ECONOMIC ISSUES IN ONION PRODUCTION

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THE IMPORTANCE OF ONIONS

Demand for onion is increasing as the disposable income of the population increases. Per capita consumption of onion has remained well above 3 kg per annum for several years. The total available supply, including imports, has been in excess of 145,000 mt annually.

Local production of onions does not meet consumption needs in spite of large increases in production during the past decade. The deficit has been met with imports, which require substantial outlays of foreign exchange. After import restrictions were lifted in 1978, significant quantities of red onions were imported until 1985 when the country became self sufficient in this crop. Large onion imports in recent years have been about 30,000 mt annually at a cost of over Rs 350 million.

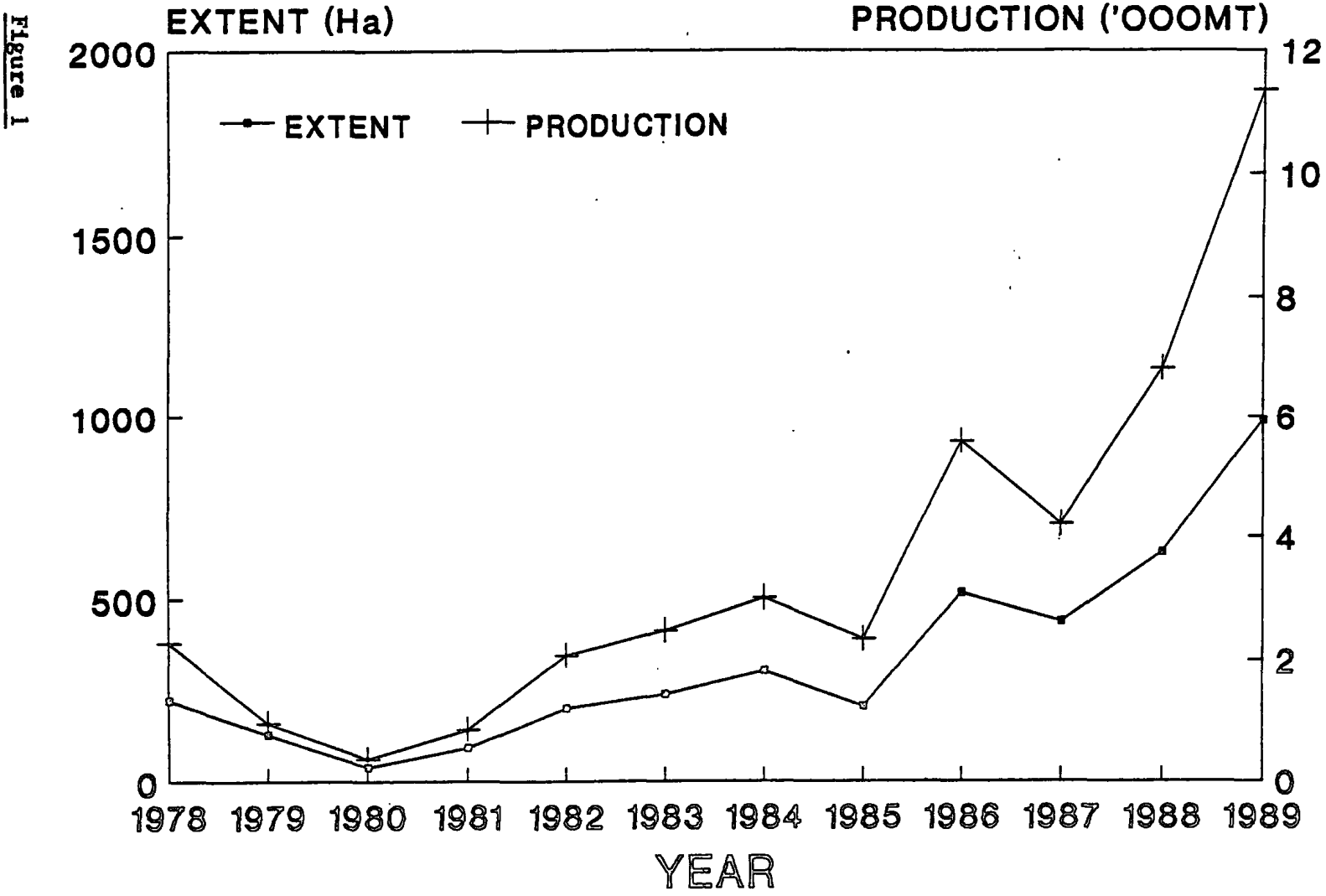
Both area under cultivation and production of red and large onion have increased in recent years (Figures 1, 2). In the case of large onion, extents have increased while average yield has shown a tendency to decline. This is due to the low productivity of new land under large onion cultivation and a pest problem in major growing areas. However, yield has increased in the recent past.

Current levels of onion production and prices show immense potential for increasing incomes of local farmers. Profit from onion cultivation, especially large onion, compare well with that from major cash crops such as chilli and potato. The large amount of labor required in its production provide employments to farm families and agricultural laborers.

This report will focus primarily on large onion because it is still imported in substantial quantities and expansion of its production is faced with some problems. However, as red and large onions are close substitutes, both types will be discussed as found necessary.

EXTENT AND PRODUCTION OF LARGE ONION
1978 - 1989

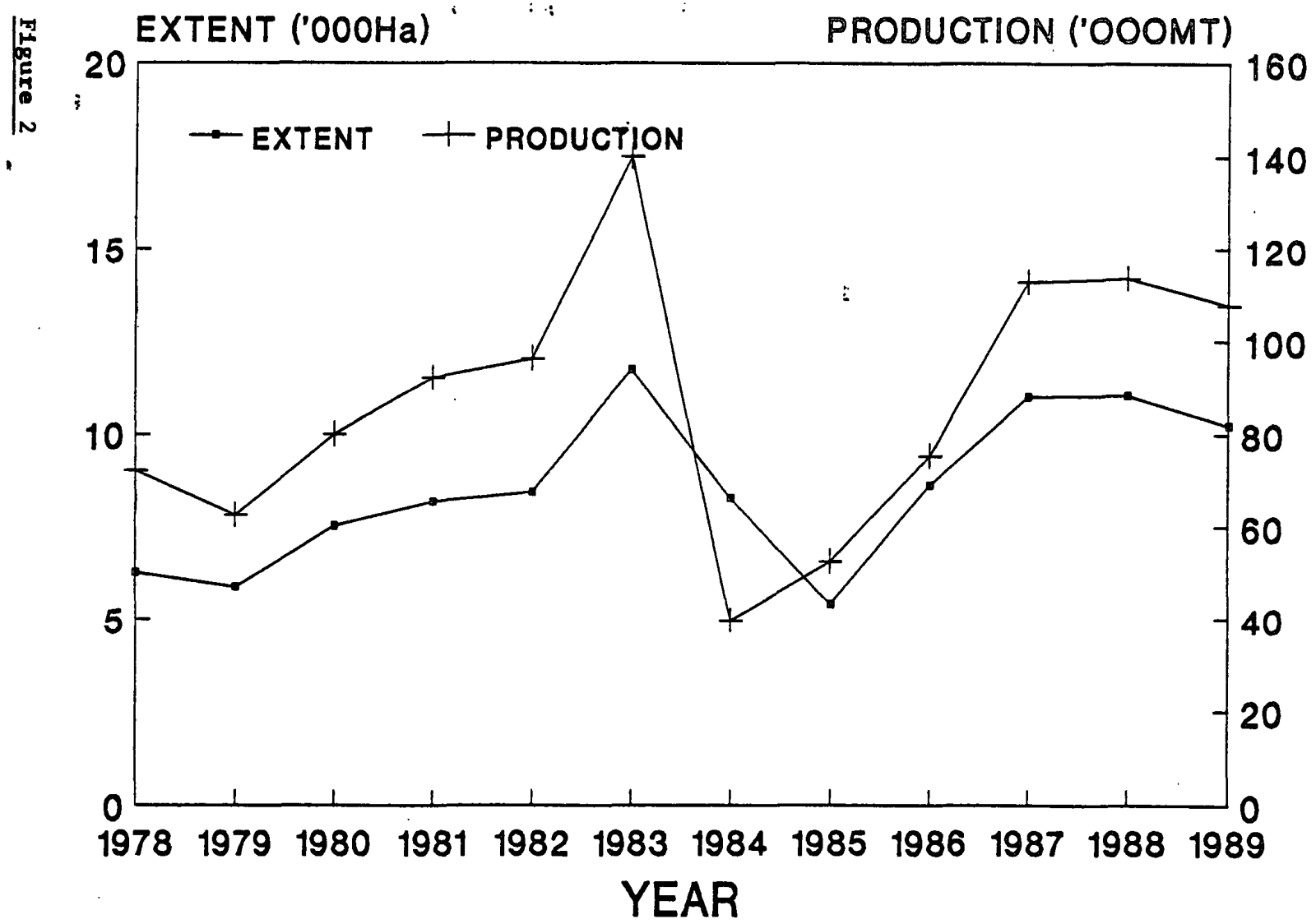
Figure 1



SOURCE: DEPT. OF AGRICULTURE

EXTENT AND PRODUCTION OF RED ONION
1978 - 1989

Figure 2



SOURCE: DEPT. OF AGRICULTURE

Three aspects related to onion production will be discussed:

a) Profitability
b) Constraints - investment and marketing
c) Strategies for self-reliance

THE PROFITABILITY OF ONION PRODUCTION

Profitable local production

Local production costs of large onion are competitive with the cost of imported onions (Table 1). The costs of domestic resources include market costs of all tradeable resources used in onion production. It measures the efficiency and comparative advantage of undertaking local production. For red onion, the costs of domestic resources were Rs 4.58 kg/ha and 3.54 kg/ha respectively for 1987 and 1988. These figures indicate a definite advantage in undertaking local production.

Table 1. Import and domestic production costs (Rs/kg) of large onion.

Year	Domestic cost of production	Import cost CIF Colombo	Domestic resource costs
1985	9.56	7.54	-
1986	10.62	8.57	3.24
1987	11.18	11.18	5.96

Source: DAEP

Increasing farmers' income

Onions rank favorably with alternative crops in terms of profitability (Table 2). Estimated costs and returns show that rainfed Maha production of red onion is much more profitable than that of chilli, greengram and maize. The cultivation of large and red onions under irrigation during Yala is very profitable in comparison with alternative crops. Data clearly indicate that onions should be considered in policies and programs to increase farmers' income.

Table 2. Comparison of costs and returns (Rs/ha) from red and large onions with alternative crops 1988/89 (estimated).

Crops	Total cost		Gross return	Net return	
	Inc. fam. labor	Exc. fam. labor		Inc. fam. labor	Exc. fam. labor
Maha season (rainfed)					
Red onion	32720	17320	73000	40280	55680
Maize	4536	796	4840	304	4044
Greengram	8100	2380	9900	1800	7520
Chilli	17300	7175	36000	18700	28825
Yala season (irrigated)					
Large onion	49550	29810	163300	113750	133490
Red onion	55500	50550	96000	40500	45450
Greengram	15140	7660	18000	2860	10340
Chilli	26820	17140	50000	23180	32860
Soybean	11474	6854	12250	776	5396

Source: DAEP

Employment

Onion production uses more labor than other crops grown traditionally in onion production areas in the Dry Zone (Table 3).

Table 3. Labor requirements (person days/ha) of some Dry Zone irrigated crops.

Crop	Labor reqt.
Large onion	560
Red onion	490
Chilli	350
Greengram	202
Soybean	160
Cowpea	125

Source: DAEP

CONSTRAINTS

Increasing the production of large onion to meet local demand will require an expansion of the area under cultivation. Unlike red onion, which can grown in more parts of the country, large onion cultivation is limited to a few areas. Most of its production is concentrated in Matale District and Mahaweli System H where it is grown as a Yala crop in fields which are cultivated to paddy during Maha. Despite great interest, expansion of the acreage has been below expectations. This is attributable to the following:

Investment Needs

1. Capital

The substantial capital and labor investment required for onion production limits the extents farmers allocate to this crop.

Lowland holdings in the onion producing areas of Matale and Kalawewa average 0.6 and 1.0 ha, respectively. These areas, cultivated to paddy in the Maha season, are apportioned to other food crops during Yala. The average size of plots cultivated to onions is much smaller than that of alternative crops (Table 4). The average size of large onion holdings remained stagnant or increased slowly from 1984 to 1988 (Table 5). This may be due to the following factors:

a) High production costs: total production costs of large onions exceed Rs 50,000/ha, a level of investment that limits increases in both hectarage and the number of farmers cultivating large onion.

b) The volatile marketing situation discourages farmers from increasing their risk by expanding their onion extents.

c) A lack of familiarity with the specific management practices required by the crop.

2. Labor

Labor is another capital constraint in large onion production. Onion production requires more labor than other crops grown in onion producing areas (Table 6). As family labor is used to minimize onion production costs, farmers tend to cultivate small extents.

The activities in onion production which require the most labor are land preparation, planting and harvesting

Table 4. Average size of plot cultivated to large onion and other crops, 1987.

Crop	Extent (ha)
Large onion	0.16
Chilli	0.40
Greengram	0.38
Soybean	0.37
Blackgram	0.25

Source: DAEP

Table 5. Average extent cultivated to large onions (ha/farm).

Season	Matale	Kalawewa
1984	0.10	0.09
1985	0.11	-
1986	0.13	0.16
1987	0.18	0.15
1988	0.13	0.19

Source: DAEP

Table 6. Labor requirement and use of family labor for production of onions and other OFCs.

Crop	Labor (pd/ha)	Percent family labor
Large onion	560	80
Red onion	490	30
Chilli	350	60
Greengram	202	71
Soybean	162	75

Source: DAEP

(Figure 3). In irrigated areas of the Dry Zone, where cultivation patterns are linked to issue of water, especially in the Yala season, timing of production activities is the same for most farmers. This means that if large extents of onion are cultivated, a good supply of labor must be available during critical periods of the production cycle.

An increase in onion hectarage will depend on making investment capital available to growers at reasonable rates. As the greatest potential for expansion is with farmers who cultivate onions on a commercial scale the importance of this cannot be overlooked.

Table 7 presents an estimate of the total investment needed to cultivate 1 ha of large onion. Based on these costs and with 75 percent of the labor financed, the estimated credit requirement is Rs 46,000/ha while the approved loan amount is Rs 31,125.

Table 7. Investment (Rs/ha) required to cultivate large onion.

Activity	Total Cost	Credit reqt.
Labor	29,750	22,300
Power		
Draught	4,900	4,900
Irrigation and spraying	4,500	4,500
Materials		
Seed	4,400	4,400
Fertilizer	4,000	4,000
Agrochemicals	4,900	4,900
Processing	1,250	1,250
TOTAL	53,700	46,000

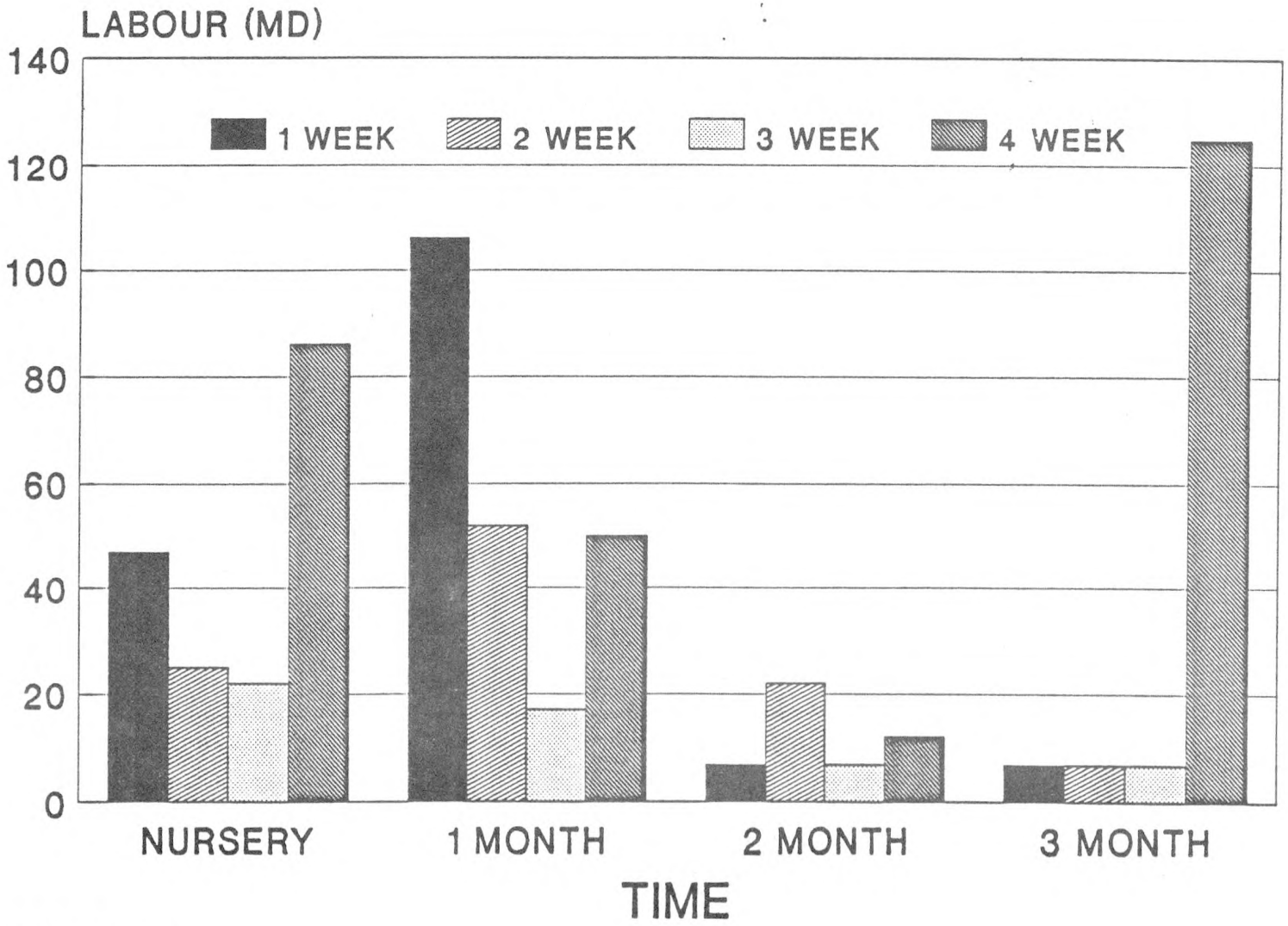
Source: DAEP

Marketing

The farm gate price of onions during harvest drops to extremely low levels (Figure 4). While such a price decline is a natural phenomenon, the difference between off-season prices and those at harvest should be reflective of the cost

WEEKLY LABOUR REQUIREMENT
LARGE ONION

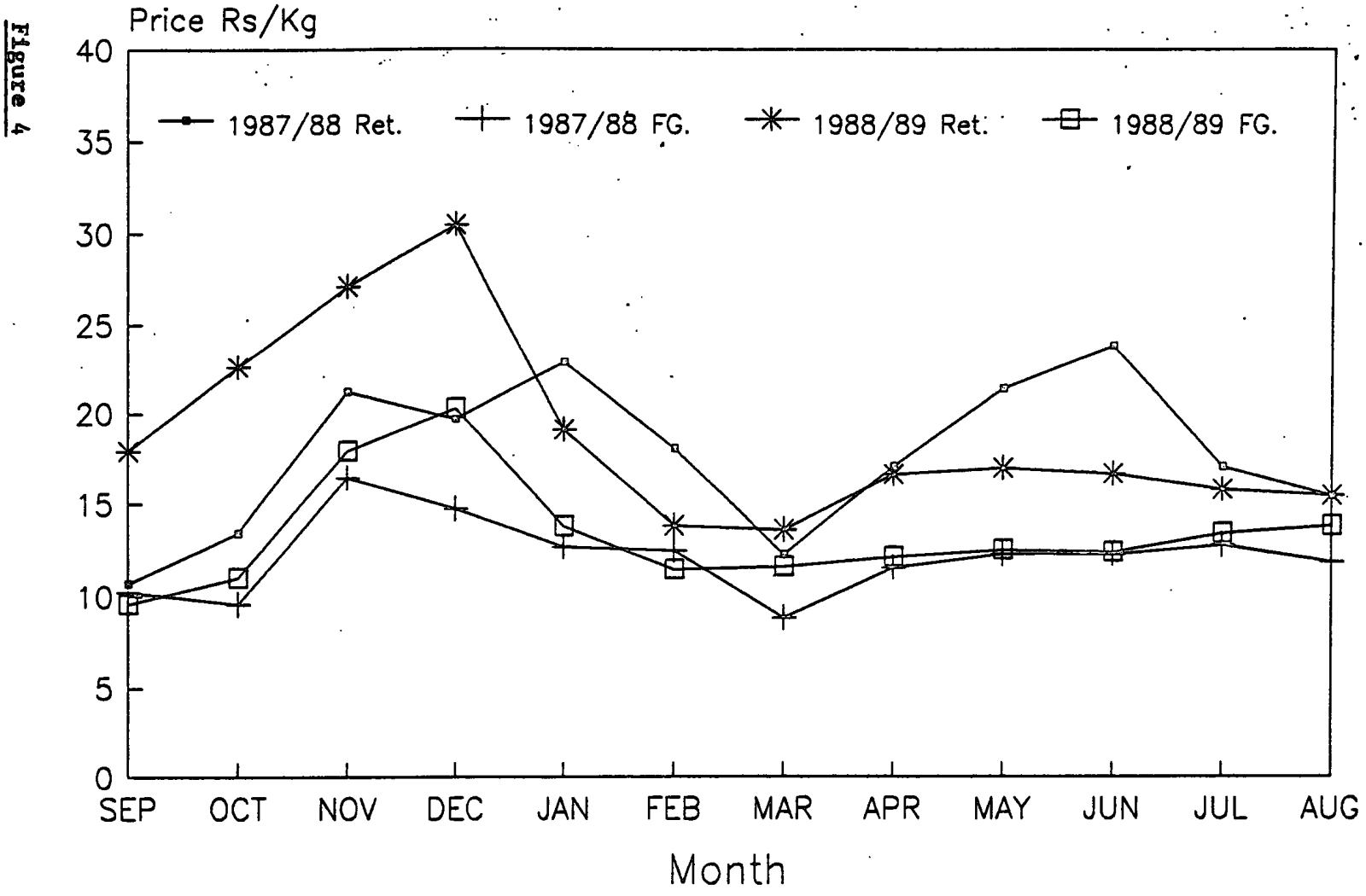
Figure 3



SOURCE: DAEP

MONTHLY RETAIL & FARM GATE PRICES
RED ONION

Figure 4



Source: AR&TI & DCS

of storage. If the price differential is greater than this it indicates a breakdown in the marketing process. This can occur if:

a) The marketing system is unable to absorb and dispose of all production. Factors which contribute to this are a lack of adequate storage facilities and poor storability of the commodity.

b) There is poor coordination between imports of large onions and the local production pattern.

STRATEGIES FOR SELF SUFFICIENCY

The total available supply of onions, including imports, for the 5 year period 1983-1987 ranged from 85 to 104 thousand mt according to the Food Balance Sheet. Annual per capita consumption was 3.38-3.75 kg.

Assuming the same level of consumption and accounting for waste and seed requirements, onion requirements for 1990 will be 140,000-150,000 mt. About 90,000 mt of this can be expected from domestic production of red onions. With local production of 15,000 mt forecast for 1990, a 35,000 mt shortfall will have to be imported.

The strategy for the future appears to be one of eliminating onion imports by increasing domestic production. If the present prospects for large onion prevail, a rapid expansion should be possible within the next few seasons. A successful domestic production program capable of bringing the country close to self sufficiency will depend on:

a) Maintaining the present price relationship
b) Improving onion storability and storage facilities
c) Better coordination of imports

Storage is an important aspect of onion production because of the perishable nature of this commodity. Long-term storage (more than 3 months) under the conditions in onion production areas is costly. The need for long-term storage would be reduced if off-season production could be increased.

RECOMMENDATIONS

It is evident that a sustainable increase in the production of onions will only occur if:

a) A comprehensive production plan takes into consideration the production pattern and marketing of both red and large onions. Considering the highly volatile nature of the industry it is necessary to avoid actions that contribute to instability.

b) A scheme is developed to provide adequate financing for most of the labor and capital needs

c) Imports are better coordinated with local production patterns