

FRUIT MARKETING IN MADRAS PRESIDENCY WITH SPECIAL REFERENCE TO ORANGES*

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The total area under fruits and vegetables including root crops in the Presidency is about 7 million acres. Roughly a little over a third of this area, is under mangoes and about 20% under plantains; only about 15,000 acres are under citrus fruits.

Most of the plantains produced in our Presidency find a sale in the local shandies. The quantity that moves by rail to markets in cities and large towns, is of the order of about $8\frac{1}{2}$ lakhs of railway maunds for the southern districts, of which, Madras City alone consumes more than a third. During the past few years, we are faced with the difficulty of finding proper markets for plantains, and, the possibilities of finding markets outside the province have had to be examined. In this connection, the Agricultural Department has been considering the development of export trade to North India, and with the co-operation of the railways has been able to obtain special rates for through wagons to certain cities in the north. Questions like quick transport, the provision of special wagons suitable for fruit traffic etc., are engaging attention. With the grant made by the Imperial Council of Agricultural Research intensive research work on plantain has been proposed to be taken up in Coimbatore and other plantain growing areas.

Although our position in respect of production of plantains is satisfactory, it is hardly so with other fruits. With regard to grapes, for example, we are importing heavily from Northern India to the tune of four thousand maunds, while our consumption of apples, which also runs to about the same quantity, is practically met from supplies from outside the province, as also from outside India like Japan, Africa and America. We have also no production worthy of the name in the case of plums, peaches and similar classes of choice fruits. Madras imports annually, plums to the extent of 800 maunds mainly from Mirzapore, and also from South Africa. All these facts are enough to show that in the matter of fruits there is a wide market, even in our own province, for expansion.

Let us now consider about oranges with which we are more concerned today. Although the area under citrus fruits is of the order of 15,000 acres, the acreage under oranges is limited to certain districts as follows:--

Sathugudi Oranges	...	Ceded Districts, Chittoor and North Arcot.
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* A lecture delivered on the occasion of the opening of the Fruit Research Station at Anantarajpet on the 12th December 1935 by the Hon'ble Mr. P. T. Rajan.

Coorg Oranges or Kamala (Loose Jacket) }	...	Nilgiris, Salem, Madura, Vizagapatam and Godavari.
Salem (Tight Jacket)	...	Salem and Nilgiris in parts.
Batavin	...	West Godavari and Kistna.
Sour Oranges	...	Guntur, Kistna and Godavari.
Mozambique	...	Parts of Ceded Districts.

Besides these home-grown varieties, Madras imports largely from Nagpur, and smaller shipments from South Africa, Australia and America. Taking the case of Madras City, which is the largest consuming centre in the Presidency for oranges, the supplies during 1934-35 have been as follows:—

Nagpur Oranges	...	37,360	Railway maunds.
Sathgudi Oranges	...	35,000	" "
Batavian (mainly)	...	7,000	" "
Salem Oranges	...	4,000	" "
South African Oranges	...	400	" "

We have not yet received full figures from certain places, but from the figures already quoted, the supply of Madras is of the order of 90,000 maunds of which Nagpur oranges alone contribute about 45%. These oranges have also found good markets in the south of the Presidency in places like Trichinopoly, Madura and Coimbatore. The last mentioned place alone is reported to consume 50,000 rupees worth of Nagpur oranges every year. Besides Nagpur oranges, the above three districts receive supplies from Coorg through the assembling market at Tellicherry. Even four to five lorry loads of 15,000 fruits each per day are consumed in the season from December to March. I have taken the imports first, as they are broadly indicative of our deficiencies, and therefore of our market avenues.

Let us next take the case of our home production. The *Sathgudi* oranges find a market largely in Madras City. They are very popular in Madras and fetch better prices than any other variety. Oranges from the Nilgiris are consumed largely in Coimbatore, Salem and Trichinopoly districts and to a small extent in Madras. The Salem orange finds a market in Madras and Coimbatore, but what is known as '*Cheeni*' in that variety is of the tight jacket type and very sour. It is a cheap orange and arrives early in the season, at a time when other oranges are scarce, and therefore finds a ready market. The loose jacket or *kamala* of the Circars finds a sale in the districts of production. It also moves to Madras, but the quantity is small as compared to Nagpur or *Sathgudi* oranges. The Batavians however are most popular in their own tract, and have not found extensive markets outside. They move in small quantities to Madras, Nizam's State, Karagpur and Vizianagram. Lastly, we have the sour oranges of Guntur which, on account of the dietetic value ascribed, have established a strong local reputation and are mostly consumed in the producing area.

I have so far given a broad indication of the movements of the trade in oranges in our presidency, but what we are more really concerned with is the direction of quality and movements in order to best make use of the supplies, to meet the demand. In considering this problem, we have to consider several points like the competition between different fruits, varieties of the same fruits, seasons of glut and scarcity, fluctuation in prices and lastly variations in the quality as well as quantity of demand. I am not going to enter into minute details here which will form the subject of a comprehensive survey we are now making of the fruit trade. But as a general indication of the tendencies involved and of the line of action to be adopted, I shall cite as an example the case of the Madras City, which as I have told you consumes annually about a lakh maunds of oranges from all sources. Taking the year 1934-35, it is found that the supply of oranges is limited in the months of June-July, being only about one thousand maunds in each case. This supply increases to 6,000 maunds in August, and 9,000 maunds in September. Up to this point, the contribution is almost entirely from the Sathgudi oranges, with very little competition from other sources. It is on this account that this variety fetches very good prices at that time, the prices being so high as Rs. 2-8-0 per dozen for the best grades, and about a rupee for the smaller sorts.

But in the months of October-November the loose jacket or *kamala* from the Circars reaches the Madras Market. The first stage of competition begins now and wholesale prices fall from Rs. 10 to Rs. 5 per hundred, for the top grade of *Sathgudi*. This fall in prices continues until January, and supplies amount from eight to ten thousand maunds per month. From January onwards competition of a different kind is introduced with the onset of Nagpur oranges. In December they arrive in small consignments, but from January onwards they are consigned in special wagons attached to passenger trains from Nagpur or Katol, each wagon carrying 1,200 to 1,500 baskets of fruits. Altogether 80 such wagons arrived during last season, the period of peak being in February-March. From March onwards, the supply of Nagpur oranges goes down, the quantity in May being only 5,000 maunds, and still less in June-July.

I have given you a broad idea of the supply and demand of Madras City, which is the largest market for oranges in the province, as an indication of the market conditions during the year. The practical consideration that should guide us in laying down any policy of future programme, consists essentially in making the best use of the supplies to meet the demand. As already indicated in my figures, there is a deficit supply of oranges in the city in the months of May, June and July and a glut in December to March. It is this variation that is responsible for the large fluctuation in prices that occurs in the same season in the fruit market. But with proper marketing such variations

should be reduced to a minimum. The chief aim is to ensure a stability of supply and fair prices in the trade, to benefit the consumer as well as the general trade. In order to ensure this, two things can be done; the first is the exploitation of new markets during glut and the second the prolongation of the marketing period by methods such as cold storage, to get a more evenly distributed supply.

I shall deal with the problem of gluts first. In the season, the Madras market gets over-full, the commission agents dispose of their stock to their customers at Trichinopoly, Madura, Tanjore and Salem districts. Direct marketing to these centres is done in the case of Nagpur oranges by agents who settle there in the season. For the home produce a first improvement can be effected by greater direct booking to the centres, avoiding by that means a glut in Madras. This will also ensure a greater uniformity of supply to the consuming areas. At present, Salem oranges move to towns in the south like Tanjore and Mayavaram, but the demand for other varieties also exists. From our studies, we find that a demand for superior varieties and better quality exists in the centres at Coimbatore, Trichinopoly, Madura and Tanjore. Similarly the West Coast can take in better varieties like the Sathgudi in place of the commoner quality largely used now. The "Eat more fruit" campaign in England has contributed largely to increase consumption, and there is no reason why similar results should not be achieved elsewhere. Already thanks to the high value attached to fruits by the medical profession and by nutrition experts people are taking more and more to fruit diet especially oranges.

This leads us as a next step to the improvement in varieties which is a natural essential for market expansion. There is much scope for work in this connection. Many of the gardens in certain districts are not properly cared for, and in these are grown sour oranges instead of the better varieties. Trees are grown in shade, no attempt at pruning or cultivation is made, and the plantation lives a hand to mouth existence. It is in this aspect of the problem that the fruit research station, which is being established under such good auspices, will open out possibilities. Our province has also yet to develop greater experiences in the use of citrus graft through adaptability to different conditions and also the bearing of stock on scion. In this direction also will this fruit research station contribute to our future. Introduction of finer varieties like the Washington-Navel orange, to suit the demand from special consumers, and research in the methods of pruning, manuring and cultivation will also go side by side. At Coonoor, inarching has met with greater success than budding, but in the Batavian tract greater success at budding has been reported to have been achieved by some growers.

Let us now consider the methods of organisation necessary to develop marketing. A common feature of our existing conditions is

the wide gap between the prices paid to the grower and that paid by the consumer. In America and Africa this spread between the growers' and consumers' prices has been sought to be remedied by the creation of marketing organizations which have developed enormously in these days. The assembling and grading of fruit, packing, provision of cold storage, inspection at ports of consignment and delivery are all done by these associations. Fruits travel several thousand miles on land and sea, and have found markets all over the world. The Co-operative Organisation of the Californian Fruit Growers handles more than ten million dollars worth of fruit every year. The local associations do business up-to a lakh of dollars each. The work is carried on by a central exchange with district branches. So far as *Kodur* oranges are concerned it is a well known fact that there are more than two or three intermediaries before the fruits reach the consumer viz., the contractor or the lessee of the garden, commission agents and godown owners in Madras, the wholesaler, retailer etc. If an Association of fruit growers of this area be formed and arrangements made for the establishment of sale agencies in Madras and other principal centres in the Presidency, it should be possible to realise better returns than now. The aims and objects of such an Association will be:—

1. To organise the marketing of fruit on a co-operative basis by adopting the improved methods in grading, packing etc., and by establishing sale agencies wherever found necessary in order that the growers may secure better value for their produce.
2. To finance the growers, so that, if necessary, they may pledge their crop to the Association and not to contractors who now lease out their gardens at a low rate in the early stages of growth of the fruit.
3. To obtain necessary requisites such as seeds, plants, manures, implements etc., on a wholesale basis and to supply these to the garden owners as cheaply as possible.
4. To arrange for careful handling and rapid transport of the fruit on Railways and to secure reasonable and concession rates.
5. To supply the services of specially selected *maistries* to assist growers to lay out or extend their gardens and renovate old ones, to bud, prune etc.
6. To organize fruit shows so as to stimulate better production, grading, packing and marketing.
7. To issue to members free of charge, posters, leaflets etc. containing information about seasonal operations, prices and other marketing news.

8. Generally to take such steps as would encourage fruit growing within the district by obtaining all possible assistance and support from Government and public bodies.

In a work of this kind, however, our country has much to learn. The first point to remember is that of grading and standardisation of fruits. The existence of standard grades is a common medium of understanding between grower and consumer and between buyer and seller, even when separated by long distance. It also makes for a steady market and an assured supply of what is wanted. If we look at any package of the South African or American fruit for example, what we find is that all the fruits are of one size, of guaranteed variety and free from blemishes. The consumer, and specially the better class of consumer, is prepared to pay for this. Gradually the existence of grades will also fix the nature of demand and result in less delay in transport in reaching suitable destinations. At present, sorting of fruits is done in a small way by the wholesale commission agents at Madras and again at the retail market. It is on this question that growers have to improve themselves most. The marketing survey now in progress is engaged in the fixing of standard grades on an all-India basis suitable for more efficient trade, and with the growth of healthy organisation this part of the work is bound to expand considerably.

The ultimate aim of marketing organisations will be to reduce costs at all stages of marketing while providing for large increases in the trade. The pooling of produce is at present largely done by contractors at the wholesalers' godowns in Madras but we have often had reports that full amounts have not been paid. A healthy system of marketing finance from growers' organisations, has been a very useful remedy in this connection, but in a perishable commodity like fruit, a certain amount of care is indicated. A necessary condition for such organisation is that they should represent a large body of the growers. Otherwise success cannot be achieved. It is only in recent years that we are seeing attempts at such organisation, but greater effort is needed to make them serviceable. I need hardly add that the marketing section will render all possible help to foster the growth of such associations. It is by no means to be inferred from this that the services of middlemen will be entirely dispensed with, but costs can be reduced considerably, while periods of gluts and depression can be more adequately dealt with.

As a necessary accompaniment to work of development must be mentioned the development of technique in the methods of grading, packing and storage. I have already indicated the advantages of standardised grades, but the question of next importance is that of storage. Countries like Africa and America that have established a

wide export trade have arranged for a systematic erection of cold storage plants to fit in with assembling centres. In our own country, the Bombay department have conducted trials on the cold storage of mangoes. The findings are that while Alphonso and Salem varieties respond well to treatment, the Circars variety 'Swarnareka' does not. It is said that the storage life of fruits can be extended by even about 60 days by proper cold storage methods. The economic advantages of this are obvious. For instance, I have already pointed out that there is a deficiency of supply in June-July. If the glut of April could be preserved in cold storage up to May-June, there will not only be a more even supply but better prices could be got. Also fruits imported from abroad, which are transported under cold storage, require cold temperature during keeping at ports, and the erection of cold plants will therefore be advantageous.

In considering the necessity for cold storage plants it is well to remember that the methods for pre-cooled plants on the field are different from those adopted for fruits which have already been handled in transport. Internal breakdown is more difficult to avoid in the latter case. The special conditions necessary for such work in India are to be fully studied, but it is a necessary condition for long distance transport and for export trade. There are wide markets for citrus fruits as in England which imports annually from two and a half to three lakhs of tons of oranges every year, but such considerations though not immediately indicated, should be borne in mind in our developmental work for the future.

There is also another method by which gluts in the market can be avoided, and that is by the fruit preserving and transforming industry. The Bangalore Institute reports favourably on the vitamin content of some of our citrus fruits, and results obtained in North India point to considerable success in this direction. Fruits can be preserved with and without sugar, under particular conditions, but the need for such work is indicated only in case of gluts or over-production as for instance in the case of pears in the Nilgiris or limes in certain parts of the Presidency. As for oranges there appears sufficient demand at present for fresh fruits although some centres as in the Nilgiris and Salem are not finding the full market. I daresay this fruit research station which is started under expert control will open out avenues for further expansion. As in all cases of special preparations a market for such products is really created, and not necessarily existing. In the expanding use of such products as fruito, vimto and the ice frute, and in our many classes of aerated drinks, we see conditions for development which will be fruitful of results for the future of the fruit industry.

I have in this short discourse given you some broad lines of improvement in the marketing of fruits, necessary for future expansion.

I have given you indications of our supply, the nature of imports and the movements of home produce. I have also indicated to you the lines on which future research work on varieties, cultural methods, storage and the transforming and preserving of fruit, will help us. I have stressed the need for standardisation in our marketing methods and the growth of healthy organisation towards such ends. I am sure that the fruit research station on which devolves some of the technical problems of our future will give ample scope for the expansion of the activities which the marketing staff are now engaged in.

AGRICULTURE IN BURMA

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[Under the auspices of the Madras Agricultural Students' Union, a meeting was held on Monday the 16th December, when Mr. K. Ramiah, who had recently been on a tour to Burma, spoke on 'Agriculture in Burma'. Mr. R. C. Broadfoot, President of the Union, who presided on the occasion, referred in the course of his introductory remarks, to the impending separation of Burma from India and observed that apart from its importance as a producer of rice, timber, oils and minerals, this separation would result in Burma having a commendable say in the future trade of the East.

Below is an abstract of Mr. K. Ramiah's speech.

—Ed. M. A. J.]

Rice and Agriculture. The title I have chosen, sounds ambitious, but, actually a talk on Burman agriculture will essentially be a talk on rice cultivation in Burma; because, rice is the most important and wealth-producing crop of the province. This can be gauged from the fact that the total value of rice and rice products exported annually from Burma, is to the tune of 30 to 40 crores of rupees, while the total value of exports of other products in which Burma is rich, namely, minerals, timber and oil, all put together amount to only 20 crores. In fact, the whole population in Burma is directly or indirectly dependent on rice.

The Agricultural Zones. Agriculturally Burma can be divided into three zones:—a wet zone on the north, a dry tract in the middle, and another wet zone in the south. The northern zone is a hilly tract most of the areas being unfit and still unexplored for cultivation. A number of mountain ranges start from this part of the country, the most important being the Arakham, the Shan and the Pegu ranges. The total rainfall in this zone amounts to about 80 inches annually. The middle zone is dry and crops are raised here only with artificial irrigation. Most crops including rice, are grown only in this area, which receives only about 20 to 30 inches of rainfall. Lower Burma, the third and the most important zone receives the full benefit of the south west monsoon with about 100 inches of rain while a narrow strip of country between the coast and the mountain ranges both on the west and eastern ends of this zone receives even as much as 200 inches. In