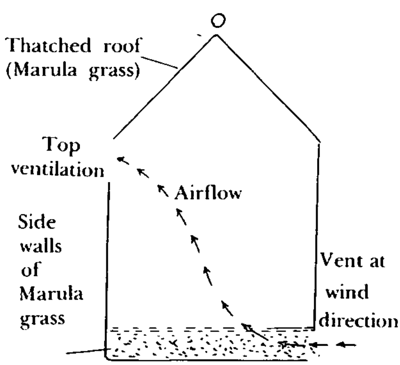


FIGURE 9 **Low Cost Ventilated Store Cooled By Evaporation**



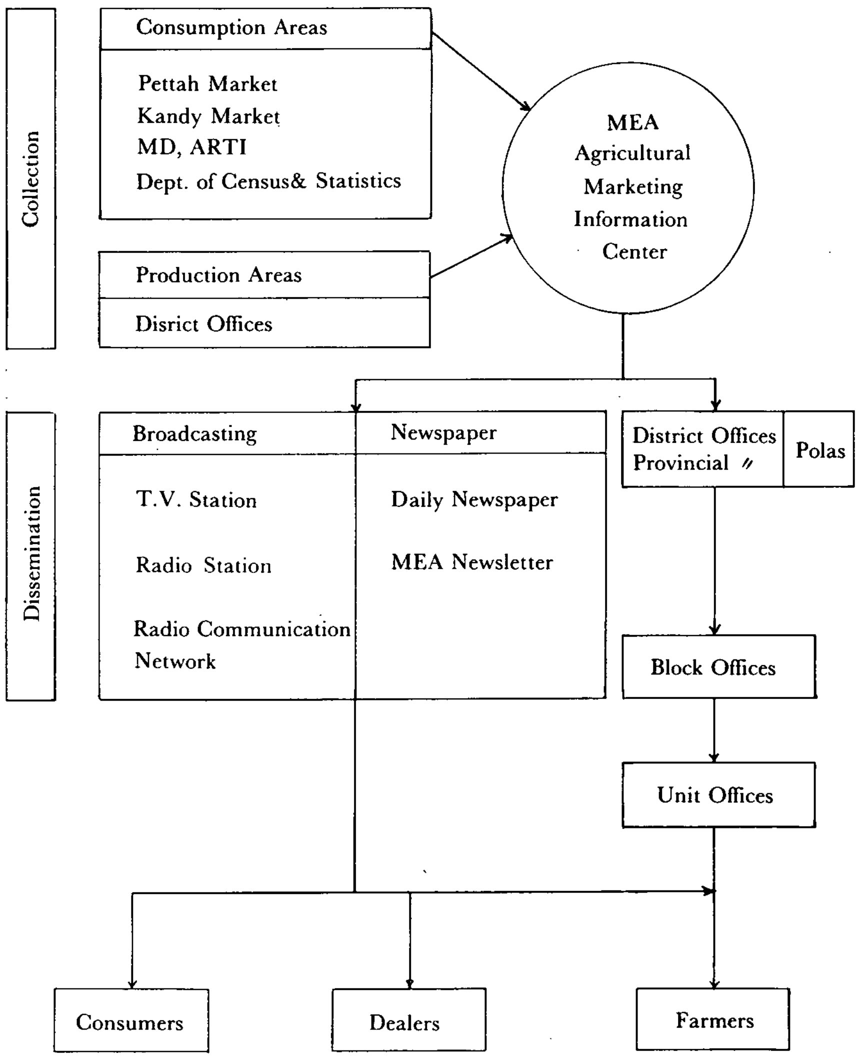


NOTE: These diagrams are based on a design used in Kenya. The cooling capacity is increased by periodical flooding of the gravel base. Maximum cooling is obtained by converting the wall facing the prevailing wind into a large evaporating surface. This can be done by packing with porous material such as charcoal between 10cm supporting studs held together by wire netting. A second pipe drips water through the wall from the top so that air is cooled and humidified as it passes through. Stagnant or otherwise contaminated water should not be used.

on the basis of items, grades, places and period are to be published at most.

The proposed market information collection and dissemination system ⟨Figure 10⟩ under this project is intended to intergate all the information needs into a system which shall generate and disseminate the information needs of farmers of the Mahaweli Area in mid-term, and market participants, institutional outlets, the general public and the key government officials in long-term.

FIGURE 10 **Proposed Market Information Collection and Dissemination System of Mahaweli Economic Agency**



6.3. Education and Training

In spite of the importance of marketing education and training there are no such centers which are responsible for the training of those involved in agricultural marketing. Therefore it is desirable to establish a marketing training center in the MEA. A selective approach to education and training seems more desirable than a general or uniform one.

Improvement of marketing in the Mahaweli Area depends on educations as well. A spiritual orientation on new community movement should be included in the programme.

6.4. Standardization and Grading

It is not very difficult to meet consumers' standards because their demands in standardization and grading are not sophisticated at this in Sri Lanka. Thus, it is recommended to bring with a simple grading systems requiring low in cost and elementary in technology.

It is desirable that the grading system of agricultural products be operated at first by farmers' organizations, and joint sorting facilities need to be introduced to the cash crops. In addition it is necessary to strengthen self inspection system in the farmers' organizations.

The packaging of products handled by farmers' organization should be in moderate units to facilitate handling at various stages of marketing. It is suggested that the packaging be done in producing areas themselves with the name of farmers' organizations and the Mahaweli scheme attached. It is also desirable for the MEA or any other state organizations to develop and introduce packaging materials at nominal cost or with some subsidy during the initial stage for a specified period.

7. Marketing Administration and State Organization

A general law on agricultural marketing should be enacted at the national level. The law namely Agriculture Market Law should consist of ordinance and regulations designed to control, guide and supervise the establishment and operations of rural markets and wholesale markets.

It is recommended that the government should consider a rationalization of existing marketing institutions to form one organization capable of (1) assuming full responsibility for price stabilization activities, (2) providing technical and managerial assistance and introduction of advanced technology, (3) developing designated projects taking nceessary steps to regulate the marketing sector.

It is advisable for the MEA to establish and execute following mid-term and long-term strategies (a) to assume full responsibility for guiding price stabilization activities in the Mahaweli Area; (b) to take part in operation, administration and management of polas in the Mahaweli Area; (c) to develop new marketing system; (d) to collect and analyse on-farm price information, consumption and overseas markets by developing marketing information systems throughout the country, and disseminate through the Agricultural Marketing Information Center of the MEA ; (e) to establish and operate marketing training institute; (f) to provide technical assistance, services, and supports in order to foster group marketing activities of farmers' organizations; and (g) to conduct agricultural marketing research.

8. Overall Five-Year Investment Schedule

The total investment to be supplied for the five-year period is estimated at US$ 2,455,274. This is US$ 1,943,340 for farmers' organizations. US$ 407,708 for Polas development and US$ 86,169 for Bissa development. The estimated investment specifies down US$ 210,429 in 1987, US$ 192,317 in 1988, US$ 320,279 in 1989, US$ 543,185 in 1990 and US$ 1,189,064 in 1991 ⟨Table 7⟩.

The investment and support by the government are required, in principle, for those sectors which have to be prompted for the settler farmer in the Mahaweli Area. But fund necessary for the Polas development should be basically financed MEA and in addition can be pursued through international loan based on economic feasibility.

TABLE 7 **Overall Five-Year Investment Schedule for Agricultural Marketing Development Plan**

(US $)

	Number	1987	1988	1989	1990	1991
Farmers' Organization					31,174	
Workshop	83 sites		7,728	14,872	173,560	65,472
Warehouse	83 sites		42,930	82,640	4,464	364,430
Ventilated Store	75 sites		552	1,159	173,560	4,929
Lorry	83 stores		42,930	82,640	76,540	364,430
Prajaselas	10 centers		18,934	29,220		160,733
Rice Center	16 persons					115,210
Oversea Training	340 persons	73,600			1,810	
Domestic Training	5m/m	215	413	816		
Expert Service		22,550			461,108	3,936
Total	18 sites	96,315	113,487	211,997		
Pola Development	612 persons				57,985	1,082,939
Pola		110,912	71,377	94,669	1,553	
Manpower Training		3,202	1,878	3,530	59,538	60,884
Total		114,114	73,255	98,199		1,318
						62,602
Storage "Bissa"	249 sets		5,575	10,733	22,539	47,822
Grand Total		210,429	192,317	320,279	543,185	1,189,064

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